

**EDUCATION, VALUES
AND SOCIETY:
The Objectives of Education
and the Nature and Development
of Competence**

JOHN RAVEN

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This book has two main objectives which, because they are so interrelated, are pursued in an epicyclic rather than a linear fashion.

The first objective is to provide the most thorough evaluation of our educational system that has ever been attempted. In pursuit of this objective, Mr Raven presents data which enables him to clarify the goals of education and assess the adequacy with which they are being attained. He is not content to let the matter rest with studies of pupils who are still in the school system, but traces the consequences of different types of education for the individuals concerned and the society in which they live.

The second, related, objective is to advance understanding of the psychological nature of the competencies to be fostered in education, the way in which they are to be fostered, and the way in which their attainment is to be evaluated.

Particular attention is paid to the so-called 'non-cognitive' or 'character-development' goals of education. These goals lie at the heart of most 'modern' developments in education (like project work and pupil centred learning) and they were at the forefront of the minds of the great educationalists of the past. Yet they have frequently proved to be serious stumbling blocks for the parents, teachers, educationalists, examiners, evaluators and researchers who have taken them up.

The data base for the book is impeccable. Over 35,000 people have been involved in the studies carried out by Mr Raven and his colleagues. These studies have included surveys of teachers', pupils', parents' and ex-pupils' perceptions of the goals of education and the problems which prevent the educational system achieving its objectives more effectively, surveys of children's and adults' perceptions of the institutional structures of

society (family, workplace, and social and political structures) and their own role in relation to those structures, surveys of general population attitudes and motivational dispositions and the part played by education in fostering these qualities, surveys of the attitudes of businessmen, employees, and employers, and action-research programmes, carried out with teachers, pupils, and businessmen, in order to help members of each of these groups to clarify their life goals and values and thereafter pursue them more effectively.

But research data is not the only source which is drawn on as a basis for the insights presented in the book. Selected aspects of the relevant literature are also reviewed and understandings which have emerged from Mr Raven's participation in two educational policy committees, his work with a team of teachers and headmasters involved in curriculum development, and his seminars with experienced community development officers and educationalists, are all shared with the reader.

This book will not only be of interest to *educational* researchers, evaluators, curriculum-developers, policy-makers, administrators, examiners, teachers, and parents. Because of the wealth of data it contains on the attitudes, perceptions, motivations, and role expectations of the population, it will be of interest to all concerned with civics and citizenship, economic and social development, and Irish studies. The material on the social and personal benefits of education will be of interest to anyone concerned with the development and utilization of human resources and human capital. As such, the book will be of value to anyone concerned with staff development and utilization in the workplace as well as to economists. The book is of the greatest importance to politicians in both central and local government who are anxious to base educational policy on a firmer foundation.

" . . . an outstandingly good book . . .
it is the one book apart from the
Bible and Shakespeare that anyone
connected with education should take
with them on a desert island."

—John Pratt, Editor, *Higher Education Review*.

" . . . Open it at random and find your educational bluff called . . . Find, if you can, any legitimate alternative to the individualising of education which emerges as the overriding need of students, teachers and society . . . "

—Elizabeth Adams, Past President,
National Association of Inspectors and
Educational Advisers.

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Two committees have also played an important role in forcing me to clarify my thought. One was the Irish Minister for Education's committee on the form and function of the Intermediate Certificate examination. This committee was directed to consider the aims of the junior cycle of post-primary education and the extent to which the achievement of those aims was being, and could be, evaluated. It would be impossible to imagine topics closer to my heart. The other was a committee on Education and Community Life, with special reference to Civics education. Again, nothing could be closer to my heart. I am extremely grateful to those who set up those committees and asked me to join them and I am especially grateful to all their members, but, in particular, in very different ways, to Paddy Lynch, Bill Hyland and Torlach O'Connor.

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Finally, Jonathon Williams deserves heartfelt thanks for editing this book with such care.

I myself believe that it would be in the interest of society to record the names of those who have done most to obstruct this work, but I am advised that to do so would not only be socially unacceptable but actually illegal.

John Raven,
Scottish Council for Research in Education, May, 1977.

PREFACE

For many years many Secondary Modern School teachers asked "What are we supposed to be doing with the children we have in our charge?" One of the motives for moving toward Comprehensive education was to force more teachers to think about this question. Today the question is being asked loudly and widely, not only in relation to the growing demand for 'accountability' in education, but also by more radical authors such as Illich (1971), Reimer (1971) and UNESCO (1973). It also arises as a major corollary from the material presented by Jencks (1973). If education is 'a socially legitimated, but random, procedure for rationing privilege', how might we more usefully occupy the time children spend at school?

Basically the answers to this question involve answering the question "What are the second three R's of education?" This is the main question to which this book addresses itself. To answer it the author explores the objectives of many educational innovations, summarises surveys of the opinions of teachers, pupils, parents and ex-pupils and studies of the effects of education and other aspects of socialisation as factors contributing to outstanding performance.

Having answered the question in terms of the development of such characteristics as the spontaneous tendency to engage in activities like making one's own observations and learning *without* instruction, initiative and the tendency to work effectively with others, characteristics which are, unlike Chemistry or French, of as universal relevance to the members of our population as the traditional 3 R's, the book then goes on to explore the changes that are needed in educational practices and procedures, in educational institutions, educational methods, in educational evaluation systems, and in thinking in educational research, if these goals are to be achieved. In the process an attempt has necessarily to be made to provide an evaluation of our educational system. This evaluation is made from a viewpoint which differs markedly from that adopted by other systems evaluators, with the result that the conclusions are, not surprisingly, both tentative and different. Schools in fact appear to be very bad at reaching their main goals. One reason for this is that the qualities which, it seems, schools should strive to foster are centrally concerned with values, and this creates a serious dilemma for the members of a society which has, rightly, become chary of taking a stance on values issues without good information on the consequences of so doing. The provision of such information is identified as a topic of the highest priority for social researchers. A satisfactory resolution of values questions in relation to educational goals, curricula and evaluation is seen as central to educational advance. Hence the title of the book. A continued attempt to avoid the problem by further denial of its existence or further sterilization of education is not seen to be a viable solution.

The book contributes to the reform movement as exemplified by developments in primary curricula and proposed developments in secondary education, such as those advocated long ago by Kilpatrick, and more recently by such people as Smith, Mason, and Stenhouse. Whereas authors such as Illich and Reimer, and those concerned with life-long education (e.g. Faure), envisage a reduced role for the school in society, the author argues that, if educationalists pay more attention to what schools should be doing and the way in which they should be doing it, schools could become more important whilst at the same time representing less of a drain on society's financial resources and taking up less of people's lifetime. The resources available to education could, very usefully, be re-deployed to achieve the most important goals of education more effectively.

Much of the book is concerned with the theoretical basis of educational practices and procedures. This understanding of education, this theory, has been built up in the course of carrying out quantitative research, but it is not in itself quantitative. It is less important than it might be for not having been subjected to quantitative study — quantitative study designed to discover whether things work as, in theory, they should or could. But that is not to say that the material is *not* important. Nor is the attempt to clarify concepts and develop a formal understanding of processes “unscientific”.

As Donnison (1972) has observed, the most important outcome of research is not the computer output, but the understanding of the issues which is built up in the course of the research. Unfortunately the current stress on quantification has often meant that this understanding *is* viewed as “unscientific” and is, as a result, often not shared with others. There is a widespread tendency to attribute the inadequate state of knowledge in the social sciences to inadequate methodology. The real problem has more to do with the absence of a climate which encourages researchers to speculate creatively, but in a testable manner, about the implications of their data for important social issues. This book attempts to do something to remedy that situation by sharing untested insights and taking a tentative positional stance in relation to many important issues in the expectation that the resulting controversies will lead, through the time-honoured self-correcting procedures of science, to a more informed and accurate perspective.

The book is intended to form part of the purchaser's “working bookshelf”. To facilitate its use in this way each chapter has, as far as possible, been made complete in itself. Those who read the book through from beginning to end will, therefore, encounter a considerable amount of repetition, but it is hoped that the same material in another context will serve to enrich understanding, rather than lead to boredom.

Part I

INTRODUCTION AND RESUMÉ



Chapter I

INTRODUCTION AND RESUMÉ

All over the world there is a shortage of funds for educational programmes. In addition there is a worldwide questioning of whether education is concerned with the right goals and is pursuing them as effectively as it might (Illich, 1971; Reimer, 1971; Jencks, 1973). Many people suspect that the goals which should be strived for are *not* those currently receiving most attention. (Documentary evidence to support this statement, at least insofar as teachers and pupils in Ireland and England are concerned is presented in Part III). In fact, as we move into the last quarter of the Twentieth Century, it would seem probable that education, the world over, is confronted with four major problems. These are deliberately over-stated below in a somewhat unqualified form in order to highlight the main questions and concerns of this book. The four problems are:

1 *The Irrelevance of Education*

Although it is now widely recognised that education is a key to a 'good' job, there is a growing feeling that what goes on in "educational" institutions may not help pupils to cope with life's problems. The question of the relevance of current educational programmes has most often been raised in relation to the educational needs of the average and below average pupils — the *majority* of the population — rather than the intellectual *elite*, but the doubts that have been aired apply to the educational programmes offered to *all* pupils who progress beyond the primary stage. Education has become heavily committed to communicating existing knowledge to the new generation; it has become committed to producing the "knowledgeable man"; it has become committed to memory work; it has become heavily concerned with academic abilities; it has become very lopsided and lost sight of its goals concerned with the development of character, goals relating to the development of social skills, and goals relating to the development of many non-academic but intellectual abilities, such as the ability to make good decisions, ability to communicate, and creative thinking. As a result education may have become out of touch with life.

2 *The Diversity of "Subjects" and the "Knowledge Explosion"*

Existing educational structures are being confronted with enormous problems stemming from the scale of operations needed to cope with the 'knowledge explosion'. In fact, educationalists have as yet been unable to come to terms with the basic problem. This requires them to break with the tradition which assumes that everyone should know something of everything, and, instead to seek to develop people with very *different* configurations of knowledge, skills, and attitudes, and able *quickly* to change that configuration as the need arises. Stated in this way it is clear that educational institutions require to undergo a thorough overhaul — not only in order to cease to turn out people with very similar knowledge, and almost identical skills and attitudes, but also in order to enable people to *quickly* change the configuration of the knowledge, skills, and attitudes which they have acquired, at any time in their life that they need to change that configuration — a feature which educational institutions are remarkably loath to entertain.

3 *The inability of people from many backgrounds to respond to "education", in spite of "enrichment" programmes such as Educational Priority Area programmes and Headstart. This problem really points to the inability of traditional forms of education to respond to the diversity of intake and to the*

inability of educationalists to supply the right sort of educational programme to the people who most need it. By the latter phrase it is meant to imply that it may be adults rather than children who are most in need of enrichment programmes and that these adults may not be located in depressed communities. They may be the leaders and managers of our society who are charged with the task of bringing about social and economic development in a situation in which market economics has ceased to be an effective mechanism for guiding investment and evaluating the results. (A fuller discussion of this issue will be found in Raven, 1975).

- 4 *The widespread disillusionment which is now found among both teachers and students in secondary and third level education.* Evidence of the strength of this disillusionment will be presented later, but some indication of its strength may be deduced from the phenomenal popularity of the de-schooling movement. What has happened is that, as a result of the knowledge explosion, teachers feel under attack from the concept of lifelong education: what they are teaching their pupils is out of date and useless: Even if this is not already true it soon will be. Pupils will have to be taught new things: school is going to be less important, they think. But not only do teachers feel threatened by these changes in society, they feel under attack from researchers: they have been told that home background is more important than the school in determining pupils' performance. It has even been said that schools have no effect. The fact that such absurd views gain such popularity is symptomatic of the demoralised state of the profession: Of course, at any one educational level, genetic background, home background and extra-school variables account for more of the variance in pupil performance than the, in any case relatively small, variance in teaching methods between schools. But the progress from year to year in pupils' academic knowledge is almost entirely a product of the schools. Whether that knowledge is important is a separate question. But none of these things add up to the conclusion that schools could not find more effective teaching methods than they use at present, and certainly they do not add up to the conclusion that schools have to continue to do that which they have always done, but accept a minor role.

In the author's opinion these problems, far from indicating that schools will have only a minor role to play in society and education, add up to a conclusion that they will have a much more important role to play, a role that is complementary to the emphasis on knowledgeability found among those who write about life-long education, a role which involves taking education back to its roots and emphasising its role in developing important competencies like the ability to work effectively with others, the tendency to make one's own observations and to learn without instruction, and the tendency to notice that one has a problem, find the information one needs, and invent a solution. It is much more important for schools to foster these qualities than to seek to produce knowledgeable men.

And these are qualities which are important for *all* our children, not just for an intellectual *elite*.

From what we have said it would not be surprising, and it would certainly be beside the point, if it were shown that the degree to which pupils had developed these qualities was at present strongly associated with their home background rather than the type of educational programme they had attended, for the schools have, for the last quarter of a century, rarely set out explicitly to foster these characteristics. But this is not to say that they *should* not be concerned with fostering these qualities or that they *could* not help their pupils to develop them. On the contrary, as we will

see later, teachers, pupils, ex-pupils and parents all think that the schools should be concerned with developing these characteristics (although they devote little time to doing so at present). It is the purpose of this book to show that schools could foster such qualities effectively, indeed that, even now, they markedly influence the development of these characteristics, unfortunately often for the worse.

This book will be concerned with trying to clarify what is to be achieved in education, how it is to be achieved, and how to find out whether it has been achieved. Our task is to discuss educational priorities in order to find more effective ways of achieving the main goals of education at the expense of less important goals.

These questions are particularly important and acute in Ireland, where the author has been working for the past eight years, although they are by no means unimportant elsewhere. The reasons for considering them to be particularly important in Ireland are that Ireland has an overall GNP per capita of only one-quarter that of the United States and Sweden, one-third of that of Germany, France, Denmark and Switzerland, and half that of the United Kingdom, Austria and Italy. Nevertheless, it has one-quarter of its total population in full-time education. It has three people in full-time education for every four members of the work force. It has more people in full-time education per member of the work force than any other OECD country (and more old people per member of the work force as well). It has a higher proportion of its teenagers in full-time education than any country except the United States and Sweden which, as we have seen, are very much richer. The U.K. does not expect to retain such a high proportion of the age group as Ireland does at present until 1986. At the present time 8 per cent of the total GNP, equivalent to 19 per cent of the total Government budget, is spent, directly by the Government, on education. This does not include fees paid by individuals, money contributed through the religious orders, or money spent on books and materials. Under these circumstances Ireland cannot afford to have a degree of inefficiency in the educational system which might be perfectly tolerable (although it apparently is not) in other countries. It would therefore seem to be imperative to ask loudly and widely: "What are the goals of education, and how can we achieve these goals more effectively?" We cannot ask that more resources be devoted to education. We can only ask whether we have our priorities right, and whether the money we are at present spending on education could be better spent.

Not only are these questions of particular importance in Ireland, they are of particular importance at the present time. A survey conducted by the author has shown that no less than half the pupils who were interviewed intended to stay at school until they were eighteen years of age. 46% of those who had not yet taken the examination which is normally taken at the end of the compulsory period of schooling hoped to stay on until they were eighteen. A third of the pupils of all ages hoped to go to university. This finding is significant in that it indicates that two-thirds of those who have stayed on until they are eighteen years of age do not intend to go to university. How well geared are the current Leaving Certificate courses to the needs of this group of pupils? Not only do two-thirds of the pupils who intend to stay at school until they are eighteen not intend to go to university, only about half of those who intend to do so will in fact be able to do so. What is to happen to the other half? For what else is their education appropriate? As we will see later, most of their teachers thought of the courses they were providing as being primarily preparations for further academic study. Just under a third of those who intended to enter semi-or unskilled manual, or routine non-manual, work expected to stay on at school until they were eighteen years of age or more. Are the courses that are available at all appropriate to *their* needs? How can the necessary variety of courses be provided without over-determining the pupils' career prospects at an early age?

These findings add urgency to our enquiry. What should be done with future manual workers who intend to stay at school until they are 18 years old? Are the current academic programmes of education the ones that would be best suited to them? What educational programmes would be appropriate to them? Should they get the same type of education as those who aspire to university? Is one really providing a course which is appropriate to pre-university students for a third of the pupils? What, if anything, should be done about the fact that so many pupils seem to be aspiring to jobs occupied by such a small proportion of the total population and to a university education which is available to so few? Is there something amiss in our social structure that so many pupils stay on for so long taking courses which cannot be appropriate to their needs?

We may conclude this introduction with one more fact: The proportion of pupils intending to stay on at school to different ages did not vary much with the pupils' social class of origin, although the proportion aspiring to go to university did. Contrary to a common assumption among educationalists, there therefore seems to be little need for special programmes designed to engage pupils from lower status backgrounds in secondary education: The problem is that they are already there. The *need* is to provide adequately for pupils *bound for* a wide variety of different destinations.

The Subject Matter of the Book: Non-academic objectives of education.

It must be emphasised at the outset that this book is not concerned with the psychology of instruction: it is not concerned with how to convey knowledge of 'subjects' more effectively. It is concerned with the much broader social and emotional objectives of education; with objectives that educationalists consider much more basic than conveying academic information, but which, up to the present, have not been pursued very explicitly partly because of the belief that "attitudes are caught and not taught", supplemented by a belief that, if attitudes are explicitly taught, education becomes a matter of brainwashing, partly because of the constraints of the situation in which teachers find themselves, and partly because very little is known about how to achieve these goals, (and still less of that knowledge has been communicated to teachers in the course of their training).

In reality, however, to seek to achieve such objectives explicitly and effectively is the very opposite of brainwashing because it allows people to choose their futures much more effectively than they have been able to do previously. It gives men control over things that had previously happened to them by default and it thereby increases their freedom to choose ways of life for themselves and for their children because they rationally consider certain personal qualities to be worthwhile, desirable, and worth striving for, either as ends in themselves, or as leading to certain desired consequences.

The Label "Non-Academic".

In what we have just said we have emphasised the difference between our focus and that of most educational researchers and school administrators. When we need a shorthand notation to describe our concerns we have chosen to say that we are concerned with the "non-academic" objectives of education. We will be accused of degrading the term "academic" by thus suggesting that it does not encompass the development of general competence involving social and emotional qualities. But a definition of academic activity in terms of what currently goes on in academic institutions, and what is assessed in current academic examinations — which are intended to certify that pupils have "followed an approved course of academic studies" convincingly supports the view that current academic institutions devote

little time or thought to these goals and provide few opportunities for pupils to develop these competencies. In saying this it is, of course, not meant to imply that these goals were not at the forefront of the minds of the great headmasters, headmistresses and educationalists of the past or absent from the curriculum of the great schools and universities of the past (or even a few of the present). Still less is it meant to imply that these are not the goals with which most teachers would much prefer to be concerned at the present time. As has already been emphasised these are the goals which most teachers would prefer to pursue.

For the sake of clarity it is important to note that the objectives on which we propose to focus are every bit as *intellectual* as a great deal of what goes on in "academic" institutions. Indeed a great deal more so. What could be more intellectual than clarifying one's goals in life and thinking out how to achieve them? What could be more intellectual than becoming more sensitive to one's own concerns and feelings and using these to become more creative and effective? What could be more intellectual than exploring the consequences of pursuing different life goals and the strategies through which these goals might be reached?

The way in which these qualities differ from the abilities which most academic institutions devote most of their time to fostering is that they are much more related to important life achievements and practical activity. They are generally utilisable *competencies* rather than areas of knowledge. It is unlikely that, once mastered, the fate which befalls hard-earned knowledge will befall them. 50% of the knowledge which students painfully master is forgotten after one year, and 75% is forgotten after two years.

Given the current pre-occupations in the academic world, then, it is true to say that this book deals with non-academic objectives in education. Nevertheless, this would rapidly cease to be true if teachers were actually able to pursue the goals they wish to pursue. Although this is, therefore, a thoroughly non-academic, practical, book, it is not true that it is not an intellectual book. Indeed it is concerned with clarifying (a scientific and intellectual activity) the important practical goals of education, with clarifying the theoretical basis of strategies which might be used to attain them, and with translating these into practical terms.

This statement of what we are about may be used to highlight a theme which runs through the book. This is that many of the academics who have most influence on what goes on in educational establishments seem to ignore the fact that practical activity involves using intellectual activity in an integrated cycle involving reflection, action-planning, action, monitoring the effects of that action, coming to understand the situation better as a result of studying the effects of one's actions, and initiating effective corrective action when necessary. We may also observe, without anticipating too much of what will come later, that it also involves turning one's energies and emotions into what one is doing and working effectively with others. And it involves building up one's own understanding of what is going on without having to be told to do so or told which are the relevant variables to which one should attend.

It is indeed to the spelling out of some of the characteristics of effective action, and examining a few of the blind alleys that education has got itself into in the last quarter of a century, that the book largely addresses itself. In doing so the author has not sought to leave no stone unturned: there are plenty of academic synthesisers who are better equipped, have more interest in, and a greater incentive to perform, such a scholarly task, than the author. In Boswell's words the author has set himself the task of making sure that the work was concluded if not completed.*

*The author is grateful to Gilbert Peaker for drawing Boswell's discussion of this problem so memorably to his attention.

“Aims”, “Goals”, and “Objectives”.

Unfortunately, it is necessary to come to terms with a classical academic argument before we can progress further. The words “goals”, “aims” and “objectives” have acquired specific definitions in education. In doing so they have become associated with particular viewpoints. These viewpoints, in turn, have acquired emotional connotations. Thus, for example, one learns that ‘objectives’ should be defined in terms of specific patterns of behaviour in which it is hoped the pupils will come to engage. As a result it is not surprising that the hackles of those concerned with familiarising pupils with the behavioural, emotional, and cognitive components of a wide variety of points of view should rise when one asks them what their objectives are. They feel forced to state either that they don’t *have* objectives or that it is impossible to specify their objectives. Such a patently absurd statement can only be explained by the fact that to answer the question would seem to imply acceptance of a way of thinking which those concerned reject. Once they have calmed down they will agree that their goals are to enable pupils to develop a sense of values, and to help pupils crystallise their identity and personality by presenting them with information about a wide range of ways of life and the consequences of adopting those styles of behaviour. As a result, pupils will be able to adopt such parts of those ways of thinking, feeling, and behaving as they find congenial — congenial either because they find that they are comfortable behaving in those ways or because they bring consequences they value. Unfortunately this use of the word “goal” does not conform to the usage laid down by others.

So far we have only discussed the views of two groups of protagonists in this heated argument. Other people use the word ‘objectives’ to describe aims and goals that have little to do with education, but have much to do with society. Thus the main objective of some of those who advocate a policy of comprehensive education is to provide equality of educational opportunity.

Whatever our choice of words, therefore, it is difficult to write without seriously offending some prospective readers. Rather than throw out whole areas of discourse because they do not fit neatly into a technical framework, we have chosen to use the word *objective* loosely. We are even prepared to believe that there may be something worthwhile behind the words of others who have used technical terms “wrongly”. As a result the second chapter looks at some revealing issues concerned with the aims, goals, and objectives, firstly of education as a whole, secondly of particular innovations in teaching methods or techniques, and thirdly of innovations in educational policy.

Procedure: Sources of Information.

As has already been indicated, some of the non-academic goals and objectives of education are fairly explicit; others are implicit but can be uncovered by examining some controversial issues: state versus independent or religious control of schools; comprehensive education; the “two cultures”; general studies; and discussion lessons. Other possible objectives can be made clear by asking: What sorts of jobs are our pupils and students going to enter? What sort of lives are they going to lead? With what types of people, social systems, groups of people and aspects of technology are they going to have to deal? What attitudes, skills and interests enable some people to lead more satisfying lives than others, and how do they acquire these? What other knowledge, skills and attitudes would people need to acquire in order to lead more effective, satisfying, or worthwhile lives? More generally, what *patterns* of life, with different patterns of satisfaction and frustration, are there between which people have to choose, and what types of education would be best for people who wish to choose each style of life. We may crystallise this discussion

by saying that a great deal could be done to clarify the objectives of education by asking: What are the main groups of people in our pluralistic society who wish to lead their lives in different ways and to obtain different patterns of satisfaction and frustration from life, and how should education best cope with the needs of these different groups?

We can summarise these questions by saying that we need more analyses to uncover groups of people who follow different styles of life, interact with different types of people and different types of technology, and who therefore experience different patterns of satisfaction and frustration. That is, we need more socio-technical analyses of life styles.

When we come to look for research of the sort discussed in the last paragraph we find an appalling lack of job analyses, and a complete dearth of socio-technical analyses of the lives of people living in different sections of our community. Had a few sociologists not been curious and proceeded to collect information (albeit with an inadequate methodology and conceptual framework, dictated by an absence of research funds) there would be nothing at all.

Explicit Studies of Educational Goals.

In relation to explicit studies of educational objectives it is surprising to find that, in spite of the fact that the Republic of Ireland spends £100 million a year directly on education (not counting personal expenditures or expenditure on text books) very little attention has been given to what the objectives of education are or should be. The British budget for education is £7,002 million a year, yet the Robbins report is alone among the official British reports on education in pointing out that, in spite of the fact that both employers and potential employees clamour for education, there is little real evidence that it does the country (or the individuals concerned) any good. The number of references to research which has been devoted to the clarification and specification of educational objectives can almost be counted on the fingers of one hand: Bloom (1956), Whitehead (1950), Dressell & Mayhew (1954), Collier (1965), Tuel & Shawe (1966), Madaus (1967), Tyler (1950), Montague (1968)), while the number of studies dealing with the technology of teaching reading or mathematics run into thousands. As Wrigley (1970) remarks, there has been a failure to consider educational objectives, a failure to consider what we are really about in education.

Common Understanding.

In practice, if one asks people what the aims of education are, a very wide range of objectives are enumerated: development of character; willingness to work at boring and useless tasks ("which *they* will *have* to work at all their lives"); unwillingness to tolerate unpleasant situations — a desire to deal with them either by moving oneself out of the situation or by manipulating the situation to bring it more into line with what one wants it to be; Christian morality; ability to express oneself; willingness to listen to and understand others; willingness to recognise problems; willingness to challenge what appear to be the authorities on a subject; critical thinking; good taste; self confidence; maturity; leadership; changes in pupils' views of themselves, their self images; and bringing pupils to view as appropriate to themselves certain social roles and vocations such as managers, professors, and entrepreneurs of which they are, perhaps, dimly aware, but which they have never perceived as roles that they could themselves fill.

What is significant about this list is the lack of unanimity between educationists, the varying degree of generality, or inclusiveness, of the objectives as they are

stated, the lack of relationship between these aims and the educational practices and procedures (inputs, learning experiences)* which take up so much time in education and the absence of measures to assess the extent to which attainment of these aims is achieved in the examinations used to classify pupils as educated or not, or to compare the adequacy of one school with another and one teacher with another.

Possible Ill Effects of Education.

Even less discussed than these positive objectives of education are the possible ill effects that education may have, effects which may have consequences just as important as attainment of any of the positive aims. Examples of possible ill effects might be: giving pupils vocational ideas beyond their capacities, causing them to have less than positive images of essential careers like engineers or technicians, or causing them to have a mentality which allows them to continue to work at boring and useless tasks when they could uproot themselves and find new jobs or set to work on their social environment to change it so that it might become more congenial to their temperament.

Concluding Comment: The Problem of this Book.

In conclusion: The problem of clarifying educational objectives and the means to their attainment is acute. Yet there has been remarkably little formal systematic discussion of these things to date. Instead there appears to be a plethora of vaguely formulated educational objectives which come to the mind of individual teachers and educationalists when one asks them what they are trying to do. The extent to which these objectives are shared objectives among the teaching profession is also unclear. The objectives are rarely backed up by specific educational techniques, inputs, or learning experiences explicitly designed to achieve them. On the other hand there are a number of controversial teaching methods and policy innovations which seem to stem from differing perceptions of what the objectives of education are, or, at least, the controversies seem to stem from differing perceptions of what objectives the innovations are intended to achieve.

In the next few chapters we will look at some of these controversies and innovations in order to clarify educational objectives which are important to at least some teachers, and as a means of drawing attention to the extreme looseness with which they are linked to the educational techniques or learning experiences supposed to lead to their attainment. In later chapters we will review other material which makes these objectives explicit or points to further (so far neglected) objectives, and which helps to clarify routes to their more effective attainment.

The Structure of the Book & Resumé of Findings.

The first priority in our endeavour must be to decide on the relative importance of conflicting educational goals. The value of the 3 R's is now universally accepted. The problem is to clarify the *second* 3 R's. The first thing which will become clear is that the second 3 R's are *not* among the abilities — if stores of knowledge can be described as abilities — which most secondary school programmes currently strive hardest to foster. The goals which current secondary school programmes strive hardest to achieve were taken over from a system of

* The terms 'educational input' and 'learning experience' are used to refer to educational practices and procedures which involve teachers structuring a graded series of opportunities for pupils to practice increasingly well formed patterns of activity, patterns of activity which involve the thinking and feeling (cognitive and affective) as well as the action components. Although this definition is probably too abstract to convey much to the reader at this point in the text, a deliberate attempt has been made as the book progresses to provide a clear indication of the way in which these terms, and others like them, have been used from the contexts in which they appear.

education which was designed to cater for a minority of the population. Unfortunately the objectives of the system were so watered down in the process of making it universal as to make the system which was provided a mere parody, or pale shadow, of the earlier system. We have neither the old elite system nor a system which focuses on objectives which are as relevant, as the 3 R's are, to the milkman as to the executive.

It is not possible to make a direct attack on the problem of clarifying the goals of post-primary education since educational goals are rarely discussed explicitly. However there are a number of controversial issues in education which, if explored, serve to highlight a variety of goals which a number of people apparently define as being of major importance. There are also a number of curriculum innovations which are directed toward the achievement of new goals (or, at least, goals which have been much neglected for the last quarter of a century) rather than being new ways of achieving old goals. These controversies and innovations are therefore reviewed as a means of making these goals explicit. Although the chapters summarising this material were originally written with the intention of highlighting the fact that these objectives were important to at least a few people, the material turned out to be of considerable interest in its own right and has accordingly been presented in some detail.

Having looked at these controversies and innovations we move on to more explicit studies of the goals of education. These studies highlight the fact that, as we have already asserted, teachers feel that they are diverted from their main goals. There is widespread, shared, concern about these things. We are not dealing with a few isolated calls for change. Even if we could not deduce it from the phenomenal sales of the works of Illich (1971) and Reimer (1971) the data we present reveals that there is a mass movement afoot. The main goals from which teachers feel they are diverted involve fostering self-generated, self-initiated, as distinct from reactive, characteristics in pupils. These qualities include the spontaneous tendency to take initiative, the tendency to notice problems and think independently, the tendency to communicate effectively, the tendency to make one's own observations and learn *without* instruction, and the tendency to work effectively with others.

As an aid to further clarifying goals and objectives the characteristics of people who make important contributions to society are next reviewed. It turns out that in many ways people who make important contributions to society have characteristics which differ from the sort of pupils schools tend to favour. For example, they tend to be introverted rather than extroverted, specialists rather than generalists, and outspoken and critical. The distinctive features of their upbringing and education are also explored. Features of their upbringing too, seem to be uncharacteristic of schools. They tend to have been exposed to, and to have modelled their behaviour on adults who, unlike most teachers, stress innovation and the importance of working hard at tasks one enjoys. As children they have been expected to be independent and have been given few explicit directions. Although there is a great need for further studies in this area, the results suggest that current educational programmes do not sufficiently help pupils to develop these characteristics. This conclusion is supported by the results of the few socio-technical analyses that are available of the characteristics needed to function effectively in different walks of life. These suggest that the competencies most needed include such things as the tendency and the ability to make good decisions, initiative, and the ability to work with others.

After reviewing the equally few studies of the extent to which character-development goals of education are achieved by current educational procedures we turn to the even fewer studies of the long term consequences of different types of educational programmes. These suggest that, although duration of education is an

important correlate of life success, quality of educational award is not. Thus it would seem that, if education is anything other than a restrictive practice, it is the unwritten and unassessed, rather than the explicit, curriculum which is important.

Theoretical work on motivation and on the conceptualisation of values and the competencies which make for effective behaviour is then reviewed. Development of the psychological characteristics which make for effective behaviour is an area containing goals which would qualify for the label "the second 3 R's of education". Further theory which leads to the specification of educational programmes or inputs which would be likely to lead to the development of these characteristics is then reviewed and the effectiveness of theory-based experimental educational programmes designed to lead to the achievement of these goals is examined.

Some further suggestions for curriculum reform which might result in more important goals being achieved, more effectively, with more people and at less cost, are then discussed. The book concludes with an analysis of evaluation practices and procedures. It would seem that these will have to change markedly if teachers are to cease to be distracted from their most important goals and helped to achieve the goals to which they attach most importance. A number of leads which might result in more useful evaluation procedures being developed are explored.

Part II

SOME CONTROVERSIES AND INNOVATIONS IN EDUCATION

As we saw in the last chapter, the objectives of education, particularly of secondary education, are not at all clear. One way of making these objectives more explicit is to review a number of controversies in education and to examine the goals of a number of educational innovations. In the course of doing this we will examine, not only the goals or objectives themselves, but also the degree to which they are clearly linked to educational practices, or learning experiences, which are likely to enable teachers to reach them. Examination of the nature of these educational practices and procedures will, in turn, enable us to become clearer about their goals.

The discussion will mainly be based on understandings the author has built up in the course of conversations, interviews, and seminars with teachers, administrators, parents, pupils and ex-pupils. Although it might be possible to paint the same picture by reviewing the existing literature on these topics, the material presented here was not derived from the writings of educational theorists who might possibly have been far removed from the day to day business of teaching. Furthermore, the variety in the interpretation of these ideas seems to be much wider and richer than one would guess if one only read the literature. Nevertheless, although built up from what was said to the author, the material which follows does not claim to be an "objective" reflection of the views which were expressed. Rather, the positions which are outlined are more like "ideal types". They embody elements derived from many conversations and they incorporate the author's reflections on what those involved might have said had they pushed their train of thought to more extreme lengths. In selecting the viewpoints to be outlined and discussed a deliberate attempt has been made to omit viewpoints which are already well understood. The selection is, therefore, biased toward viewpoints which seem to offer maximum scope for growth.

The material presented here started life as a brief account of some controversies in education. It was intended only to illustrate the fact that some "non-academic" objectives of education are central to the preoccupations of some teachers. However, over the years, it has grown into a very long section which is felt to be of considerable value in its own right. Chapter II deals with the "two cultures". Chapter III with "discussion lessons". Chapter IV deals with Comprehensive Education and mixed ability teaching. Chapter V with project work. And Chapters VI and VII deal with pupil-centred learning and extra curricular activities respectively.

Chapter II

THE TWO CULTURES AND SPECIALIZATION VERSUS GENERAL EDUCATION

Before teasing out a few of the issues involved in the debate on "Arts for Scientists" it may help both to set the stage for the discussion, and to underline the importance of collecting research data relating to such issues, if we mention that both the English Sixth Form study (Morton-Williams, Raven and Ritchie, 1970) and the international data collected by the International Association for the Evaluation of Educational Achievement (the IEA), and reported by Wolf (1976), have shown that, contrary to popular belief, it is arts students, not scientists, who are specialists.

In six of the eight countries included in the IEA study, scientists read more editorials, film, play, television and book reviews, and more music and art reviews than did students of the humanities. Science students also read many more works of literature. Few humanities students read articles, let alone books, dealing with scientific subjects.

In spite of these results, it is usually scientists who are accused of "narrowness". When a two-pronged statement is encountered it usually takes the form: "Scientists should know something about literature, and arts people should know something about science". Attention may immediately be drawn to the substitution of "literature" for "arts". Such sleight of hand is even more evident when one presses those who hold these views to be more specific about what they hope to achieve by forcing students to have a "balance" of subjects, or what they are trying to achieve by advocating general studies courses. At this point it becomes clear that what they are really saying is that the scientists should:

- 1 Know something about personal relations; how to deal with politicians, committees, colleagues and other members of a research team.
- 2 Develop a personal philosophy of life (which may [and hopefully will!] lead them to decide that they will, for example, never work on the development of poisonous gases).
- 3 Be able to express themselves clearly (as they will have to when dealing with committees and preparing publications).
- 4 Develop aesthetic appreciation and discover enjoyable interests, hobbies, pastimes and literature.
- 5 Know something about society and political institutions.

It is interesting to compare these aims with those of arts teachers — the reader will recall that the original statement said that science students should know something about the arts. When one asks arts teachers (or, more correctly, those most directly involved, literature teachers) what they are trying to do, it turns out that they are inclined to advocate academic study of the subject. The author has never quite managed to pin down exactly what this statement means, but it seems to imply, firstly, study of the subject-matter to discover how the author of a particular piece of material created his effects. This objective might be achieved by examining the form and imagery used by the author and comparing and contrasting it with that used by other authors. As such it would become a process open to verification and, as a result, it might be termed a scientific investigation. The second component of

“academic study of the subject” seems to involve tracing the origins of themes and images to previous authors. This is again a scientific process, the methodology for which has been well developed by psychologists although not applied as extensively as it should have been. One may therefore be forgiven for wondering where the belief that studying arts subjects would lead scientists to achieve the objectives listed above (developing a better understanding of people, etc.) comes from.

The converse, that arts students should know something about science, also conceals a considerable amount of woolly thinking.

What is often meant is that arts students should:

- 1 Know what scientific method is and how to apply it to a wide range of problems, including historical, personal and social ones.
- 2 Know how to mend fuses, and how television sets and cars work.
- 3 Not be afraid of numbers and symbols.
- 4 Be familiar with the snare one is likely to encounter when interpreting tables of numbers such as are found in official documents such as the Robbins Report on Higher Education or the Bullock report on reading.

Again, it is salutary to ask how many science courses in fact emphasise objectives of this sort.

More generally, what is being argued here is that the “arts for scientists and science for artists” formulation is an over simplified and, indeed, an incorrect formulation both of the problem and of its solution. Furthermore, the conflict between the objectives of the policy and the proposed means of achieving those objectives highlights the need to examine very carefully any proposal to extend traditional types of education without clearly stating the reasons for doing so, and, in particular, examining the relationship between exactly what educational processes are to be used and the objectives in terms of which the policy is justified in policy proposals.

There are at least three other reasons for advocating general courses which are relevant to our discussion of educational objectives. These are:

- 1 Pupils should be introduced to the vast range of new subjects which are not taught in schools, and the variety of careers available, so that they can consider them as possible subjects of study and careers for themselves.
- 2 Pupils should be introduced to new interests and hobbies so that they can lead fuller, richer, lives.
- 3 The fear that, if there are not regulations, which force everybody to take a broadly based course, the shallow extrovert (whom people in our society basically approve of more than the narrow specialist) will be penalised by failing to get grades as high as the specialists.

The first two of these objectives can only be achieved by courses which are

radically different from those offered today (and thus irrelevant to the debate if phrased in these traditional terms), while the third view seems to be confused; we must recognise that, whether we approve of them or not, we do need in our society *both* some specialists passionately interested in their chosen subject and not concerning themselves with anything else, *and* some broadly educated people interested in many things, including people and communication. The need to provide an adequate variety of courses, and to modify our examination and assessment systems accordingly, will become a recurrent theme in this book. There seems to be little cause for saying that all university entrants must clear the same hurdle. Instead there appear to be good reasons for having disjunctive university entrance requirements in order to admit *both* good specialists and candidates who have a wide range of knowledge or other skills.

What conclusions can be drawn from this discussion? Firstly, that some people, who are in a position to have a marked influence on educational policy, are very concerned about some objectives which are not covered at all well in educational programmes as they currently find expression in most schools. Secondly, that the policies which are proposed as solutions to these poorly defined problems may turn out to be only marginally related to the problem which led to their formulation. It would seem that we would be well advised to spend more time trying to become explicit about the objectives of general education and about the educational processes which might be used to achieve those goals.

Chapter III

DISCUSSION LESSONS

Although controversy rages concerning the value of teaching sessions conducted as discussions in place of a traditional presentation ("talk and chalk") followed by exercises, those who enter into the controversy often fail to realise that the term 'discussion lesson' frequently connotes very different things to different people. I have heard teachers argue that discussion lessons are no use because the pupils cannot be expected to discuss things they know nothing about; if time is wasted on discussions, pupils will not learn what they are supposed to learn. I have heard others argue that, on the contrary, pupils will learn these same things better as a result of having expressed the things themselves. Yet others argue that the value of discussion lessons does not lie in learning this sort of 'thing' at all, but in developing social and expressive abilities and in getting rid of shyness.

Other perspectives on discussion lessons include the view that they are to be used to develop the skills which scientists will eventually require in order to do their jobs well — the ability to notice problems, the ability to observe, the ability to invent ways of testing hypotheses, and the ability to clarify concepts. They also include the view that discussions are a suitable means of helping pupils to change their self images by encouraging them to think about their values and the consequences of adopting different goals in life. Still other teachers say they use discussion lessons to develop respect for other people by teaching pupils that there is almost always something worthwhile in a point of view which is at first found totally unacceptable. Others say that discussion lessons are a means of teaching pupils things about themselves and about the sorts of things that go on in groups, how they tend to react to others, how others react to them, what it feels like to be verbally attacked and defeated in argument, and about the difficulties of expressing a strongly held, but inadequately formulated, or unpopular, point of view.

Quite clearly, it is impossible to make progress in assessing the value of discussion lessons when the term means such different things to different people and when these different definitions imply that they will go about their discussions in different ways. In order to provide a basis for a more informed debate of the merit of discussion lessons, a more complete list of some of the objectives which different teachers have in mind when utilising "the discussion method" is given below. The objectives have been grouped into five areas: communication, understanding, citizenship, character development, and academic attainment.

To Develop the Attitudes and Skills Necessary for Effective Communication.

Under this heading we have grouped such objectives as making sure that pupils can listen to others, and that they do in fact develop the habit of doing so, the objective of making sure that pupils can express themselves orally and are not afraid to speak in public; and the objective of making sure that pupils can locate relevant information and organise it systematically for an effective presentation whenever the need arises.

Achievement of these objectives is, of course, no simple task. People tend not to listen to others, but instead to be preoccupied with their own thoughts. Dialogues tend to be two monologues in which people use the gap when the other person is speaking to muster their own thoughts. One way of dealing with this problem is to get the group to agree to a rule which requires each speaker to repeat, in his own words, but to the satisfaction of the previous speaker, what the latter has said before making his own point.

Making sure that pupils can, and do, express their thoughts is also no easy task since the pupils about whom the teacher should be most concerned may be those who are most reluctant to say anything; they may be those who are most likely to be frightened — and come to react with debilitating anxiety in such situations in the future — if they are *required* to say something. Nevertheless, the basic principle is important: if one wishes pupils to learn how to engage in some pattern of activity — a pattern which will involve thinking, feeling, and behavioural components — one *must* provide opportunities for them to practice this set of activities. One may in fact need to lead up to the final achievement of this particular objective by structuring a series of situations for pupils such that they are at first expected to do something only slightly more demanding than that which they would normally do. One way of doing this would be to discover their interests — whether these are in television programmes or in collecting butterflies — and encourage them to talk about *these*. So far so good, but this procedure conflicts considerably with the attainment of some of the objectives of discussion lessons which we will discuss later, a fact which will lead other teachers to emphasise that this sort of discussion is not at all what they had in mind.

The objective of making sure that pupils can readily locate and organise material intrudes into the area commonly understood as project work. The most appropriate educational process (learning situation) through which such abilities might be developed might be one in which pupils carried out work that they themselves found interesting and then broadcasted the results, by means of preparing and presenting radio programmes, by preparing, typing, paginating, and printing newspapers and magazines, by sending delegations to local authorities, and by organising courses for parents, teachers, headmasters, administrators and other outside experts. Such a programme would, of course, achieve a number of the other objectives listed below — but its effect in developing communication skills might be dramatic, particularly if the pupils also carried out an enquiry to discover which medium was appropriate for conveying each type of message to different types of audience. The pupils might then conclude that running a discussion lesson with their audience was the best means of communicating certain sorts of message to them!

One area of communication which we have as yet not mentioned is that of communicating with oneself. One may wish to make one's own feelings explicit, to bring a fleeting idea into full consciousness, to clarify one's values, to clarify one's goals, objectives, and priorities, or to clarify the sort of person one is. If this is to be done well, it is necessary for the teacher to provide a set of concepts, a vocabulary, which the pupils can use to describe and make explicit that which they already know about themselves in a relatively inarticulate sort of way. By providing this vocabulary, teachers can make this knowledge more usable. It is also necessary that teachers provide opportunities for pupils to become thoroughly familiar — at emotional and behavioural (action) levels, as well as at the normal intellectual level — with other ways of thinking, feeling, and behaving so that they can come to recognise their similarities to, and differences from, others. It is also important for pupils to practice catching elusive feelings and ideas and bringing them into full consciousness. To do this it may be necessary to encourage them to talk about, or at least to make silently explicit, the 'irrelevant' and 'unacceptable' ideas which come into their heads.

To Develop Attitudes and Skills Which Are Likely to Lead to Advance in Knowledge and Accurate Understanding of the World.

Teachers who use discussion lessons to develop the competencies required to advance knowledge and understanding seek to give pupils an opportunity to acquire the attitudes, and practice the skills, which they will need to have as adults if they

are to contribute effectively to the society in which they live, rather than the skills which they will need to obtain entry to occupations or to advance themselves on a personal basis (the latter largely being skills of memory and the ability to beat examination and staff assessment systems). They wish their pupils to develop the habit of noticing problems, to develop the habit of concentrating on those slight feelings of unease which indicate that there is a barely noticed problem, to make relevant observations, to systematise and summarise those observations, and to track down, and bring to bear, relevant existing knowledge. In other words, they want pupils to learn how to learn without instruction, without formal courses. And we may note that this is the antithesis of the way in which the platitude that pupils have to learn to learn has been interpreted by most teachers. (Most teachers think that to learn to learn means to learn how to get high marks in further courses of formal instruction). Teachers who wish to use discussion lessons to teach pupils how to make their own observations and learn *without* instruction also want pupils to develop a questioning scepticism of experts and authorities, and to spot errors in observations and reasoning. And they want pupils to develop the skills required to communicate the results of these inquiries to others.

As an aid to fostering these abilities, these teachers hope that pupils will develop the habit of discussing things with others so that new ways of looking at things will be drawn to their attention, and they hope that pupils will come to tolerate the often irritating, tedious, and time-consuming process of discussing ideas with others as a result of having had repeated experience of the benefits that tend to follow. Likewise, it is hoped that the pupils will come to realise the beneficial effects of simply *preparing* to discuss ideas with others. Among these benefits are increased clarity of thought, understanding, and expression.

Another educational input often used to emphasise that pupils not only can, but *must*, evaluate everything they read, is a discussion of some event reported by several sources. The sources almost invariably disagree. In each case critical observations have been left out in order to provide a single and convincing (if erroneous) picture. What appear to be convincing, authoritative, and watertight arguments are often nothing of the kind.

From trying to develop a questioning scepticism of authority some teachers move on to trying to make sure that pupils understand how inaccurate and subjective are their own perceptions and interpretations. Not alone do these discussions highlight the fact that other people *interpret* things differently (and that through discussion a more accurate interpretation can be arrived at); they also show how differently people *perceive* things. Not only do the teachers hope to develop a willingness to retain an open mind, a tolerance for ambiguity, they also hope to encourage pupils to study the processes whereby they come to *see* things and thereby come to realise that their perceptions are normally based on very slender evidence indeed, and thereafter solely on a very elaborate theoretical framework derived from memory, old habits of thought, and expectations, and therefore unreliable in the extreme.

Once again it is clear that what is being referred to is a very specific type of discussion lesson and that it would be possible to generate still more specific inputs designed to develop the attitudes and skills that are aimed at. Specific demonstrations could be arranged to bring home to pupils the importance of understanding perception and to develop the habit of allowing for some of the distorting processes. Particular educational exercises could be devised to encourage pupils to develop the habit of using systematic strategies to test their perceptions. And exercises designed to encourage much more use of reverie and unconscious processes in mulling over materials could be utilised.

In saying this last, we are obviously talking about the springs of creativity—for most people an essential feature of an effective style of life. We will have more to say about research into the origins of creativity in a later chapter. Here we may simply refer to some of the barriers to creativity and ways in which they might be overcome.

Barriers to creativity derive from: fear of failure, lack of confidence in one's own creative competence, lack of persistence in solving problems, distaste for thought, inability to tolerate the anxieties which face one if one attempts to tackle the unknown, inability to locate relevant resources, inability to use resources that are available, inhibitions which prevent one 'playing' with material in order to be able to view it from a different perspective, in a different light, and inability to discuss problems effectively with others.

Pupils' fear of failure and lack of confidence in their own creative competence can be reduced by structuring situations in which they learn that they can in fact solve progressively more difficult new problems which are important to them. As every schoolboy knows, problems are not problems unless they are new, and they are not really problems unless they are their *own* problems. In the course of doing this, pupils also learn to tolerate the anxieties which arise when one is unclear about whether one is tackling the right problem or going about it in the right way. It is necessary for pupils to learn that putting up with these unpleasant feelings for a while usually pays off and that there is normally no way to avoid them by, for example, turning the problems over to an 'authority'. They have to learn that it is not necessary to be certain of all the steps which are needed to reach a goal before they embark on a course of action which is intended to reach it. Instead they have to develop the ability to monitor the results of their initial actions, use the information so obtained to develop a better understanding of the situation they are dealing with, and take corrective action when necessary. And they have to learn both that it is often necessary to persist for long periods of time if they are to master such problems, and that such activity does pay off in the end, that is, they have to learn that it is often necessary to persist with unpleasant tasks if one is to experience the satisfactions which follow.

On the other hand, they also have to learn the habit of turning things over to the unconscious when all the preparation that can be done has been done; they have to learn the value of toying with ideas—so that they do not in future inhibit such playful activity; they have to learn to discuss crazy ideas with others and not condemn either themselves or others for doing so; they have to learn to tolerate discursive group discussion and learn the types of behaviour which will help them, and other members of the group, achieve their goals through the group; they have to learn to capitalise on each other's strong points; and they have to learn to perceive the resources that are available to them for what they are and to learn to capitalise on their potential.

We may note that two of the features most likely to reduce self-reliance and feelings of creative competence are books and teachers; it is too easy to turn to them for 'help'. Even though the 'assistance' they give is rarely relevant to the attainment of one's goals, they still manage to give the impression that there is a great deal that is known which somehow ought to be mastered before one branches out on one's own. They often make the pupil feel that the answer to his problem is available if only he could find it (it may be available, but usually one gets distracted in the course of finding it), and they often make him feel that there are experts who can advise him on how to go about tackling his problems if only he could locate them. Books (other than, perhaps, modern primary school books), in particular, tend to be written in such a way as to preclude thought; they are written to convey the message that the author knows the answer, has thought of everything, and that their

content is to be remembered rather than used as a basis for further thought.

Perhaps the most basic step to be accomplished if one is interested in developing powers of creativity is to ensure that pupils discover that they are capable of creative thought, that it is useful to them in making progress toward their goals, and that they enjoy it.

To Develop the Attitudes, Skills and Knowledge Necessary for Active Citizenship.

Any attempt to develop the characteristics required for active citizenship clearly builds on the attitudes and habits discussed in the last section: it builds on prior development of questioning scepticism, systematic observation, and tolerance for ambiguity. But active citizenship also involves knowledge about the way human groups function, knowledge of the way civic and social institutions function, willingness to do something about the problems one recognises, and respect for others and their preferences.

One objective of discussion lessons of this sort is, therefore, to encourage pupils to think about, collect relevant data concerning, and decide to set about tackling, such social problems as alcoholism, conflict, road accidents, bureaucratic rigidity, old age, pollution, and relations between the sexes.

Another objective is to develop respect for others. This can be done by structuring situations in which pupils discover that there is usually something reasonable and worthwhile behind the ideas of others, however badly expressed they may have been and however absurd, inconceivable, radical, reactionary, pigheaded, or childish they may at first have sounded. Such an aim clearly relates to the objective of encouraging pupils to listen to what is behind the ideas of others. However it goes further, and its successful achievement may imply the bringing together of people who come from very different backgrounds, and who have very different views, in a situation in which they are gradually forced to confront their differences and work out the implications of those differences. In addition to bringing pupils to develop the habit of seeking to understand discordant points of view, one would hope to go further and make sure that they recognise that these other points of view are linked to real differences in previous experience and life chances and, as such, just or moral as their own. In saying that attitudes and beliefs are related to life chances it is meant to imply that attitudes and beliefs which are often thought intolerable — such as certain attitudes towards stealing, social mobility or financial security — are perfectly comprehensible in the context of the background from which the individual comes.

Some varieties of discussion lesson are used in the hope of helping pupils to understand other aspects of individual and group behaviour: the way people react (to them and to others); what it feels like to be attacked; how to make constructive comments; how to avoid upsetting people while getting one's own point of view across; how to work toward group consensus; to understand the things that go on in groups (and not only to understand in an intellectual sense, but also to develop the habit of listening to what is going on in groups, understand it, and take responsibility for making sure that the group achieves its goals effectively); to understand and experience the problems of sharing ideas with others; to understand the problems of putting forward unacceptable, but important, points of view; the problems of admitting that another person is right, the problem of giving credit where it is due; to understand how to encourage others to develop their ideas, rather than clam up; and to make sure that pupils have developed the skills involved in nurturing the poorly expressed but worthwhile ideas of others.

In order to do these things, one may need to give pupils opportunities to participate in real decision-making, in situations in which real divergent interests exist. As a result, they should come to understand thoroughly the sort of pressures which cause committees and councils to behave as they do, the sort of compromises that must be reached when no one point of view is any more valid than another and in which each is held with fervour and justification.

It is clear that such things can be taught most effectively in carefully structured committees, composed of pluralistic interests, and set up to achieve some joint goal. At this point, discussion lessons begin to resemble activities commonly regarded as 'extra curricular'. One might argue that they should not be *extra curricular* luxuries, but an essential part of everyone's education. However, it is worth noting that, even if 'experience-based' learning of the sort we have described — learning built up through direct experience and involving emotional and behavioural habits and reactions, as well as intellectual understanding — is used, there is still a need to provide a vocabulary, a conceptual framework, with which to think about these things, and that the experience-based learning inputs should be systematic, structured, and graded in order to lead to the desired outcomes, particularly among those who might be the least likely to acquire the experiences they need.

To Develop Character and the Attitudes, Knowledge, and Skills Needed for Effective Social Functioning.

The sort of objectives that teachers may have in mind in relation to the development of character and social skills range from reducing shyness so that pupils can function more adequately in social situations to developing strength and integrity of character, so that pupils are not torn by internal conflicts, can resist social pressures toward anti-social behaviour, and resist stresses which might otherwise lead to mental breakdown. Such objectives imply inputs which result in pupils considering their values, the sort of persons they are, and which help them to integrate their various desires. They imply inputs which ensure that pupils learn that they can master that which at first appeared too difficult. They imply that pupils are taken through a series of (social) learning experiences which bring them to function at what Piaget (1932), Havighurst (1949), and Kohlberg (1971), have characterised as the rational-altruistic stage of moral development. People who reach this level are able to consider the reasons for codes of social behaviour, conform to them when desirable, and take steps to get the codes changed when necessary. They conform to the codes, when they do, not slavishly but because they recognise the merits of the code. Yet they do not apply the code in complete self-interest, for they are concerned about mankind as a whole and consider the consequences of their actions in the context of mankind as a whole. They develop a strong commitment to working for the good of mankind and display a profound respect for others. Because of their understanding of the reasons for moral codes they are much better able than others to deal with the many situations in which codes are of little value, the many situations that are not of a black and white nature and the many that involve a conflict of codes. Because of their willingness to consider the unacceptable they are able to tolerate and integrate divergent impulses and thus resist mental breakdown and anti-social behaviour.

However, these authors have also shown that the high level intellectual processes we have described here *evolve out of* trying to cope with social situations. They cannot be developed in asocial intellectual exercises (as is commonly assumed in education) and then applied to social situations. Quite the reverse is the case: high level intellectual skills arise out of attempting to deal with social situations which are important to the individual concerned. What can be done is to seek to speed up, and make more complete, a universal process of moral and ego-development.

As An Aid to Achieving More Conventional Academic Goals.

The rationale for using discussion lessons to achieve conventional academic goals may be that “pupils will learn the material better if they have *expressed* it for themselves” or “they will learn it better if they have *discovered* it for themselves”. Such notions are, of course, correct, but very limited. Still other teachers use discussions, not for attaining any of the goals we have discussed, but in order to find out whether they have taught their lessons effectively and thereby to improve their teaching. Others use them to offload work; for example to get the brighter pupils to help them with their work. Still others reason, with considerable justification, that their normal classroom sessions, and the school system, will run more smoothly, if they “get to know” their pupils, and if their pupils get to know them. Likewise others argue that their teaching will be made easier if they provide, from time to time, a relaxing, social, informal break.

Two Other Uses of Discussion Lessons.

There appear to be two other ways of using discussion lessons which deserve to be mentioned. One is as a back-door means of introducing the pupils to new subjects and encouraging them to consider different types of job and career. The other is as a back-door means of introducing other aspects of psychological education, such as educational exercises designed to encourage pupils to practice other ways of behaving, see things from different viewpoints, become familiar with different roles and feelings, and understand the sorts of things which tend to go on in groups. We have already hinted at the sort of thing that may be done here; and we have also hinted that there is a great deal of work to be done in the course of developing these inputs and evaluating the results.

Implications.

From this discussion it seems highly desirable for people who debate the value of innovations like discussion lessons to make their objectives more explicit, to consider how their teaching methods relate to their objectives, and to develop more specific teaching methods, techniques, or inputs directly geared to the objectives they have in mind.

It is quite clear that there are different *types* of discussion lesson which relate to each of these objectives, and that each type has to be conducted in a different way. The different ways of leading and organising discussions in order to achieve these varying objectives need to be made explicit: it may be that when one wishes to use discussion lessons in order to arrive at better solutions to problems, an explicit ‘brainstorming’ session should be used (in other words, the pupils would be encouraged to delay evaluation and simply come out with ideas, however crazy these may seem at the time). It may be that if one wishes to develop the ability to relate to others, one should provide a vocabulary which will enable the pupils to think more systematically about interpersonal and group processes and their consequences, and enable the pupils to make explicit that which they already know — and in the process make their knowledge more usable. It may be, too, that one should also make use of educational ‘games’ and case history material to highlight for an individual the characteristics of the way in which he himself tends to behave and react, and make the consequences of different ways of thinking, feeling and behaving more obvious. It may be that one should add real opportunities for pupils to practice all the affective, behavioural and cognitive components of the skills that it is important that they should develop. This may involve providing carefully graded and structured role-playing situations in which pupils can take the role of others who occupy different positions in society or social organisations and act out the way in which these individuals think, feel and behave — an acting out which will

involve experiencing some of the constraints to which the individual is subject. It may also involve providing group, as well as individual, project work, and encouraging pupils to organise activities on their own through, perhaps, extra mural activities, clubs and societies.

This analysis once more highlights the fact that teaching inputs going by the same name are sometimes understood by different teachers to be geared to very different teaching objectives. It also illustrates the need to generate learning experiences or teaching methods, which are directly related to the achievement of each objective. (The term 'learning experience' is actually preferable to 'teaching method' since it focuses attention on what the learner does and experiences rather than on what the teacher does. It is the former which is most important). Finally, in view of the vagueness of the terms used and the inputs recommended, it illustrates the need to encourage teachers to try to assess whether the inputs they use in fact lead pupils to attain some of these fairly complex and important skills. Educationalists should not be allowed to justify vague or crazy techniques by muttering praiseworthy objectives in the same breath. It is worth stressing, too, that the fact that many of these objectives are important does *not* diminish the importance of communicating to the student such accumulated knowledge from the past as is relevant to his needs. Although it is necessary that students attain many of the objectives listed above, and although many of these may be attained through some variant of discussion lessons, it is necessary to caution against the tendency to assume that *all* educational objectives can best be achieved through some form of discussion lesson. It should be emphasised that if the objective is to communicate accumulated wisdom, then some kind of formal instructional programme is necessary (although it may look very different from traditional classroom instruction). Once again, we must be quite clear about different educational objectives and so generate learning experiences explicitly designed to achieve each of those objectives; which is not to say that any one educational input may not achieve more than one objective or set out to achieve an objective without knowing exactly how one is going to do so.

Chapter IV

COMPREHENSIVE EDUCATION AND MIXED ABILITY TEACHING

The debate about comprehensive education and mixed ability teaching in many ways parallels the debate on discussion lessons and shows similar confusion and differences of understanding. It is worth exploring the debate on comprehensive education further here, both as an illustration of another vague and global policy measure intended to achieve a wide range of objectives, (which are often contradictory if one seeks to attain them all at the same time in the same school), and as a way of further underlining the importance, to at least some teachers and policy makers, of educational objectives outside the knowledge-of-subject-matter area to which so much time, both in schools and in educational research, is devoted.

An Emphasis on Diversity.

In discussions of comprehensive education, it becomes clear that, for some people, the term conjures up an image of an institutional structure, and an educational process, which makes it possible to provide an extremely wide range of types of course, which tries to develop a very wide range of skills, abilities and attitudes, and which caters differently for pupils who come from different backgrounds, have acquired different patterns of knowledge, skills, and attitudes, and are going to enter different sectors of society. *All* pupils have important and useful competencies to develop.

Teachers who think of comprehensive education in this way think of individualised instruction directed toward a wide variety of goals — and different goals for different pupils — rather than just in terms of *one* competency like academic achievement. They think in terms of helping one pupil to become a good leader, another to become a fine analytic thinker, another to be extremely creative and inventive, and another to establish warm relationships between people. They recognise that *no* form of setting or streaming, however complex, could possibly do justice to the development of the full range of competencies and talents their pupils possess and which they could help them to develop. If they are to be developed, they *must* be achieved by changed teaching methods *within* the classroom.

A 'Middle-Ground' Position.

For some other teachers, however, the term 'comprehensive education' carries rather narrower connotations. Although the notion of catering for all abilities and aptitudes remains, it is intended to provide this entirely within a conventional educational format. Four important ideas stand out. The first is that pupils should experience success in some endeavour and hence come to develop a positive self image, preferably through some form of 'setting' — a form of streaming within subjects which allows pupils to be in the top 'stream' for one subject whilst being in the bottom 'stream' for other subjects. The second idea is that there should be equality of educational opportunity — and in particular, pupils who come from higher social class backgrounds should not be 'favoured' by being supplied with 'better' books, schools, and teachers. The third component is that the size of the school should be large enough to enable a wide variety of subjects to be offered on an elective basis. The fourth component is that, through working with others from very different backgrounds, others who have very different values and abilities, and others who expect to enter very different sectors of society, pupils should come to develop a respect for other people, irrespective of their background and abilities, in the knowledge that they have something worthwhile to contribute to society.

A Contrasting Position: Emphasis on 'Equality', 'Motivation' and 'Standards'.

A third perspective on comprehensive education comes from people who seek, through comprehensive education, to attain goals which are in direct conflict with the goals of those who hold views belonging to the first two groups. These protagonists are more concerned with motivation and that version of equality of educational opportunity which seeks to prevent rich children buying their way into courses which are 'better' than those meted out to others. For them, the objective is to provide what seems to them to be the universally 'best' education (or, at least, 'the best, given the finances available' — which amounts to a grammar school classics education) — for all, and to use the many streams of the school to instil such terror into the hearts of the pupils that they will slave from dawn to dusk to master their task in order to avoid crashing down into the lowest stream. A considerable proportion of those who espouse this type of comprehensive education seem to be pre-occupied with the social — as distinct from the educational — functions of the educational system. We will have a great deal more to say about the effects of this conflict between the two sets of functions of education later. Here it is sufficient to note that a considerable proportion of those who advocate 'comprehensive education' of this sort seem to be more concerned with equalising pupils' opportunities to compete for privileged positions in society than to help all pupils to develop their talents. By implication they hold a 'single factor' view of ability which asserts that some people have more to offer society than others and that it is the schools' job to foster that ability.

Those who oppose 'comprehensive education' often have this last version in mind. If those who think of comprehensive education in this way — whether they are for it or against it — do include in their understanding some notion of a 'wider' education, they usually interpret this to mean 'a large variety of programmes of academic study'. Although those who oppose this type of comprehensive education may agree that it would be an advantage to have a wide variety of courses, they are inclined to think that the impersonal nature of large schools offsets any benefits which may thereby be reached. Yet they are often none too clear about what it is about impersonal schools that they object to, and what the *educational consequences* might be. If they made their worries more explicit they might find they came to join the first group of teachers we mentioned. If project work and mixed ability teaching do enter into their thinking, it is likely to be in connection with fears of a 'decline in standards' or fears that pupils will not become sufficiently acquainted with 'a systematic discipline'.

Implications of Diversity.

All of these views of comprehensive education deserve further consideration.

Those who have an image of 'comprehensive education' as an educational system which provides a very wide range of educational programmes which will make it possible to cater differently for pupils who come from dissimilar backgrounds, who have acquired diverse bodies of knowledge, and who expect to enter different sectors of society, have sometimes failed to follow through their train of thought to its logical conclusion. Although many of those who argue for this form of comprehensive education do envisage mixed ability teaching, project work, and pupil-centred learning, their understanding of diversity is often still largely limited to a wider range of traditional academic courses, perhaps including, or even emphasising, 'practical' subjects: They may not include in their understanding of the variety of competencies which might be developed such things as the tendency and the ability to take responsibility for ensuring that groups achieve their goals, the ability to communicate effectively, the ability to make good decisions, the ability to understand institutions, or the ability to get other people to work together effectively.

Often, too, although they may recognise that there ought to be a period of observation, placement and guidance for incoming pupils, they have not thought out, in detail, the specific educational inputs they would need to use to provide a wide variety of educational programmes suited to pupils who have different strengths and weaknesses, who come from varied backgrounds, where very different competencies and styles of behaviour are valued, and who hope to enter different sectors of society, where there will be an opportunity to use such diverse competencies. If they had done so, they would have ceased to place such weight on a period of observation, placement, and guidance, but come to think of continuous guidance as the core around which the pupils' individualised, project-based, education could be organised. Indeed, they would have ceased to think in terms like 'comprehensive education', 'mixed ability teaching', or even 'project work', but come to use much more specific concepts which would describe particular educational inputs, policies, and teaching techniques to be used to achieve particular educational goals.

In spite of these limitations, we should emphasise that here we have a group of people who believe in comprehensive education because they hope it will lead to the provision of a wide variety of different types of education. These will help to develop a much wider range of the talents that might be developed among pupils who find their way into post-primary schools, will cover a wider spectrum of the knowledge, skills and attitudes, that are actually needed in society, will utilise a wider range of educational inputs, teaching techniques, and learning experiences, and will be tailored far more closely to the background, aptitudes, interests, and abilities of their pupils than anything we have known in the past.

Having made the position clear, we may now draw attention to another component in the thinking of some people who favour this viewpoint. They often think that if, through some policy measure like the comprehensivisation of education or insistence on 'mixed ability teaching', teachers can be forced to recognise the great diversity of talents and educational needs among their pupils, these teachers will give up their traditional academic orientation and come to pursue more worthwhile goals. When they cannot do what they have been used to doing, they will be forced to do something else; they will be carried along by the children; they will be forced to re-think their goals in the ever-present context of detailed, first-hand, information about the talents and destinations of a cross-section of real pupils.

Although there is undoubtedly much truth in this philosophy, it does not pay sufficient attention to the need to help teachers re-think their goals and the methods to be used to achieve them, or to the need to help teachers re-structure their perceptions of their pupils' talents and the competencies they will require in the destinations they are bound for. Confronted with an array of pupils of mixed ability, many teachers may not automatically think of trying to develop the tendency to be sensitive to the feelings which indicate that one has a problem or the germ of a solution, or of trying to develop the tendency and the ability to seek, recognise, and utilise information concerning the effects of one's actions as a means of coming to understand the situation better and, as a result, able to take more effective corrective action in the future. Nor may they think of helping pupils to develop positive self-images by creating stimulating sequences of learning experiences for each pupil so that he comes to master higher and higher levels of the task! More than likely, many teachers will prefer to re-double their efforts to achieve familiar goals — at least with the 'more able' pupils. They may even give up trying to achieve any educational goals and concentrate on keeping the pupils amused, or, worse, 'under control'. Even if it does occur to them that the old goals are no longer applicable, they may not immediately recognise the range of talents which they might set about developing. They may not see talents, such as forecasting ability or the ability

to analyse an overall social movement, work out one's part in the whole, and take the initiative to execute that role, bubbling over, just waiting to be fostered and encouraged to burst into flower, in their down-trodden pupils. Forced to recognise that many of their pupils will end up as bricklayers, they may be hard put to think of important competencies which the school could be concerned with developing and which would be relevant to that way of life. They may not immediately think of the need for bricklayers to develop responsibility, integrity (i.e. unwillingness to be coerced into doing and saying that which one does not feel to be good and right), followership ability (i.e. the tendency and the ability to grasp an overall programme of activity without having to be given an explicit explanation of every detail and the ability to work out one's own part on the whole without having to be given detailed instructions), the ability to work with others, and the tendency to take initiative. And even if they do recognise the need for pupils to develop such competencies they may not think it is the *school's* job to develop them or know how to set about helping their pupils to develop them.

Such reflections prompt the thought that perhaps, after all, policy changes at an organisational level are not in themselves sufficient to bring about desired changes in educational practices: there may be a need for teachers to meet to discuss their aims and their methods and to review the success with which they are achieving their goals. There might even be a case for bringing adults into the schools in order to highlight the range of talents that could be developed and that are needed in different sectors of adult society.

Incomplete though such thinking often is, and loose though the argument often is, it is clear that there is something very worthwhile in the point of view put forward by those who think of comprehensive education in this way. One would need to be more specific about how to provide the needed diversity in educational inputs; one might wish to argue that it is not an extended period of guidance and placement that is needed but continuous counselling; one might be able to envisage more effective ways of confronting teachers with the range of skills, talents, and competencies which their pupils might develop and which they might require in later life; one might wish to provide teachers with more systematic information about the backgrounds of their pupils; one might wish to structure learning experiences which were more closely linked to the achievement of the professed goals; and one might wish to suggest that it is not necessary to have large schools or unstreamed classes in order to achieve these goals; but it is hard to deny that such thinkers have a case to argue.

Setting, Self-Esteem, and Respect for Others.

We may return now to the middle-ground perspective on comprehensive education; the view dominated by concern about having a variety of courses and settings so that all pupils can experience success and thus come to think of themselves as competent rather than incompetent people, equality of educational opportunity, and development of respect for others.

The views of those who perceive comprehensive education in this way, though beginning to move along the path we have charted, are not as well worked out as those of the teachers we have just discussed. The biggest failure is, perhaps, to accord recognition to the real diversity of talents and competencies pupils might display, to the diversity of talents required in modern society, and to the role the school could play in fostering such competencies. More succinctly, the failure is to break out of thinking solely in terms of academic knowledge and a range of traditional school subjects: failure to add other important competencies and abilities, such as initiative, followership, ability to notice problems, and ability to make use of one's

own observations, to their list of important characteristics which schools should be concerned to foster. Failure to include these things means that many pupils will, in spite of their very real qualities and value to society, continue to be told that they are failures who have no valuable competencies, thus causing the system to fail to achieve one of the most important goals of its advocates, namely developing positive self-images in pupils. Likewise a definition of 'equality of educational opportunity' as 'the same type of education for all', even allowing for the variety of academic specialisms included, fails to allow for the fact that many parents simply do not want their children to receive, and will not tolerate their children receiving, the type of education which many middle class parents want for their children; such an education emphasises social mobility, generation of feelings of competence and knowledgeability, use of books, dedication to intellectual work rather than sociability or practical activity (even though effective practical activity often involves high level intellectual competencies such as planning and forecasting skills), and development of individuality and independence. The "get-them-all-together-under-the-same-roof" theory for developing respect for others ignores the fact that pupils tend to befriend others with similar interests and values, rather than seek out the hidden value in people who are very different. If one wishes to develop close contact across social groups, it is necessary to structure very specific situations in order to bring pupils together in working relationships which highlight the value of their diverse skills and abilities. And this, in turn, implies that the tasks the pupils are set should involve all sorts of socially important skills and not just those commonly demanded in traditional school tasks. If inadequately structured, such groups could lead to increased hatred, rather than increased respect, between pupils.

Motivation.

We may now take up the question of 'motivation' which figures most prominently in the thinking of some of those who view comprehensive education in the third way — as offering the same education to everyone and motivating pupils through a powerful streaming system. Apart from the fact that such a view of motivation ignores the psychological truth that when a goal is too hard to attain it ceases to have incentive value (one pupil observed "when you are in G stream you are so far down you might as well be in a submarine"), such a limited view of motivation ignores a great deal else of what is known about motivation. People — including pupils — will work hard and enthusiastically at a task when they can see that it will be useful to them in helping them achieve goals which are important to them. In this connection it is relevant to ask — as pupils have often asked the author — "what use is all this education going to be to me as a bricklayer?" Teachers have often told me that the pupils have asked the wrong question; that they should have asked "what use is this education going to be in helping me to *avoid* being a bricklayer?" In one sense this is very much to the point because it highlights a social, as distinct from an educational, function of the educational system and the role of these forces in fueling the demand for 'education'. But in another sense it is to miss the point entirely. This *is* the question which many (but not all) pupils ask themselves, and they must be able to answer it in their own terms. Perhaps, after all, they want to perform the very important task of building our cities and homes. So, if one is interested in generating enthusiasm among pupils, one of the first questions one should ask is how the educational programme one is offering them relates to the needs they are conscious of at the time, and what opportunities they are in fact going to have to use the competencies one is trying to help them develop. A second ingredient of motivation is to enable people to feel that they have accomplished something worthwhile, something that is complete and individual, something of which they can be proud even if it is not perfect, something that has utility independently of the teacher's say-so (all of which adds up to an argument for project work in which tool subjects, like mathematics, are used as tools and not as ends in

themselves). A third ingredient is responsibility: a *real*, self-selected, task, and a task which enables pupils to utilise and develop the talents they possess. All in all, therefore, it would seem that further consideration of the problem of motivation would produce answers much at variance with the theory of motivation by streaming.

Standards.

Finally, we may draw attention to the fact that many of those who view comprehensive education in this third fashion, whether they are for it or against it, seem to be preoccupied with standards. However, we may also draw attention to the fact that these standards are standards of a very peculiar type — standards which do not involve profound creative thought, high level analytic skills, the ability to engage in effective action, the ability to make good judgements, decisions and forecasts, the ability to learn from the effects of one's actions, the ability to make one's own observations and learn without instruction, and management skills, responsibility, integrity, or initiative. We may note, too, that even the question of maintaining traditional academic standards with an increasing proportion of pupils staying into secondary education is not so simple as people with these preoccupations seem to assume. Naturally, the average level of performance in any subject drops as one forces more and more pupils to take a subject for which they have no aptitude, interest, or likelihood of using. But this does not mean that, even if one does not change to a different type of education on recognising this problem, the size of the group which attains *high* standards is any smaller: in all probability it will be larger because one has let more people into the system to start with.

Conclusion.

It will be clear from what has been said that the perceived objectives of comprehensive education differ considerably from person to person and are sufficiently varied to make it hard to justify *any* policy of comprehensivisation of the educational system without first clarifying the goals and educational processes to be used to achieve them. However, few of the views necessitate the creation of large schools or unstreamed classes. Thus, one of the biggest barriers to the introduction of innovations designed to achieve these goals turns out to come from something which is not at all central. For many teachers most of the important objectives lie in the realm of non-cognitive development. The objectives include fostering the tendency to learn without instruction, to find the information one needs to tackle one's problems, the ability to arrive at good judgements as to what should be done about those problems, and the tendency and the ability to initiate action, monitor the results to learn more about the situation, and the ability to take effective corrective action if necessary. All such goals could be achieved much more effectively by delineating them in a precise way, and utilising specific educational tasks tailored to achieve them. And all could be achieved without large schools or unstreamed classes, especially if these are adopted as ends in themselves and not as a means of attaining some of the specific objectives mentioned above. Large schools can, if not properly run, engender intense feelings of anonymity and regimentation, and result in depersonalisation of human relationships. Frequently, for convenience and ease of organisation, they provide only a very restricted range of courses, offering very little scope for upward mobility of lower-stream pupils after the first year in the school, due to the increasing gap which develops between them and the stream above. Mixed ability classes can pose immense problems for both the 'brighter' and 'duller' pupils if the teacher addresses himself to the median level of ability and does not change to group methods of teaching and come to pursue educational objectives other than academic attainment; less academically able pupils may suffer, rather than benefit, from having others in the same class with whom they have no hope of competing academically and against whose social background their own seems pathetic; they may thus come to feel intensely inferior while the 'bright'

pupils become bored and get up to mischief in class.

Furthermore, many of the objectives conflict and require different types of educational input. For example, if one wishes to use project work in order to familiarise pupils with sources of information, and develop willingness to notice problems and seek to solve them for oneself, it is clearly inappropriate for the teacher to collect together and organise materials into sequences of learning experiences designed to help pupils learn particular lessons and develop particular competencies. If, on the other hand, the object of the exercise is to expose pupils to a series of role models in order to widen their horizons, increase their tolerance, their ability to work with others, their understanding of pluralistic politics, and their innovativeness, it is clearly appropriate for the teacher to do so. Likewise, the conflict of objectives of this sort with traditional educational objectives poses considerable problems — not only in terms of school organisation and conflict with the examination structure — but also in terms of the need for teachers to understand the psychology of individuals and groups much better. Teachers unfamiliar with these things may not understand the anxieties and frustrations they are likely to produce if they suddenly switch to non-directive teaching and demand that pupils show initiative, and seek out their own materials. Confronted with an anxiety which is unanticipated, unplanned for, and not understood, they may be tempted to switch back to traditional methods of teaching and, again, do more harm than good. Equally they may forget that teaching pupils to develop initiative, resourcefulness, and the tendency to engage in innovative activities, is only one of the goals of education and that there *is* a great deal that pupils have to be *taught* and not left to rediscover for themselves.

Chapter V

PROJECT WORK

By way of an introduction to our discussion of project work and pupil-centred learning we may draw attention to the fact that we came upon both of these innovations through trying to clarify the goals of mixed ability teaching, itself one of the main constituents of one version of comprehensive education.

One important source of confusion in discussions of the value of project work is that some teachers think immediately of *group* project work, while others think of *individual* project work.

The differences between the two will be discussed shortly. Here attention may be drawn to some objectives common to both procedures. The first of these is concerned with changing the teacher's role. The teacher should be free to change his whole strategy of teaching so that he can occupy himself with different things. He should be freed from the burden of maintaining discipline, goading pupils to work, and providing instruction. The theory is that this will come about if pupils have sufficient interest in their new tasks to motivate them to want to carry out their activities by themselves.

In both forms of project work, too, it is hoped to develop the ability to read, study, and learn on one's own. In particular, it is hoped that pupils will learn how to learn without instruction, how to make their own observations and build up a picture of what is going on without having to rely on books or teachers. It is hoped, too, that instruction will become *self*-instruction, through the pupils locating, collecting, and collating material in which they are interested. It is important to note that "material" implies mostly new material, not previously *written* material. The latter tends mostly to stifle thought, and to direct attention toward old ways of tackling old problems — whereas it is much more important for pupils to develop the tendency to invent for themselves ways of tackling their own problems. In connection with achieving these goals it is important to note that the procedure will result in the teacher becoming a learner, thereby becoming both a much more appropriate role model for the pupils and someone who is in fact likely to be a much better teacher because he is more open to feedback concerning ways of achieving his *educational* goals. Teachers who are most prone to regard themselves as experts seem to be those who are least likely to foster effective learning strategies on the part of their pupils.

In the long run it is hoped to leave the teacher free to become a helpmate, counsellor and guide; to permit him to be, not a director of activity, but someone who helps the pupils attain their own diverse goals; someone who encourages the pupils to find their own strengths and build on them, who helps them overcome shortcomings which it is important that they should correct, but which would either have escaped their attention, or which they would otherwise not have known how to correct. In his role as a counsellor and guidance expert, the teacher will be expected to devote much thought to developing an educational programme suited to the background, abilities, attainments, interests, and aspirations of each individual child. He will be expected to help his pupils to develop a wide range of personal and social competencies — including all those associated with discussion lessons. He will have powerful tools to aid him in his task; through working with his pupils in the course of the projects, he can help them select goals which involve all the personal and interpersonal attitudes and skills with which the advocates of discussion lessons are concerned. And, in projects, as opposed to discussions, he can have his pupils doing real research, on real data, and not just discussing ideas without a systematic obser-

vational base. He can arrange for groups of pupils to work together over long periods of time, develop specialist roles within the groups, and come to recognise the value of the other contributors. He can encourage pupils to seek out and master specialist material, contact experts outside the school, and learn that, although experts do sometimes exist, this is relatively rare; most of the problems they will encounter are new and have not been tackled before. They have to learn to become experts on their own problems themselves. However, where experts can be found, pupils need to learn to set up win-win relationships with these experts so that they contribute positively to the growth of the experts' expertise and do not become a drain on his time. Few experts are fully expert and the assistance of pupils who really do have a genuine interest in the problems they are investigating and who are willing to devote a considerable amount of time to them can often be a great help.

In summary, project work seems to have two basic goals: one is to change the teacher's role. The other is to move from teaching "things" to developing the pupils' tendency to engage spontaneously in the kinds of activity which would lead to a way of life which will enable pupils to reach their goals effectively.

More Specific Goals of Project Work.

Turning now to a more detailed discussion of the goals toward which different sorts of project work may be directed we may first draw attention to the fact that different teachers may use it to make sure that pupils develop competencies like responsibility, initiative, and the ability to work with others, to teach the 3 R's, to develop the ability to learn on one's own — to make one's own observations, to develop a model of the world and to test deductions from that model, to make sure that pupils develop at least one competency to a high level so that they come to think of themselves as competent people who are as capable as others in at least one sphere, to develop interpersonal skills and the ability to understand other ways of life, and to develop the ability to clarify their goals and pursue them effectively. We will discuss each of these goals in turn.

- (a). *To develop human resource capacities:* to develop initiative, self-confidence, the willingness and the spontaneous tendency to study on one's own, the inclination to use resources like libraries and other reference sources, the tendency to formulate one's ideas systematically and the ability to express these ideas well, artistic and other types of creativity, and the ability and willingness to work with others.

These qualities can be developed by making sure that pupils have an opportunity to practice the patterns of thinking, feeling and behaving that are described by these terms. These three components are stressed advisedly. Education in the past has been guilty of concentrating on only one of these, yet effective action requires all three. If they are to be practiced and developed pupils must have their own problems to solve, problems that require that they display initiative and which provide them with opportunities to experience, first, the frustrations that come from trying to solve problems which are important to them but difficult and, later, the satisfactions which follow from finding a satisfactory solution to the problem. It is very important that pupils experience these satisfactions — because this is what will lead them to develop the *spontaneous* tendency to spot new problems and set about tackling them effectively in the future. This is what will lead to self-confidence, and the willingness to persist in the face of frustrations, since they will learn that they can master things which at first appeared too difficult. They will learn that they are competent at doing things which have not been done before. They will learn that they do not necessarily have to be certain of how they are going to tackle all stages of a needed course of action before they embark upon it: they will learn that they can learn from experience as they go along and take effective corrective action when necessary. They will also be able to practice formulating ideas and expressing them in a way

that others can understand. If one has something one wishes to communicate and one's audience does not understand, one troubles oneself to find out what is wrong with one's style of communication — whereas, if a teacher doesn't understand, the inference the pupil often draws is that the teacher is either not interested or stupid. Finally, if completion of a project involves working with others, pupils will have an opportunity to learn the skills needed to work effectively with others and come to discover one another's qualities and thereby come to respect each other for their diverse competencies.

It is worth emphasising that, if these goals are to be achieved, teachers must structure their projects very carefully. A few of the features which merit particular attention may now be listed. First, the projects must be important to the pupils. Pupils will not develop these competencies if they are not interested in what they are doing. Then the task each pupil is expected to perform must be challenging, but not too difficult. The tasks also have to demand the acquisition of new skills and motivational tendencies — and they have to involve social skills as well as intellectual skills. It is important that the pupils practice these things and find their own sources of information. They are bound to protest that they don't know how. But since the object of the exercise is to help pupils to develop these competencies, the teacher will have to resist the temptation to tell pupils what to do and how to do it. He will also have to resist the temptation to impose his own standards on the communications and other activities that emerge at the end. He also has to beware of using that form of 'the discovery method' which asks pupils to discover facts which he already knows. Such uses of 'the discovery method' tend to focus attention on the facts to be discovered rather than on the strategies to be used to make discoveries; if the method is considered at all when discovery methods are used in this way the problem is presented as being to discover the 'right' method (rather than to invent a method which will work). Still more often 'discovery' methods tend to focus on discovering the 'right' concepts and the 'right' means to communicate the results — instead of on strategies for evolving concepts and arriving at effective — if unconventional — ways of communicating the results to others, who are interested in learning about them — (not to the teacher, who is inclined to be more interested in whether the communication conforms to some, as the Bullock (1975) report has emphasised, rather arbitrary criteria of 'quality', rather than with whether it effectively communicates that which it is intended to communicate to its intended audience).

(b). *To teach the 3 R's and skills of analysis and scientific method:* By 'skills of analysis and scientific method' is meant the tendency to develop conceptual frameworks for thinking about physical and social aspects of the world in which one is interested, make deductions from those frameworks, and then test them by making further observations in a systematic manner.

The competencies to be developed include the ability to make relevant observations, to carry out computations, and to tabulate relevant evidence. They also include the ability to present material well and describe one's observational procedure accurately. Presentation of results should involve mathematics, where appropriate, as an aid to description. Once again it is hoped that these competencies will be developed as a result of having something interesting and worthwhile to find out about, describe, and communicate. It is not merely the ability to do these things that has to be developed. The most important thing is to help pupils develop the tendency to do them spontaneously when the teacher is not there.

It may seem strange to suggest that pupils be taught to read, add up, express themselves, learn to do more advanced mathematics, make scientific analysis and think systematically *through* projects. Many teachers argue that these basic skills

must be acquired first *before* pupils embark on projects. But the point made by teachers who advocate teaching these things through project work is that pupils will not acquire these skills unless they can see a real use for them. They argue that, once they have a real reason for reading or using mathematics, pupils will come to acquire these skills. They argue that comments from non-comprehending fellow pupils are much better incentives to improve spelling and sentence structure than critical comments from them. They may be able to demonstrate to a receptive audience how to perform this task slightly better than the pupils, but, in general, peer instruction will be more effective. And for many teachers it is not a matter of arguing that these things *should* happen. They know from their own experience that this *is* what happens.

It is important to note that what is being advocated is not merely a technique of 'motivation'. Instead attention is being drawn to the paradoxical nature of learning. According to Bruner (1976), and contrary to the expectations of most teachers, Cazden has shown that supplying children with more accurate words and phrases with which to say that which they want to say, and supplying them with more elaborate sentence structures, which enable them to say what they want to say more concisely, has almost no effect on the complexity of their subsequent verbal behaviour. Paradoxically, giving them more information about topics which are temporarily of interest to them leads to both of these developments. Likewise Piaget (1950) has shown that supplying children with abstract concepts rarely promotes abstract thought. Paradoxically, involving them in complex *social* activities has precisely the desired effect. As with so many problems in social science, the *logical* solution is at variance with the psychology of development.

(c). *To develop the ability to learn on one's own:* to make sure that pupils practice the behaviour they will have to engage in as adults if they are to continue to learn — to notice that they have a problem, to be able to quickly find relevant material and to ignore other material, to develop the habit of contacting others concerned with the same problem, to make use of their own observations, and to evaluate the pronouncements of authorities.

We may enlarge somewhat on this very important objective of project work. Much has been made of the statement that one of the goals of education is to help pupils to learn to learn. Much is also been made of the concept of continuous education. But these two ideas, as commonly understood, are highly dangerous and misleading. They are understood to refer to formal educational programmes. Pupils have to learn to take formal courses and to get high marks in examinations. They have to be prepared to take further formal courses throughout their lives. They have to learn to tolerate being fed mostly irrelevant material, usually ten years out of date, in order to accumulate the certificates which are demanded as if they were evidence of ability to perform *new* jobs (not the jobs of ten years ago).

Much more important than acquiring these things, some advocates of project work say, is learning to learn without instruction to make one's own observations, to do so spontaneously, and to use systematic strategies for doing so. They argue that in most situations the only thing that can be done is to build up one's own understanding, without turning to an authority to have the learning packaged for one. Either there is no authority or the authority has other things to do. Those who claim to be both authorities and prepared to help are probably not authorities at all because they value the respect associated with being acclaimed as an 'authority' more highly than themselves coping with practical problems, and, secondly, they will probably insist that one learns all sorts of irrelevant things so that they can unburden themselves of their entire store of painfully acquired knowledge, rather than only that part which is relevant to solving one's problem.

Equally important for most people is to learn to become aware that one has a problem or to become aware that certain new developments in knowledge would be helpful and worth finding out more about, and thereafter being able to track down and select out the information one needs effectively. Becoming aware that such knowledge exists, or that one has a problem, necessitates that they become sensitive to, and utilise, minor feelings of unease, minor cues from the environment which indicate that there are better ways of doing things, being able to track down information one needs, and being able to enlist the help and ideas of others. In other words one needs to learn to seek information concerning how well one is achieving one's goals and how to seek out better ways of achieving them. One has to become sensitive to minor indications that all is not well, to recognise such glimmerings of unease when one feels them, and to be able to utilise such information more effectively. One needs to develop the tendency to notice these fleeting feelings on the fringe of consciousness, the tendency to bring them up into full consciousness and, thereafter, the willingness and ability to translate them into action. More important than developing the tendency to rely on courses of instruction is developing the spontaneous tendency to think for oneself, (that is to say, to notice feelings of unease, to ask how one would test one's own emerging understanding, and test statements made by others), to work things out for oneself, without having to have one's attention drawn to both the problem and the means of solution. And not merely the tendency to do so, but to engage in effective strategies for doing so.

Of course, in the process of doing this, one will want to acquire new knowledge, skills, and attitudes. One will need to develop oneself. But this should not involve going back to school or college and taking long instructional programmes in which responsibility for deciding what is to be learned is abdicated to the teacher. Such courses almost invariably deal with areas of knowledge that have been formalised, and, as such, deal with topics that are no longer problematical. They teach old ways of tackling old problems. Formalised knowledge tends to be at least ten years out of date. This is not to say that some of the knowledge may not be relevant to one's problems; but in most formal courses knowledge has been packaged in such a way that most of what is communicated *is* irrelevant: students are forced to master all sorts of material which is conspicuously irrelevant to the solution of their problems for the sake of gaining a very small amount of relevant information. Instead, self-development calls for locating groups of people who are working on the precise problem in which one is interested, and accumulating highly specific, but relevant, pieces of information from a variety of sources. It is the competence, not the certification which is important. Such groups working on new problems tend to be highly fluid in both composition and concerns. They are usually not neatly packaged into 'departments', and they cannot certify, because they, at that point, are only too aware that they do not know what is 'relevant'. Still less can they say what 'should' be known. In other words, continuous education involves developing the tendency to effectively locate the information one really needs at any stage in life — and some users of project work seek to provide their pupils with the opportunity to practice just this strategy. They say that pupils need to learn how to continuously develop themselves by themselves. If they are to do this it involves helping them to develop the confidence needed to read material which they at first find too difficult — confidence gained only through practice at discovering that they can read and understand such material. This may involve them in discussing things which they do not understand in order to discover what they mean. Although this activity is commonplace among adults it is often frowned on by teachers who feel that pupils should understand what they have read before they discuss it. One also needs to learn to make efficient use of visits which involve meeting people for discussions and to make efficient use of short specific courses of formal instruction. And one needs to learn to refuse to take part in courses which are designed to let other people air their knowledge, however irrelevant it may be to one's needs: one

needs to learn to refuse to allow self-professed ‘helpers’ to put one through irrelevant courses. One must learn to bear in mind that such willing helpers all too often are in the business of teaching only because they do not know what else to do with their hard earned knowledge. If they don’t know how to use it why should they be allowed to teach it? (Which is of course in no way to criticise the sort of professional educator we are discussing here!).

(d). *To develop at least one high-level skill or ability to an advanced level, and hence develop a positive self-image.* Society needs a wide variety of different sorts of people. It needs good drivers, good inventors, good buyers, good sellers, good communicators, good decision-makers, good leaders, and good thinkers as well as good academics. These competencies are not very highly correlated with each other. The potential to do these things is *not* all located in the same individuals. There is no need for all pupils to clear the same hurdles. They do not have to be ashamed of themselves because they cannot do what their neighbour does. Pupils should not be encouraged to pay attention to the fact that they cannot do certain things that some of their colleagues can do, but should be encouraged to develop their own particular pattern of strengths. In the course of their own projects directed toward these different goals, they should come to seek out and master that which is relevant to their everyday lives. They should become real experts in one or other of the alternative areas of learning which are there to be mastered. These range from the habits of butterflies, through quantum mechanics, the operation of supermarkets, to understanding the sociology of bureaucratic institutions. The main emphasis in such work should be on the general competencies developed through such activities, and in particular, the knowledge that one can change one’s area of expertise with relative ease. Nevertheless the actual knowledge itself may be useful when it leads a pupil to make a substantive contribution to society or to knowledge itself.

A particularly important competency to be developed through such project work is the ability to change one’s area of specialisation, the knowledge that one *can* change one’s area of specialisation if one wants to — and, above all, the spontaneous tendency to change, deepen, or extend, that area of specialisation as the need arises. Finally, in the course of pursuing their projects pupils should have an opportunity to experience and enjoy the satisfactions that come from having successfully completed a challenging task, and to learn to tolerate the frustrations inherent in trying to achieve a difficult goal that one has set oneself — toleration which will only arise from coping with the problems and experiencing the satisfactions which follow.

(e). *To develop interpersonal skills and the ability to understand other ways of life.* Group project work can be used to achieve many of the social objectives of discussion lessons. Many things are encompassed under such a heading. The goals to be achieved would involve developing the skills, attitudes and understandings needed for effective social functioning. They would include the ability to work with others, the ability to share ideas, the ability to tolerate and cope with criticism. They would include inter-active competencies such as the ability to set joint goals, to consider the feelings of others, to respect other people who perform different roles in groups, and the ability to understand other people’s values and concerns. More individual traits would also be included — such as the ability to forge social roles and the ability to adopt a variety of roles. At a more analytic level the goals may include helping pupils to understand the social processes which go on in groups, to understand the way stereotypes, prejudices, likes and dislikes develop and the functions they perform, and they may include learning to understand the way decisions are made in groups and the sorts of compromises that have to be made in the presence of pluralistic values. At a more behavioural level they would include the development of sensitivity to differences of opinion and the development of the skills required to

bring these differences of opinion out into the open and to then analyse areas of conflict in such a way as to arrive at a better understanding of, and solution to, the problems that gave rise to the conflict than would have been arrived at if one had tried to bulldoze one's ideas through, or pretended that differences of opinion did not exist. Among other things this may involve learning to listen to what lies behind the expressed statements of others and to notice nuances which indicate unexpressed differences of opinion.

Teachers who emphasise using project work in this way sometimes also stress the need for pupils to develop the habit of taking a pride in what their fellow students are doing, the habit of viewing others (who may in some ways be more productive than oneself) as assets to the group rather than as people of whom one should feel jealous. This relates to learning to share credit with others and learning to look, not so much for individual recognition, as for indications that one's activities have helped the group to achieve its goals. This requires one to develop that type of leadership which is able to encourage cooperation and the release of energy in the attainment of joint goals.

As far as leadership is concerned, it is important that pupils learn that it is a diffused characteristic. It is necessary to learn not to leave to the nominated leader the task of dealing with all group processes: not to leave to him alone the job of keeping the group working towards its target, not to leave to him alone the responsibility for dealing with people who make malicious remarks under their breath and pass damaging notes concerning the proceedings to other group members (people whom one might term "conspirators"), not to leave to him alone the responsibility for dealing with "mad hatters" who disrupt activities by knowing all the answers before anyone else and imply they have other (more important) things to do than remain while the group discusses a problem; not to side with Napoleons who have a vested interest in wresting leadership from the appointed leader; and not to leave to the leader alone the task of encouraging the sort of person who thinks a lot, but says little, to share his ideas. In other words, these groups can be used to teach pupils to share the responsibility of leadership, and to learn the skills of effective participation in group activities.

Other teachers think it is important for pupils to learn through group activities how to exert, and to practice exerting, effective pressure on bureaucracies and those in authority. Pupils must realise, they maintain, that such pressures will still have to be exerted after the debut of any revolution which students might wish to see initiated (if, that is, there is to be any continued development after the revolution) and that they just might, in fact, serve to produce the desired changes without a revolution. They wish pupils to learn how decision-making processes really operate now, and, in spite of pious hopes, will probably continue to operate after the debut of "true democracy". They argue that it is important to assist pupils to gain further real control over their fate by applying the knowledge gained in the social as well as in the physical sciences.

We have now moved from objectives concerned with developing social skills to objectives concerned with developing understanding. These objectives include making sure that pupils learn that other group members do not always see things in the same way as they do themselves but that in open discussion all sorts of useful ideas do come to the surface — and that there are many more of these than they would discover if they behaved in a secretive or dictatorial fashion. They also involve making sure that pupils learn that most people are thoughtful and reasonable if given the opportunity to be so, and making sure that pupils develop respect for other

people's points of view. Pupils would then become prepared to allow other people to lead their lives in their own way and yet remain able to work with them to attain joint goals.

Other objectives are to make sure that pupils learn that they can rarely achieve their own objectives without the cooperation of others, that they need other peoples' support and that other people need theirs; to make sure that pupils come to recognise that if a group which shares their special interests does not seem to be moving towards their goals, then it is up to them to see that the group achieves its goals, rather than complain about the apathy of the other members.

More basic objectives include bringing pupils to understand the rules which govern the behaviour of groups, committees, bureaucracies and institutions and, in particular, to understand the principles which govern the behaviour of groups concerned with planning in a pluralistic society. This involves making sure that they understand the problems which arise in making a decision about something controversial and understand the factors which influence the behaviour of decision-makers in a pluralistic society. It involves bringing them to understand that there is no one best answer to most of the problems which confront such decision-makers — if there were, the problems would not be referred to them; it involves making sure that they understand the problems of reporting back to a general meeting after higher level discussions in which they have been persuaded by the arguments of others and changed their views as a result — and, as a result, come to understand the 'unreliable' behaviour of their own representatives in the future; it involves making sure that they understand that no action on the part of committee members, or anyone else, is entirely altruistic, but that all activities are motivated in part by self-interest and in part by consideration for others and, as a result, come to realise both that it is unnecessary for them to refrain from worthwhile actions because their actions are in part self-interested and that it is important not to condemn the worthwhile actions of others (and particularly policy-makers) because they are in part self-interested. A worthwhile action is not nullified by the fact that "he's only doing it for what he can get out of it", and that statement is unlikely to be entirely true.

Although these attitudes, skills, and understandings will obviously be developed through becoming involved in group project work related to the achievement of socially important goals, that learning will be more effective the more teachers can provide pupils with an appropriate vocabulary — with appropriate concepts to help them structure and think about their experiences. Pupils should *not* be left to discover that which is already known. Although learning is likely to be much more effective if pupils have themselves already come to recognise the need for that which is to be learned, if they are motivated because they can see the value of what they are to learn in moving them toward their own goals, it is quite uneconomical for them to be left to rediscover concepts and ways of thinking for themselves. This is why it is appropriate to make available to students who are pursuing project-based programmes of education both programmed texts and opportunities to involve themselves in educational games designed to give them direct experience of the processes they are talking and thinking about and which enable them to try out and practice alternative ways of thinking, feeling and behaving, experience the consequences of doing so, and see how things work out in practical situations. The more teachers recognise that pupils will not normally seek to understand values very different from their own and the more they structure group situations in which it becomes necessary for pupils to practice thinking like others, and experiencing the very different social and economic constraints to which others are subject, the more successful will they be in this sphere. If they can further enlarge the pupil's range of concepts by introducing other descriptive material from anthropology, sociology, literature, and history (material which illustrates the consequences of different ways

of thinking, feeling and behaving) the more likely they are to enable pupils to understand diverse values, social processes, and social organisations and their consequences, to develop the ability to take a variety of roles *vis a vis* others, the ability to adapt, the ability to clarify their own goals, and the ability to evolve effective strategies for reaching their goals in cooperation with others. In the course of such presentations teachers should encourage pupils to engage — through action, speech, writing, and fantasy — in thinking, and feeling, themselves into positions with which they would otherwise never come into contact.

In order to achieve these goals effectively it is essential that the teacher himself understand, and have appropriate concepts to offer his pupils to aid their understanding of: values, group processes, social perception, and the way decisions are made in groups. It is particularly important that the teacher himself does not abhor common value systems, disdain compromises, become impatient with delays, think that there is one right answer, or believe in arriving at compromises behind the scenes and then staging public “performances” which are not discussions at all, but performances intended to convince the public that the matter has been thoroughly discussed and the only possible solution found.

(f). *The tendency to continuously seek to clarify personal goals and values.* Over and above the foregoing, group project work can be used to make sure that pupils think about themselves, the sort of person they want to be, the sort of thing which gives them satisfaction and which they enjoy doing — and hence develop a continuing tendency to seek out activities which they enjoy and can do well and develop a continuing tendency to think about where it is that they want to get to, how to get there, and what the personal and social consequences are likely to be.

Conclusion.

Many of those who advocate project work are interested only in its potential to motivate pupils to learn the things which are required for examination purposes. Most focus on the knowledge acquired rather than on the competencies pupils develop in the course of their project work. Yet many seem to be groping for better ways of achieving the ‘non-academic’ goals on which we have chosen to focus in this book. Focussing on the goals, as distinct from the method, will enable these teachers to invent more effective ways of achieving them.

Chapter VI

PUPIL-CENTRED LEARNING

Although widely understood as a *laissez-faire* system in which teachers allow pupils to do what they want, to learn or not to learn, according to their whims, the main exponents of pupil-centred learning envisage a system which is, in fact, anything but *laissez-faire*. When they use the term, they describe a system which is geared to the highest ideals in education and which demands the highest levels of responsible leadership from the teacher. This demands that the teacher help the pupils to clarify their goals and self-images, help them to develop self-confidence and self-assurance, help them build on their strengths and recognise what they *can* do rather than what they *cannot* do (as happens so often in education), and help them develop the ability to direct their own learning by developing the tendency to notice the need for assistance, locate that assistance, and organise these isolated incidents into a personal self-development programme directed toward a variety of social, emotional, and intellectual goals.

From what has been said it will be clear that the term pupil-centred learning is linked to a highly-structured teaching situation, which is the opposite to its popular image: it is not an opportunity for the teacher to abdicate responsibility for leadership and allow the pupil to sink or swim according to his inclinations. Rather it is an injunction to the teacher to make sure that *no* pupils drown, that all pupils, whatever their background, become capable of directing their lives and of leading them effectively, that *all* learn that they can tackle problems which are important to them but which at first seem too difficult, and that *all* feel able to seek out and acquire new knowledge, skills, and attitudes, as the need arises, as their needs, and the needs of society, change.

According to some of its exponents, it is, therefore, a logical extension of many of the ideas contained within the notions of project-based education and mixed ability teaching. The objective which emerges even more clearly than it does from those who emphasise these other techniques, is to enable the educational system to develop a wide variety of educated people who differ widely from one to another in their areas of experience and in the things they know about, who have very different attitudes and very different skills, but who are all able to change the configuration of their knowledge, their skills, and their attitudes, as their needs, and the needs of society, change and develop. Equally the object is to allow the teacher to gear the pupils' education to the background from which he comes, and to his acquired values, knowledge, interests, skills, attitudes, abilities, and aspirations.

Those who advocate pupil-centred learning stress the importance of ensuring that pupils develop the ability to notice the competencies they need to acquire, whether these involve familiarity with new stores of knowledge, new types of feeling, or new ways of relating to others, and the ability and willingness to set about acquiring these competencies on their own. To this end, the advocates of pupil-centred learning are particularly concerned that pupils are interested in, and motivated to find out more about, the materials with which they are dealing at any particular time. They are particularly concerned to develop the characteristics we discussed in connection with project work: self-confidence, the ability to notice problems, collect relevant information, arrive at a good decision as to what should be done on the basis of the available evidence, plan action, initiate action, monitor the effects of that action to learn more about the situation, and a tendency to take corrective effective action when necessary, the ability to observe and communicate, to deal with one other, to lead, to follow, and to cope with conflict. To develop

these traits they need to structure opportunities for pupils to practice and develop these characteristics in situations where the consequences of a mistake are not disastrous and where opportunities are provided to develop more effective ways of thinking, feeling, and behaving. They need to make sure that the pupil is involved in real tasks, and is not involved in dealing only with the language of middle men. Finally, it is worth noting that, whereas the labels for most innovations in education focus attention on the technique, the label ‘pupil-centred education’ focuses attention on the pupil, and leaves the techniques to look after themselves.

Conclusion.

“Pupil-centred education” is a phrase which can imply a radical departure from anything we have known in the past. Yet, if teachers are to *implement* the sort of educational process which is implied, there is an urgent need to help them to develop appropriate ways of thinking about the range of talents which different pupils may have a predisposition to develop, to help them to understand the educational processes which are to be used to foster each of these talents, and to develop a certification system which gives pupils credit for the idiosyncratic talents which they will develop and measures them against a wide variety of standards testifying to the development of high level competencies. It is hoped that later chapters in this book will go some way to filling some of these gaps.

Chapter VII

EXTRA-CURRICULAR ACTIVITIES

Extra-curricular activities are another area in which non-cognitive educational objectives are highlighted. For many teachers the objectives of extra-curricular activities, and similar activities within school hours, are to stimulate wider interests, to provide opportunities for interested pupils to obtain a deeper knowledge of their subjects, and to provide an enjoyable pastime to keep the children out of trouble.

For some teachers, however, the objectives are more profound. Nevertheless it may be remarked that such objectives have much in common with the objectives of pupil-centred learning and project work. One perspective on extra-curricular activities comes from those teachers who are concerned that pupils participate in a wide variety of different groups in order to clarify their interests, stumble across like-minded people, and, as a result, develop their interests more fully through joint activities. Such views often extend to include the hope that pupils, through working in a variety of different settings, will come to develop a variety of otherwise latent talents. These teachers stress that working in different settings permits individuals sometimes to function in one capacity, sometimes in another. As a result pupils should develop in a more balanced, all-round fashion.

For most teachers who perceive important values in extra-curricular activities the crucial learning setting turns out to be, not so much the actual club activity, but the committee which organises the affairs of the club or society. Here the pupils who organise such activities are expected to develop leadership and planning skills and self-confidence (in that they become used to initiating things for themselves). From their experiences here, they are also expected to develop a better understanding of social processes and themselves to develop social skills.

Although the goals of some teachers involved in extra-curricular activities overlap markedly with those of a small proportion of those involved in project work it is worth reviewing these briefly here as a means of emphasising the importance which some teachers have long placed on goals in this area. As we have repeatedly emphasised our object is to show that these are not so much *new* educational goals as goals which have been much neglected in the last quarter of a century and the achievement of which has been rendered more difficult by the failure to evaluate outcomes in these terms.

Among the social goals which many teachers connected with extra-curricular activities emphasise are such things as learning to listen to others, listening in the sense of the ability to get behind statements which have been watered down for the sake of social acceptability or which conceal barely verbalised points of view. They want pupils to learn how to bring such things out into the open in the spirit of advancing understanding and to learn to work through the problems which then arise in order to arrive at a really workable solution to the problem. They want pupils to learn the skills needed for true cooperation — cooperation which views other members of the group as assets rather than competitors for prestige. They want pupils to learn to share in leadership, a sharing which involves all taking responsibility for dealing with group processes. They want all to learn how to release the energies of others in pursuit of joint goals; to deal with the institutional and psychological problems which often inhibit effective participation in group tasks. They want pupils to learn that other people do not always see things in the way one does oneself, but that in open discussion all sorts of useful ideas do come to the surface. They want pupils to learn that others tend to be thoughtful and reasonable if given the opportunity to be so.

Many teachers have long emphasised the need for pupils who run extra-curricular activities to make contact outside the school and to come to understand the way society — and particularly bureaucracies — function, and to learn to exert effective pressure on these.

Once again we may comment that, if these objectives are important, one should, perhaps, try to attain them with all pupils and not just with those pupils who become committee members in clubs and societies. Again we may comment that, with thought, it should be possible to structure specific learning experiences designed to lead more effectively to their attainment. These learning experiences might involve role play situations and educational games as well as structured real life experiences. Once again we may comment that these inputs may be made explicitly in the course of short intensive educational programmes to be taken when the need becomes recognised rather than as a by-product of possibly not very educative or interesting activities.

However, to be fair, it may be remarked that specific extra-curricular activities, such as drama, are sometimes organised on just this basis. Drama may be intended to do more than just produce enjoyment and develop confidence to speak in public: it may be intended to allow children to experiment with new styles of behaviour which they may choose to adopt, in part, in their everyday lives: Attempting to act out the role of others — including the thinking and feeling components of that behaviour — may lead to sensitivity to other points of view and so to the development of considerateness, tolerance for other peoples' ways of life, and ability to communicate with other people whose points of view were previously incomprehensible. It may also lead to an increased openness to new ideas because new ideas may not be perceived as so unfamiliar and impossible when set in a context of a wide range of experience. Likewise people may be more ready to change their styles of behaviour once they have developed the ability to enact a wide range of roles. In such a context new ways of behaving will seem less incongruous.

In spite of the fact that, as we have repeatedly explained, it may be possible to achieve objectives of this sort more effectively, the important point to stress once more here is that many teachers already consider objectives of this sort to be extremely important. From the point of view of the future of society they seem to be right, provided that the learning experiences they have devised do in fact lead to the attainment of these objectives. How widely are the sort of objectives we have been discussing shared by teachers? How clear are teachers about how to go about achieving these objectives, about the specific procedures they should use? How important are these objectives considered to be when compared with objectives in the knowledge of subject-matter area to which so much attention is devoted in current educational programmes? And how efficient are teachers in attaining these objectives? These topics form the focus of the third part of our book.

Chapter VIII

GENERAL CONCLUSIONS TO PART II

Discussion lessons, project work, pupil-centred learning, mixed ability teaching, and comprehensive education are educational innovations which are not new ways of reaching old goals. They are intended to enable teachers to achieve new goals, or, at least, goals which have been much neglected for the past quarter of a century — and to achieve different goals with different pupils. They are intended to achieve social goals and foster high level competencies. By their use it is hoped to foster the tendency to engage spontaneously in important ways of thinking, feeling, and behaving; to foster motivational dispositions and develop appropriate attitudes. Their use is intended to lead pupils to develop characteristics which, unlike much of the information conveyed to pupils through most current post-primary courses, are as important for the milkman as for the executive. They are directed toward the second 3Rs of education.

In saying that these competencies — which are many more than three in number — are similar to the 3Rs, it is intended to emphasise that these are primarily competencies, not areas of knowledge. One can read and write. One cannot Science or French. On the other hand one can plan, bear several things in mind at the same time, make decisions, lead, follow, and think. These competencies can be fostered through appropriate types of educational programme, and the sorts of techniques we have discussed are intended to lead pupils to develop them.

The educational programmes to be used to foster them seem to need to be much more highly structured than the terms themselves seem to imply. Different types of project, and different types of discussion, conducted in different ways, are appropriate to the achievement of different goals. It is necessary to be very specific and to structure particular learning experiences to lead to the desired outcome. Many of the methods which need to be used will not immediately come to mind if one focusses on 'organizing' projects or on 'leading' discussions. To reach the goals which many people hope to achieve by adopting these methods it would be better to make use of more specific techniques like role-playing exercises and educational games, carefully tailored to achieve the goals that are desired.

The goals to which these techniques are directed are not idealistic goals which are inapplicable to the large numbers of disinterested, disruptive, and illiterate pupils who find their way into the classrooms of post-primary schools. On the contrary, it is the failure to attend to these goals, the failure to direct educational programmes toward goals that are important to such pupils, and the failure to vary educational programmes to suit the needs of different sorts of pupils, that has led to the disillusionment and apathy. On the other hand these goals are crucial to the development of an effective life style for these pupils.

But if teachers are to achieve their goals by using these techniques, they need to be much clearer about what is to be achieved, and how it is to be achieved. They also need to be able to, and in normal practice to take steps to, assess the effects, both positive and negative, of what they are doing: they need to know how to find out whether they have achieved their goals.

How are things to be changed? If we may anticipate the results of the next section of our book, it would seem that the answer lies in the fact that *most* teachers and pupils are *very* concerned to achieve the sorts of objectives we have been discussing. It will become clear that these objectives could be achieved; that these methods could be used, that the educational system and the examination system

could be changed, if teachers banded together to assert the importance of these shared objectives, and counted, as they can, on the support of their colleagues and their pupils in trying out new ways of achieving them.

The teachers who put forward the germs of the 'idealistic' ideas discussed in this part of our book are the teaching profession's most precious learning resources.

Nevertheless it will not be easy to introduce the desired changes. If teachers are to attain these objectives they will need to change their roles. They will need to become much more systematic, scientific, business like, craftsman-like, and professional in their work. They will need to select teaching strategies much more systematically, paying more attention to the task to be accomplished, the strategy to be used, and the effect on the learner. The everyday task will consist of developing appropriate individualised programmes of instruction for individual pupils and then arranging for these to be carried out. They themselves — and any one person — will only play a small part in carrying them out. They will mainly be carried out by the pupils themselves.

Such a role is entirely alien to very many teachers. They came into teaching because they did *not* want to be scientists (Morton-Williams, 1966, Morton-Williams, Raven and Ritchie, 1971), because they wanted to establish warm, helping, relationships with others and because they wanted to communicate what they knew to others. While the helping would remain, it would be of a very different nature from the helping they do at the moment. Instead of providing the knowledge, expertise, and help in a direct manner, they would become facilitators and co-ordinators of learning. Instead of being the centre of attention in their classrooms, they would take on a role involving careful study of their pupils' interests, needs and learning difficulties (often having to interpret the results of professionally-developed assessment procedures in the process), administration, and the organization of learning from behind the scenes. Programmed texts and educational exercises would do the "teaching" and communicating, often conveying information of which the teacher is ignorant. The human warmth and the respect traditionally accorded to a knowledgeable subject specialist would have been replaced by the satisfactions which come from the calculated planning of the detached professional. Teachers would have become 'scientists' and 'engineers', not "teachers".

The problem this poses can be highlighted by means of an example. Towards the end of a highly effective audio-visual course recently taken by the author, the teacher in charge burst into tears saying "You know everything; you have no need of me; I am a machine". She was both right and wrong: The eyes of the class were focussed, not on her, but on the screen. The material was structured in such a way that the class did in fact know what they were being asked to do before they were asked to do it. She was not the fountain of knowledge from which the students drank. But obviously she, as coordinator of the learning experiences, was totally responsible for the very great deal of learning which did take place. The class certainly did not know everything at the start of the year! And they had required constant help with learning difficulties. But it was true: She was not the centre of attention, nor was she the source of most information — she herself could have learned all she needed to know from the programme! Her role as subject expert had largely disappeared. But her role as a guide to learning was stronger than ever. Like her, many teachers will find the change in role envisaged here hard to take. It is something for which they need to be prepared very carefully. It seems that teachers themselves need to take part in psychological exercises designed to strengthen their competence to engage in such actions and to work through some of the social and psychological barriers to effective action — including clarification of their life goals and values.

Part III

THE OBJECTIVES OF EDUCATION AS PERCEIVED BY PARENTS, TEACHERS, PUPILS AND EX-PUPILS

In Part II we discussed a number of controversies and innovations in education. These highlighted the importance, to at least some teachers, of educational objectives outside the areas which have received most attention in education for the last quarter of a century and outside the areas which have been evaluated in traditional examinations and most research studies.

How widely shared are these concerns and objectives? Are the objectives thought to be equally appropriate to all pupils? Are courses of instruction which were developed for the education of an *elite* sector of the population of a previous generation equally appropriate to all pupils in an age of universal post-primary education? Are these traditional courses, objectives, and examinations distracting teachers from the attainment of their most important goals?

The studies which we are about to discuss sought to collect some relevant data. Nevertheless, the data that could be collected in any one series of studies obviously could not provide a complete answer to the questions we have raised. A complete answer would involve collecting information on such things as the competencies pupils need to develop to lead their lives effectively in different sectors of modern society, and the competencies they would need to develop to improve that society. It would involve collecting information on pupils' attainments in relation to the development of important personal characteristics. It would involve assessing the important dysfunctional characteristics pupils may have developed as an unintended and unwanted by-product of existing educational practices and procedures. It would involve developing a much better understanding of how teachers could attain more effectively the goals which they consider to be most important. It would involve assessing the consequences of having developed different patterns of competence for the lives of the individuals concerned and the society in which they lived. It would entail collecting information on the characteristics needed to function effectively in changed social structures that can only be introduced if the educational system has already fostered new competencies, attitudes, and expectations on the part of those who have passed through it.

Obviously all this information could not possibly be collected by any one researcher or even one research team; we therefore could not *answer* the questions we have posed. We could only collect *some* relevant information and set that information in the context of material already collected by others.

What we did was to collect some data designed to highlight the question "What should schools be doing, and is enough being done to achieve the most important objectives of education?" It was hoped that this data would enable everyone concerned to take a step back from the educational system and ask: "If this is what we should be doing, are we going about it in the right way?" The data we ourselves collected will be summarised in this section of our book and other available information reviewed in subsequent sections.

In the course of interviews teachers, pupils, parents and ex-pupils were asked what they thought the goals of education should be and how well the educational system currently attained those objectives.

By comparing what teachers thought they should be doing with what they said they were in fact doing it was hoped that it would be possible to draw attention to any important discrepancies and ask what might be done to enable them to work toward the goals they themselves believed to be the most important. By reflecting on the nature of the characteristics which were thought to be important but inadequately fostered at the present time, it was hoped to work toward a better understanding of the means to be used to foster these qualities. Subsequent chapters will reveal with what success we have achieved these aims.

Chapter IX

THE SAMPLES AND DEVELOPMENT OF THE INTERVIEW SCHEDULES

The results of three studies will be summarised here. The first of these was the British Government Social Survey's study, *Young School Leavers* (Morton-Williams *et al.*, 1968). In this survey a random sample of 13 to 16 year old pupils, their parents and their teachers were interviewed. A sample of 20 year-old ex-pupils was also included in the study.

The second study was concerned with the British sixth-form, and was also carried out by the Government Social Survey. Interviews were conducted with sixth-formers and their teachers, ex-sixth formers, and students of sixth form age who were in full time education at colleges of further education. The relevant publications are Morton-Williams, Raven and Ritchie (1970), Ritchie and Morton-Williams, (1971), and Sharp (1971).

The third study was carried out among Irish pupils and teachers by the author and his colleagues in the Republic of Ireland. In this study pupils aged fourteen to eighteen completed questionnaires and their teachers were interviewed. The study therefore covered pupils throughout the age range covered by the two British enquiries. The results have been published in three volumes by the Irish Association for Curriculum Development (Raven, Hannon, Handy, *et. al.*, 1975, 1976).

All the studies were based on samples of about 4,000 pupils or ex-pupils and 1,500 teachers. In the British Young School Leavers study 4,000 parents were also interviewed. All samples were systematic random samples from the relevant national populations.

Development of the Interview Schedules.

Before we review the results, one or two comments must be made about the methodology. In order to arrive at worthwhile conclusions, it was necessary that the methods used to evaluate how much importance those interviewed attached to various educational objectives should not be dependent on the informant's ability either to put into words notions which were only vaguely formed in his head, or to understand notions which were either completely foreign to him or stated in words which were too complex for him to understand. An extensive programme of exploratory interviewing was therefore carried out among pupils, teachers and parents so that the investigators could formulate the various objectives clearly in their own minds and then translate them into words which would be understood by everyone.

In the initial stages of these enquiries, therefore, we asked teachers (and pupils) to clarify what they meant by the phrases they used to describe their educational objectives. We asked teachers why they thought their specialist subject should be taught at all in schools. In what ways would pupils benefit from studying the subjects if they did not pass the examinations? What value would the subjects be to the pupils in their life afterwards? How would they recognise success in achieving such objectives as encouraging responsibility or maturity, and helping pupils to develop wide horizons; how would they recognise the presence of absence of these characteristics? What did these terms *mean*?

In addition to talking to teachers and pupils, we also looked at educational literature — the Crowther (1959) and Robbins Reports (1963); the American Council of Education's studies on general education (1954); the work of the Institute of

Community Studies by Jackson and Marsden (1962) and Marris (1964); and the writings of educational philosophers such as Whitehead (1950) and Peters (1966).

The result was that we obtained a very long list of possible educational objectives; the problem was to reduce it to a manageable length. Although the lists we built up at the beginning did not yield anything like the depth of understanding we now have (an understanding which was, to some extent, shared with the reader in Part II) there are a number of facets about which we learnt a great deal although we were unable to cover them adequately in the interviews. For the sake of completeness we may review some of these here. The characteristics teachers wanted pupils to develop, or which pupils said they wanted to develop included: punctuality; obedience; willingness to listen to and understand others; considerateness; willingness to look after less privileged members of the community; willingness to take initiative; willingness to speak in public; orderliness; all round development; good taste; how to deal with people; tolerance for ways of life other than one's own, and enthusiasm for one's studies.

The list also included the following ideas which need to be amplified in order to convey their meaning:

Willingness to be independent of adults; to be self-motivated; the capacity to find the interest hidden in material for oneself, without having to have a teacher to point it out to one; to be able to work on one's own without continuous direction; willingness and ability to act responsibly without being told to do so.

Willingness to take on the responsibility for organising others; to lead; the willingness and the ability to first clarify group goals and then map out a route by which the group could attain these goals.

A philosophy of life. This could mean a variety of things ranging from unwillingness to engage in socially damaging activity to clarifying life goals and how to achieve them.

Willingness and ability to analyse new situations and bring to bear what has been learned, whether at school or from other sources, and to seek out relevant new material.

An ability to see oneself as someone who might enter a position in society which, while known, had previously been considered unthinkable — such as doctor, politician, researcher, or pilot.

A desire to improve things: a desire to do things better than they have been done before, to remedy defects in the physical or social environment.

Critical habit: the tendency to be sceptical of the printed word and of authoritative statements; to be aware of omissions and specious or superficial argument.

An interest in culture: encouraging pupils to sample and enjoy cultural and other spare-time activities.

Social responsibility: developing the willingness to take on oneself the responsibility for initiating action needed in the community (including speaking out against corrupt politicians!); to attempt to remedy social injustice.

Adaptability: the feeling that one could take up almost any career and not feel constrained by one's training, the willingness to question arguments outside one's sphere of 'expertise', that is, the reverse of what Thoreau (1927) has termed feelings of 'trained incapacity'.

Self-confidence: the feeling that with a little effort one could master almost any skill or task; the recognition of the fact that one is capable of performing many tasks which at first seem impossible.

Social sensitivity: encouraging pupils to be aware of the feelings of others and how others would react to their own actions.

Skill in human relationships: the ability to deal effectively with other people.

Individual responsibility: willingness to take a course of action in which one believes, regardless of the opinions of others; unwillingness to work at useless tasks.

Positive attitudes towards learning: teachers often said they wanted pupils to feel well disposed toward further and continuing education. However, it is worth pointing out that, while short formal courses and instructional programmes designed to impart particular knowledge, skills and attitudes, are important when really needed, the most important goal may be to ensure: (a) that pupils develop the habit of effectively pursuing information relevant to their problems. This means being able to avoid pursuing irrelevant information and developing sensitivity to the relevance of scraps of information which are in themselves useless, but which indicate that there is further information available that *is* relevant to one's problem in a particular place if one searches it out, (b) that they are able to seek it out and master it *without* a long formal course, and (c) that they do these things voluntarily and spontaneously.

In the initial British study, the number of objectives was reduced to about two dozen. The number was increased in the sixth-form and Irish studies in the light of the earlier survey and the differing needs of those involved in the studies.

Perhaps because it came later in the series of surveys, the results of the Irish study are the most revealing. It covered a wider range of possible objectives of education, and teachers were asked to say, not only how important they believed the objectives to be, but also how much effort they put into achieving each of them, and how successfully they thought the educational system achieved them.

The data so collected advances our understanding of many educational issues and does so in such a way that it is clear that the conclusions can be generalised to other educational systems. Thus, although the data to be reported in the next few chapters is Irish, it would be a grave mistake to assume that anything which might be learned would be of relevance only to Ireland. That the contrary is the case is clearly demonstrated by such comparative data as is available from other school systems. This is summarised in chapter XIV.

Chapter X

TEACHERS' PERCEPTIONS OF THE IMPORTANCE OF EDUCATIONAL OBJECTIVES

The Needs of "More" and "Less" Academic Pupils.

In the Irish study half the teachers were asked to rate the importance of the objectives for the "more academic" pupils and half were asked to rate their importance for the "less academic" pupils in order to discover whether teachers thought that these two groups of pupils had different needs. In fact, the needs of both groups were thought to be remarkably similar, although, as we shall see later, teachers did think that the two groups differed in their intelligence and in their suitability for schooling and that it was appropriate for them to study different school subjects.

Not only did the teachers *not* think that the two groups required educational programmes directed toward different goals; they felt that they directed their own efforts towards the same objectives for both groups, felt that they devoted as much energy to achieving the objectives for both groups, and were, in general, equally satisfied (or, more correctly, dissatisfied) with their success in achieving their goals with both groups. As a group, the teachers who were surveyed did *not* think different groups of pupils required different sorts of educational programme, did think that both groups at present got equal treatment, and agreed that all goals were equally well achieved for both groups. Equality of educational opportunity for them meant the *same* courses for everyone — not different courses suited to the needs of different pupils, as envisaged by some of the teachers described in Part II. Furthermore they obviously felt that at present they provided, not merely equality of educational opportunity, but achieved equality of attainment.

This lack of discrimination between the needs and reactions of the two groups is particularly important in view of the fact that we were able, as we shall see later, even with the crude instruments available to us in a survey of this sort, to show that there were different groups of pupils within the educational system who said they wanted schools to teach them different things and who reacted differently to the courses they were getting at the time of the survey. This is, of course, the assumption of many of the teachers who developed some of the innovations discussed in Part II. It is important to note, however, that, although the pupils who reacted differently to their present courses and who wanted schools to concentrate on different topics, did often come from different social and educational backgrounds, variation in what they wanted out of their education was more closely related to their anticipated occupation than to their background. In other words, the differences between pupils who all came from the same background but who intended to enter different occupations, were greater than the differences between pupils who came from different backgrounds but intended to enter the same occupations. As we shall see later this finding is of profound significance because of the questions it raises about the justifiability of enrichment programmes and because it strongly supports those who argue that the changes which are most badly needed have to do with broadening the range of programmes offered by the educational system rather than 'helping' pupils who do not 'respond' to the current educational system to do so more effectively.

A Classification of Objectives.

Although we were able to document considerable systematic variation in pupils' felt needs from education from our data, teachers did not appear to be

aware of this variation. As a result, it is not necessary to discuss teachers' perceptions of the needs of the "more academic" and "less academic" pupils separately. Chart I therefore gives the objectives ranked in order of importance, as assessed by the teachers for the "more academic" pupils only.

Before discussing the chart we must explain the shading. In order to facilitate discussion, the objectives have been classified as falling into one or other of seven categories. These are not empirically derived categories because an appropriate classification would be based on a factor analysis of the methods to be used to foster the characteristics. Unfortunately no such analysis is available. The sole value of the classification is that it will facilitate discussion of the material. No claim is made that the categories are mutually exclusive or that a better way of classifying the objectives might not be found. It is, however, claimed that the classification is more useful than the normal classification of objectives as 'moral', 'social', etc. We make this claim because the classification directs attention more towards the methods to be used to attain the objectives than does the more usual classification.

The categories into which the 'objectives' have been grouped are:

- 1 *Objectives which describe motivational dispositions or qualities of character.*

Examples of the objectives grouped under this heading are:

"Ensure that you leave school confident, willing and able to take the initiative in introducing changes".

"Encourage you to have opinions of your own".

"Help you to develop a considerate attitude toward other people".

- 2 *Objectives which involve providing guidance for pupils.*

e.g. "Tell you about different jobs and careers so that you can decide what you want to do".

- 3 *Objectives which involve providing pupils with information which will be useful to them in their everyday jobs and lives.*

This is to be distinguished from helping the pupil to develop competencies which will be useful in his everyday life.

This category includes such objectives as:

"Provide you with sex education in school".

"Teach you things which will be of direct use to you when you start work in your job or career".

- 4 *Objectives which deal with traditional areas of academic knowledge.*

e.g. "Introduce you to new subjects, e.g. Philosophy, sociology, archaeology".

"Ensure that you are aware of school subjects which you do not have to know for the examination".

- 5 *Objectives which prescribe ways in which pupils ought to behave.*

e.g. "Have rules for the sort of thing you may do out of school hours".

"Teach you what is right and wrong".

- 6 *Objectives which describe methods of instruction, mostly methods directed toward helping pupils to develop particular motivational dispositions.*

e.g. "Have discussion lessons in which you would discuss things and put forward your point of view".

"Give your experience of taking responsibility".

- 7 *Objectives which relate to the pupil's feeling at the time.*

e.g. "Encourage you to have a good time".

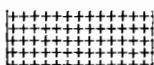
It is clear that many of the objectives could be classified differently. Thus "Take you on holidays in this country and abroad" has been classified as "emotional feeling" when it could equally have been classified as an objective directed toward fostering openness to new ideas and tolerance. "Encourage friendship between boys and girls, for example, by running co-educational hobbies and social clubs", has been classified as "emotional feeling" when it could have been classified as "developing social skills". "Help you to think out what you really want to achieve in life" has been classified as concerned with developing a motivational disposition when it could be classified as "guidance". "Make sure you get a thorough religious education" has been classified as a "prescriptive ought" when in some schools it would obviously be more correctly classified as "guidance" or "developing a motivational disposition". Yet, in spite of these problems — all of which highlight the need to examine the objectives one by one and ask how they might best be achieved — it is felt that the classification does provide a useful starting point for a discussion of the nature of the objectives and the way in which they are to be achieved.

The Relative Importance of the Objectives and the Nature of the Most Important.

Chart I, and parallel data obtained from pupils, parents, and ex-pupils, which will be reported later, should, once and for all, end any debate about whether schools really *should* be concerned with moral and character development. Teachers themselves obviously feel that they should be, and their views are shared by pupils, parents, and ex-pupils. Nevertheless, as we shall shortly see, many teachers in practice devoted little effort to achieving many of these objectives and felt that they attained them only poorly. It is therefore appropriate to devote a few paragraphs to trying to clarify the nature of the qualities teachers felt they should be striving to foster and the means which would have to be employed to foster them.

It seems that teachers attach a great deal of importance to the development of competencies and qualities of character like: independence, initiative, a sense of duty toward the community, the ability and the desire to read and study on one's own, an enthusiasm to learn, to take pleasure in communicating effectively, considerateness, and developing a philosophy of life. None of these things implies mere knowledgeability or ability, but an entire complex of knowledge, skills, motivation,

KEY TO SHADING IN CHARTS



Self-Initiated Competencies and Qualities of Character



Guidance



Information which can be used in everyday jobs and lives



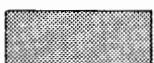
Academic knowledge content



Prescriptive Oughts



Activity Methods, mostly directed towards developing
Self-initiated Competences



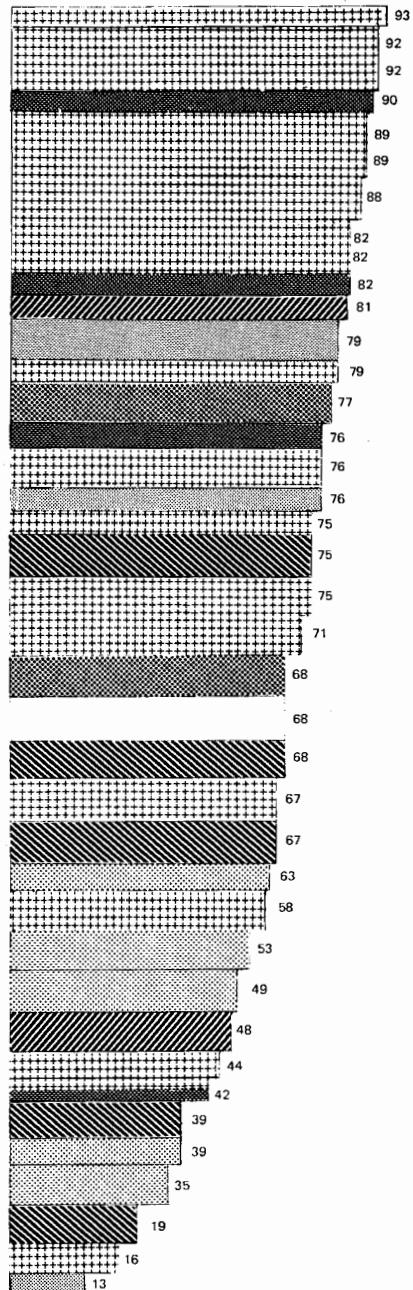
Emotional Feelings at the time

Chart I

The Importance of Educational Objectives.

Percent of teachers saying each objective "Very Important" for "more academic" pupils.

1. Help them to develop their characters and personalities. 93
2. Encourage pupils to be independent and to be able to stand on their own feet. 92
3. Make sure that they are able to read and study on their own. 92
4. Encourage them to have a sense of duty towards the community. 90
5. Ensure that all pupils can speak well and put what they want to say into words easily. 89
6. Encourage them to have opinions of their own. 89
7. Help them to develop a considerate attitude towards other people. 88
8. Help them to think out what they really want to achieve in life. 82
9. Ensure that all students can express themselves clearly in writing. 82
10. Teach them about what is right and wrong. 82
11. Give them experience of taking responsibility. 81
12. Make sure that they get edn. so intng. usef. and enjoyable that they will continue as adult.* 79
13. Help them to get on with other people. 79
14. Tell them about different sorts of jobs and careers so that they can decide what they want to do. 77
15. Make sure they get a thorough religious education. 76
16. Ensure that they know how to apply the facts and techniques they have learned to new problems. 76
17. Make sure that they really enjoy the lesson. 76
18. Make sure they are confident and at ease in dealing with people. 75
19. Help them to take an interest in and to understand what is going on in the world now. 75
20. Make sure they go out in the world determined to make Ireland a better place in which to live. 75
21. Ensure that they leave school confident, willing and able to take the initiative in introducing changes. 71
22. Give them information about the courses of Further and Higher Education that are open to them. 68
23. Help them to do as well as possible in external examinations like the Intermediate, Group or Leaving Certificates. 68
24. Ensure that they are aware of aspects of your subject which they do not have to know for the examinations. 68
25. Ensure that they can formulate hypotheses, seek evidence and reason logically. 67
26. Enable them to develop an interest in subjects other than those studied for examinations. 67
27. Advise parents to give sex education to their children. 63
28. Ensure that they leave school intent on being masters of their destinies. 58
29. Help them to understand the implications and responsibilities of marriage. 53
30. Teach them things that will be of direct use to them when they start work in their jobs or careers. 49
31. Run clubs and societies (e.g. sports, hobbies, social and youth clubs) for pupils out of school hours. 48
32. Ensure that all pupils feel at home with figures and numbers. 44
33. Irish freedom* 42
34. Teach them about a wide range of cultures and philosophies so that their own can be seen to be one of many. 39
35. Provide the pupils with sex education in the school. 39
36. Teach them about bringing up children, home repairs, decorating and so on. 35
37. Introduce them to new subjects e.g. philosophy, sociology, archaeology etc. 19
38. Teach them to be sceptical, that is to take little on trust. 16
39. Encourage them to have a good time. 13



*These two items have been abbreviated from the items on the questionnaire which read:

"Make sure that they get an education that is so interesting, useful and enjoyable that they will be keen to continue their formal education in adult life".

"Ensure that they are aware of the prolonged struggle for Irish freedom and are determined to uphold the ideals which inspired it."

Weighted base (= 100%) All teachers rating objectives for "more academic" pupils: 612.

enthusiasm, and a general attitudinal disposition — an interest, keenness, positiveness, and in general, a degree of self-initiated, self-motivated activity which is not commonly associated with the classroom.

These things are felt to be much more important than the dissemination of useful information about bringing up children, home repairs, and decorating and of more consequence than broadening the pupils' academic education by introducing new subjects such as philosophy, sociology and archaeology. They are also considered to be more important than teaching pupils about a wide range of cultures and philosophies so that they will recognise their own as only one of many, running extra-curricular activities, or teaching pupils to be sceptical.

The striking quality of most of the characteristics that are thought to be vital is their open-ended, self-motivated, nature. They are open-ended competencies and patterns of activity to be spontaneously engaged in in many situations rather than skills of knowing how to solve the problems presented by the teacher. They are not easily reducible to rules or response patterns: they are generalized ways of behaving. Whereas many competencies taught in schools (such as the ability to solve differential equations) represent habits to be run off when the appropriate (if rarely encountered) stimulus is presented, these competencies, if they are to mean anything at all, involve the pupils in themselves finding the opportunities to engage in the activities. Whereas teachers have done their job in relation to traditional school tasks if pupils engage in the right behaviour when the appropriate stimulus is presented, pupils cannot be said to have developed these competencies unless they have learned to generate the *stimulus* to the activity themselves, unless they have learned to generate the trigger to the activity themselves.

We may conclude with another brief look at the list. This time we may ask whether there are inconsistencies in the list which can be used to promote a discussion of the means to be used to achieve the important goals. It is not that the results are contradictory, but that they seem to suggest that some of the goals which one would expect to be considered important if other objectives are to be attained, do not in fact seem to be considered important.

One example would be scepticism. If it is important for pupils to have opinions of their own, it seems reasonable to expect teachers to also think that it is important to encourage pupils to be sceptical of statements made by others. Yet this does not appear to be the case. It seems that either teachers do not wish pupils to develop their own opinions, that they do not associate the development of scepticism with the achievement of this other goal, or that, while they do indeed wish their pupils to have their own opinions, provided they are nice about it, they do not value the more strident, forceful, *generally evaluative and questioning tone conjured up by the word scepticism*. As a result it would seem that one should be careful not to read too much into the importance attached to developing independent opinions.

Likewise, it may seem strange that, in view of the priority given to pupils being able to learn on their own, to having an open mind, to being open to new ideas, that teaching pupils about a wide range of cultures and philosophies does not come higher up in the rank order. If pupils were introduced to a wide range of cultures and philosophies, it might be argued, pupils would develop a widened appreciation of the possible: they would regard less ideas and ways of doing things as unthinkable, impossible, or inconceivable: they would have a framework into which to fit new information and, as a result, be more ready to recognize its value and appropriateness: the information then would be perceived as *relatively* rather than *absolutely* different, and thus become information which was more psychologically acceptable to, and usable by, the individual concerned. He would have

become "more open to new ideas" and more able to learn on his own.

As we saw in Part II, many teachers view the organising of clubs and societies as a means of developing social skills, independence and the ability to express oneself. In view of the importance attached to these three qualities, it is surprising that so little importance is attached to running clubs and societies. Once again, it seems that there is a failure to connect methods which might be used to attain a goal with the goals that are to be attained.

At this point we may engage the reader in this discussion, for teachers are only one (albeit critical) group who should be involved in formulating educational objectives. What does the reader think the most important objectives of education should be? Does he agree with the teachers? If he does agree, are the goals which he and the teachers consider most important the ones on which teachers spend most of their time? If not, what could be done to enable teachers to direct more of their effort toward achieving the most important goals?

It is strongly suggested that the reader does not move on until he has spent some time thinking about his answers to these questions.

Which Objectives Receive Most Attention in Practice?

As we have already indicated, we also asked the teachers how much attention they devoted to achieving each objective, and how successfully they felt the educational system achieved them. Their answers to these questions are shown in the next two charts. By comparing Chart II with Chart I it is clear that they pour a disproportionate amount of effort into examination-oriented activities to the detriment of other goals which they themselves believe to be more important. As a result, it turns out that examination achievement is the only goal which they achieve even moderately well. (We had to combine the 'moderately well attained' category with the 'very well attained' category to obtain even the modest figures shown in Chart III).

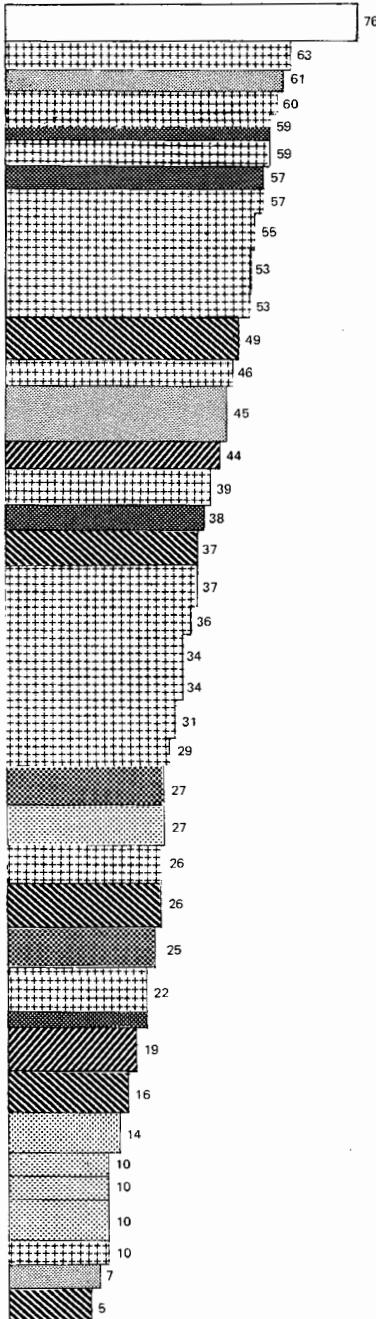
It seems that teachers either feel they are distracted from their objectives by institutional practices, procedures, expectations, and pressures which they are unable to influence, or that they do not know how to go about achieving the goals they believe to be most important very effectively. We will discuss the explanation of the discrepancy between teachers' ratings of 'importance' and 'effort' much more fully in later chapters. But, whatever the explanation, it would seem to follow from this data that most teachers must be unaware that most other teachers share their feelings and concerns — for why else should they not band together to do something about the discrepancy between their ideals and behaviour? If our research does nothing else, it should lead teachers to recognize that there is shared desire to reach the goals which they themselves believe to be the most important. They can count on the support of their colleagues if they do try to do something to achieve these goals, particularly if they are able to be fairly specific about the way in which they hope to achieve them. It is hoped that the sharing of the ideas described in Part II, and the ideas to be outlined later in this book will enable them both to be more explicit about how to achieve them and about how to demonstrate that they have succeeded. This last is very important. At present, teachers can only rely on subjective impressions about whether or not they have succeeded in reaching these goals. If attacked, as they have been attacked by researchers, politicians and the public, they cannot point to hard evidence. What is needed is evidence as concrete as the number of examination subjects their pupils have obtained.

Chart II

Objectives Receiving Most Attention.

Percentage of Teachers (other than Heads) who Tried Very Hard to Achieve Each Objective in Their Own Lessons With the "More Academic" Pupils.

1. Help them to do as well as possible in external examinations like the Intermediate, Group or Leaving Certificates.
2. Help them to develop a considerate attitude towards other people.
3. Make sure that they really enjoy the lesson.
4. Encourage them to have opinions of their own.
5. Encourage them to have a sense of duty towards the community.
6. Make sure that they are able to read and study on their own.
7. Teach them about what is right and wrong.
8. Ensure that all students can express themselves clearly in writing.
9. Ensure that all pupils can speak well and put what they want to say into words easily.
10. Encourage pupils to be independent and to be able to stand on their own feet.
11. Help them to develop their characters and personalities.
12. Ensure that they are aware of aspects of your subject which they do not have to know for the examinations.
13. Help them to get on with other people.
14. Make sure that they get an education that is so interesting, useful and enjoyable that they will be keen to continue their formal education in adult life.
15. Give them experience of taking responsibility.
16. Ensure that they know how to apply the facts and techniques they have learned to new problems.
17. Make sure they get a thorough religious education.
18. Help them to take an interest in and to understand what is going on in the world now.
19. Ensure that they can formulate hypotheses, seek evidence and reason logically.
20. Make sure they are confident and at ease in dealing with people.
21. To make sure they go out in the world determined to make Ireland a better place in which to live.
22. Help them to think out what they really want to achieve in life.
23. To ensure that they leave school confident, willing and able to take the initiative in introducing changes.
24. Ensure that all pupils feel at home with figures and numbers.
25. Tell them about different sorts of jobs and careers so that they can decide what they want to do.
26. Teach them things that will be of direct use to them when they start work in their jobs or careers.
27. Ensure that they leave school intent on being masters of their own destinies.
28. Enable them to develop an interest in subjects other than those studied for examinations.
29. Give them information about the courses of Further and Higher Education that are open to them.
30. Ensure that they are aware of the prolonged struggle for Irish freedom and are determined to uphold the ideals which inspired it.
31. Run clubs and societies (e.g. sports, hobbies, social and youth clubs) for pupils out of school hours.
32. Teach them about a wide range of cultures and philosophies so that their own can be seen to be one of many.
33. Help them to understand the implications and responsibilities of marriage.
34. Advise parents to give sex education to their children.
35. Provide the pupils with sex education in the school.
36. Teach them about bringing up children, home repairs, decorating and so on.
37. Teach them to be sceptical, that is to take little on trust.
38. Encourage them to have a good time.
39. Introduce them to new subjects e.g. philosophy, sociology, archaeology etc.



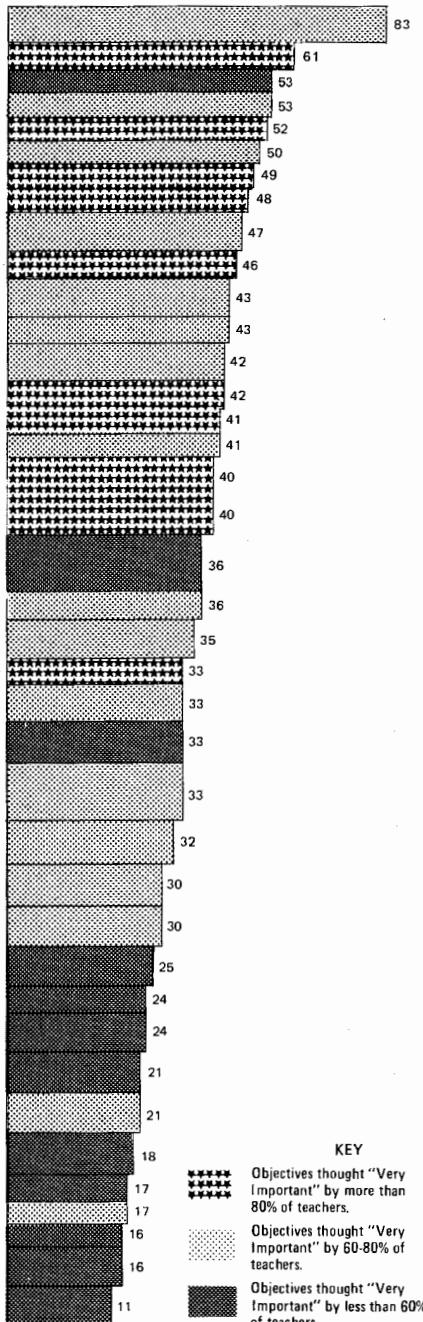
Weighted base (= 100%) all teachers other than heads rating objectives for "more academic" pupils: 528.

Chart III

Success with which Educational Objectives are Attained.

Percentage of Teachers Saying Education "Very Successful" or "Moderately Successful" in Achieving each Objective with the "More Academic" Pupils.

1. Help them to do as well as possible in external examinations like the Intermediate, Group or Leaving Certificates.
2. Teach them about what is right and wrong.
3. Ensure that all pupils feel at home with figures and numbers.
4. Make sure they get a thorough religious education.
5. Ensure that all students can express themselves clearly in writing.
6. Help them to get on with other people.
7. Help them to develop their characters and personalities.
8. Encourage them to have opinions of their own.
9. Give them information about the courses of Further and Higher Education that are open to them.
10. Encourage them to have a sense of duty towards the community.
11. Help them to take an interest in and to understand what is going on in the world now.
12. Give them experience of taking responsibility.
13. Tell them about different sorts of jobs and careers so that they can decide what they want to do.
14. Help them to develop a considerate attitude towards other people.
15. Make sure that they are able to read and study on their own.
16. Make sure that they really enjoy the lesson.
17. Encourage pupils to be independent and to be able to stand on their own feet.
18. Ensure that all pupils can speak well and put what they want to say into words easily.
19. Ensure that they are aware of the prolonged struggle for Irish freedom and are determined to uphold the ideals which inspired it.
20. Make sure they are confident and at ease in dealing with people.
21. Ensure that they know how to apply the facts and techniques they have learned to new problems.
22. Help them to think out what they really want to achieve in life.
23. Ensure that they are aware of aspects of your subject which they do not have to know for the examinations.
24. Teach them things that will be of direct use to them when they start work in their jobs or careers.
25. Make sure that they get an education that is so interesting, useful and enjoyable that they will be keen to continue their formal education in adult life.
26. To ensure that they leave school confident, willing and able to take the initiative in introducing changes.
27. Ensure that they can formulate hypotheses, seek evidence and reason logically.
28. To make sure they go out in the world determined to make Ireland a better place in which to live.
29. Run clubs and societies (e.g. sports, hobbies, social and youth clubs) for pupils out of school hours.
30. Provide the pupils with sex education in the school.
31. Ensure that they leave school intent on being masters of their destinies.
32. Help them to understand the implications and responsibilities of marriage.
33. Enable them to develop an interest in subjects other than those studied for examinations.
34. Teach them about a wide range of cultures and philosophies so that their own can be seen to be one of many.
35. Teach them to be sceptical, that is to take little on trust.
36. Advise parents to give sex education to their children.
37. Encourage them to have a good time.
38. Teach them about bringing up children, home repairs, decorating and so on.
39. Introduce them to new subjects e.g. philosophy, sociology, archaeology etc.



KEY

- ***** Objectives thought "Very Important" by more than 80% of teachers.
- Objectives thought "Very Important" by 60-80% of teachers.
- Objectives thought "Very Important" by less than 60% of teachers.

Weighted base (100%)

All teachers answering for the "more academic" pupils. 612.

Success in Reaching the Objectives and Further Reflections on their Nature.

As far as subjective impressions are concerned, we have already indicated that teachers' feelings of inadequacy in achieving their goals apply particularly to "self-initiated", open-ended, characteristics. A number of these may be singled out for comment here so that we can further our understanding of the psychological nature of the characteristics teachers care most about and the ways in which they are to be fostered.

Ability to read on one's own, somewhat surprisingly, comes 15th. in the list, with only 41% of the teachers being even moderately well satisfied with the extent to which pupils develop the ability. It seems to the author important to note that the development of this ability probably implies an interest in reading on one's own, enjoyment of doing so, and a desire to do so.

Ability to study on one's own was grouped with reading in the list, but we may comment on it separately. It seems to imply a tendency to notice problems, make one's own observations, mull over feelings of unease, analyse concepts and models, locate relevant information (not necessarily in books) and formulate hypotheses and test them systematically.

Self-confidence in social interaction is implied in a number of the objectives. This implies that the pupils must have learned from repeated experience, that they can cope with new people and new situations, and have developed a set of well-practiced habits which enable them to meet such situations.

Willingness to notice, and do something about, the problems of one's community comes tenth in the list. It would seem to imply a value for personal responsibility and for working for the good of all, together with a number of human resource characteristics which enable one to achieve such goals — characteristics which may include such things as willingness to initiate action on the basis of incomplete evidence and the tendency to monitor the effects of that action in order to develop a better understanding of the situation and take corrective action; reality-based confidence in one's ability to initiate action on the basis of incomplete information, secure in the knowledge that one could take effective corrective action if necessary — confidence which can only come from ample practice at this activity.

Ability to formulate what's in one's mind easily and well, fares worst among the objectives which most teachers believed to be very important. The ability to do this also seems to imply sensitivity to one's feelings, the spontaneous tendency to search out appropriate means of communicating them, the spontaneous tendency to pay attention to such feelings as indicate that there may be better ways of communicating that which is to be imparted and the spontaneous tendency to seek out resources — and to utilize previously unnoticed resources — which will help one improve the effectiveness of one's communications.

It is, of course, much more difficult both to specify how these qualities are to be fostered and evaluated than it is to specify how to teach and evaluate knowledge of content — the goal which most teachers feel they attain most effectively. That is to say, one cannot teach pupils to notice a beautiful sunset, to wish to communicate the impression it conveys to someone else, and to be motivated to conjure up a word image of this impression, in the same way that one teaches pupils to analyse a sentence. One cannot teach pupils to notice that one has a problem which is capable of formulation in mathematical terms and to seek out, or invent, the appropriate mathematics to deal with it, in the same way that one teaches pupils to solve differential equations. One cannot teach pupils to notice a social problem, and to

enjoy taking responsibility for doing something about it, in the same way that one teaches them what Weber said about bureaucracy. One cannot teach pupils to want to learn, or to mull over slight feelings of unease and glimmerings of understanding in the same way that one teaches them Shakespeare. Nor can one find out whether pupils have developed these self-initiated competencies in the same way that one finds out whether they have developed the ability to analyse sentences, solve given mathematical problems, or understand Weber or Shakespeare. However, in spite of the difficulties, these things are so important that it would seem to be essential to develop effective ways of fostering these characteristics and effective evaluation techniques which will enable teachers to compare the relative merits of different ways of achieving these goals and monitor their progress toward them.

We have discussed the self-initiated, self-motivated, pro-active, nature of many of these characteristics. We may now add a bit more flesh to the bare bones presented in the list, for the list presents only a very bare reflection of many of the characteristics discussed in Part II.

Other characteristics which some people wish to add include: ability to work independently without continual direction; the ability to act responsibly without being told to do so; the ability to take initiative without asking if one should do so; a willingness to notice problems and to take active steps to deal with them; the ability to analyse new situations and utilize one's knowledge and experience in dealing with them; the ability to get on with others; the ability and willingness to learn without instruction, i.e. the ability to notice things which have not been drawn to one's attention by others and to utilize that information in appropriate ways; the ability to make good decisions, i.e. the ability to weight several factors subjectively; and the ability to make good judgements on the basis of incomplete information.

Many of these competencies, like the ability to read, write, and do arithmetic, would be of value to almost anyone in society. They are as useful to a milkman as to an executive. They are unlike knowledge of chemistry or modern languages, and as such they qualify for the label "the second 3R's of education". They are all concerned with the ability to more effectively pursue any valued life goal.

A Final Comment on the Teachers' Data.

Before we move on to look at the material obtained from the pupils we may draw attention to a final set of issues raised by the data: *why* do teachers *not* concentrate on the objectives they consider to be most important and what are the consequences likely to be?

We have already suggested that two of the reasons why teachers do not focus on the objectives they consider to be most important are that they are none to clear about how to foster these characteristics and that neither they nor their pupils would get any recognition for their efforts if they did focus on them. Teachers' performance tends to be evaluated primarily in terms of the number of examination passes their pupils obtain, and a pupil's merit is almost entirely judged in this way. For both teachers and pupils other activities are only considered important if they are supplementary to, rather than substitutes for, academic ability.

Nevertheless the consequences are all pervasive and insidious. A teacher's standing derives from his ability to communicate knowledge of his speciality, not from his ability to foster well-balanced individuals who are capable of taking on one or another of the important roles in society. Teachers therefore have difficulty in focusing on the goals they themselves consider to be most important. The fact that

teachers have to focus on getting a wide variety of different types of pupils over the same examination hurdles means that they have little opportunity to become acquainted with the diversity of their pupils' talents, or to become acquainted with their values — all things teachers would love to do — and which are, in fact, essential if they are to achieve the goals they set themselves. It means that teachers are unable to gear education to the needs of individual pupils, that they must, instead, put pressure on their pupils to get them to cover the syllabus regardless of whether that syllabus has value from the pupil's point of view. Teachers can hardly convince pupils that their courses are of the utmost importance if they themselves doubt their value. Yet they know their pupils must get their certificates; without them both the pupils and their teachers would be out of a job. The idea that the certificate, and the certificate alone, is important must rub off on their pupils.

Many teachers cannot fail to be demoralised by the situation in which they find themselves. They are unable to do that which they wish to do. Indeed that which they have to do prevents them from finding out how to do the work they wish to do. The fact that they are unable to work toward their own goals means that they are unlikely to be able to turn as much energy as they would like into their work. It means that they will be less willing to display the enthusiasm, desire to innovate, and concern to improve their performance which we will later come to recognise as essential features of effective behaviour. And, since they do not display these things, their pupils will be deprived of the role models around which they could themselves develop these characteristics.

Chapter XI

PUPILS' PERCEPTIONS OF THE IMPORTANCE OF EDUCATIONAL OBJECTIVES

In Charts IV and V, the objectives discussed in the last chapter are shown ranked in order of their importance as assessed by the pupils.

It is clear that pupils, like their teachers, are concerned to develop general character traits and other self-motivated, pro-active (rather than re-active) characteristics like initiative, independence, responsibility, openness to new ideas, and the ability to apply facts and techniques to new problems. They wish to be origins rather than pawns, to be socially skilled, self-directed, able to communicate, and able to read and study on their own. Nevertheless, it is also clear that they do not understand how these characteristics are to be developed. They attach little importance to the very activities which would be most likely to lead to the development of the characteristics they value. They attach little importance to project work, opportunities to give talks to the rest of the class, enjoying one's work, having a say in how the school is run and having clubs and societies. It would therefore seem that, more than anything else, their biggest need is to connect these activities with the goals that are so important to them. The same problem is apparent in connection with the goal, to which they attach considerable importance, of thinking out what they wish to achieve in life. One important educational input here would seem to be to make contact with a wide range of cultures and philosophies. If pupils did this it would be possible for them to examine alternative ways of life, value systems, and their consequences. They would then be in a position to make more rational choices of life goals. Yet, once again, pupils do not seem to connect the end with the means to be used to achieve the end. Instead of attaching importance to general information which would enable them to make their own decisions, they think it is more important to have explicit advice and guidance from their teachers.

One possible explanation of their failure to attach importance to these, more diffuse, educational practices and procedures, and, instead, to ask for more circumscribed and packaged programmes of guidance may be their preoccupation with examinations. However, this preoccupation with examinations, to the apparent neglect of things which we think that, given their major concerns, they should have considered important, should not blind us to the fact that they *did* attach a great deal of importance to a number of non-examination activities like careers information, discussion lessons, understanding the implications and responsibilities of marriage, forming friendships with members of the opposite sex, and sex education.

Chart IV

Importance of Objectives: Boys.

Percentages of boys rating each objective "Very Important".

1. Ensure that you leave school confident, willing and able to take the initiative in introducing changes.
2. Encourage you to be independent and able to stand on your own feet.
3. Help you to do as well as possible in external examinations like the Intermediate, Leaving, Group Certificate.
4. Have outside speakers about careers and other educational topics.
5. Ensure that you know how to apply the facts and techniques you have learned to new problems.
6. Tell you about different sorts of jobs and careers so that you can decide what you want to do.
7. Have discussion lessons in which you would discuss things and put forward your point of view.
8. Help you to develop your character and personality.
9. Help you to understand the implications and responsibilities of marriage.
10. Ensure that you leave school intent on being master of your destiny.
11. Encourage friendships between boys and girls by, for example, running co-educational hobbies and social clubs.
12. Ensure that you can speak well and put what you want to say into words easily.
13. Make sure that you are able to read and study on your own.
14. Help you think out what you really want to achieve in life.
15. Encourage you to have opinions of your own.
16. Provide you with sex education in the school.
17. Advise parents to give sex education to their children.
18. Teach you things that will be of direct use to you when you start work in your job or career.
19. Give you experience of taking responsibility.
20. Make sure that you get an education that is so interesting, useful and enjoyable that you will be keen to continue your education in adult life.
21. Make sure that you get a thorough religious education.
22. Take you on visits to factories or offices or other places to see the different sorts of jobs there are and what work is like.
23. Give you information about the courses of Further and Higher education that are open to you.
24. Make sure that you really enjoy the lessons.
25. Run clubs and societies (e.g. sports, hobbies, social and youth clubs) for pupils out of school hours.

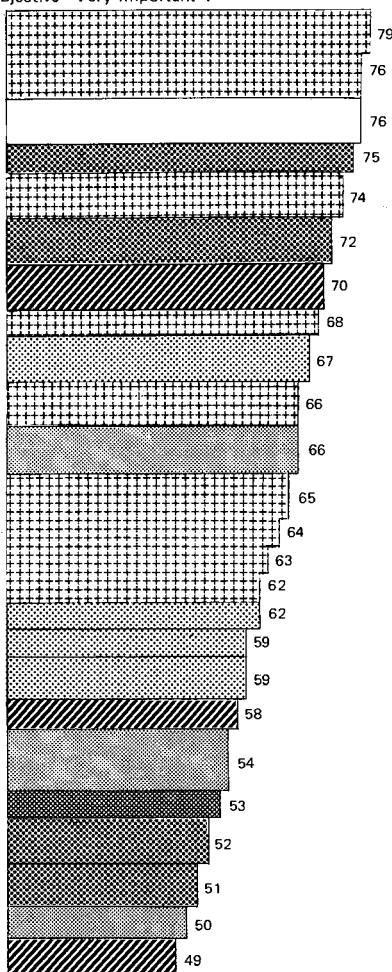
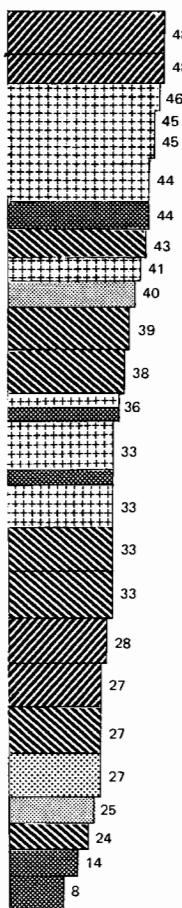


Chart IV Contd.

26. Educational visits in connection with your subjects – such as to see chemical plants, museums and theatres.
27. Give you a say in how the school is run.
28. Make sure you are confident and at ease when dealing with people.
29. Ensure that you can express yourself clearly in writing.
30. Help you to develop a considerate attitude towards other people.
31. Make sure you go out into the world determined to make Ireland a better place in which to live.
32. Teach you about what is right and wrong.
33. Provide facilities for pupils to do their homework at school.
34. Help you to get on with other people.
35. Encourage you to have a good time.
36. Help you to take an interest in and to understand what is going on in the world now.
37. Introduce you to new subjects, e.g. philosophy, sociology, archaeology etc.
38. Encourage you to have a sense of duty towards the community.
39. Make sure that you leave school aware of the prolonged struggle for Irish freedom and determined to uphold the ideals which inspired it.
40. Ensure that you feel confident and at ease when dealing with figures and numbers.
41. Enable you to develop an interest in subjects other than those studied for examinations.
42. Teach you about a wide range of cultures and philosophies so that your own can be seen to be only one of many.
43. Have Project work, that is work in which you have to make something or do some investigation and write it up.
44. Make sure you have opportunities to give short lectures and talks to the rest of your class.
45. Ensure that you are aware of aspects of school subjects which you do not have to know for the examinations.
46. Teach you about bringing up children, home repairs, decorating and so on.
47. Take you on holidays in this country or abroad.
48. Run courses for adults as well as young people.
49. Have rules about the clothes and hairstyles you may wear in school.
50. Have rules about the sort of things you may do outside of school hours.



For technical reasons the base varies from item to item, but the base for most figures is 5–600. See technical report (Raven, 1975) for exact numbers.

Chart V
Importance of Objectives: Girls.
 Percentage of girls rating each objective "Very Important".

1. Ensure that you leave school confident, willing and able to take the initiative in introducing changes.
2. Encourage you to be independent and able to stand on your own feet.
3. Help you to develop your character and personality.
4. Have outside speakers about careers and other educational topics.
5. Ensure that you know how to apply the facts and techniques you have learned to new problems.
6. Ensure that you can speak well and put what you want to say into words easily.
7. Have discussion lessons in which you would discuss things and put forward your point of view.
8. Tell you about different sorts of jobs and careers so that you can decide what you want to do.
9. Encourage you to have opinions of your own.
10. Help you to understand the implications and responsibilities of marriage.
11. Make sure that you are able to read and study on your own.
12. Help you to think out what you really want to achieve in life.
13. Help you to do as well as possible in external examinations like the Intermediate, Leaving, Group Certificate.
14. Advise parents to give sex education to their children.
15. Encourage friendships between boys and girls, for example, by running co-educational hobbies and social clubs.
16. Help you to develop a considerate attitude towards other people.
17. Ensure that you leave school intent on being master of your destiny.
18. Teach you things that will be of direct use to you when you start work in your job or career.
19. Make sure that you get a thorough religious education.
20. Make sure you are confident and at ease when dealing with people.
21. Give you experience of taking responsibility.
22. Make sure that you get an education that is so interesting, useful and enjoyable that you will be keen to continue your education in adult life.
23. Provide you with sex education in the school.
24. Help you to get on with other people.
25. Help you to take an interest in and to understand what is going on in the world now.

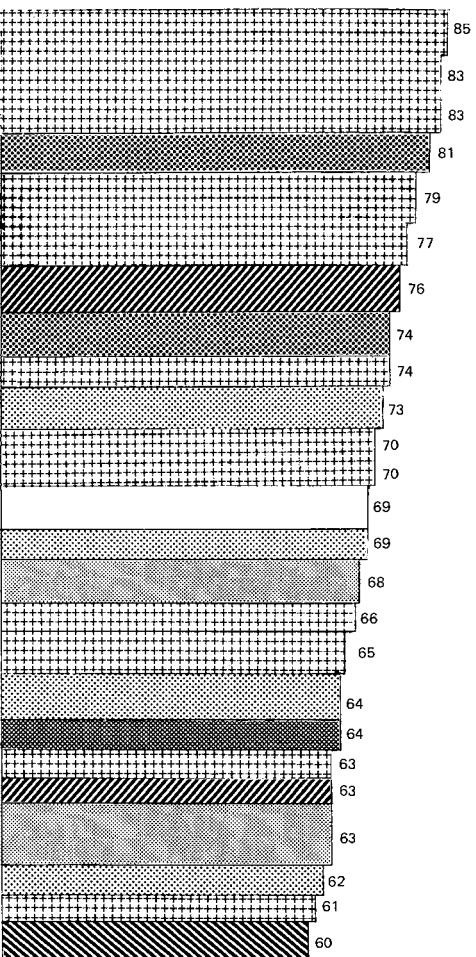
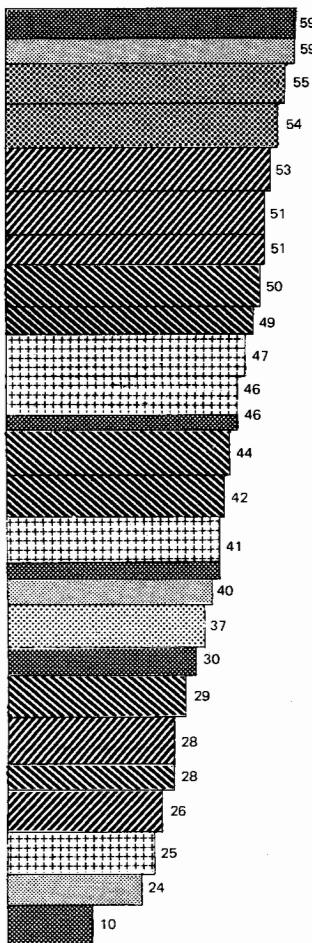


Chart V Contd.

26. Teach you about what is right and wrong.
27. Make sure that you really enjoy the lesson.
28. Give you information about the courses of Further and Higher education that are open to you.
29. Take you on visits to factories or offices or other places to see the different sorts of jobs there are and what work is like.
30. Educational visits in connection with your subjects – such as to see chemical plants, museums and theatres.
31. Run clubs and societies (e.g. sports, hobbies, social and youth clubs) for pupils out of school hours.
32. Give you a say in how the school is run.
33. Introduce you to new subjects, e.g. philosophy, sociology, archaeology etc.
34. Provide facilities for pupils to do their homework at school.
35. Make sure you go out in the world determined to make Ireland a better place in which to live.
36. Ensure that you can express yourself clearly in writing.
37. Encourage you to have a sense of duty towards the community.
38. Teach you about a wide range of cultures and philosophies so that your own can be seen to be only one of many.
39. Enable you to develop an interest in subjects other than those studied for examinations.
40. Make sure that you leave school aware of the prolonged struggle for Irish freedom and determined to uphold the ideals which inspired it.
41. Encourage you to have a good time.
42. Teach you about bringing up children, home repairs, decorating and so on.
43. Have rules about the clothes and hairstyles you may wear in school.
44. Ensure that you are aware of aspects of school subjects which you do not have to know for the examination.
45. Have Project work, that is work in which you have to make something or do some investigation and write it up.
46. Run courses for adults as well as young people.
47. Make sure you have opportunities to give short lectures and talks to the rest of your class.
48. Ensure that you feel confident and at ease when dealing with figures and numbers.
49. Take you on holidays in this country or abroad.
50. Have rules about the sort of things you may do outside of school hours.



For bases see footnote to Chart IV.

The examination subjects themselves did not seem to be regarded as intrinsically valuable. Pupils saw little point in learning about subjects or aspects of subjects that were not required for examination purposes. Other data presented in the reports already mentioned shows that they were inclined to be annoyed if they had an enjoyable, but non-exam relevant lesson, and, as we shall see later, many thought that there was little point in staying on at school if one was not taking examinations. Since little importance was attached to the *content* of the subjects and so much importance was attached to the examination, it would seem that current school subjects are not thought to be of intrinsic value — it is the certificate that is important, perhaps because it is the key to the door to higher education and a better job.

Pupils did not seem to attach all that much importance to a number of things which many people regard as primary functions of the school, such as making sure that they developed an interest in a wide range of academic subjects, felt at ease with figures and numbers, and were considerate, had a sense of duty toward the community, and knew right from wrong.

Some Questions Arising from the Data.

Are pupils correct in their perspective on education? If so, are schools doing enough to help pupils develop the open-ended, pro-active, qualities of character to which pupils attach so much importance? We have already examined the teachers' views and will look at the pupils' opinions on whether enough is done to achieve these objectives, but what does the reader think? If there are important goals that are not being satisfactorily attained how could they be attained more effectively? Do the results mean that it is necessary for teachers to pursue their goals whole-heartedly? Do they mean that teachers need to find more acceptable ways of pursuing their goals than they use at present? Is it necessary to convince pupils of the importance of some of the things they at present think unimportant? Are pupils correct in attaching little importance to the things which they do not value? Do pupils really attain high enough standards in these areas? If goals which are really unimportant still receive attention in the schools how can the pressures which lead to attention being paid to them be dealt with? If goals which pupils consider unimportant are in fact important do teachers need to explain their relevance more effectively to their pupils or do they need to find new, more acceptable, and more effective ways of attaining them?

While the reader's views on this subject are of course valuable (and, in the absence of research, the only available data), such questions are really too important to leave to impression and conjecture. What is needed is a series of studies of:

- 1 The felt educational needs of ex-pupils (adults).
- 2 The consequences of possessing different levels of various human resource characteristics such as initiative, ability to express oneself, ability to work with others, inventiveness, ability to think for oneself, and willingness to take responsibility. The consequences to be studied include both consequences for the individual and for the society concerned: High levels of initiative may bring an individual into conflict with the institutions of a given society, but, if widely shared among the members of that society, high levels of initiative may lead it to develop much more rapidly.
- 3 The extent to which these characteristics are in fact fostered by education.
- 4 Ways in which these goals might be attained more effectively — curriculum

development programmes designed to develop more effective means of attaining the most important goals.

The research and development programmes that are needed should not be left to Research Institutes. "Research" can be done by employers, members of parliament and parents. All these can study, and draw attention to, lacks in human resource competencies which may well escape the attention of teachers in their classrooms, and which researchers might well neglect to research if their potential importance is not drawn to their attention. Suggestions for ways in which these competencies could be fostered can be made by a wide range of people in society, and those responsible can take up these suggestions from the general discussion so stimulated. Curriculum Development programmes can be encouraged by employers and universities (who can change their selection procedures in order to select for the competencies which are really most relevant to the achievement of their goals) and by administrators and elected parliamentary representatives who can change regulations in order to facilitate these developments. Teachers can introduce new curricula into their classrooms and head-teachers make broader changes in schools. Structures, such as those needed for school-based, externally moderated, examinations can be set up to involve teachers themselves in discussions of their goals — in discussions of what is to be achieved, how it is to be achieved, and how to find out whether they have achieved it. Pupils can do more to enquire into what is to be achieved, how it is to be achieved, and the consequences of developing different competencies, so that they become more open to a move away from the current stress on examination certificates.

All of these groups would, of course, benefit from contact with the small amount of expertise that is available in these areas. But until there is a more general move to think about, and to do, these things further expertise in these areas will not develop. Those who are concerned about these things should certainly not use the need for personnel able to devote their full time to these research and development programmes as an excuse for doing nothing themselves.

All the groups we have mentioned need to ask: What are the goals of education for different sorts of pupil? What are the consequences for the individual concerned and the society in which he lives of developing different patterns of knowledge, skills and attitudes? How effectively are the most important goals attained at present? And how could they be better attained?

As an aid to answering these questions we should, perhaps, in fairness, point once more to the distinctive characteristics of many of the objectives coming near the top of the pupils' list. They are open-ended, self-motivated, pro-active, rather than re-active, characteristics. As such they can neither be taught nor assessed through the reactive procedures so familiar in the classroom and in examinations. One cannot develop an intense concern with effective communication, with studying the relative merits of different ways of communicating, with paying detailed attention to the verbal and non-verbal feedback available from listeners, with noticing important things which need to be communicated, with toying with ways of conveying images and ideas which are more than the words, symbols, and paint used to represent them, if one tells the pupils *what* to communicate (or even *to communicate*). One cannot foster initiative if one tells the pupil what to initiate.

One cannot foster independence if one tells the pupils what to do and what not to do. One cannot foster the ability to think for oneself if one tells the pupil what to think about, if one gives him no time to dream, if one does not allow him to explore on his own and to experience the satisfactions which come from gaining his own insights, or if one creates a situation in which he has to struggle to rediscover

that which is already known, only to find that the teacher knew the answer all the time but refused to tell him. In such situations pupils learn to feel annoyed with their teachers and learn techniques of extracting the answer from them, or from a book, rather than techniques of learning for themselves. One cannot develop the habit of paying attention to the effects of one's actions in order to learn more about the situation one is dealing with — the habit of analysing the meaning of half-noticed feelings which indicate that all is not well, the habit of utilizing the minutiae of feedback which are available if one looks for them to develop a better understanding of a situation and improve one's performance in future — if one leads pupils to expect packaged feedback in the form of teacher assessments (or even correction from programmed tests) or if one does not encourage them to think about and discuss their own idiosyncratic problems. Neither can one assess attainment of any of these goals by means of examination questions of the form "React in the approved way to the following sentence . . .". Yet, if the qualities set out above are important, it is imperative that the examination system, which is specifically intended to ensure that teachers and pupils pay attention to the most important goals of education, evaluate attainment of these goals.

Before leaving this subject we should emphasise that the data presented in the technical reports on the surveys shows that stress on these things varies with the pupil's age, his background, the school he attended, and the occupation to which he aspired. In trying to generate courses designed to take the pupils' felt needs into account one should, therefore, take steps to generate a *variety* of courses suited to pupils who have *different* felt needs.

Pupils' Perceptions of Whether Objectives are Achieved.

Just as we asked teachers whether they felt they were successful in achieving their objectives, so, too, we asked pupils whether more should be done to achieve the same goals.

The following charts give the rank order in which the objectives emerged after pupils had been asked to rate whether or not schools should do more to achieve them. If the two charts are compared it will be seen that girls are less likely than boys to think that schools should do more to encourage parents to give sex education to their children and to think that there should be more educational visits in connection with school subjects. Girls are more likely to think that there should be more clubs and societies. Otherwise the two lists are remarkably similar.

It would seem that pupils are in general most concerned that schools do more to provide social activities which would facilitate contact with the opposite sex, to provide more mind broadening activities through visits outside the school and by introducing new subjects into the school, and to provide more information about careers. They would like education to be more vocationally oriented and to treat them as more mature individuals — something they seem to think would arise if more courses for adults were run in the schools and if their opinions counted for more. They would like education to be made more directly relevant to their lives by teaching them about such things as sex, about bringing up children, home repairs and decorating, about the implications and responsibilities of marriage, and engaging them in school decision making. They would like it to be more active, more concerned with the whole person and more concerned with developing qualities of character such as the ability to clarify values, self-confidence, and initiative.

In general, both boys and girls would welcome less interference from the school and less advice on how they should lead their lives: they want to be treated as adults, not as children; they want to have responsibility for deciding how to

Chart VI
Objectives which Deserve More Attention: Boys.
 Percentage of Boys Saying "the School Should do More of This".

1. Encourage friendships between boys and girls, for example, by running co-educational hobbies and social clubs.
2. Take you on visits to factories or offices or other places to see the different sorts of jobs there are and what work is like.
3. Educational visits in connection with your subjects – such as to see chemical plants, museums and theatres.
4. Introduce you to new subjects, e.g. philosophy, sociology, archaeology, etc.
5. Advise parents to give sex education to their children.
6. Have outside speakers about careers and other educational topics.
7. Run courses for adults as well as young people.
8. Teach you about bringing up children, home repairs, decorating and so on.
9. Teach you about a wide range of cultures, and philosophies so that your own can be seen to be only one of many.
10. Help you to understand the implications and responsibilities of marriage.
11. Take you on holidays in this country or abroad.
12. Give you a say in how the school is run.
13. Make sure that you really enjoy the lessons.
14. Teach you things that will be of direct use to you when you start work in your job or career.
15. Run clubs and societies (e.g. sports, hobbies, social and youth clubs) for pupils out of school hours.
16. Enable you to develop an interest in subjects other than those studied for examinations.
17. Have Project work, that is work in which you have to make something or do some investigation and write it up.
18. Have discussion lessons in which you could discuss things and put forward your point of view.
19. Provide you with sex education in school.
20. Help you think out what you really want to achieve in life.
21. Make sure you have opportunities to give short lectures and talks to the rest of your class.
22. Ensure that you leave school confident, willing and able to take the initiative in introducing changes.
23. Ensure that you know how to apply the facts and techniques you have learned to new problems.
24. Make sure that you get an education that is so interesting, useful and enjoyable that you will be keen to continue your education in adult life.
25. Make sure you are confident and at ease when dealing with people.

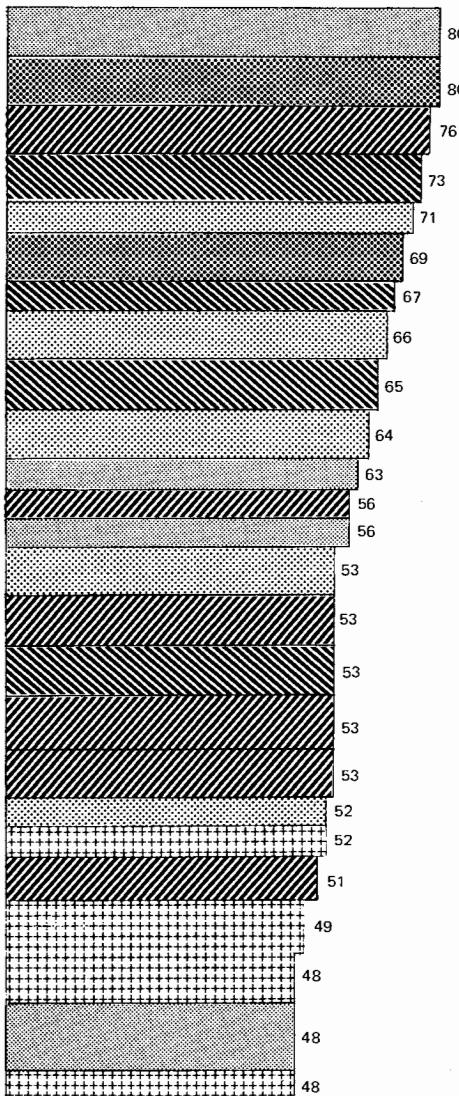
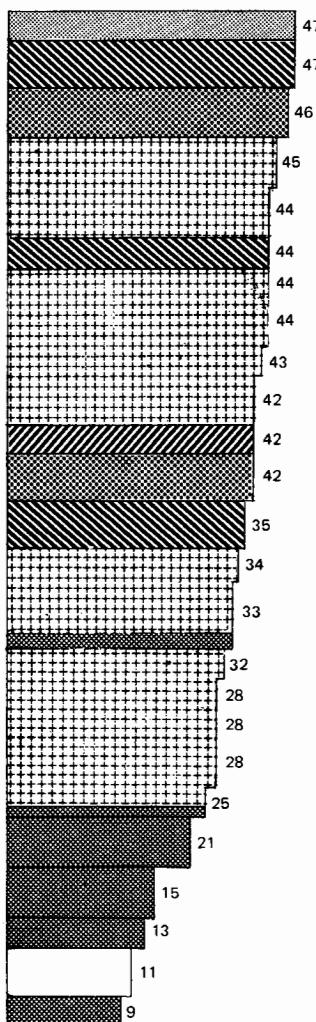


Chart VI Contd.

26. Encourage you to have a good time.
27. Help you take an interest in and understand what is going on in the world.
28. Tell you about different sorts of jobs and careers so you can decide what you want to do.
29. Ensure that you leave school intent on being master of your destiny.
30. Make sure you go out into the world determined to make Ireland a better place in which to live.
31. Provide facilities for pupils to do their homework at school.
32. Help you to develop your character and personality.
33. Ensure that you can speak well and put what you want to say in words easily.
34. Help you to get on with other people.
35. Encourage you to be independent and able to stand on your own feet.
36. Give you experience of taking responsibility.
37. Give you information about the courses of Further and Higher education that are open to you.
38. Ensure that you are aware of aspects of school subjects which you do not have to know for the examinations.
39. Help you to develop a considerate attitude towards other people.
40. Make sure that you leave school aware of the prolonged struggle for Irish freedom and determined to uphold the ideal which inspired it.
41. Make sure that you are able to read and study on your own.
42. Encourage you to have opinions of your own.
43. Ensure that you can express yourself clearly in writing.
44. Ensure that you feel confident and at ease when dealing with figures and numbers.
45. Encourage you to have a sense of duty towards the community.
46. Have rules about the sort of things you may do outside of school hours.
47. Have rules about the clothes and hairstyles you may have in school.
48. Teach you about what is right and wrong.
49. Help you to do as well as possible in external examinations like the Intermediate, Leaving, Group Certificate.
50. Make sure that you get a thorough religious education.



For bases see footnote to Chart IV.

Chart VII

Objectives which Deserve More Attention: Girls.

Percentage of Girls Saying "the School Should do More of This".

1. Encourage friendships between boys and girls, for example, by running co-educational hobbies and social clubs.
2. Take you on visits to factories or offices or other places to see the different sorts of jobs there are and what work is like.
3. Introduce you to new subjects, e.g. philosophy, sociology, archaeology, etc.
4. Run courses for adults as well as young people.
5. Run clubs and societies (e.g. sports, hobbies, social and youth clubs) for pupils out of school hours.
6. Have outside speakers about careers and other educational topics.
7. Teach you about a wide range of cultures and philosophies so that your own can be seen to be only one of many.
8. Educational visits in connection with your subjects, such as to see chemical plants, museums and theatres.
9. Take you on holiday in this country or abroad.
10. Teach you about bringing up children, home repairs, decorating and so on.
11. Make sure that you really enjoy the lessons.
12. Teach you things that will be of direct use to you when you start work in your job or career.
13. Advise parents to give sex education to their children.
14. Help you to think out what you really want to achieve in life.
15. Help you to understand the implications and responsibilities of marriage.
16. Give you a say in how the school is run.
17. Enable you to develop an interest in subjects other than those studied for examinations.
18. Provide you with sex education in school.
19. Make sure that you are confident and at ease when dealing with other people.
20. Make sure that you get an education that is so interesting, useful and enjoyable that you will be keen to continue your education in adult life.
21. Tell you about different sorts of jobs and careers so that you can decide what you want to do.
22. Give you information about the courses of Further and Higher education that are open to you.
23. Make sure you have opportunities to give short lectures and talks to the rest of your class.
24. Help you take an interest in and to understand what is going on in the world now.
25. Ensure that you know how to apply the facts and techniques you have learned to new problems.

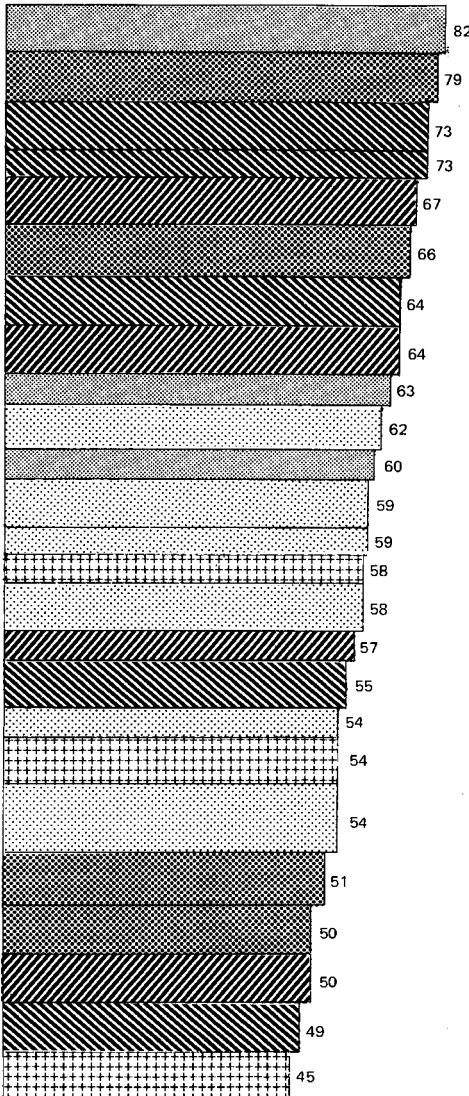
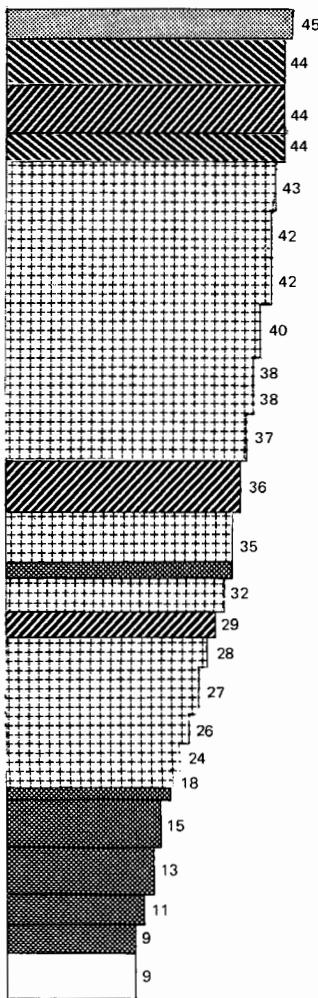


Chart VII Contd.

26. Encourage you to have a good time. 45
27. Ensure that you are aware of aspects of school subjects which you do not have to know for examinations. 44
28. Have discussion lessons in which you could discuss things and put forward your point of view. 44
29. Provide facilities for pupils to do their homework at school. 44
30. Ensure that you leave school confident, willing and able to take the initiative in introducing changes. 43
31. Make sure you go out into the world determined to make Ireland a better place in which to live. 42
32. Ensure that you leave school intent on being master of your destiny. 42
33. Ensure that you can speak well and put what you want to say into words easily. 40
34. Help you to get on with other people. 38
35. Help you to develop your character and personality. 38
36. Encourage you to be independent and able to stand on your own feet. 37
37. Have project work, that is work in which you have to make something or do some investigation and write it up. 36
38. Make sure that you leave school aware of the prolonged struggle for Irish freedom and determined to uphold the ideals which inspired it. 35
39. Encourage you to have opinions of your own. 32
40. Give you experience of taking responsibility. 29
41. Make sure that you are able to read and study on your own. 28
42. Ensure that you feel confident and at ease when dealing with figures and numbers. 27
43. Ensure that you can express yourself clearly in writing. 26
44. Help you to develop a considerate attitude towards other people. 24
45. Encourage you to have a sense of duty towards the community. 18
46. Have rules about the sort of things you may do outside of school hours. 15
47. Have rules about the clothes and hairstyles you may wear in school. 13
48. Teach you about what is right and wrong. 11
49. Make sure that you get a thorough religious education. 9
50. Help you to do as well as possible in external examinations like the Intermediate, Leaving, Group Certificate. 9



For bases see footnote to Chart IV.

behave and to know right from wrong. They are inclined to think that too high a value is set on academic competition.

Many of these generalisations were confirmed in the answers to an open-ended question located at the end of the interview. In this pupils were asked if there was anything else they would like to add to what they had already said. At this point 10 per cent. of the boys said that there was too little personal freedom in schools and 16 per cent said that schools should give one more independence, pay greater attention to personality development, and provide practically useful knowledge such as how cars, bank accounts etc. work.

Controversial Objectives.

Although relatively large numbers of pupils would like schools to pay less attention to teaching them about the struggle for Irish freedom, to making sure that they wanted to make Ireland a better place in which to live, and teaching them to be able to read and study on their own, more than a third of the pupils wanted more emphasis placed on these objectives. These would seem to be fairly controversial issues about which opinions are polarised.

A Comment.

From the figures we have looked at in Charts VI and VII it would seem that a remarkable number of pupils think that enough is done to dispel that despair which so many people seem to experience when dealing with tables of figures and numbers, to develop the ability to read and study on their own, to ensure that they can express themselves clearly in writing, to develop independence of thought, considerateness, and knowledge of aspects of subjects which they do not have to know about for examination purposes.

Objectives Which Are Both Important and Poorly Attained.

Not all the things pupils would like schools to do more about were felt to be very important: the next table presents the items which fell into the three main categories of important and lacking, important but achieved, and unimportant but desirable. It will be seen that the objectives which pupils felt to be both important and deficient were concerned with careers information, preparation for married life, and encouragement to make contact with the opposite sex.

Objectives which pupils felt schools should do more to achieve, but which were not of basic importance, that is to say things that were felt to be desirable but not essential, were mostly mind-broadening activities involving introducing them to new subjects, teaching them about a wide range of cultures and philosophies, and taking them on holidays. This group of activities is particularly interesting in that it seems to present a means of achieving many of the objectives teachers and others would like to achieve although pupils feel that enough is already done. Their potential for enabling teachers to reach such goals as ability to think for oneself, openness to new ideas, consideration for others, tolerance, ability to communicate, etc., could be enhanced by linking such activities to goals pupils felt to be particularly important, such as initiative, independence, ability to apply facts and techniques to new problems, and helping them to think out what they really want to achieve in life.

TABLE 1

**Objectives: Importance by Appropriateness
of Current Emphasis**

	Percent saying aim "very important"		Percent saying schools "should do more to achieve aim"	
	Boys	Girls	Boys	Girls
VERY IMPORTANT, INSUFFICIENT DONE				
Have outside speakers about careers and other educational topics	75	81	69	66
Help you to understand the implications and responsibilities of marriage	67	73	64	58
Help you to think out what you really want to achieve in life	63	70	52	58
Encourage friendships between boys and girls, for example, by running co-educational hobbies and social clubs	66	68	80	82
IMPORTANT, ENOUGH DONE				
Make sure you are able to read and study on your own	64	70	28	28
Encourage you to have opinions of your own	62	74	28	32
Help you to do as well as possible in external examinations like the Intermediate, Leaving, Group Certificate	76	69	11	9
Make sure that you get a thorough religious education	53	64	9	9
Give you experience of taking responsibility	58	63	42	29
MORE SHOULD BE DONE, BUT NOT VERY IMPORTANT				
Take you on visits to factories or offices or other places to see the different sorts of jobs there are and what work is like	52	54	80	79
Introduce you to new subjects, e.g. philosophy, sociology, archaeology etc.	38	50	73	73
Teach you about a wide range of cultures and philosophies so that your own can be seen to be only one of many	33	44	65	64
Run courses for adults as well as young people	24	28	67	73
Take you on holidays in this country and abroad	25	24	63	63

Chapter XII

DISCREPANCIES BETWEEN TEACHERS' AND PUPILS' ASSESSMENTS OF THE IMPORTANCE OF THE OBJECTIVES

In this chapter we will compare teachers' perceptions of the importance of the objectives which have been discussed in previous chapters, with pupils' perceptions.

We must, however, first draw attention to the fact that not all the objectives that were included in the pupils' list of objectives were covered in the teachers' list. This was because the topics omitted from the teachers' list were discussed more fully with them elsewhere in the interview. Unfortunately the time available did not permit a more detailed discussion with pupils.

Objectives which come Near the Top of the Pupils' list of Important Objectives, but which were considerably Lower down in the Teachers' List:

- Ensure that you leave school confident, willing and able to take the initiative in introducing changes. (21st in teachers' list, 1st in boys' and girls' lists).
- Make sure that you know how to apply the facts and techniques you have learned to new problems. (16th in teachers' list, 5th in boys' and girls' lists).
- Tell you about different sorts of jobs and careers so that you can decide what you want to do (14th in teachers' list, 6th in boys' list, 8th in girls' list).
- Help you to understand the implications and responsibilities of marriage. (29th in teachers' list, 9th in boys' list, and 10th in girls' list).
- Ensure that you leave school intent on being master of your destiny. (28th in teachers' list, 10th in boys' list, 17th in girls' list).
- Help you to do as well as possible in external examinations. (23rd in teachers' list, 3rd in boys' list, 13th in girls' list).
- Sex education in school (Boys only). (35th in teachers' list, 16th in boys' list).

Objectives High in Teachers' List but of Relatively Little Importance to the Pupils:

- Encourage them to have a sense of duty toward the community. (4th in teachers' list, 38th in boys' list, 37th in girls' list).
- Help them to develop a considerate attitude toward other people. (7th in teachers' list, 30th in boys' list, 16th in girls' list).
- Ensure that all students can express themselves clearly in writing. (9th in teachers' list, 30th in boys' list, 16th in girls' list).
- Teach them about right and wrong. (10th in teachers' list, 32nd in boys' list, 26th in girls' list).

Objectives at the Bottom of the Pupils' List but Fairly High in the Teachers' List.

- Ensure that you are aware of aspects of school subjects which you do not have to know for the examination. (16th from bottom in teachers' list, 5th from bottom in boys' list, 7th from bottom in girls' list).

Objectives at the Bottom of the Teachers' List but Considerably Higher in the Pupils' Lists.

- Encourage them to have a good time. (bottom in the teachers' list, 16th from bottom in boys' list, 10th from bottom in girls' list).
- Introduce them to new subjects, e.g. Philosophy, Sociology, Archaeology. (3rd from bottom in teachers' list, 14th from bottom on boys' list, 18th from bottom in girls' list).
- Provide the pupils with sex education in the school. (5th from bottom in teachers' list, 35th from bottom in boys' list).
- Teach them things that will be of direct use to them when they start work in their jobs or careers. (10th from bottom in teachers' list, 33rd from bottom in boys' and girls' lists).

The things to which the pupils attached more importance than the teachers cannot readily be summarized: One cannot say simply that pupils thought it more important than did their teachers to be taught directly useful information that would help them to lead their lives effectively, like preparation for sex and marriage, for the list of things they felt more important also included pro-active characteristics like initiative, ability to *apply* the information and techniques one has learned at school, and being master of one's destiny. On the other hand the things the teachers thought more important than their pupils seem to be rather moralistic or specifically academic characteristics. It is clear that if teachers are to achieve these objectives effectively they will have to convince their pupils of their importance, make them less "grim", and probably pursue them through some new form of input which, by structuring the learning experiences that are to lead to them more carefully, makes them more interesting, positive, personal and pro-active.

Objectives Less Well Attained Than Their Importance Merited Compared With Objectives Pupils Felt Schools Should Do More Of

The heads' and teachers' lists of objectives which were much less well attained than their importance merited included the following things which pupils felt schools did enough of:

Make sure that they get an education that is so interesting, useful and enjoyable that they will be keen to continue their formal education in adult life. (2nd on teachers' list, 25th on boys' list, 20th on girls' list).

Make sure that they are able to read and study on their own. (4th on teachers' list, 41st on boys' list, 41st on girls' list).

Make sure that they go out into the world determined to make Ireland a better place in which to live. (6th on teachers' list, 30th on boys' list, 31st on girls' list).

Encourage pupils to be independent and able to stand on their own feet. (17th on teachers' list, 35th on boys' list, 36th on girls' list).

Ensure that all pupils can speak well and put what they want to say into words easily. (10th on teachers' list, 32nd on boys' list, 33rd on girls' list).

Ensure that they are aware of aspects of your subject which they do not have to know about for examination purposes. (11th on teachers' list, 38th on boys' list, 27th on girls' list).

Help them to develop a considerate attitude toward other people. (13th on teachers' list, 39th on boys' list, 44th on girls' list).

The heads' and teachers' priorities did not include the following objectives which pupils felt schools should do more to achieve:

Introduce them to new subjects e.g. philosophy, sociology, archaeology etc. (32nd on teachers' list, 4th on boys' list and 3rd on girls' list).

Teach them about a wide range of cultures and philosophies so that their own can be seen to be one of many. (28th on teachers' list, 9th on boys' list, 7th on girls' list).

Teach them things that will be of direct use to them when they start work in their job or career. (33rd on teachers' list, 14th on boys' list, 12th on girls' list).

Nevertheless it is important to add that, although pupils would have liked schools to do more to achieve these objectives, pupils did not think the first two were particularly important educational objectives: they were in the category of "desirable, but not important".

Discussion

Looking at these sets of data as a whole it is of interest that all the things pupils particularly wanted schools to do more of should be things which teachers felt to be more important than their present efforts would indicate. There thus seems to be general agreement among those interviewed in the survey that schools should step up their efforts to introduce new subjects, to introduce sex education, to have more careers information, to introduce pupils to a wide range of cultures and philosophies, and to teach pupils about the implications and responsibilities of

marriage. Careers information and information about the implications and responsibilities of marriage are not merely considered by the pupils to be worthy of more attention: they are considered to be among the most important objectives of education. Both, but especially information about the implications and responsibilities of marriage, come much lower down in the teachers' list of priorities.

The goals teachers considered to be much less well attained than their importance merited, but which pupils felt they had enough of — clubs and societies, religious education, and feeling at home with figures and numbers — clearly need to be made more acceptable to the pupils if the additional effort is to produce the desired effect. It is clear that teachers either see deficiencies in their pupils in these areas, deficiencies of which their pupils are not aware, or teachers are aware of benefits which would follow from adopting these methods, benefits of which the pupils are again unaware. It would seem that teachers will either have to explain more effectively to their pupils what they are doing, or else they will have to invent more effective or palatable methods of achieving their goals. It is significant that none of these objectives were even considered very important by pupils; they do not merely not want more of them: relative to other objectives they don't even want schools to be concerned with them. However the pupils are not alone in this: even teachers placed the running of clubs and societies and feeling at home with figures and numbers well down in their list of priorities in education. If they are to put more effort into achieving these objectives, they will probably first have to convince both themselves and their pupils that they are important.

Teachers are at variance with the pupils in feeling that they do enough to make sure that pupils enjoy the lessons, enough to encourage pupils to have a good time, and enough to develop independence and the ability to stand on one's own feet. Not that the pupils placed enjoyment of lessons at the top of their list of priorities. Far from it — they placed it well down in their list. But it is perfectly clear that teachers are some way away from achieving one of their own moderately high priorities, into which they pour considerable effort.

There is something of a paradox in relation to the development of initiative: Pupils think it important for schools to develop the initiative necessary to introduce changes, yet, in spite of the fact that teachers neither think it important to develop it, nor put any effort into developing it, pupils are not particularly likely to think school should do more to help them develop it.

This is, perhaps, best explained by the disinterest which teachers have in introducing change, a disinterest which is documented elsewhere in the survey: from the pupils' point of view can one reasonably expect those who do not display a characteristic of this sort to do more to help one develop it? The same may apply concerning mastery of one's destiny.

Pupils felt that they had been taught enough about developing a sense of duty toward the community and learning about right and wrong which, unlike religion and passing examinations, were considered relatively unimportant in any case. Once again, it would seem, teachers who wish to pursue these objectives will have to invent better, or more acceptable, ways of pursuing them.

Although pupils are obviously not uninterested in learning about new subjects like philosophy, sociology, and archaeology, they have their eyes firmly fixed on examinations, and are quite uninterested in learning about academic subjects, or aspects of subjects, about which they will not be examined. Since aspects of the subjects they are studying which are not examined are perceived as unimportant, it follows that knowledge of the content of those subjects must itself be perceived

as unimportant: only the certificates are important. The moral is clear: if teachers, on reflection, think these things are really important, they have three courses of action open to them. One is to do away with the examinations so that pupils can pay attention to content that is intrinsically valuable. The second is to make sure that the examinations assess attainment of the goals which teachers consider to be most important — regardless of whether pupils recognize their merits of pursuing these objectives. The third is to convince the pupils of the importance of the content: it seems that pupils will accept non-examination content if they can see its relevance to their jobs or their lives (e.g. development of initiative, careers information, and information about sex and marriage, but not, for some reason, bringing up children and decorating). It would be fair comment to say that the pupils appear to see little intrinsic merit in academic activity. Its sole merit, and one which is very important, is obtaining examination certificates which will open doors in the future.

Finally, we may draw attention to the fact that the item which asked if education should "encourage you to have a good time" came much higher in the pupils' priorities than in the teachers'. Perhaps the phrase conjured up different things to the two groups. However it is more likely that in both cases, it evoked an image of enjoyable dances and contact with the opposite sex. It may be that the discrepancy helps to explain those, otherwise incomprehensible, battles which rage between pupils and staff concerning the colour of socks, width of trousers, length of hair, and colour and length of skirts. In all probability, all these things acquire their emotional connotations because they *do* indicate a concern with wordly enjoyment — in contrast to the rather ascetic emphasis on hard work and rejection of pleasurable activities favoured by schools. It seems likely that the phrase we used is picking up just these values on the part of the teachers and a firm rejection of them by a minority of pupils.

Chapter XIII

IMPLICATIONS OF THE SURVEY RESULTS FOR CURRICULUM DEVELOPMENT

By amalgamating the teachers' and pupils' data concerning both felt need for development and perceived importance of the objectives, it is possible to identify areas in which curriculum development might be encouraged. This curriculum development work could partly be carried out by teachers in their classrooms, partly by heads and staff at the school level, partly by teachers and Departments of Education at a national level, partly through research projects directed toward curriculum development, and partly through national policy changes designed to facilitate such development, innovation and experimentation. It should *not* be thought of as the private property of university Departments of Education.

Areas for Curriculum Development

The areas in which this curriculum development work seems to be needed are to assist in:

- 1 Development of the spontaneous tendency, and the ability, to learn without instruction: Generation of that interest in learning and intellectual development which will make people keen to continue their education as adults, the ability to apply the facts and techniques one has learned to new problems, the ability to read and study on one's own — the tendency to notice the need for information and the ability to find the materials and information one needs, and the ability to formulate hypotheses, seek evidence, make one's own observations and reason logically.
- 2 Development of self confidence, independence, ability and willingness to take initiative in introducing changes, confidence in social inter-action, considerateness, and ability to be master of one's destiny.
- 3 Development of values, an ability to see one's culture in perspective, to choose between value systems through being acquainted with a wide range of cultures and philosophies and the consequences of pursuing different goals and adopting different values, and thinking about the sort of person one wants to be; what one really wants to achieve in life. One might include here the development of differentiation in one's self-image and the ability to match one's strengths and weaknesses to the needs of a particular career.
- 4 Development of interpersonal competencies, the ability to understand the points of view of others and the ability to work with them, leadership and followership ability (i.e. the ability to share leadership responsibility, the ability to understand an overall programme without having to be given detailed instructions, and willingness to take on oneself responsibility for playing the part so worked out), and the ability to express oneself and communicate.

As we have observed several times now, many of these objectives involve the fostering of open-ended, self-motivated, pro-active rather than re-active characteristics; the characteristics consist of generalised ways of thinking, feeling, and behaving rather than cognitive habits to be reeled off when the appropriate, if rarely encountered, situation presents itself. They are very different from the sorts of things teachers and pupils feel schools do relatively well.

If they are to be developed we need a better understanding of the nature of these competencies, and a better understanding of the way in which they are to be fostered — a better theory of curriculum development. Having got that we need both more systematic experimentation and more systematic evaluation of the results of those experiments. This in turn implies the development of much better measures of these characteristics. And if attention is to be paid to these things it is necessary to have a shift in focus among educational administrators — a shift from focussing on the numbers of pupils in the system to a focus on the standards attained by the pupils emerging from the system — standards judged in these terms, and not in terms of knowledge of content. The *content* of educational courses, not their duration is what should pre-occupy policy makers.

A Fuller Discussion of the Psychological Nature of the Competencies to be Fostered in Education.

Because of the importance of becoming clearer about the nature of these competencies, the way in which they can be fostered, and the ways in which their attainment can be evaluated we will discuss each of these topics at length in later chapters of this book. Here we may engage in a preliminary discussion of the nature of some of these competencies in order to set the stage for what will come later.

Let us first return to our example of trying to foster communication skills. Effective communication skills would seem to be in part dependent on having developed a sensitivity to things which are worth communicating, a concern to communicate them to others, an interest in seeking out the best way of communicating them, and sensitivity to, and ability to respond to, slight indications from one's audience as to ways in which one's communication could be improved.

Sensitivity to things which are worth communicating involves sensitivity to the slight, often transient and hard to make explicit, images and fleeting feelings which provide the germ of a useful idea, or which call attention to something which should be made fully explicit and receive further attention. The commitment needed to make these ideas fully explicit and to single out the appropriate media — words, paint, music — for communicating them should not be underestimated. Development of this motivation, this willingness and commitment to communicate, is much more important than familiarity with a number of the tools of communication. Sensitivity to, and willingness to use, feedback from one's audience is also a skill not easily mastered. Rather than wait for a member of one's audience to say they are bored, or to formulate for one alternative communication styles which might be more effective, one has to become sensitive to the eye movements, facial expressions, and intonations which tell one whether they are with one and have got the message one is seeking to convey. Not only does one have to be sensitive to this feedback one has to link it with relevant aspects of the communication itself: one has to be able to analyse one's own communication and be able to link the feedback from one's audience to the correct features of one's communication.

The strength of one's tendency to engage in each of these activities is probably related to the extent to which one enjoys, indeed takes a delight in, each of them. It will also be related to having previously had success in these activities, on having repeatedly experienced the satisfactions which come from having successfully completed a difficult, but self chosen, communications task. Experience of these satisfactions is important: these experiences are the components of the exercise which will lead the pupil to *want* to engage in these activities in the future.

The same sort of analysis can be made of other important competencies, and we will discuss further examples in later chapters. If teachers wish to foster, as

they say they do, characteristics such as initiative, considerateness, independence, ability to learn on one's own, and tendency to think logically and critically, it is to the development of the sort of sensitivities, confidence, and behaviour tendencies we have mentioned that they will have to devote their attention.

We may push our understanding of the sort of educational programme needed to develop these competencies a little further here by means of one more example. But before doing so we may once more emphasise the importance of the spontaneous, self-initiated, self-motivated nature of these competencies. If they are to be fostered it is necessary to teach the pupils to trigger off the activity in appropriate circumstances as well to teach them to perform the activity itself. If pupils are to learn to engage spontaneously in these behaviours, to *want* to engage in them because of the satisfactions which they know they bring, it would seem likely that they must engage in these activities in pursuit of a goal which they themselves value. This means that educational programmes intended to foster these characteristics will have to be designed to work out from the pupils' own concerns and interests.

We present our analysis of the next example in some detail. Like all other competencies it seems to break down into a set of values and into a number of components of effective behaviour, components of behaviour which could be utilized to achieve any valued goal effectively.

Acting independently, taking initiative, seems to involve the following *values*:

- 1 A value for the *end state* in relation to which initiative is supposed to be displayed. For example if one *values* performance at football, one will tend to show initiative in relation to ways of improving one's performance, one will have standards of performance in relation to football, and one will be sensitive to feedback concerning ways of improving one's performance: one will notice that some techniques seem to be more successful than others, one will mull over slight and fleeting indications that all is not well until these preliminary indications become fully explicit and one can try out and assess alternatives. If one does *not* value the end state, e.g. performance at mathematics, one will *not* display these characteristics.
- 2 A value for working *independently*, for taking personal responsibility, rather than going along with the mass or leaving things to others.
- 3 A value for being an *individual*, rather than conforming to the behaviour of a group.
- 4 A value for doing new things rather than for conforming to tradition (although an innovative individual might be expected to seek out better ways of conforming to tradition if he *valued* being traditional!)

In summary, acting independently involves a value both for the end state toward which the activity is directed and a value for particular patterns of behaviour. (In parenthesis, we may note that this suggests that, as far as educational inputs are concerned, it may be important for teachers to work with pupils to clarify *both* of these.)

Efficacy Characteristics

In addition to these *values*, effective initiatives and effective innovative behaviour involves the spontaneous tendency to display a number of the following components of effective behaviour:

Self-Confidence. This would seem to involve:

- (i). *Knowledge, based on experience, that one can work with others, that one can take a leadership role*, that one can enlist others' help and support. If pupils are to develop confidence that they can do this they will need to take part in a number of exercises designed to foster a number of different types of leadership ability — and not merely to take part in these exercises but also to succeed in mastering them.
- (ii) *Knowledge, based on experience, that one can take effective corrective action* if activities one has initiated do not turn out as expected, if one sets out in the wrong direction.
- (iii) *Knowledge, based on experience, that one's judgement and ability to make decisions are good*: that one can correctly, if subjectively, assess the relative importance of the various components involved in making a decision in order to arrive at a good decision, a decision which will stand the test of time. This involves learning that one does not have to have complete information on every aspect of a situation before one takes a decision, but instead to recognise which critical information one lacks, and, if decision taking is to be good, it involves learning not to become preoccupied with one or two considerations to the neglect of other, perhaps more important, considerations.
- (iv). *Knowledge, based on experience, that one can cope with new situations and new people.*
- (v). *Knowledge, based on experience, that one can do at least some things better than other people.*
- (vi). *Knowledge, based on experience, that should need arise, one can change the pattern of one's competencies and learn to do new things, perhaps things of which one has no experience.*
- (vii). *Knowledge, based on experience, that one can master tasks which at first appeared to be too difficult.*

Decision-taking ability: the spontaneous tendency to recognise, and subjectively take into account, the many factors involved in arriving at a good decision rather than become preoccupied with only one or two of the relevant considerations.

Willingness to tolerate the boring tasks that it is necessary to perform in the course of achieving one's goals, but, equally, unwillingness to tolerate boring tasks which do not lead to important goals.

Sensitivity to one's feelings and emotions, and willingness to unleash them in order to attain a goal: being willing to recognise one's feelings and emotions and the tendency to put them to good use rather than deny that one has such feelings.

The tendency and the ability to lead effectively: the tendency and the ability to effectively enlist the help of others when necessary to achieve one's goals. The spontaneous tendency to do the things which it is necessary to do to get others to turn their energies into goal attainment; the spontaneous tendency to notice, and do something about, psychological barriers to effective action on the part of co-workers and subordinates; sensitivity to organisational problems which prevent individuals functioning effectively, and the ability and willingness to recognise and reward those who themselves attend to such

problems to the detriment of their "work".

The tendency and the ability to follow effectively: the tendency to try to understand an overall programme of activity and take the initiative to work out one's own part in the whole, and get on with it, without having to be told in detail what to do.

Tolerance for abstract thought and a willingness, and tendency, to think about, and plan to avoid, obstacles to the effective achievement of one's goals.

Knowledge of, and tendency to use effectively, strategies for finding out how things work: strategies for prodding institutions and other people in order to find out how they work, for prodding social situations in order to discover which are the most important variables. One can find out very little about people, institutions, or situations, by simply looking at them or asking people questions. One can, in many cases, learn a great deal more by stimulating them in some way and observing the reaction. Effective strategies for doing this at a research level are badly needed.

Tendency to seek feedback, ability to recognise it, and tendency to utilise it: i.e.

- (a) *Sensitivity:* knowledge that it is important to pay attention to slight feelings of unease, sensitivity to these feelings, and a tendency to mull them over, bring them into full consciousness, and act on their implications.
- (b) *Tendency to systematically review progress toward the goal, ask why it had not been more effectively achieved, and make explicit the implications for one's future behaviour.*

Tendency to notice resources: to utilise the resources that are available, to find ways of getting things done.

Ability to locate resources: the ability to track down physical and human resources that would help one to tackle one's problems.

Ability to learn without instruction: the tendency and the ability to make one's own observations, to seek out one's own information, to make contact with others working on related problems.

Creativity: the tendency to mull over glimmerings of understanding, to toy with ideas, the tendency to turn things over to the unconscious when all the preparation that can be done has been done, and then to engage in activities which permit new ideas to come to the surface, yet remain sensitive to good ideas on the fringe of consciousness, springing on these and shutting off one's other work when they occur.

Tendency to engage in integrated thought — action — feedback strategies in order to generate effective action — rather than distinguish sharply between practical and intellectual activity and believe that one is more satisfying than the other.

Willingness to tolerate the anxieties which arise when one is not sure if one is doing the right thing or going about it in the right way. Knowledge that these anxieties pass and that things tend to turn out alright in the end.

Willingness to tolerate the frustrations which arise when one tries to do something new. This is achieved as a result of repeated experience of having gone through the frustrations and arrived at important goals.

Tendency and ability to set up win-win relationships with others. Instead of subjectively defining all situations as competitive, as situations in which if one person gains another loses, to develop a tendency to seek ways of defining situations such that both people involved can work toward the achievement of their goals.

Tendency to utilize experience and use one's own skills and abilities in an effective fashion.

Tendency to sift the urgings of others for useful information, but to discard other suggestions and injunctions and to modify others; in the end to rely on one's own judgement.

We will discuss these components of competence more fully in Chapter XXIV. Here it is sufficient to emphasise the motivational nature of these characteristics and the fact that, as Piaget observed in *The Nature of Intelligence* (1950), they seem to break down into a set of values and a set of components of competence.

It is also worth drawing attention to one other conclusion which seems to emerge from the examples we have discussed, and which will again be developed more fully in later chapters. Although the human resource characteristics we have mentioned involve valuing different end states and courses of activity, the competencies required to reach these goals seem to be much the same. The corollary would seem to be that, if learned in relation to any *one* goal, it should be possible for the individual to transfer them to the pursuit of any other goal he later came to value, whether that goal is communicating effectively, working for the good of the community, showing consideration for others, dominating over others, or building a warm, friendly society.

In order to begin to set the stage for what is to come later, it is important at this point to emphasise that, in drawing attention to the motivational nature of these human resource characteristics, and in breaking them down into a values component and a set of efficacy components, we have followed a procedure developed by McClelland (1958) from a very different starting-point. However, it is also important to emphasise that researchers who have followed McClelland have not always recognised that, when using his procedures to assess the "strength" of motivational dispositions, one first asks "What does this person value?" and then goes on to ask "In relation to those values, how many of the components of competence does he show a spontaneous tendency to display?" Thought about in this way the framework originated by McClelland and his co-workers seems to be much more open to further development.

Before concluding this introductory discussion of the components of competence we may highlight one more conclusion which seems to be emerging. This is that a remarkable number of the components seem to involve sensitivity to one's feelings. We may therefore ask whether, if pupils are pushed about, and dragooned through 'courses', they are likely to develop this type of sensitivity. It may be this tendency of our educational system to encourage pupils to suppress their feelings that has led so many creative people to remark that it took years to recover from the dysfunctional buffeting with 'facts' which they took in the course of their formal education. Gone are the days when even the undergraduate had time to read, reflect, and dream at will. Perhaps it is time that this (apparently essential) part of education was restored. Perhaps, indeed, it is time that it was emphasised by building it explicitly into the curriculum.

Implications for Innovation in Relation to Evaluation Systems.

We may conclude our discussion of the implications of our study of teachers' and pupils' perception of educational objectives by making one more comment. It would seem that, up to now, teachers have not been aware that their fellow teachers and their pupils attached so much importance to the objectives in groups two and three in our list in Chapter XIII — those concerned with the development of character and values — and wished so strongly to do more to achieve their goals in this area. By making teachers aware that their colleagues want to do more to achieve these character-development goals, our data will probably encourage teachers to pluck up the courage to insist that they are given an opportunity to do more to achieve them. If it does, it will probably have the effect of not only encouraging teachers to innovate but also of leading them to wish to evaluate the relative merits of alternative innovations and to demand recognition, for both their pupils and themselves, for having worked toward these goals. The most important form of recognition in the educational world is, of course, recognition on examination certificates. As data to be presented later will show, few teachers at present think that examinations should be concerned with evaluating progress toward character-development goals. But the teachers who do think that exams should be concerned with assessing attainment of personality and character are very dissatisfied with the current examination system. We can therefore predict that levels of dissatisfaction with the examination system will increase rapidly. School examinations were introduced in order to ensure that teachers paid attention to the educational goals which society had decided were the most important. It is clear from the data we have presented that examinations are currently not performing that function very well. Let us be clear about this. Examinations are, as was originally intended, controlling teachers' behaviour very well indeed. What is wrong is that, because they do not evaluate progress toward the goals which most people believe to be the most important, they are directing teachers' and pupils' behaviour away from those goals rather than toward them. As the pressure for accountability grows in the wake of dissatisfaction with the educational system, one can expect pressure for change in the examination system to build up rapidly. Unfortunately, as the data to be presented later also shows, one would predict that much of that pressure will be misdirected.

Chapter XIV

VARIANCE IN PUPILS' PERCEPTIONS OF EDUCATIONAL OBJECTIVES

Although, as we have seen, teachers did not think that educational objectives should vary much from the more to the less academic pupils, pupils' perceptions of the importance of the objectives did in fact vary with their values, their interests, their backgrounds, and, in particular, with their perceived destination in society. We may briefly anticipate the conclusion to this chapter by saying that pupils' backgrounds turned out to be less important determinants of their felt needs from education than the jobs they expected to enter. The data therefore provides one of the best examples of anticipatory socialization so far known. Its implications for enrichment programmes are considerable; the problem facing educationalists is not so much to correct for differences in pupils' backgrounds as to provide an educational programme suited to the variety of pupils' destinations.

School Type Differences.

A detailed analysis of the data Raven (1975) revealed that, contrary to the conclusions of workers in related fields in the past, social origins were less closely correlated with pupils' felt needs from education, and their reactions to education, than was school-type (or whatever led certain sorts of pupils to find their way into certain types of schools). There were marked differences between the views of pupils studying in different sorts of schools. These differences were not due to the pupils' social origins, although some of them were directly related to their aspirations. Nevertheless they may have been due to other differences between the pupils studying in different types of schools rather than to an effect of the teachers in the school or the other pupils studying there. (In passing we may comment that these results may lead one to consider a new interpretation of the well known differences between schools in rates of illiteracy, delinquency and truancy. This variation has hitherto been attributed to variation in the pupils' background and the quality of the provision. Perhaps the relevance of the courses to the pupils' future needs has more to do with such expressions of discontent).

Social Class Differences.

In contrast to these strong and consistent school-type differences, most of which held for both sexes, the picture emerging from our study of relationships with social class was much less clear. Nevertheless, although there were many exceptions, a fairly consistent picture did emerge. Both origins and anticipated destinations seemed to affect pupils' responses, and to do so in a fairly consistent way: by and large if those who came from certain social classes emphasised some objectives more than others so did those who, while coming from other backgrounds, were bound for those destinations.

Pupils from low status backgrounds, regardless of their aspirations, and pupils bound for those destinations, regardless of their origins, fairly consistently attached more importance to, and thought more should be done to achieve, moralistic objectives like providing rules for their behaviour, teaching them about right and wrong, providing sex education, and teaching them about the implications and responsibilities of marriage. Girls bound for these destinations were particularly likely to emphasise these things. Similarly, pupils who came from, or who were bound for, such occupations stressed the more traditional goals of education more than others; facilities should be provided for homework, one should learn to be at ease with figures and numbers, and one should work for examinations.

Pupils who were bound for high status positions, and particularly those who came from high status positions, were more likely to emphasise, and think more should be done to achieve, the character-development goals of education which involve the development of independence, responsibility, the ability to get on with others, and the tendency to think out what one wishes to achieve in life.

In spite of this tendency for pupils bound for high status positions to emphasise these things more than others, markedly upwardly mobile pupils were less inclined than their peers, of either origin or destination, to emphasise these goals, as well as others like being introduced to new subjects, to aspects of subjects not required for the examination, and to a wide range of cultures and philosophies, speaking well, and having opinions of one's own. Upwardly mobile pupils seemed to be more concerned than anyone else to cut out the frills of education and concentrate on getting examination certificates which would enable them to reach their goal. However, presumably as an aid to reaching their goals, they were more likely than others to emphasise the need for guidance services.

Pupils from high status positions who were also bound for such positions stressed the "luxuries" of education more than any other group of pupils.

Implications.

Taken as a whole the results form a complex picture. This suggests that any attempt to cater for the variety in pupils' felt needs primarily by structuring limited variety in educational programmes along the lines of either background or aspiration would be likely to do injustice to very many pupils: It would seem that individualised instruction, in which education is geared to the needs of particular pupils, is required. Nevertheless there are many strong indications that, when one is considering the sort of course a pupil will find appropriate, it is as important to pay attention to his aspirations as to his background.

We may conclude this section by asking whether our tentative finding that the well-known value correlates of social class and occupation are acquired prior to entry to those occupations — and not, as Kohn (1969) suggests, as a result of experience in those positions — has any educational implications. It will lend weight to this discussion if, before embarking on it, we report that Ryrie (1975) also found that the attitudes which characterise craftsmen were well established *before* boys entered their apprenticeships.

If these value differences are not merely dependent on home background and occupational experience, the pattern of socialization we are dealing with is more complex than has been realised. Furthermore the attitudes themselves play a more basic and fundamental role in organizing pupils' lives, perceptions, and expectations than has been thought. Either pupils first acquire these values and attitudes and then seek an occupation which is consonant with them or they, very early in life, make a fairly firm choice of occupation and then both develop values and attitudes which will be functional in that occupation and assess and filter what goes on in schools against that decision. Either way, the values and attitudes are much more fundamental and functional than many people had suspected. It is clear, therefore, that they are also likely to be much harder to influence. But not only will they be harder to influence. There is also much more room for debate about whether one would be justified in *seeking* to influence them (through 'enrichment' and 'remedial' programmes, for example). The data therefore lends considerable support to the argument of those who suggest that the key tasks confronted by educationalists are, firstly, to help pupils to clarify their values and objectives and then to provide educational programmes which will help them achieve those objectives, and, secondly, to evolve educational institutions which will permit people to change the pattern of their knowledge, skills, and attitudes as their aspirations change.

Chapter XV

RESULTS FROM OTHER POPULATIONS SURVEYED: THE BRITISH STUDIES, ESPECIALLY OF PARENTS AND EX-PUPILS

In this chapter we will add some British data to the results we have discussed. In particular, we will add the views of parents and ex-pupils.

Table 2 summarises some of the results from the many populations we have now surveyed.

There are a number of observations to be made about this table. The general British trends will be discussed first and the Irish divergencies later.

Vocational and Utilitarian Content of Education.

As we have already seen teachers do not share the pupils' orientation toward the more narrowly instrumental, utilitarian, and vocational aspects of education. This difference is more marked in Britain than in Ireland. In both countries the orientation is shared by 15 to 17 year old leavers. What we can now see is that, in Britain, parents go along with their children, and that the Irish teachers' position is much nearer the pupils', and particularly their own pupils, than the British teachers'. However, to some extent, the data suggest that the teachers are correct in their avoidance of vocational and utilitarian objectives: there is a marked drop in desire to be taught things of direct use in one's job among the 20 year-olds — particularly among those who left school at 17. However 57% of ex-sixth formers who went into jobs rather than into further or higher education thought that it was very important for the VIth form to teach people things of direct use in their jobs. It cannot be too strongly emphasised that pupils view education as placing a major emphasis on vocational preparation, and this fact must be taken into account in developing courses which pupils find relevant and involving. Even if the teachers are correct in their perspective, it is important for them to make it clear to both the pupils and their parents that whatever they are teaching is of more value in the long run than directly usable vocational skills. Unless this is done it is clear that many of the teachers will be defeated in the achievement of their objectives and will, in fact, encounter the discipline problems which so many of them fear with the raising of the school-leaving age.*

Examination Performance.

As far as examination achievement is concerned, the results are doubly interesting. In the British study only two thirds of the fifteen-year-old leavers thought that these were very important, compared with some 85 per cent who thought that school should teach you things that would be of direct use to you in a job or help you to get as good a job or career as possible. Seventeen-year-old leavers placed much more emphasis on examination results, putting them second top in the rank order. The parents of both groups viewed examination results in much the same way as did their children! Parents of 15 year-old leavers did not attach such importance to them, but for parents of 17 year-old leavers they were the overriding objective of education. The twenty year olds who left school at 17 attached less weight to them than did their contemporaries at school. The British teachers, on the other hand, placed examination achievement *lowest* in their list of objectives. Small

*The Irish school leaving age has recently been raised to 15.

TABLE 4
Percentage Saying Aim 'Very Important'

QUESTION	British 13-16 yr. olds intending to leave at		British VI formers		Irish 14-18 yr. olds Boys Girls		British 20-year olds who left school at From the VIth form		Parents of British 15 yr. old leavers		British Teachers for VI formers		Irish Teachers for: more academic		Irish Heads for: less academic		British Heads for 15 yr. old leavers		
	15	17			Boys	Girls	15	17	15	17	yr. old	leavers	yr. old	leavers	more less	academic	more less	less academic	for 15 yr. old leavers
Teach you things that will help you get as good a job or career as possible.	87	89					86	71			88	87	47					28	
Teach you things that will be of direct use in your job or career	81	72	44	59	64	69	41	38+	78	69	33	27	47	49	55	57	14		
Help you to do as well as possible in examinations like GCE or CSE (Leaving Cert., Inter Cert.)	67	86	72	76	69	66	60	49	70	93	19	80	38	68	68	76	19		
Ensure that you can express yourself clearly in writing	72	68	56	45	46	87	87	70	91	91	63	85	80	82	81	84	62		
Run clubs that you can go to out of school hours	27	28			49	51	39	47			69	46	52			48	47	44	
Make sure that you are confident and at ease when dealing with people	64*	54*	47	46	63	63	52	48	78	71	72	61	64	75	77	78	87		
Encourage you to develop a considerate attitude toward people			32	45†	66†									77	78	88	86	92	
Teach you things that will be useful when running a home; for example, bringing up children, home repairs, decorating	68*	32*	10	27†	37	62	20	12	55	20	49	9	20	35	41	55	46		
Help you to know what's going on in the world nowadays	39	32	33	39	60	53	54	51	62	60	63	65	65	75	67	75	64		
Help you to develop your characters and personalities	46	41	59	68	83	52	65	68	57	56	92	85	89	93	92	91	96		
Ensure that you can speak well and put what you want to say into words easily	68	55	55	65	77	79	75	70φ	89	87	87	77	77	89	88	85	96		
Teach you about rates, taxes, insurance etc.	81	64	25	26θ			82	52	36θ	76	48	59	16	34	42θ	46θ	53		

+This figure is much higher for those who go into jobs. *There are large sex differences on these items. θPilot data. †There is a significant difference between 15-16 yr. old leavers and others on these items. φDemand increased much more among those who did not go to university.

ϕ N.B. This applies to all groups -and the increase over VI formers to all 3 R.s.

wonder that pupils and parents seem to be in conflict with the school over the question of examinations. Irish teachers are much more in agreement with their pupils in this matter, perhaps because the examinations are more generally thought to be applicable to the entire age cohort, but, even so, Irish pupils consider examination achievement to be still more important than do their British peers.

Character and Social Skills

In both Britain and Ireland teachers are more likely to be concerned about social skills than parents or pupils: indeed the aims which were most frequently rated as "very important" by the British teachers were:

Help them to develop their personalities and character (92%)

Help them to speak well and easily (87%)

Help them to be independent and able to stand on their own feet (86%)

It will be recalled that similar results were obtained in Ireland. The fact that pupils and parents do not often see these as an important function of the school may be due to a feeling that these things would happen automatically if the pupil left school and got a job.

On the other hand, the pupils seem to feel that at present the schools do these things extremely badly. In the British study, almost three-quarters of 15 year old leavers said "You get fed up with teachers telling you what you can and can't do" and over half said that "Teachers forget you are growing up and always treat you like kids". A further 30% of those who had anything else to add, when asked at the end of the interview if there was anything else they would like to say about their school, said that there are too many restrictions, petty rules, and the like. While this may be due to the cramped conditions under which teachers work, it again seems that, if teachers are to achieve their aims, they will need to rethink their methods.

British pupils' reactions to clubs and societies may be in part due to the sort of things we have just reported concerning their feelings about restrictions, rules and so on. However their reactions may be based on not understanding the objectives of clubs and societies as seen by the teachers and discussed in Chapter VII. The parents, on the other hand, may value clubs and societies as a means of getting their children out of their way and keeping them out of mischief. But, whatever the reason, it is clear that if pupils are to attach any great importance to attending clubs and societies they will have to find them of real interest or understand more fully what they are about.

Civics and Social Studies

It seems that teachers are right to think that it is important to teach 15 year old leavers about what is going on in the world (presumably with the right political slant), because the percentage who rate it "very important" goes up among the 20 year olds, among ex-VI formers who go into jobs, and again among the parents.

However, 16 year old pupils, sixth-formers, and ex-VIth formers who are at university, do not perceive it as much more important than do 13 year olds. These results suggest that it is contact with the outside world and not age *per se* which

leads to a recognition of the importance of this kind of education. It seems that, if this education is to be successful, pupils will somehow have to be confronted by the sort of problems that 20 year olds and parents encountered if they are to appreciate education of this type.

These conclusions are supported by results obtained by Bromsjo (1965) in Sweden. Bromsjo administered achievement tests to 1133 ex-pupils aged 20-30, and 1598 school pupils at secondary school. There was a considerable increase in civics attainment since leaving school. 18 areas of civics were rated for importance by the ex-pupils, who were employed in a wide range of different occupations. The correlation between the rank-orders for the different occupations was .9, indicating that civics is a general mind-broadening subject, not confined in its utility to any one occupation or having differing useful content from occupation to occupation. While gymnasium scientists (equivalent to sixth form college scientists) regarded the humanities as mind-broadening and complimentary to their own subjects, students taking the humanities did not so regard the sciences, thus confirming our own results.

The 3 Rs.

From the British data it seems that the importance of being able to put things in writing easily, like learning about what is going on in the world, is more likely to be recognised after one had left school. There is a dramatic increase in emphasis on this, and on oral expression and feeling at home with figures and numbers, among ex-sixth formers.

However, the lack of stress on the former, and the greater stress on the latter among Irish pupils demands some form of explanation. Perhaps written materials are less important, and personal relationships more important, in Ireland. This hypothesis is supported by the greater stress Irish teachers and pupils place on being confident and at ease when dealing with people and developing character and personality.

Things Useful in Running a Home: Some Pupils Think it is Important.

If one looks at the figure on wanting to be taught things that would be useful in running a home, we encounter further evidence that there are different groups of pupils who want very different things out of education.

At this point it may be interpolated that the need to run a range of different sorts of course to cater for these different groups is highlighted by Gans' (1967) sociological studies of Levittown, U.S.A. What clearly emerges is that very many people do not want — indeed will not tolerate — a type of education that many egalitarians and intellectuals regard as "best" and would like to be available to all. Many people do not want their children to learn things which will cause them to grow away from them, or which make for geographic or social mobility. Many do not want them to become "clever", erudite, or learn creative skills, or to start, at age five, learning social skills which *will* be of use to them in later life. Yet although the majority do not want it and will not tolerate it, it is important that some people receive this type of education, because society needs *some* people who have been through such a course. Thus the egalitarian-comprehensive philosophy needs to be examined very carefully indeed — which is not to say that there are not other forms of comprehensive philosophy which recognise this problem. As we saw in Chapter IV, there are indeed such versions of the "Comprehensive Philosophy".

Chapter XVI

SUMMARY OF PART III

We have reviewed some British and Irish studies of teachers', pupils', ex-pupils', parents' and headmasters' perceptions of educational objectives and the success with which these objectives were thought to be attained. We found such large differences of opinion between teachers and headmasters on the one hand, and pupils and parents on the other, that it is difficult to see how *any* educational objectives can be pursued effectively in the conditions currently prevailing in schools. At one level the differences suggest that teachers will have to restructure their courses and explain their goals more effectively to pupils and their parents if they are to achieve them. But on other levels the differences suggest basic differences in value orientations between teachers and many parents and pupils; many parents and pupils may, quite rightly, given their circumstances and environment, not value personal independence, social mobility and "cleverness". Thus one of the major problems confronting educationalists is to run a *range* of courses suited to the needs of different pupils who come from different backgrounds, have different values, interests and abilities, and, in particular, who will perform different roles in society.*

In spite of these differences, there was also substantial agreement between pupils, parents and teachers that many of the most important objectives of education receive only scant attention in the classroom. Yet the qualities teachers neglect to develop are the qualities which most determine the vigour of a nation and the human resources which it can call upon. They are qualities of character. They include things like willingness to think for oneself, to be original; willingness to notice the need for innovations; confidence that one has the ability to initiate such developments; willingness to persist at a challenging task; desire to seek out such tasks; willingness to entertain new ideas; willingness to *use* such intelligence as one possesses; willingness to set about adapting the environment to one's needs rather than lower one's objectives to conform to what the environment easily provides; and willingness to do things oneself rather than leave things to others; to be master of one's destiny rather than a pawn of fate.

Most of these qualities are self-motivated, pro-active, rather than reactive characteristics. They are quite different from the sort of reactive characteristics most commonly taught and evaluated in classrooms. As such, they require quite different educational inputs to develop them and quite different evaluation procedures to assess their growth. If they are to be attained, teachers need to be able to be more precise about what is to be attained, how it is to be attained, and how to find out whether they have attained it.

Nevertheless the shared concern of teachers, pupils, and parents, with these goals suggests that the way is open to experiment with new ways of achieving them and with new ways of evaluating the results; teachers who try to innovate can count on the support of others if they explain what they are trying to do and why they are trying to do it.

*The reader may care also to refer to the work of Musgrave and Taylor (1969). These authors collected similar data to that which we have discussed, obtained similar results, and derived similar conclusions. In particular, they showed that teachers thought parents believed the goals of education to be even more divergent from their own point of view than in fact they were, and concluded that educational authorities should provide a much wider range of programmes, with explicitly different objectives and methods, and that parents and children should then be encouraged to choose between them.

Yet we still have a basic question to answer: what are the most important goals to be attained in this area? What are the second 3-Rs of education? And how should they vary from pupil to pupil? We have indicated that teachers and pupils are not the only people who should have a say in this matter. By definition they cannot make direct contact with the values, skills, attitudes and competencies which are required to live in different sectors of society.

In our next two chapters we review some other data which helps to answer these questions.

Part IV

OTHER SOURCES OF INSIGHTS INTO EDUCATIONAL PRIORITIES

Chapter XVII

ANALYSES OF JOB AND LIFE STYLES

In Part III we sought to make some progress toward clarifying the goals of education by summarizing the results of surveys of teachers', pupils', ex-pupils', parents' and headmasters' perceptions of educational objectives. We also looked at their assessments of how effectively the educational system currently achieves these goals. Yet, in relation to both these questions, the data available to us consisted of subjective impressions only. Are there any other ways of obtaining data, perhaps more "objective" data, which would help us clarify educational objectives, to assess the success with which these goals are being achieved, to assess the relative merits of different types of course, and the social and psychological consequences of people having developed different competencies, perceptions, and expectations as a result of their formal and informal education?

One way of bringing educational objectives to the forefront of discussion is to find out what pupils and students actually *do* in their jobs and lives after they have left school or university. It seems that absolutely basic data which should be available when developing educational programmes, is some knowledge of how people people in all walks of life spend their time and what they are called upon to do — both in their jobs and in their lives out of work. It seems essential to know what different patterns of life satisfaction and frustration different people experience, how education has contributed to these, and how new types of educational programme could reduce some of the frustrations. The phrase "different patterns of satisfaction and frustration" is meant to imply that one person may obtain satisfaction from one set of things and be frustrated by another set, while another individual will manage to deal with *those* frustrations yet be thwarted by other things. The phrase is also meant to imply that we live in a pluralistic society where we are not educating the public but the publics; it is meant to imply that there is *not* one set of objectives of education, but several sets, geared to the needs of the various groups which make up the population. What we really need, therefore, is a full socio-technical analysis of the *lives* of people in various walks of life — and we do not have this information.

Full socio-technical analyses would involve discovering with whom people interacted, with what groups of people they interacted, with what technology they dealt, and how much of their time was spent dealing with these people, systems and technology as individuals and as members of a group. The research would go on to document, in detail, the problems encountered and the satisfactions obtained in each of these settings. Analysis of the problems should reveal the knowledge, skills, attitudes and competencies that the particular individual would need to acquire if he was to deal more effectively, as an individual or as a member of a group, with the social and technical systems which he encountered in his everyday life. It should also, of course, reveal the ways in which those systems should be changed in order to enable ordinary people, who have not acquired new values, attitudes, skills and knowledge, to operate more effectively. Preliminary data of this sort, which is, indeed, extremely valuable in precisely these ways has been reported by Raven and Dolphin (1976), but will not be summarised because of its recency.

More limited, but still useful, studies could be concerned with collecting 'critical incident' material. In such studies, people could be asked to list some of the problems they had encountered in the course of their lives at home or at work but had overcome. They would also be asked to describe these problems in some detail, including what led up to them and what they did in order to overcome them.

Negative instances would also be elicited; i.e. people would be asked what problems they had encountered that they had not been able to overcome; to state in detail what the problems were, what led up to them, what they did to try to counteract them, and the personal characteristics which they felt to be lacking in themselves in relation to these problems. As predicted, the data of this type collected by Raven and Dolphin does indeed reveal areas in which new educational programmes are required.

Yet another alternative would be to select particularly important groups within the total population and make full socio-technical analyses of their way of life — at home as well as at work. It may be noted, too, that if such studies were carried out in a number of societies, they would serve to highlight differences between these societies: differences which seem all too often to be overlooked when societies seek to adopt educational systems or curriculum developments from other countries.

It would seem absurd to even begin to plan an educational system without data of the sort just mentioned. We do not have it. What research do we have?

Occupational Destinations of School Leavers

Although we do not have anything like all the information we need, we did, in both British enquiries summarised in the last part of this book — i.e. those which involved interview surveys with 13–16 year olds and sixth-form students — find out what had happened to the school leavers. This material is too complex to be adequately summarized here, but one or two of the findings may be highlighted and their educational implications explored.

Firstly it was found, and this is a very significant finding for the education of girls, that half the 19–20 year old women who had left school at fifteen were engaged or married. One third of them were in fact already married and one fifth had started their families. As a result, a quarter of all the women who left school at fifteen were not in paid employment but were looking after families.

A quarter of the men who had left school at fifteen had (as they had expected when they were at school) taken up employment in building and construction; most had become carpenters, painters, electricians, plumbers and odd-job men. A quarter were in factories working as assemblers, packers, machinists and storekeepers. Many were working in car maintenance, driving, and allied occupations. About one in ten had taken up a service job such as a bus conductor, shop assistant, or hairdresser. Only one in twenty went into clerical work.

In contrast, 20 per cent of the girls had entered clerical work and a further 10 per cent had become secretaries or shorthand typists. A fifth went to work in factories, and 10 per cent took up shop work.

What were these ex-pupils doing in their jobs as householders, storekeepers, carpenters, clerks, packers, secretaries, and shop assistants? We do not know exactly. But we may guess, and the comments of some of our ex-pupils will help to guide our guesses. However, it is worth drawing particular attention to the relatively small number who went into routine factory work. Teachers who feel that they are preparing their early leavers to become industrial machines seem to have an unnecessarily jaundiced view of the world. On the other hand few, too, were the boys who went into clerical jobs where the sort of literacy skills so much stressed in most schools would be very important.

Most seem to have taken jobs which were likely to carry a considerable amount

of responsibility and provide a fair degree of independence. One expects that most of our ex-pupils would be called on to exercise a number of high level competencies. They would be called on from time to time to try to understand an overall social process and work out their part within it without having to be given detailed directions, to be willing to play that part responsibly without having to be told to do so, to make decisions, to take initiative, to forecast the direction in which things were going to move, to exercise discretion, to work with others, to share leadership responsibility for achieving joint goals, and to notice and take steps to deal with organizational problems which prevent individuals giving of their best to achieve joint goals. In our educational programmes we provide very little training in many of these skills; we do not encourage forecasting, planning, inventiveness, initiative, or decision-taking. Least of all do we encourage group activity or the development of leadership or 'followership' skills. Indeed we shy away from the encouragement of such qualities. We categorise anyone who talks about developing leadership or managerial skills as an elitist, although, properly understood, these skills are functions in which everyone has to share and which everyone has to develop. They involve taking on oneself (instead of leaving to others, such as the appointed 'leader') responsibility for bringing pressure to bear on people who are, by their actions, preventing a group from achieving its goals, and for clarifying hidden hostilities, misunderstandings, and private agendas which are preventing the members of the group working together as effectively as they might; they involve dealing with organizational or psychological problems which prevent members of a group contributing as much as they might to the attainment of the group's goals; they involve the ability to listen to what people are saying and deal with what lies behind 'irrelevant' grumbling. Our society as a whole has not recognised that 'followership' is an important competence involving much more than simply following directives. It is a competence which involves an ability to work out one's own picture of an overall social process from scraps of evidence gleaned from piecing together apparently unco-ordinated things happening here and there, a spontaneous tendency and an ability to work out what one's own part in the whole should be, and the tendency to assume the responsibility for taking the initiative needed to play that part, monitor the effects of one's actions, take effective corrective action when necessary, and get others to play their part. Our society as a whole refuses to recognise that most decision-taking involves processes which are non-quantifiable and non-linear, that it is multi-dimensional and not reducible to one basic (e.g. economic) denominator. Good decision-taking involves simultaneous consideration of many more factors than those with which poor decision makers tend to become preoccupied. Many people involved in education refuse to recognise that in the real world decisions have to be made on the basis of incomplete information, that making good decisions involves making good forecasts and judgements, initiating action, observing the effects of that action, learning more about the situation as a result, and taking effective corrective action when necessary.

Where do we help our pupils, whether they are to be housewives, clerks, or building-site workers, to notice that they have the ability to be good decision-makers, innovators, co-ordinators of group activity, managers and communicators, and where do we help them to develop these competencies?

So far we may be accused of imputing to daily life high-level skills which are not in fact required. But these were in fact precisely the things that our ex-pupils found to be the important and distinguishing characteristics of their work compared with their school. They were also the things that the pupils at school wanted to see incorporated into school life. The pupils wanted the trust and responsibility which they correctly perceived they would have when they started work; they wanted to be treated with the respect they knew they would get if they left school; they wanted

to make their own decisions — as they knew they would have to. Those at work added that it was worth trying to make the *most* of oneself, to develop one's strengths: at work — unlike at school — it was appreciated: The ex-pupils did not have to do that which they could not do and they were not made to feel inferior because of it. They could do a job that they liked doing all the time, instead of all the other boring things teachers made them do at school. The work *was* varied and interesting — just as school was routine and boring — and they enjoyed exercising their diverse talents.

How can one develop these things in school? At one level the answer is obvious; either import these tasks into schools or ship the pupils out of school. At another level there seems to be great scope to develop educational games and simulation exercises which will enable pupils to perfect higher level skills than they would normally acquire by being thrown into work situations which were not primarily designed to be educational.

One may make one or two further comments on the implications of these results. Since the vast majority of pupils said that they had found jobs they liked doing, that enabled them to build on their strengths, it is clearly not true to say, as teachers are so fond of saying, that pupils have to get used to being bored, that they have to learn to accept a position of failure, or that they cannot expect to be able to develop their strengths. On the contrary, while pupils mostly feel failures at school, they feel successes at work; schools clearly need to encourage pupils to make more use of their varied talents and to encourage all pupils to develop their strengths, thereby developing a wider range of more able and distinctive pupils.

In spite of the overall picture given by our results, one quarter of the 20 year olds who had left school at fifteen and were working in factories, *were* dissatisfied with their employment, a fact which, once again, emphasises the need to equip them with the real skills they need — planning skills, self-confidence, initiative, ability to learn without instruction — if they are either to move themselves out of their jobs or set to work on the social environment of factories in order to make that environment less like school and more suited to their needs.

As far as the men were concerned, it is also significant that 62 per cent of the 15 year old leavers had taken some form of further education, mostly by day release or evening classes.

Although we were in the Irish study unable to interview ex-pupils, we did ask pupils at school what they hoped to do. The distribution of the jobs and careers they hoped to enter was very similar to the distribution obtained in England. However, the study provided a number of results which deserve to be reported. For example, 56 per cent of boys expecting to enter manual work intended to stay at school until they were seventeen and 24 per cent until they were eighteen. What educational programmes are being provided for them? What would be appropriate? Our discussion above seems highly relevant; indeed, it seems imperative that students be offered the sorts of courses we suggested.

Further Analyses of Job and Life Styles.

As has already been indicated, although it would be highly desirable to have job analyses for all sorts of different jobs and professions, we just do not have this information. In the absence of this information we can only use our common observations. The author worked for a time in a laboratory which employed physical, as well as social, scientists. As a result he would offer the following tentative description of the critical features of the job of a physicist. He suspects that if a more thorough analysis were carried out the following pattern would be found to be fairly general.

An effective physicist seems to need to be able to do the following things:

- 1 He is required to *notice* that there is a problem in a particular area which requires investigation — such as, for example, to describe air movements in rooms.
- 2 He is required to invent a way of investigating this problem. He has to *invent* a method of observing air movements in rooms. This is not as easy as it might sound because once one has filled a room with smoke it is just full of smoke and you can't see it moving. Then he has to *invent* a means for *recording* these air movements; still photographs won't do, nor will moving ones — since you might just as well look at the smoke as at pictures of smoke!
- 3 Then he has to search around for a way of summarising his data — by means of a mathematical model, for example. In order to do this, he has to know of the *existence* of a wide range of mathematics. However, since he himself could not possibly know all possible mathematical systems in detail, there is little point of his knowing a sample of them thoroughly. *What* mathematics should be taught, *how* and to what end, poses a knotty problem to which we shall return later. But it is very important that he know how to go about finding the ones that are relevant and how to go about finding out more about them.
- 4 He has to be able to write up his research — without a model study to follow.
- 5 He has to convince his committee that further research is worthwhile.
- 6 He has to organise his research team and prevent its members from warring with each other.

We may note that many of these things involve sensitivity — to feelings, ideas, and other people — and that they also involve the ability to translate these feelings into effective action.

Where in our physics courses do we teach people to do these things? And how little of what is taught is of use! There is indeed much scope for generalising the basic course (albeit in a way which is not usually implied when that term is used) and to prune and particularise the vocational part of the course.

It would be useful to have accurate work studies of the jobs of scientists, managers, executives, and, indeed, of all professional groups. On the basis of these we would be able to make a worthwhile reorganisation of our educational system. It is not meant to imply that we should make our university courses into vocational training. Far from it. But the courses should be relevant to *something*: and we should make a point of

- cutting the dead wood out of courses (of which there is a large amount)
- imparting the necessary knowledge and attitudes through precisely designed and carefully programmed courses geared to explicit objectives
- teaching *generally* useful attitudes and skills, particularly social ones.

Need for a More General Analysis of Life Styles

Socio-technical analyses of the way of life — including life outside work as well as at work — of a cross section of the community that were mentioned earlier would enable us to achieve the goals just listed much more effectively. From such analyses it should be possible to find ways of making satisfactions which are at present confined to one section of the community available to all who wished to avail of them. Of course this raises, once again, the question of variety of courses and choice in education. People cannot be said to have real choice in education until they can be presented with a number of basically different courses, told what the consequences of these alternatives will be, and given the option to choose. The documented consequences should include information about the differential pattern of life satisfaction and frustration which each of alternatives will lead to, as well as short term consequences in terms of examination attainments at the time of schooling.

Particular Need for Studies of Social Innovators

As was mentioned earlier, we are unlikely to be able to start a socio-technical study of the lives of the population as a whole all at once. It was suggested that some groups of people seem to be of particular importance in the development of our society, and might be singled out for attention at an early stage. One such group might be social innovators. It seems that we particularly need people able and willing to notice the need for social innovations (such as the social structural and educational innovations which are needed if we are to deal with unemployment) and able and willing to implement them. We could study the characteristics and backgrounds of people who have made such innovations in the past with a view to gaining insight into the types of educational programme which might be useful in their development. But we should take care to stress that it seems unlikely that we should help only a few people develop such competencies once they have been highlighted for attention as a result of such a study: changes are needed throughout our society and we probably need to do our best to make sure that everyone:

- seeks out a job in which he can play a worthwhile part in the community
- tries to do that job to the best of his ability
- notices the need for innovations, and makes efforts, supported by all those around him, to set up institutions to meet the new needs, and get people appointed to them who can devote the necessary time to these activities.

It is hard to think of a means whereby everyone could be active participants in government. It is relatively easy to believe that everyone could seek out worthwhile jobs, do them as well as possible, be continuously searching for possible ways of improving the world around them, and take steps to create the necessary institutions and appoint people to them in order to get those improvements implemented. It is relatively easy to believe that everyone could be prepared to notice communications problems (which tend to have major and unfortunate consequences) and be willing and able to talk to people in such a way as to be able to discover what the basic problems are and stimulate those involved to do something about them.

A study of leaders and innovators in this field should suggest important improvements that might be made to our educational system.

It is likely that such a study would highlight the need to do more to encourage everyone to act responsibly and with integrity in all areas of their lives; to take personal responsibility for unemployment, pollution, ugliness, waste, inefficiency, bad organisation and poor design; to do more to encourage people to discuss their ideas with others, to listen to what others have to say and to incorporate their suggestions into their own thinking; to do more to encourage people to support other people

in their activities instead of placing difficulties in their way; to encourage people to be honest with themselves, be prepared to admit that what others are suggesting really would be an improvement; and to encourage people not to take offence at well-meant and honestly expressed views of others.

At present our educational system provides very few opportunities to learn the social skills necessary to work with other people, to learn to listen to them and take what they say into account, to realise that they, too, have good ideas which they often cannot express owing to prior ideological commitments or other allegiances.

Not only does our education system only rarely provide opportunities to develop these competencies, it often provides 'role models' for the opposite forms of behaviour. It provides pupils with role models which stress non-consultation, that authority knows best, that authority is above criticism and which display an inability to yield to suggestions for improvement. The system also provides a syllabus which conveys the idea that all, or at least most, answers are already known and that the *first* requirement of the pupil is to learn what is known and be able to solve routine problems in routine ways. His task is to 'behave himself' and learn; not to think out his own moral standpoint, act according to his judgment, question and innovate.

More fundamentally, what has been said suggests that basic changes have occurred in the skills needed in society since the educational system came into being. We are saying that, at the time the educational system was developed, society was emerging from a peasant tradition into an industrial society, but that the characteristics important then are no longer those which are of the greatest importance in a post-industrial society. The bulk of employment is no longer in industry but in the service sector, and it is on the quality of this service sector — which includes insurance, hospitals, education, housing and the leisure environment — that the quality of our lives depends.

In contrast to an agrarian society with its disregard of time, its gearing of the work load to the seasons, its emphasis on sharing out the good things of life among kin to the neglect of strangers, and its emphasis on patronage as a means of securing 'good' jobs, industrial society required people who would work hard at boring jobs and who would come to work regularly, and bureaucrats who would follow rules impersonally rather than vary their behaviour depending on how closely they were related to the applicant, and who had attained a minimum competence in the 3R's.

In contrast to this industrial society — to the needs of which our schools still seem to be geared — modern society seems to need a work force which is prepared to work when work needs to be done, which is adaptable, willing to take on new tasks, willing to notice the need for innovation, personally concerned with reducing inefficiency, planning and the future, and willing to assume personal responsibility for correcting defects. It particularly needs bureaucrats, the number of whom has reached major proportions and the employment of whom extends far outside the civil service, who are willing and able to understand the purposes of the policies which they administer, who do not work to rule but are able to understand the plight of their clients and work out how best to meet their needs, and who possess a great deal of personal integrity in order to be able to vary their behaviour depending on intricate subtleties in the situation which confronts them. It requires bureaucrats who are flexible and responsible rather than bureaucrats who heavy-handedly apply rules, evade personal responsibility, and avoid taking decisions.

Summary

In this chapter we first discussed the need to make available to educational planners the results of much more detailed socio-technical analyses of the life styles of people following different walks of life.

We then turned to data obtained from 20 year old ex-pupils. Inadequate though this data was for the purpose for which we wanted to use it, it nevertheless suggested that it was vital for educationalists to pay more attention to structuring learning experiences designed to foster the ability to work independently, the ability to learn without instruction, the ability to build up one's own understanding of what is going on and one's own part within that scheme without having to have this pointed to one, the tendency to look for new and better ways of doing things (and the ability to introduce these effectively), and the ability to make decisions.

Although it was emphasised that general population data indicating the different life styles, offering different patterns of life satisfaction and frustration, which followed different educational programmes, and the pursuit of different life goals, was essential if one was either to design more appropriate courses or enable people to make more rational choices between educational programmes and life styles, it was recognised that this represented a relatively large research programme. One way of cutting it down might be to start with general population 'critical-incident' studies. Another would be to study particularly important groups in the population one at a time. It was suggested that social innovators might be an example of such a group. Furthermore, it was suggested that the 'role models' currently being provided by educators were probably inappropriate if one wished to foster the qualities required to perform well in the roles required in modern society.

In the next chapter we turn to such studies as have been made of innovators and those responsible for economic development. We will first look at the characteristics of such people and the distinctive features of their background and upbringing. Then we will explore the possible implications for education.

Chapter XVIII

CHARACTERISTICS OF OUTSTANDING INDIVIDUALS, THEIR BACKGROUND AND UPBRINGING, AND THE IMPLICATIONS FOR EDUCATION

We saw in the last chapter that a pre-requisite for the clarification of educational goals and the formulation of more effective educational programmes was better information about the competencies people need to develop if they are to lead their lives more effectively and better information about the characteristics of people who have made major contributions to society. In this chapter we shall review some studies of the characteristics of creative people and people high in 'need achievement': what sort of people are they and from what backgrounds do they come?

Characteristics of Creative People.

There have been a very large number of studies of creative people: whether scientists, engineers, architects, writers, historians or managers. Both adults and children have been extensively studied and a remarkably consistent picture has emerged. A selection of the relevant studies are those of Witty (1951), Lehman (1953), Cattell (1963), Mackinnon (1962), Taylor and Barron (1963), McClelland (1961), Torrance (1965), Crockett, (1966), Hudson (1966) and Barron and Egan (1968). These investigators have used a wide range of methods including clinical interviews, projective techniques⁽¹⁾, social survey interviews, biographical questionnaires, and personality tests constructed by factor analysis⁽²⁾.

Creative people (or, at least, people who are regarded as creative by their peers) tend to be highly intelligent, autonomous, self-sufficient, and self-directing. They tend to be resistant to social pressure, to be profoundly sceptical, and to take nothing on trust from authority. They are inclined to be strongly motivated to achieve in situations in which independence of thought and action are called for, but not in situations in which conformity is demanded or required. They are more likely than others to be introverted in the sense of being controlled, untalkative, and unsociable, but they are inclined to be self-confident in personal and social interaction and out-spoken, sharp-witted, demanding and aggressive. Nevertheless, they tend to dislike personally toned controversy. As a group, they like abstract thinking and have a very high tolerance for cognitive ambiguity. They are inclined to seek out situations in which they can maximise the subjective return on their own activities. They tend to be uninhibited in expressing worries and complaints — a fact

(1) PROJECTIVE TESTS include a wide variety of tests which differ greatly from one to another in their theoretical base, the degree of systematization in their scoring, and their construct and predictive validity. A common feature shared by most is that they sample the testee's spontaneous reactions to a given stimulus. The stimulus may be a picture, (which the testee is asked to make up a story about) or an unfinished sentence, which the testee is asked to complete. In McClelland's Thematic Apperception Test, also known as his Test of Imagination, testees are asked to make up stories about six carefully selected pictures. They are asked to say what led up to the situation depicted in the picture, what is happening, and what the outcome will be, and they are asked to say what each of the characters in the picture is thinking, feeling, and doing. In scoring the test a detailed analysis is made of the extent to which the characters do such things as make plans to reach their goals, anticipate obstacles to goal achievement, turn their emotions into their task, and plan to enlist the help of others to reach their goals.

(2) FACTOR ANALYSIS is a statistical device which, among other things, ensures that the psychological measurement scales concerned are unidimensional in the sense that all the items (which are, unlike projective test items, usually "closed" in the sense that they require the testee to select one from a number of pre-determined alternatives in order to indicate what his opinion is) which are supposed to measure the same characteristics are in fact correlated with each other. Personality tests developed through factor analytic procedures usually present a profile giving an individual's scores on each of a number of scales of established internal consistency.

which earns them high neuroticism and psychotism scores on psychological tests. They tend to be respected, rather than liked, by others.

In self-descriptions, MacKinnon's creative architects, more often than other architects, described themselves as inventive, determined, independent, individualistic, enthusiastic, and industrious. Control groups (i.e. less creative people) more often described themselves as responsible, sincere, reliable, dependable, clear thinking, tolerant and understanding.

Most of these results have been confirmed in studies of Irish managers conducted by Barron and Egan (1968). There were, however, one or two important exceptions which indicate the need to replicate work of this sort in other cultures. Although creative managers were determined and independent in thought and judgement, they expressed more fundamentalist religious beliefs than did their less creative peers. This is precisely the opposite of the findings in this area in the United States.

At school, creative individuals are inclined to be opinionated and disruptive. They tend to be disliked by their teachers and by their peers, and they are often not given credit for the important contributions they make to the development of other children. They generally work individually and do not easily subscribe to group goals. On the whole, teachers considerably under-rate them in grading although such students usually perform at least averagely on attainment tests. Revens (1975) has found that highly creative and innovative people who learn on their own tend also not to be dependent on their teachers' approval. They therefore neither seek out their teachers for instruction, nor in order to obtain their approval. People less able to learn on their own take up a disproportionate amount of their teachers' and superiors' time. Because of their lack of contact with their superiors, pupils who are better able to learn on their own are under-rated in assessments. At college their overall performance is about average, but it tends to be achieved by a combination of very high and very low grades; the results being dependent on their mood and interest. They are inclined to live solitary lives with almost no dating during adolescence.

At home, the child's parents tend to have an unusually great respect for him and confidence in his ability to do what is appropriate without instruction. No moral code tends to be laid down for the child: he is expected to develop his own, although the parents make it clear what their own standards are. The parents usually expect the child to act independently but responsibly. They expect him to make his own friends at an early age and know his way around town: they are less likely than other people's parents to decide who the child's friends will be. In spite of leaving an unusual amount to the judgement of the child, the parents themselves tend to provide models of hard-working, intelligent, and resourceful behaviour, and, more often than others, stress forthrightness, honesty, respect for others, pride, diligence and joy in work, and making the most of one's abilities. In addition, an exceptionally high proportion of the mothers lead active lives, often with interests and careers divergent from those of their husbands.

Implications for Education.

Many of these findings have clear implications for education if we want to foster more people like these 'creative' people. This statement is not nullified by the fact that, as we shall see later, the studies cited have examined only one type of creative person. They have looked at conspicuously creative adults and missed the "back room boys" who provide essential back-up for their better known peers. But this fact does not detract from the importance of the results which is underlined by

their marked consistency from study to study, from method to method, and from culture to culture. We do need some people of this sort in our society. The question is "how many?"

Perhaps we should not try to foster polite broadly-educated extraverts, but do more to encourage divergent points of view. Perhaps we should do more to encourage integrity, respect for truth (which means demonstrating a respect for personal truth in day-to-day life and a refusal to take part in the hypocrisies of our civilisation), pay more respect to our children's views and be more confident in their ability to do what is right without instruction from us. Perhaps we should do more to present young people with 'role models' of enthusiastic, dedicated, hard-working, forthright and honest behaviour.

All such suggestions are, of course, conditional. We may, in fact, need, not more creative people, but more dependable, reliable, tolerant, understanding people.

Of course we need more of both: what we need is an appropriate *balance* of different sorts of people; and we know very little about appropriate balances. Nevertheless, in spite of all the 'ifs' and 'buts', a first step toward a more effective educational policy would be to try to formulate a number of specific objectives. We have discussed one set of objectives. Another set can be derived from studies of the characteristics displayed by the sort people who appear to be mainly responsible for economic development when that occurs.

Characteristics of People Responsible for Economic Development.

A considerable amount of research has been carried out in connection with "need for achievement", a concept which bears a similar relationship to what would normally be understood by the phrase "desire to achieve" as does the concept "force" as used in physics and "force" as used in the everyday world prior to Newton. The correspondence is not that close, but is close enough to make communication possible. Some of the problems raised by the use of the term will be mentioned later.

What do we know about the people who both value achievement and tend to engage in the activities which will enable them to achieve effectively?

We will summarise the results of many studies below. However we should first caution that, in order to highlight the main points which have emerged, and deal with the material as briefly as possible, the qualifications with which one would wish to hedge the results have been omitted. These will be found in the detailed summary of the material provided in McClelland (1961). Here we may simply emphasise that few people display all of the characteristics which will be mentioned; there is simply a tendency for achievement-oriented individuals to be more likely to display them than other people.

Their Thoughts.

Highly achievement oriented individuals devote a great deal of their spontaneous thought to:

- thinking about how to improve on things: how to do things better than they have been done before, or how to do something unusual.
- making plans to achieve these objectives and anticipating obstacles to their accomplishment.

To this end, even when presented with such apparently frivolous tasks as making up stories about ambiguous pictures (see footnote on projective tests on page 106), they describe the characters in the stories as thinking about being innovative, making plans to achieve their goals, anticipating obstacles to the achievement of their objectives, and seeking help from others in the achievement of their objectives. In short, they can't conceive of anyone doing anything else.

Feelings.

Highly achievement-oriented people tend to:

- take a pride in having done things well, to positively enjoy it.
- anticipate the delight of achievement.
- experience unhappiness when not achieving.

Behaviour.

- They continually seek evidence of how well they are doing: they like, and seek out, tasks where they can see this happening. As a result they often find their way into businesses, where they can tell from their income how well they are doing, although they are not particularly interested in having the money to spend. In fact they will only work hard when a problem is interesting in its own right.
- Unlike other people, they will not work hard at a boring task for the sake of financial reward alone.
- When making plans they set realistic but challenging targets rather than targets which are either over-optimistic or easily attainable.
- They make full use of their experience and maximise feelings of success. Even when confronted with such an apparently trivial task as throwing rings over pegs when they themselves can decide how far away to stand from the peg, they tend to think "well, I'm not really an athlete, I have no experience of this task", and proceed to stand at just such a distance from the peg as to maximise subjective feelings of success: they don't stand right up next to it or too far away.
- They seek tasks they can control; tasks where they can rely on their own skill and judgement. They appear to others to take risks but are confident of being on top of the situation. When gambling, they favour *safe* bets. They work *hard* at tasks they are interested in, but not at others. They often work very long hours — whether they are businessmen, doctors, or university lecturers.
- They seek tasks which are neither too difficult nor too easy for them.

It should be noted that highly achievement oriented individuals are not always successful financially. For example, they may go bankrupt through trying to make the best steam engine rather than the one which will maximise financial return. But one can see how a number of such people trying to do what is realistically best will contribute a great deal to the economic and social development of the society in which they live.

It should also be mentioned that these people are often not well-known or prominent. People who are prominent tend to be concerned with power. And it is this variable, rather than concern with achievement, that differentiates between executives in large and small concerns: both are concerned with achievement, but the person who stays in a small concern tends to be very concerned to retain his power and control as well. People who are well-known as outstanding scientists (such as those we have already discussed) also tend to be distinguished from others more by the degree of their concern with power than their degree of concern with achievement. This is partly because writing many publications (a) inhibits the production of new ideas and understanding and (b) is usually indulged in in order to 'get on', become famous, or to secure promotion — something in which people high in need for achievement (n.ach. for short) are not particularly interested. It is also partly because an advance in knowledge often does involve organized team work and the ability to obtain funds for research. People who are interested in advancing understanding are particularly poor at conforming to the sort of criteria that would get them research money: they are not good at conforming to the rather arbitrary criteria of quality laid down by administrative and other academics who have little experience of creative work and who are themselves more concerned with gaining control over others by manipulating cash flows, than with creative work itself. Highly achievement oriented scientists appear to have difficulty framing applications for research grants according to the rules, even though they need the money to reach their own goals. They really want to set out into the unknown and do not want to replicate other peoples' work. As a result, they cannot say what they are going to do, how they are going to reach their goals, until they are in the process of doing it. They will then invent the necessary methods, and they know from experience that they are capable of doing so. They are concerned with doing new things well, not with manipulating man-made systems, and their dislike of hypocrisy, which we have already mentioned, makes them unwilling to be deceptive and pretend that they are going to do one thing whilst planning to do another. Effective teams of scientists therefore seem to need to be headed by power-oriented individuals who raise funds, manipulate funding agencies, and publicise work done by their colleagues as if it were their own. But they seem to need to be manned by highly achievement-oriented "back room boys" who produce the ideas and further understanding.

From what has been said it will be clear that people with a strong desire to achieve do not necessarily need to work on their own: they can work effectively in large organizations. The key issue is whether they have sufficient opportunity to exercise their skill and discretion and to observe whether their actions produce the desired effects.

Finally, it should be mentioned that people who are very achievement-oriented are often not aware of this fact themselves, for they have no yardstick against which to judge themselves: they are simply not aware that the minds of others are not constantly concerned with doing things well, making plans to achieve these goals, thinking of the pleasures of success, and anticipating the obstacles in the way of their achievement.

Some other attitudes, which are not part of the need achievement syndrome, but which are important none the less, also contribute to economic development:

- if people trust each other, it is possible to develop much more elaborate systems of cooperation and trade.

- if people take their standards from informed public opinion, as expressed in good newspapers, it is much easier for beneficial new procedures to be introduced and bad ones criticised and discarded than it is if the standard to be followed is tradition.
- if people are willing to give help when they are asked, without the person in need having to resort to threats such as getting the church or the law to intervene to induce compliance, then society can develop more easily.

All this may seem obvious, but it has not been obvious in the past and no action has been taken on it.

Background and Development of these Characteristics.

If education is to pay more attention to fostering these characteristics, it is important not only to make the characteristics explicit (in order that learning experiences designed to lead to their development can be more readily evolved), but also to discover how these people who at present display these concerns and behaviour patterns came to be as they are. If we knew this, it would be possible to develop learning experiences embodying key features from this, previously unplanned and informal, series of educational experiences. How, then, do these highly achievement-oriented individuals come to be as they are?

In the studies that have been made it has been found that, firstly, like the highly creative people we discussed earlier, they tend to have been encouraged to be independent at an early age, to go about town on their own, and to choose their own films and friends.

Secondly, they are more likely than others to have been encouraged to try hard for things for themselves — as children they had been given little assistance in doing things but were given strong approval when they had completed them. In contrast, fathers of people low in concern with achievement tend to give explicit directions to their children, to interfere in what they are doing, and to express irritation when their children do not do what they want them to do.

Thirdly, also like creative people, they had been expected to develop their own moral code — none was forced upon them — although their parents did make it clear what their own code was. This code particularly stressed forthrightness; honesty; respect for others; pride, diligence and joy in work; and making the most of ones abilities. In general, the parents seemed to have a remarkable respect for their children and their ability to reason, act and cope on their own.

Fourthly, they had been exposed to models of intelligent, thoughtful, hard working, and resourceful behaviour — mostly by their parents, but occasionally by others in their environment. Effective achievement-oriented behaviour, including its thinking, feeling, and behavioural components was also often portrayed for them in great detail, and in a context of evident warmth and approval, in the stories which were read to, and told to, them as children. A well-known series of books which exemplify these characteristics are those describing the achievements of *Babar the King*.

It is important to distinguish between *achievement* training and *independence* training — both of which occur in the background to highly achievement-oriented individuals.

Independence training consists of training children to cope on their own — to

be independent of their parents. Independence training is often present in situations where it is important that the children learn to look after themselves. Achievement training, on the other hand, involves a great deal of contact with the parents, expectations of high levels of performance, parents working with their children, helping them to set challenging but realistic goals and helping them to anticipate obstacles.

Formal education falls down badly on nearly all these counts. It tends to treat pupils as dependent, it gives explicit directions, it does not allow people to follow their own interests single-mindedly, it tells people what to believe, it insists that pupils' opinions are unworthy of consideration, it provides the pupils with rules which encourage dishonesty, it discourages forthright criticism, it stresses hard work but often at boring tasks, and it seldom provides models of hard-working, intelligent and resourceful behaviour. Furthermore, it seldom provides the feedback necessary for pupils to assess their progress toward the goals they set themselves or, indeed, provides clear goals at which to aim (let alone encourages the pupils to set their own goals). It is inclined to allocate rewards for working at routine tasks rather than provide challenging tasks, the mastery of which provides its own reward.

If we are concerned with developing personal effectiveness, we could

- 1 Encourage pupils to seek out important and worthwhile tasks to perform and make sure that these tasks are geared to the pupils' values and interests.
- 2 Encourage pupils to recognize their emotions rather than try to suppress them.
- 3 Encourage pupils to set challenging but realistic goals for themselves and monitor progress toward these goals.
- 4 Encourage pupils to think about themselves, about what sort of person they are and want to be — and if we are to do this, it means providing a vocabulary for them, a set of concepts which enables them to think about themselves.
- 5 Provide opportunities for pupils to *practise* behaviour of this sort.
- 6 Present the pupils with role models of this behaviour, so that they can see how this type of person operates in practice. People learn a great deal from observing the behaviour of others, particularly if they have an opportunity to practise behaving in the way that the others do.
- 7 Encourage pupils to enlist the support of others in achieving their goals.
- 8 Encourage pupils to examine the tasks they have to do in order to discover obstacles to achievement and find ways in which to succeed.
- 9 Encourage pupils to build on their strengths and not measure themselves against others in areas in which they can't compete, but rather to do that which they *can* do, albeit working on some areas of weakness that it is necessary (and the author would stress the word necessary because he believes that much education is unnecessary) for them to pay attention to.

A Coda

We may conclude this chapter by once more emphasising that we do *not* think that *all* pupils should be brought to develop these characteristics. We may

make this point forcefully by summarizing the results of some research reported by Revens (1975). In his report he describes the very complex power processes which are required to bring about the action indicated by research findings. The activities which are necessary to induce action are unlikely to appeal to persons who have the qualities required to make good researchers. Thus, teamwork is unmistakably required. But that statement should not be interpreted as purely an injunction to do something which is already commonly done. The "teams" that are required have to be made up of people with a variety of different values and competencies — not simply of a variety of discipline specialists. We lack appropriate concepts for thinking about these differences and their consequences and, in particular, we lack means of assessing them. Furthermore there is very little appreciation of the fact that the differences in value-orientation will often not make for smooth working relationships unless all have developed a respect for people with other skills, values, and competencies and are prepared to work with them. To repeat what was said earlier, an appropriate *balance* of individuals — with all the conflicts that this implies — is required to advance knowledge and then to translate that knowledge into action.

Summary

We have seen in this chapter that creative and innovative individuals and people high in need achievement, tend to display characteristics which are, on the whole, disapproved of in schools. We have seen that the data available from the studies that have been made, incomplete though it is, makes it possible to spell out a list of characteristics which could, if one so wished, be explicitly nurtured by the education system for some of the pupils at least. And we have seen that the background, upbringing and pattern of socialization of these people was distinctive in specifiable ways. Thus, we have seen that it would be possible to formulate, through further studies of this sort, the specifications for educational programmes which would lead to the development of these particularly important characteristics. Uncomfortable though such an idea may make one, it remains true (a) that current educational programmes generate, whether we like it or not, psychological characteristics of one sort or another, which have not been made explicit (although, to judge from the studies of creative, innovative, and achievement-oriented individuals we have reviewed, these are probably dysfunctional), (b) that educationalists from time immemorial have sought, as their primary objective, to pursue character development goals of this sort, and (c) that, as we have seen, teachers today are no different from teachers in the past in this last respect. The key questions seem to be: How many pupils of these sorts do we need, and what *are* the effects of the educational programmes we currently offer our children?

We have also seen that a predominant factor influencing the development of the characteristics we looked at was the role models to which the individuals concerned had been exposed when they were young. As a first step towards trying to assess the probable effects of the current school system on redevelopment of qualities like n.ach. and creativity, the next chapter takes up the question of what role models young people *are* exposed to in schools today.

Part V

HOW EFFECTIVELY DO SCHOOLS ATTAIN THE GOALS OF GENERAL EDUCATION?

In Part II we saw that some educationalists attach very great importance to achieving educational goals outside the knowledge-of-subject-matter area commonly covered by school examinations.

Nevertheless we also saw that, although some teachers have developed very sophisticated frameworks for thinking about how such goals are to be attained, there is considerable variance, indeed disagreement, between those who advocate such activities. There is also a considerable lack of clarity about the goals themselves and the means to be used to attain them.

In Part III we saw that most teachers, parents, pupils and ex-pupils attach considerable importance to a much wider range of educational goals than those assessed for certification purposes. Nevertheless, partly because of uncertainty about how to attain them, and partly because achievements in these areas do not stand to the credit of either the teachers or pupils concerned when it comes to selection for promotion, further education, and an occupation, relatively little attention is paid to these goals in schools at the present time and they are, as a result, felt to be poorly attained. In an attempt to help to rectify this situation we devoted a considerable, some would say a disproportionate, amount of time to reflecting on the psychological nature of the qualities to be fostered. We concluded that the qualities were best thought of as motivational dispositions, that each involved a value component and a set of components of competence. The thought of explicitly setting out to influence pupils' values, motivations, and behavioural predispositions makes many people very uncomfortable. Indeed it forms part of the explanation of why these goals have been so much neglected for the past half century although they were at the forefront of the minds of most of the great educationalists of the past.

In Part IV, in order to clarify educational goals and resolve the sort of questions posed in the last paragraph, we sought to explore just what were the personal and social consequences of people having developed differing motivational dispositions and uncovered an alarming lack of information. We also found very little information on the competencies required to perform the various tasks which are necessary if modern society is to function effectively. Nevertheless, such evidence as was available lent support to the priorities of those interviewed in our surveys and to our own reflections on the nature of these qualities and the way in which they might be fostered more effectively.

We will now review the available evidence relating to the third question we asked the people we interviewed in the course of our surveys — how effectively are schools attaining the goals which are thought to be most important? Since there has been little attempt to evaluate progress toward these goals (how could there be, given the lack of clarity concerning the psychological nature of these competencies?) we will have to approach the answer to this question somewhat obliquely.

We saw in chapter XVIII that at least some of the important human-resource competencies we studied had been acquired through contact with adults and fictional characters who clearly portrayed the value systems, motivations, and behavioural predispositions in question, and enabled those who came into contact with them to see what the personal and social consequences of adopting the styles of behaviour were likely to be. This 'absorption' of values and behavioural patterns accords with the widely expressed view that such qualities of character are 'caught' and cannot be 'taught'. (What a remarkable conception of teaching this statement reveals if one thinks about it!). But if this view is sound it becomes particularly important to assess the values, concerns, expectations, attitudes and behaviour patterns exemplified by our pupils' teachers. We review the available evidence on teachers' values, perceptions, motives, and expectations in chapter XIX.

Thereafter we move on to review further evidence which supports the widely held view that these goals are but poorly attained whilst at the same time strongly supporting the pupils' and parents' in their view that examination passes are of the utmost importance to the lives of the children concerned and suggesting that, in spite of their better judgement, teachers are right to devote the bulk of their energy to helping their pupils to pass examinations.

Chapter XIX

TEACHERS AS ROLE MODELS

We have seen that creative individuals, and people who contribute disproportionately to the social and economic development of their societies, tend to have been exposed more often than others to adults who exemplify specifiable values and behaviour patterns. These adults (or role models), whom the children copied, were usually their parents, but sometimes others conspicuous in their environment or even fictional characters.

We turn now to some empirical data on the role models and attitudes portrayed by teachers. These are the attitudes which pupils are likely to 'catch'. It is important to note that the work of Bandura (1970) and his colleagues suggests that children do not necessarily learn such attitudes and behaviour patterns consciously and that they tend to learn them whether they approve of them or not, and without rewards for the learning being present. Somewhat paradoxically from the point of view of naive reinforcement theory, they are more likely to learn and display the behaviours they are exposed to if they see those who model the behaviour being rewarded, or showing signs of having been rewarded, in ways they value, and they themselves are more likely to engage in the behaviour — to demonstrate that they have learned it — if they are rewarded for doing so.

Teachers' Values and Motivations.

Descriptive data relating to one group only, valuable though it often is, tends to lead to a feeling of 'so what, could it be different?' Comparative data from other groups lends significance to the views of the group in which one is primarily interested. The following table therefore compares the frequencies of endorsement of a number of value-attitude items by a group of teachers and a group of businessmen, both in Ireland.

It seems that, as a group, teachers are markedly less confident about the future of Ireland than businessmen. A lack of confidence in the future implies a lack of confidence in one's own ability, in cooperation with others, to do something about it. And it implies a lack of willingness to invest in the future — financially or in terms of self-development. The teachers are also more reluctant to behave in a striving, aggressive, manner, are more likely to depreciate social mobility, are much less likely to believe in the effectiveness of consultative leadership, have less confidence in their ability to act in a social, conciliatory role, are less likely to work overtime to obtain more material possessions, less interested in making money, less innovative, less keen on challenge, less forthright, and more concerned with warmth and friendliness. In terms of actual innovative behaviour, data collected in the course of the IEA 'Civics' enquiry shows that only about 4% of Irish teachers had involved themselves in curriculum development programmes compared with an international average of 15%. Many of these attitudes seem to be the opposite of those needed for creativity and economic or social development. If these attitudes are communicated to pupils, they do not seem on the face of it, or from what we saw in the last chapter, to be likely to stimulate economic development and creativity, or even sensitivity to others, respect for their ideas, and willingness to listen to and work with them. This conjecture is supported by the data presented in the next table, which again compares the views of teachers with those of small businessmen. The introduction and the first item are given below.

TABLE 3

Percentage of Businessmen and Teachers endorsing various statements

Item	Response	Businessmen % (n=73)	Teachers % (n=61)
In your opinion will Ireland probably have a very good future, a fairly good future, rather a poor future, or a very bad future?	"Very good"	57	19
Some people enjoy arguing or bluffing their way past guards and doormen. Do you enjoy this sort of activity, or are you only willing to do so if it is absolutely essential, or are you very hesitant to do this?	"Very hesitant"	52	67
Some people say that it is not a good thing for children to seek a higher standard of living than that of their parents. Others say they should be encouraged to do so. What do you feel? Do you feel that children should be greatly encouraged to do better than their parents, that they should be encouraged, but not too much, that on the whole they should be discouraged, or that they should be greatly discouraged from doing so?	"Greatly Encouraged"	60	42
How effective is a leader, who discusses his plans with others and changes his mind to take account of what they say. Is he likely to be very effective, above average in effectiveness, rather below average in effectiveness or very ineffective?	"Very effective"	41	18
How important is it for children to learn that if you don't look out for yourself other people will take advantage of you? Is it very important to learn this, or important, or is it important that they should not learn this?	"Very Important"	50	34
How often are you in time for appointments? Very seldom, occasionally, usually or almost always?	"Always"	74	64
Which of the following statements do you agree with more? Man will some day fully understand what causes such things as floods, droughts, and epidemics. Such things can never fully be understood by man.	"Men will understand"	78	69
Would you say that people who avoid quarrels are: Almost invariably weak individuals who are afraid of the other person, sometimes weak individuals but sometimes people able to find more effective ways of dealing with the situations, usually more intelligent people who are able to find better ways of dealing with the situation.	"More Intelligent"	43	67
Among your friends what is your reputation for smoothing out troubles. Do they regard you as, very likely to cause trouble, somewhat likely to cause trouble, likely to smooth out trouble or very likely to smooth out trouble?	"Very likely to smooth out trouble"	30	8
Assuming you had a good reason for going away, how much would it upset you to cut your moorings and leave your home and your friends for a different part of the country?	"Great deal"	41	29
How often do you give up leisure pursuits that you would like to follow in order to make improvements to your home or in order to earn more money with which to buy things for your home? Often, occasionally, seldom, never.	"Often"	56	24
When a new technique becomes available do you: Like to be among the first to try it, prefer to let someone else try it out first and watch development, prefer to be quite sure that the practice is sound before adopting?	"Among the first"	42	22
As they go through life people take on all sorts of jobs, jobs in the home, in the garden, at work and in their leisure. Some people prefer to tackle things which challenge them and keep them on their toes while other people get more pleasure out of doing things they have done before. How do you feel about challenging tasks? Do they give a sense of excitement or do you just tolerate them or do they make you feel uncomfortable so that you try to avoid them?	"Exciting"	95	77

	Response	Businessmen % (n=73)	Teachers % (n=61)
Do you think you are most likely to be happy if: You try to be content with what comes your way and don't expect too much out of life, are usually content with what comes but make occasional efforts to get things you want, usually make efforts to obtain things you want but are sometimes content with what comes or always set out to get what you want?	"Go out of way to get what you want"	35	8
In the places where you have worked, there must have been workers who at times didn't do their share of the work. In general, how have you acted when people have not done their share? I wasn't much bothered, it didn't seem good, but it was the boss's responsibility. It seemed so bad that I was tempted to say something to them, It seemed so bad that I told them that their conduct was not right.	"Did tell them"	48	14
How often do you wake up in the morning excited at the prospect of the day ahead? Do you wake up excited at the prospect of the day ahead, every day, most days, sometimes or never?	"Every day"	15	1
Would you rather be: Making £1,000 a year and be free of debt?	"£1,000"	25	47
or			
Making £2,000 a year and have a debt costing you £20 a month for repayments of both capital and interest?	"Favour friends and relatives"	16	4
Do you think that people should break rules in order to favour friends and relatives or do you think they should follow standard rules anyway?	"A great need"	35	68
Many people feel that there is room for more warmth and friendliness between people: Do you feel that there is: A great need for more warmth and friendliness between people, some need for more warmth and friendliness between people or do you think that things are pretty well all right as they are?	"A little worse"	3	15
How bad would the economic situation have to be before it would make you feel unable to cope with it? A little worse than now, much worse than now, really grim?			

"We would like to know something about what you *feel* about various types of activity. We will be asking you for your considered opinions about things, for your real thoughts, at other times in the interview: at the moment we are interested in what you *feel* when you do not think too deeply. To indicate how you feel about the things listed below, put a ring round the number which best expresses your feelings. Thus, if you *feel* that it is very wrong indeed to waste time put a ring round the 1; if you feel that it is wrong, but not so wrong, put a ring round the 2, and so on through to 5 if you feel it is not at all wrong to waste time.

Remember we are asking you for what you *feel*, not for your considered opinions.

To deceive other people for your own ends . . .	I feel this is very wrong indeed	1	2	3	4	5	I feel there is nothing wrong in this
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TABLE 4

Percentage of businessmen and
teachers endorsing items

		Businessmen	Teachers
Do you think it is wrong: Not to provide for the future?	"Very wrong"	62	42
Do you think it is wrong: Not to be on time for appointments?	"Very wrong"	66	41
Do you think it is wrong: To waste time?	"Very wrong"	69	41
Do you think it is wrong: Not to work as hard as one might?	"Very wrong"	46	36
Do you think it is wrong: To cultivate friendship with influential people?	"Nothing wrong"	52	29
Do you think it is wrong: To get other people to do what you want them to do in order to promote your own interests but not theirs?	"Very wrong"	38	49
Do you think it is wrong: To try to make a lot of money?	"Nothing wrong"	76	46
Do you think it is wrong: To deceive other people for your own ends?	"Very wrong"	77	87

It is clear that the teachers have much less of the "protestant ethic" (which is known to be associated with economic development) than the businessmen: they are less likely to believe it is wrong not to work as hard as one might; they are more likely to believe that it is wrong to try to make a lot of money. They are also less permissive in relation to the manipulation and deception of others.

Implications.

Some of the characteristics which the businessmen display are clearly undesirable from the point of view of developing a fair and egalitarian society. But many of the characteristics displayed more often by the businessmen and less frequently by the teachers are important if one is interested in taking effective action to achieve *any* type of society with positive characteristics.

Many teachers, will, of course, object to the notion that businessmen may be more appropriate 'role models' than they are; they may regard businessmen as people who are selfish, money-grabbing, disinterested in the welfare of the community, exploitative of others, dominating, materialistic, and responsible for environmental pollution. Naturally some businessmen conform to this stereotype. And, as McClelland's data shows, businessmen in small firms are often concerned with power as well as achievement. Yet our own data, together with that of McClelland, clearly shows that in many respects the image that people have of businessmen is wrong. But what is more important is the impression that the businessmen give of being people who take active steps to gain control over their environment, rather than wait for others to tackle the environment for them. They set to work to improve their homes, they set to work to improve their communities, they take steps to provide for the future, they like to take up new ideas, they like to make the best use of their financial resources, and they are less afraid to go into debt in order to do so; they like to make the most of what they have and they believe more strongly in consultative, democratic leadership. They appear to be more confident, active, energetic, hard-working, responsible, and effective than teachers and to be better at human relations and to enjoy their lives more. If they found themselves in senior positions in society, one could not imagine them saying that society's problems were all due to the "system" and that they could do nothing about it. If they found themselves out of work, they would be expected to look further afield, consider a greater number of, and search more energetically for, alternative posts, and feel confident that they could master a wider range of situations than the teachers. In short, one expects them to be more effective people at all levels in society. Many of these characteristics would be of benefit to the sort of researcher who complains that there is nothing they can do to help the poor; that society is just *like* that and they can do nothing about it, sad though it is. They would also seem to be characteristics which are needed by the would-be social innovators discussed earlier.

As far as worries about such things as the businessmen's concern with power and domination, are concerned, it seems that there is not much to choose between them and the teachers. As we have seen, in contrast to teachers' professed educational concerns, pupils feel that teachers control their lives far too rigidly and allow them to make too few decisions. From the data we have presented, it seems that teachers themselves don't believe in consultative leadership. McClelland and his associates invariably (and naturally, when one thinks about it, given the current pattern of organization of schools) find teachers preoccupied with gaining control over the minds and behaviour of others. Such results suggest that the important variable is, not so much concern with power and influence, as the end to which these are directed. In the light of these reflections there seems to be reason for teachers to consider more seriously both the means that they use to

exert control and the ends in the service of which they exert it.

From the data presented, it is hard indeed to avoid concluding that the pessimistic, fatalistic, non-consultative, non-delegatory, control-oriented, attitudes displayed by many teachers cannot contribute positively to the pupils' character development. Whether businessmen would be better role models is an open question. Although they seem to approximate more closely to the role models to whom, as we have seen, effective and creative people have been exposed in their childhood, we know nothing about their probable efficacy in developing the many other characteristics that were discussed in Parts II and III. We will return to such questions later. The point here is simply that the attitudes of many of the present generation of teachers seem to be far from ideal from the point of view of helping pupils to develop the qualities of character which most teachers would like to foster.

This conclusion is supported by the next set of data on teachers' social attitudes. This was collected as part of the IEA international survey of Civics education (Torney, Oppenheim, Farnen, 1976, Raven, 1976). In this study, which we will refer to again several times in the next few chapters, an attempt was made to assess the extent to which the pupils had developed a number of the non-academic competencies with which we have been concerned in this book, and to relate these to the nature of the educational processes to which the pupils had been exposed and the characteristics of their teachers. Here we are concerned solely with some of the teacher attitude material and its probable consequences for the attitudes and expectations the pupils will be likely to develop.

Teachers' Perceptions of the Role of the Citizen.

The average Irish teacher of civics or related subjects defines a good citizen as someone who obeys the law, pays his taxes, stands up for the national anthem, is loyal to his family, works hard, studies for exams and votes in elections. He does not define him as someone who joins a political party (only 16% said that he should) or a trade union (34%) or someone who tries to change things in the government (only 46% said that he should), and this proportion is the lowest of any country which participated in the study). In most of these respects Irish teachers were fairly normal by international standards, but they were top of the international league by a large margin in thinking that a good citizen should work hard and study to pass examinations. They were also the most likely to think that a good citizen should vote in the elections. By international standards Irish teachers are most likely to be prepared to argue in class that the trade unions should be controlled by the government and the least likely to be prepared to speak out against the government.

From these results it seems that the average teacher in Ireland believes that people in power know best and should be respected. Furthermore, if it turns out that those in power do not know what they are doing, that they do not know best, one simply votes them out of office at the next election. One does not make any effort in the interim to ensure that they behave in appropriate ways. In addition it is one's duty to study and work hard and thereby 'get on'; it is not one's duty to take on oneself the job of trying to bring about improvements in society as a whole for the good of all its members. These results imply that most teachers have an understanding of the functioning of society which focusses on individuals, rather than on institutions, which blames the poor for not bettering themselves instead of blaming the structure of our social institutions for not finding ways of getting all the human resources available in our society working away at the tasks which badly need to be undertaken, which seeks outstanding leaders to get things moving rather

than institutional structures which enable people to communicate their experience with those who need it and to work together for the common good.

The results suggest that the teachers have not thought through the implications of their beliefs. The problems which could arise in the sort of political system favoured by the teachers cannot have been considered, nor can the fact that such a system deprives the leaders of our society of much useful knowledge and many insights possessed by their subordinates.

The degree to which a system based on such a set of beliefs could be abused can be seen from one or two examples. Anyone who observed the defects — for example, the defective management ability — of one of his superiors and sought to make this information known to others so as to prevent that individual being nominated for election to a responsible position in society could expect to receive scant support. The same could be expected to happen to anyone who found things to criticise in the behaviour of encumbent authority. Likewise anyone who sought to take a leadership role to get others in his community to organise to carry out some activity could expect scant support: the government should do it! Finally, by not encouraging ordinary people to participate in decision-taking one ensures that the subordinates do not fully understand, and sympathise with, the reasons *why* the decisions have been made, thereby ensuring that they do not identify with them. They are not their rules and decisions, they are someone else's. They can therefore be expected not to have any great commitment to abide by any of the rules and decisions that are made.

The low emphasis teachers place on active citizenship other than voting, and the fact that most, if not all, of them define the role of the citizen as being primarily one of engaging in activities which have no direct political implications, suggest that they have a weak perception of even political activity as being one of the main ways of developing structures which enable society to organise itself to achieve goals for the common good. They perceive political activity as being the preserve of a minority. They do not think that by seeking to influence government decisions they could improve on their own lot. They are unlikely to see their way to improve their lot through the mediation of the political process. To improve their lot they must work hard at tasks set by authority (not seek to change those tasks), pass examinations, and get on as *individuals*. They appear not to envisage activities which would improve the lot of *everyone* by seeking to influence the planning processes and the views of those who manage the society. The possibilities of mobilising public opinion to improve the status quo seem to be limited indeed.

These comments should not be taken to imply that the author feels that a good citizen should *not* engage in the activities teachers in Ireland thought a good citizen should engage in (although teachers in some other countries *did* think that a good citizen should *not* do these things). The comments and reflections do suggest, first, that the attitudes which Irish teachers portray for their pupils might not always be those which it would be most desirable for them to portray, second that it might be desirable for a good citizen to do things in *addition* to those which Irish teachers thought he should do. And thirdly they suggest that it is necessary to do much more to study explicitly the real social consequences of *different* ways of defining citizenship — to study the consequences of different *profiles* of expectation of citizens so that the attitudes to be communicated could be discussed more rationally.

Pupils' Perception of Teacher Role Models.

The conclusion that the attitudes of the present generation of teachers are far

from ideal from the point of view of helping pupils to develop the qualities required to attain their own goals effectively is supported by some data collected from pupils themselves. If teachers are to help pupils to develop the tendency to engage spontaneously in the sorts of behaviour in which they will need to engage if they are to achieve their goals effectively, the pupils must practice these behaviours in relation to goals which are important to them; they must be enthusiastic about their tasks; and they must be able to approach their teachers for advice about improving their performance. If pupils are to model themselves on their teachers it would, as Bandura's work shows, be an advantage if they liked and admired them; if pupils are to develop their own opinions and the ability to think for themselves, it seems important that they be able to speak freely and openly in class; if pupils are to have opportunities to practice taking responsibility, teachers must treat them as competent individuals, not as irresponsible children.

Do pupils feel that teachers make them enthusiastic? Do teachers make pupils feel that they can be approached for help? Do they make them feel that they are responsible people who are entitled to express their opinions and discuss problems? Do teachers give pupils the impression that they themselves are possessed of integrity and treat others with respect, whatever their ability? Do teachers value forthrightness or do they prefer not to hear points of view with which they disagree? Do they treat their pupils as individuals worthy of consideration in their own right?

The pupils' answers to these questions are given in the table below. It is not irrelevant to remark that, although we wished to ask the pupils whether they perceived their teachers as hard working individuals who were interested in their communities, the teachers' organizations, whose support was necessary if we were to carry out the survey, felt that it would not be appropriate to ask such questions.

TABLE 5
Pupils' Perception of their Teachers
Percentage of teachers the average pupil said:

	Boys	Girls
he or she would really like to be like	33	30
made him feel really enthusiastic about the subject	41	45
were friendly and found time to chat to students	47	48
got him to work as hard as he might	47	52
made him or her feel able to speak up freely and openly in class	51	53
he or she felt able to go to for advice on how to improve performance in the teacher's subject	45	41
he felt able to go to for advice on what career to take up	34	35
he felt able to go to for advice on personal matters	16	16
tried to help less clever pupils as much as the cleverer ones	47	51
were aware that the pupils were growing up and did not always treat them like kids	56	67

It seems that, in the pupils' opinion, the average teacher did not make him enthusiastic about his subject, did not get him to work as hard as he might, did not 'motivate' him. Nor would pupils like to emulate most of their teachers. Nor are they approachable for advice, guidance and feedback: The average pupil feels that he cannot ask more than half his teachers for advice on how to improve his performance in the subject they teach and less than one teacher in five, according to the average pupil, could be approached for personal advice. As to delegation of responsibility and treatment as a mature and competent individual whose views are worthy of consideration, only one teacher in two gives an opportunity to express opinions freely and openly, although the pupils said that rather more did not always treat them like children. As for treating all alike, having equal respect for all, or even demonstrating a commitment to social justice by striving to help the disadvantaged more than the advantaged, half the teachers seemed to the pupils to prefer to help the cleverer pupils at the expense of the less talented ones.

As far as the pupils are concerned, then, teachers, in general, are not the forth-right, socially committed people, who respect persons and opinions, that we studied earlier; nor do they delegate responsibility, encourage one to express one's opinions and discuss difficulties, or even make themselves sufficiently approachable to discuss learning difficulties arising within their own subject. And only one in three seems to be an attractive role model for their pupils.

This is not the end of the story for, in general (and all these results are only in general), teachers sail along in blissful ignorance of their pupils' reactions: the average teacher thinks his pupils feel able to approach 80% of his teachers for help with school subjects and able to approach half of them for advice on personal matters. The true figures are 42% and 16%. They therefore do not seem to be sensitive to the information they have available to help them to perform their task better: they do not themselves seek and utilise feedback effectively; they are not sensitive to feedback which would help them improve their performance. They do not monitor their achievement of their own most important goals: they do not provide role models of effective behaviour, consultative leadership, or even of trainers behaving in an appropriate way to help their pupils develop competencies.

Summary

It would seem that in general — and there are many exceptions — the role models to which children are at present exposed at school are not those found in the backgrounds of highly creative individuals or those who make considerable contributions to society. Nor do teachers themselves display some of the most important components of effective behaviour. It therefore appears that, if we are to develop more creative, inventive, and effective individuals, our children will, among other things, have to be exposed to a quite different set of role models. Chapter XX takes up some of the changes which might be introduced.

Chapter XX

THE ATTAINMENT OF NON-ACADEMIC OBJECTIVES: INDIRECT EVIDENCE

In the last chapter we presented some data which suggested that it is unlikely that schools attain many of the character-development goals of general education which most people would, at least in some ways, like them to achieve. In this chapter we will look at some further data which supports the contention that it is unlikely that these objectives are being achieved effectively at the present time: we will see that many teachers misperceive the concerns and values of their pupils, and that pupils react negatively to many of their school subjects. In the next chapter we will present and discuss some data on the benefits pupils think they derive from their education.

The likelihood that non-academic objectives will be effectively achieved: some conflicts and misperceptions.

We saw in chapter XV that, although the British teachers who were surveyed attached great importance to character development, over half the fifteen year old leavers said "Teachers forget you are growing up and always treat you like kids", and a further 30% of those who had anything else to add, when asked, at the end of a long interview, if they had anything else they would like to say about their school, said that there were too many restrictions, petty rules, and the like. Under the circumstances, it is hard to believe that teachers are achieving their goal of developing character and independence. We also saw that there was a large discrepancy between what pupils thought education was *for* and what teachers thought it was for. Under these circumstances it would seem unlikely that *any* educational objectives can be attained very effectively.

Further data on discrepancies in perceptions, which leads to a similar conclusion, may now be presented. The pupils involved in the British survey were asked to indicate how important a number of life activities were to them; their teachers were asked to say how important they thought they were to fifteen-year old school leavers; and the pupils' parents were asked how important these activities were to their children. It was therefore possible to compare the three assessments. A selection of the results is given in the table below. Note that we are comparing the percentage of teachers who said that each thing was important to fifteen year olds, with the percentage of fifteen year olds who said that the topic in question was very important to them.

TABLE 6

Pupils' values and their Parents' and Teachers' perceptions of them

	% of pupils rating item very impt. to them.	% of parents rating item very impt. to their children.	% of teachers rating item very impt. to 15 year old leavers.
Having a job you like	96	97	50
Your family	92	86	20
Being treated as grown up	78	78	70
Clothes, hairstyles, appearance (girls)	84	89	83
Pop music (girls)	35	64	71
Having a boy friend (girls)	27	18	64

Although the figures for pupils and teachers do mean different things, it is difficult to avoid concluding that teachers may not always have correct impressions of their pupils' values, with the result that it is unlikely that they will be able to influence them consciously in the way in which they would like. It is of interest that, in general, the pupils' parents were happy with their children's values; less than a quarter had any criticisms of them.

There was remarkably little variation in the proportion of young people who thought that these things were important from fifteen and twenty years of age, between pupils intending to leave at fifteen or seventeen years of age, or from one social class to another. In particular, it may be emphasised that the importance teenagers attached to their families remained equally strong among twenty year olds and did not vary with intended or actual age of leaving school. On the other hand, pupils who intended to stay, or who had stayed, longer at school attached less importance to clothes, hairstyles and appearance, than those who left at fifteen or seventeen.

These results were confirmed in the Irish study. In this we asked the teachers to estimate what proportion of fifteen-year old pupils would say that each of these things was "very important". The teachers answers are, therefore, directly comparable with what the pupils actually said. We found that the average teacher's estimate of the percentage of boys who would rate "pop music" "very important" was 37 per cent higher than the percentage of boys who actually rated it "very important". In general teachers also considerably overestimated the proportion of boys who would say that dancing, starting work as soon as possible, earning money, and sport were very important to them. They markedly underestimated the number of boys who would say that it was very important to them to have a job they liked, to be able to apply the knowledge and skills they had learned at school and who would say that their families and their examination results were very important to them. The picture was very similar for girls, except that many teachers greatly overestimated the proportion of girls who thought that getting married was very important and underestimated the importance the girls attached to cultivating hobbies and interests.

It seems that not only are many teachers not good judges of what their pupils will say; they are systematically biased toward underestimating their serious-mindedness. One might even say they tend to show an unnecessary contempt for, and disrespect of, their pupils. Under such circumstances, how can they expect to master the subtle processes which would lead to the development of independent characters, responsibility and personality in their pupils, not to mention more ordinary things like the ability to clarify their own opinions and the ability to express themselves. Given that many teachers do not know what their pupils' values are how can they possibly design individualised programmes of instruction to work out from their pupils' felt needs and values? And if they cannot do that how could they possibly achieve their goals?

Further data, which was also briefly discussed in the previous chapter on the accuracy of teachers' perceptions of their pupils' feelings is given in the following table. It seems that most teachers wildly overestimate their approachability and markedly underestimate the barrier which separates them from their pupils. Given such results, it appears very unlikely that many teachers will be able to achieve goals

TABLE 7

Proportions of teachers pupils feel able to go to for advice
on various matters, compared with teachers' estimates of
pupils' reactions.

What percentage of your teachers do you feel able to go to for advice on:	Average pupil's answer	Average teacher's estimate of average pupil's response
How to improve your performance in their subject	43	80
Personal matters	26	51
Careers	34	65

which involve close counselling relationships with their pupils, counselling relationships which involve steering different pupils into different learning experiences designed to foster important competencies whilst involving continuous enthusiasm on the part of the pupils.

Given that many teachers and pupils have different views on the purpose of school, that many teachers misperceive their pupils' values, and that they also misperceive their own approachability, what hope have they of achieving the character-development goals which they believe to be so important?

Finally, attention may once more be drawn to the data on role models presented in the last chapter, which also provided circumstantial evidence that the effects which teachers have on their pupils' character development are unlikely to be positive. It will be recalled that teachers themselves seemed, in general, to be unwilling to take the initiative to introduce change, to lack self-confidence, to be insensitive to, and unable to use, the information available to them to help them achieve their goals more effectively, and to fail to take steps to monitor progress toward their own most important goals.

Educational Practices and Procedures in Common Use.

The next line of evidence suggesting that schools cannot be achieving their non-academic objectives very effectively comes from the IEA study (Raven and Litton, 1976). In this we asked pupils and teachers how often they used some of the methods discussed earlier in this book. The picture which emerged is disturbing, to say the least. In considering the material to be presented it should be borne in mind that civics classes are the classes in which it is generally expected that the most direct attempt will be made to achieve the goals of general education which we have discussed.

The teaching method most often used even in these classes consisted of 'chalk and talk' in all countries except the Netherlands. (It may be remarked in parenthesis that the data from the Netherlands also shows that large classes are *not* incompatible with individualised instruction!) 71% of Irish teachers of civics and related subjects used lectures often, compared with 30% in the United States, and 1% in the Netherlands. Ireland was the only country in which teachers used lectures more often than teachers in the United States. 81% of teachers in the Netherlands often used individualised instruction compared with 7% in Ireland. 72% in the Netherlands often used individual conferences with pupils, compared with 15% in Ireland. 42% in the Netherlands made frequent use of field trips, compared with 8% in Ireland. Teachers in Ireland said they gave out a great deal more homework than teachers in other countries, and the pupils' responses confirmed the accuracy of the information provided by the teachers.

In all countries students reported a great deal of stress on factual learning and little discussion of causes and explanations. The emphasis on chalk and talk and on factual learning, often from text books, suggests that the majority of civics teachers have not grasped the idea that they are in the business of fostering competencies — motivational disposition — and that this necessitates the active involvement of their pupils. Under these circumstances they cannot be achieving the general goals they set themselves.

This conclusion is reinforced by the teachers' answers to some questions about how important they thought it was that pupils should study various topics or engage in a number of activities as part of their general education. Their answers suggest that they mainly thought of civics as providing *information* which would enable the pupils to advance themselves on a narrow individualistic basis. The pupils should know what their rights are and what services are available in their communities. But, as far as can be judged from their answers — and no direct questions on this topic were included in the questionnaires — they did not think it important to encourage pupils to take a leadership role to improve their communities for the good of all. This view is further reinforced by the fact that — as we shall see in a moment — the teachers did not consider that it was particularly important to engage in the activities which would be expected to lead pupils to develop a respect for the opinions of others, the ability to understand social issues, or the ability to handle conflicting points of view, and think about and handle controversial issues.

The data which supports the view that teachers had not focussed on the teaching techniques which would promote the development of such qualities is as follows: 84% of them would allow distribution of free-enterprise literature in classes, but 90% would *not* tolerate expression of Marxist views. These figures are high by international standards: the international average proportion of teachers unwilling to permit the expression of Marxist views is 74%, with the proportion in the Federal Republic of Germany being 60%. Internationally, the average proportion of teachers permitting an atheist to express his views is 65%, the figure for Germany is 95%, but the figure for Ireland is 40%.

It is difficult to see how such censorship can help the pupils to understand points of view which they are bound to meet in the course of their lives, let alone help them to understand social issues through contact with conflicting perspectives on their genesis and solution, or to form their own opinions — an objective the teachers themselves considered very important. More basically still, it is difficult to see how such a strategy could possibly help pupils to develop the willingness and the ability to understand points of view which differ markedly from their own, or such qualities as openness to new ideas (on which the ability to innovate is so dependent, and which is itself dependent on the ability to perceive new ideas as relatively different from those which are already known instead of as absolutely different), the willingness to tolerate ambiguity and say 'I don't know the answer for certain', the willingness to use discussion as a basis for building up a cognitively complex (rather than a simplistic) understanding of the situation under discussion, the willingness to work with people who hold very different points of view, the ability to understand the role of the political process in resolving conflict and catering adequately and differentially for people who have very different basic beliefs and values, the ability to talk to and relate to others who have different views without resorting to physical force, and the ability to appreciate and learn from the at first apparently incomprehensible and incompatible, views of others. In the course of their lives pupils are bound to meet people with points of view very different from their own and it would seem to be of the utmost importance

for them to develop the ability to handle these conflicts of opinion without disruptive (rather than functional) conflict. In such a context it is disturbing to find that only 39% of Irish teachers would argue against censorship, compared with an international average of 47%, and 60% in New Zealand, Germany, and the United States.

Only 31% of the teachers thought that a teacher who wished to do so should explain his reasons for preferring one political party to another. While this position, like the others we have discussed, may have been adopted for the best of reasons, and in what was believed to be the best interests of his pupils, it may have the unfortunate consequence of discrediting party politics in the eyes of students. It may also mean that valuable opportunities are lost for teaching students to handle situations in which deeply held convictions come to light and to get on with people whose views differ sharply from their own, learn from them, and, as a result, form a more balanced judgement of the issues involved. In addition it may mean that pupils fail to develop an understanding of the sorts of political processes required, an understanding of the need for 'compromise' solutions which result in adequate provision being made for people who hold incompatible views to continue to live comfortably within the society.

As far as learning through direct action is concerned it is significant that only 26% of the teachers thought that pupils should work for a political party on an election campaign as part of a school project and, although 69% of the teachers thought that pupils should be involved in discussions of discipline, this is low by international standards.

Pupils' Reactions to their Courses.

Another estimate of the likely impact of educational programmes on pupils' development can be obtained by studying pupils' feelings about their school subjects.

These were studied in both England and Ireland. As can be seen from the following tables, Irish pupils were, on the whole, more positive about their subjects than English ones, but the rank order of subjects is nearly the same.

The subjects most often seen as *useful* by pupils who intended to leave, or who had left, at fifteen were English, Mathematics, and practical subjects like Woodwork, Housecraft, and, in Ireland, Shorthand. The subjects which were least often seen as useful by male fifteen year old leavers were History, Art and Handicraft, Music and Religious Instruction. In Ireland Irish was added to the list. The girls in England, but not Ireland, added Science and Physical Education to the list. It is interesting to note that these results are in line with the findings reported in Part III, where it was shown that the pupils were particularly concerned that their education be of value to them in their jobs or their lives outside work.

The subjects most often seen as *interesting* by fifteen year old leavers were Woodwork, Metalwork, Housecraft, English among girls, and Science among boys. Both boys and girls in Ireland found History interesting. Least often felt to be interesting were Music, Religious Instruction, Foreign Languages, History in England, and Latin and Irish in Ireland.

Mathematics and English in both England and Ireland, and Irish in Ireland were the only subjects which large proportions of fifteen year old leavers said wished they were better at.

TABLES 8 and 9

Proportion saying that various school subjects were *useful*,
out of those taking the subject.

	BOYS		GIRLS		
	<i>Irish</i>	<i>English</i>		<i>Irish</i>	<i>English</i>
English	94	90	English	98	70
Accountancy	94		Typewriting	98	68
Mathematics	93	93	Shorthand	96	
Woodwork	91	68	Home Economics	94	91
Commerce	90		German	89	
Metalwork	89	71	French	89	54
Mechanical Drawing	86	57	Commerce	87	
Geography	86	54	Geography	85	41
French	84		Mathematics	85	44
Physics	82		General Science	83	44
General Science	81	60	Spanish	81	
Biology	77		Biology	80	
Gymnastics	76	53	Civics	73	
Chemistry	75		Gymnastics	72	56
Civics	66		Religious Knowledge	72	51
History	65	29	History	61	40
Art	62	27	Irish	59	
Religious Knowledge	56	22	Latin	58	
History & Geography	55		History & Geography	54	
Music	52	8	Music	52	25
Irish	48		Art	48	50
Latin	37				

TABLES 10 and 11

Proportions saying that various school subjects were *interesting*,
out of those taking the subject.

	BOYS		GIRLS		
	<i>Irish</i>	<i>English</i>		<i>Irish</i>	<i>English</i>
Woodwork	90	75	English	86	70
Metalwork	88	76	Home Economics	83	87
Geography	82	57	German	82	
History	79	41	History	82	40
Biology	79		General Science	82	44
Gymnastics	78	64	Biology	80	
General Science	76	60	Spanish	79	
Mechanical Drawing	73	55	Geography	78	41
Art	73	52	Typing	73	68
English	70	53	Art	69	50
Commerce	69		Gymnastics	69	56
Mathematics	62	49	French	68	
Chemistry	62		Commerce	64	
Accountancy	59		Civics	64	48
History & Geography	59	41 & 57	Shorthand	63	
Physics	57		History & Geography	62	40 & 41
Civics	57	47	Mathematics	61	44
Music	52	14	Music	56	23
French	45	27	Religious Knowledge	53	31
Religious Knowledge	40	18	Irish	50	
Latin	33		Latin	43	
Irish	32				

It is worth making one or two further comments about the results concerning mathematics and the humanities.

In Britain, about 95 per cent. of males who had taken or were taking mathematics, regardless of their actual or intended age of leaving, said that the subject was useful. On the other hand, only 50 per cent. of the fifteen year old leavers and 60 per cent. of those leaving later said that it was interesting, and over half wished they were better at it. These results suggest that there is no need to jiggle with maths syllabuses to make them more obviously useful. The problem is to make them more interesting.

The humanities, which could do so much to encourage pupils to be receptive to new ideas, to develop powers of critical thought, to widen their horizons, and to encourage them to think about their basic values and philosophy of life, were only occasionally seen as interesting and even less often seen as useful. One is left with the feeling that, if the objectives just listed are the objectives of teachers in the humanities, then it is necessary to ensure that the courses are more closely related to these objectives and to make the relevance of the subject to the future lives of the pupils clearer to them.

In order to emphasise the importance of these findings (which show how few pupils at school thought many of their subjects useful), it should be mentioned that there were *no* subjects which the pupils changed their minds about as they grew up. No subjects were felt to be useful by the twenty year olds which the pupils at school had not felt to be useful. In other words, there is no justification for the belief often expressed by teachers, that "When you're older you'll wish you had paid attention".

Pupils' complaints about the lack of interest of school subjects (about 50 per cent. of the fifteen year old leavers found less than half of their school subjects interesting) is not an expression of youth's tendency to grumble. When the English twenty year olds who had left school at fifteen were asked if they: (a) found their jobs interesting (b) liked their employers and (c) liked their work, 80 per cent. said 'yes' in each case. And the pupils were by no means oblivious of the fact that this improvement in their condition was round the corner. In spite of the fact that half the pupils felt nervous and apprehensive about starting work, 79 per cent. of the English thirteen — sixteen year olds who were intending to leave at sixteen, felt that being at work would be definitely better than being at school; and even 53 per cent. of those intending to leave at seventeen felt this. The reason given by the pupils was usually that they would be earning money, but about 50 per cent. felt that work would be more interesting than school. Those at work were particularly pleased to be doing something they liked all the time and not having to do all the uninteresting things they had had to do at school.

In Ireland — we do not know about Britain — the subjects which pupils found useful and interesting varied markedly with the occupation they hoped to enter.

Both boys and girls hoping to enter teaching rated Irish more useful than did pupils who hoped to enter other courses with the exception of girls going into nursing. Prospective nurses also found Irish more interesting, but prospective teachers did not!

Pupils hoping to enter science or the professions such as law or medicine were more likely than others to think French and chemistry useful, but not necessarily more interesting. Girls going into the professions thought mathematics more interesting. Girls going into nursing also thought Latin more interesting than did others.

Boys going into manual work thought religious instruction both more useful and more interesting than did others.

Girls going into clerical work were particularly likely to find home economics interesting.

In view of these results, it seems likely that, whether we like it or not, pupils relate their interests, and the school topics to which they are prepared to pay attention, to the destinations they see themselves bound for. They seem to be asking themselves "What use will this subject be to me as a van-boy, bricklayer, teacher, housewife or doctor?" If they answer that question negatively they are likely to switch off and, given the resultant state of boredom, learn very little, or at least very little of positive value. This may be why Berg (1970) finds little correlation between educational performance at school and performance in in-service training courses. When pupils come to see the point of learning something — because they can see they need it in order to do their jobs, or lead their lives, more effectively — they may well be able to learn it. But from the point of view of the present chapter, these results suggest that it is unlikely that the goals to which teachers, pupils, and parents attach so much importance can be being effectively achieved with many pupils. The data strongly suggests that if *any* goals — academic or non-academic — are to be achieved with many pupils then some form of educational programme which permits all pupils to exercise and develop a wider variety of competencies and which permit different pupils to develop different competencies is needed. And this, in turn, suggests that educational structures may need to change so that pupils who, as a result of participating in educational programmes tailored to their felt needs, fail to develop some competence, or to acquire some store of knowledge, which they later come to need, can re-enter the educational system in order to pick it up.

There is one more aspect of this data to which we may draw attention. Although the implications of the data from the point of view of developing 'motivating' and enthusiasm-generating courses will be discussed more fully in Chapter XXIII, it is relevant to point out that the subjects which most pupils perceive as relevant and involving are those which enable them to exercise a range of different competencies — and not just one type of competency, which permit different pupils to do different things and which permit pupils to obtain the sorts of satisfaction they say they want out of their jobs (see chapter XXI). One can enjoy woodwork or geography because one likes designing, or because one likes practical activity, or because one likes working with others, or because one likes producing a nicely finished product, or because one likes making something distinctive, or because one likes thinking for oneself and doing something different. One can do a number of things; a variety of motivations can be tapped. Any one pupil can obtain a variety of satisfactions and different pupils obtain different satisfactions. The case for emphasising project-based pupil-centered educational programmes if enthusiasm-generating courses are to be developed — enthusiasm-generating courses which are essential if pupils are to develop the competencies which everyone connected with education considers most important — therefore seems to be overwhelming.

Teachers' Perceptions of Pupils' Reactions to Subjects.

We have one final set of results to report here. Surely the attitudes, values, and styles of behaviour which teachers convey to their pupils will be influenced by their own perceptions of whether their pupils will find their subjects useful and interesting. And what if teachers know that their pupils find their subjects boring and useless but do nothing to improve the situation? Can they then be said to portray in person the type of effective behaviour they hope their pupils will develop?

In the Irish study, teachers were asked to estimate what proportion of their pupils thought the subject they mainly taught interesting and useful.

On the whole teachers' estimates of the proportion of their pupils who would find the subject *interesting* corresponded with reality. The only exceptions were that Latin teachers markedly overestimated their pupils' interest in the subject, and history teachers underestimated the proportion.

However, in spite of the accuracy of the teachers' perceptions in this area, what is one to make of a situation in which teachers of mathematics, Irish, and French correctly perceive that only about half their pupils find their subjects interesting? Surely such teachers should try to do something about this and try to make their subjects more interesting — rather than put up with a situation which, from their point of view, must be almost intolerable. And as we have already asked, how can one expect pupils in such classes to develop the qualities of character we have discussed, and which both they and their teachers would like them to develop, if they do not see their teachers achieving their own goals effectively and if teachers communicate to them their expectancy that, in spite of the fact that they say that one of their own main goals is to make the pupils enthusiastic about their subject, *they* do not expect their pupils to find the subject interesting?

On the other hand, what a soul-destroying situation for teachers to be in — to feel strongly that they want to make their subject enjoyable but to know that, in fact, their pupils are bored; to want to do something about the situation but not to be able to do so. Nothing could be better calculated to demoralise and kill the enthusiasm of teachers. Nothing could be more likely to cause them to give up any ideals they might have had — in order to maintain a semblance of order among their disinterested and rebellious charges. No wonder many of them come, as our results show they do, to think of disinterested pupils as "less academic" than others, and of "less academic" pupils as having no place in school: they have tried to find ways of interesting them in the task they have been told to set them, and have failed. Yet the fact that they, as teachers, have not been in a position to say that other goals would be more appropriate to these pupils and to pursue them with them should not be overlooked. They have been caught up in an examination system which they can do little to influence.

Teachers are not only aware of their pupils' lack of interest in their subjects, they considerably *underestimate* the proportion of pupils who consider their subjects useful (Table 12). This particularly applies to teachers of mathematics, French, history, Irish and English. Once more they seem to underestimate the serious-mindedness of their pupils and the extent of their commitment to school work. But, once again, what a depressing situation for a teacher to be in: to know that his pupils are uninterested in his subject, and to think that they also consider the work useless. What perception of the situation could be better designed to lead the teachers concerned to adopt punitive, authoritarian, strategies in order to get pupils through examinations on the basis of which their own ability, as well as that of their pupils, will be judged? What perception could be better suited to encourage teachers to give pupils little responsibility and to check up on them repeatedly, to avoid experimenting with new ways of behaving for fear that they will be taken advantage of, and to emphasise hard work at boring tasks rather than encourage pupils to seek out interesting and important things to do? It is high time, it seems, for teachers to be given an opportunity to vary the goals they are expected to pursue from pupil to pupil and to match these goals to the pupils' interests and needs. Finally, from these results, it also appears that the current prognosis for the achievement of

TABLE 12

Teachers' estimates of the proportion of their pupils who think their subject will be really useful to them in later life, compared with the actual judgement of pupils

	Average teachers' estimate of per cent of pupils who will think subjects useful	Per Cent of pupils* who think subject useful.	Difference
Home Economics	88	94	6
Woodwork	82	91	9
English	76	96	20
Geography	73	86	13
Commerce	71	88	17
French	63	87	24
Mathematics	58	90	32
Latin	44	46	2
History	41	63	22
Science A	48	72**	34
Irish	32	54	22

* Since the teachers were not asked to make separate estimates for boys and girls it has been necessary to combine the figures for boys and girls for the purpose of this table.

** This figure includes the pupils' answers to the usefulness of general science, Biology, Physics and Chemistry.

important non-academic goals is very poor indeed. The achievement of such goals demands that pupils be committed to, and enthusiastic about, their learning, and that different pupils be able to strive to reach different goals. This can only be achieved if responsibility for learning is delegated to the pupils.

Overall Reactions to School.

We have now seen that many pupils would like courses which differ from those their teachers think appropriate to them, that teachers underestimate their serious mindedness and seem unwilling to delegate to them the responsibility for learning which would be necessary if they were to achieve their goals, and that pupils are often not very enthusiastic about their school subjects. We suggested that the subjects pupils found interesting were subjects which enabled them to develop a range of competencies and which offered variety in the activities to be undertaken, and we suggested that it is unlikely that teachers would be able to achieve their goals in the character development area through courses which were unrelated to the pupils' goals and values. We further suggested that if *any* educational goal was to be effectively achieved the pupils would have to be involved in, and enthusiastic about, their studies. For many students this did not seem to be the case at the present time.

A final indirect assessment of the likelihood with which schools are achieving the goals that teachers and pupils consider most important, and varying these goals to suit the needs of different subgroups of pupils, comes from two studies we have made of pupils' overall reactions to school. One of these was the Attitude Survey which we have discussed at length; the other was a subsidiary study made in connection with the IEA Survey of Civic Attitudes.

Overall Liking for School.

In the attitude survey we asked the pupils to indicate which of the following statements was true for them: "Most days I look forward to going to school; sometimes I look forward to going to school, but usually I don't; sometimes I hate going to school but most days I don't; or, I nearly always hate going to school". Of the 553 boys answering this question 36 per cent. said that most days they looked forward to going to school. This compared with 43 per cent. of the 573 girls (Table 13). Irish pupils seem to be less happy at school than British ones in spite of the fact that none of them belonged to the 'early leaving' group, which comprised the bulk of the British sample, and the fact that they found more of the subjects interesting and useful. In Britain 62 per cent. of the boys and 63 per cent. of the girls looked forward to going to school most days. The difference between the sexes, which was more marked at the younger ages in Britain, may be attributed to the fact that, in general, schools tend to be more geared towards the educational needs of girls than boys: Large numbers of girls enter careers or jobs such as teaching, nursing or secretarial work where the skills they have learnt at school are directly relevant. This is much less true of boys. Almost one third of the pupils sometimes or most days hated going to school.

TABLE 13
Attitudes to school by sex

	Boys	Girls
	%	%
Most days I look forward to going to school	36	43
Sometimes I look forward to going to school but usually I don't	26	17
Sometimes I hate going to school but most days I don't	28	33
I nearly always hate going to school	7	2
No answer	3	1
Unweighted base (= 100%)	691	690

Neither age nor intended age of leaving had much influence on pupils' liking for school, and trends with social class were not consistent within the different types of school. However, as table 14 shows, pupils' feelings about school varied markedly with the jobs they hoped to enter. Boys hoping to enter medicine, teaching and science were the most likely to look forward to going to school most days, and those expecting to enter management, become professional technicians, or become farmers were the least likely to do so. Girls hoping to enter secretarial or office work, science or teaching were most likely to look forward to going to school, and those hoping to become professional technicians, such as computer programmers or interpreters, to enter social work or artistic occupations were the least likely to do so.

Although there are exceptions, those who will have to stay in the educational system longest had the most positive attitudes toward school. However, girls who hoped to become shorthand typists, and who would therefore be expected to enter work fairly soon, were remarkably positive about school. Perhaps this was because they could see the vocational relevance of what they were doing. As we shall see in a moment, they were also particularly likely to say they would be still happier in a job.

TABLE 14
Whether Pupil Looks forward to Going to School by
Occupation Hopes to Enter

Boys

Anticipated Occupation	Most days Looks Forward to School		Occasionally Looks Forward to school	Sometimes or Always Hates going to school	Weighted Base (= 100%)
	%	%			
Medicine, Dentistry or Veterinary	46	6	41	26	
Teaching	45	16	36	70	
Professional Scientific	43	22	34	22	
Armed Forces, Fire or Police Service	41	25	30	20	
Professional Engineers	40	47	14	29	
Fitters and Mechanics	38	21	30	31	
Ship and Flight Officers, Pilots and Navigators	38	33	24	44	
Building and Construction	36	29	33	58	
Law, Accountancy and Research	29	24	47	44	
Other Manual e.g. factory workers baker, machinist	27	26	39	12	
Farming, Forestry and Fishing	24	40	34	19	
Administration and Management	23	21	57	22	
Other Professional Technicians: e.g. Draughtsman, Computer Programmers	22	26	52	25	
Total	36	26	35	553	

Girls

Secretary, Shorthand Typist	55	13	29	60
General Clerical or Office Work	47	13	35	52
Professional Scientific	45	26	24	19
Teaching	44	15	40	134
Nursing	43	14	34	80
Medicine, Dentist or Veterinary	41	26	33	31
Air Hostess, Sales Rep, Nanny	39	28	34	27
Artistic Creative e.g. Journalists, Sports, Actor	37	21	41	19
Social Worker	31	25	41	16
Other Professional Technicians: e.g. Computer Programmer; Interpreter	28	14	58	14
Total	43	17	38	573

In the light of this data it is of interest to reconsider the common assertion that pupils who plan to enter occupations which demand considerable amounts of schooling are those who are most prepared to delay gratification for the sake of a greater long term gain. It would seem that those who plan to stay in the educational system longest are getting the greatest *immediate* rewards for their efforts: they are not putting up with frustrations *now* in order to get benefits in the future. They are the pupils who currently find school the most satisfying. Contrary to what is commonly believed, it seems that they can have their cake and eat it.

Attention may also be drawn to the pupils who sometimes or always hate going to school. Occupations which do not attract happy pupils do not turn out to be the same ones as attract disgruntled pupils: Among the boys, future administrators and managers most often hate school, followed by future professional technicians and researchers. These must surely be the people who have seen through the educational system and, while they know where they want to go, also, as Stevens (1961) has suggested, see that the educational system is a system which, while socially important, is educationally irrelevant, and, as such, something to be grimly endured rather than enjoyed, and something to be beaten by any means possible.

Among the girls, the occupations which attract the pupils who hate going to school seem to be the same ones as attract few of those who like school.

Relative Happiness of School and Jobs.

The distribution of responses to a question about whether, if they left school now and got a job, they would be happier than they were at school is shown below.

TABLE 15

Realtive Happiness in a Job or at School by Sex of Pupil

	Boys %	Girls %
I would be much happier in a job than at school	17	9
I would be somewhat happier in a job than at school	16	13
It wouldn't make much difference to my happiness	21	21
I would be less happy in a job than at school	24	29
I would be much less happy in a job than at school	21	27
No answer	1	1
Weighted base (=100%)	553	573

It would seem that about half the pupils think that life out of school would be worse than at school. On the other hand almost one boy in three feels he would be happier in the sort of job he could have got if he left school now, and one in six feels he would be much happier in that sort of job.

Once again, as tables 16a and b show, these responses varied markedly with the job the pupil hoped to enter. Boys hoping to become builders, fitters, and farmers were the most likely to feel that they would be much happier in a job. Future scientists, pilots, medics, and managers were the most likely to feel that they would be much less happy in a job. Among girls future secretaries and office workers whom, as we have just seen, were very happy at school, thought they would be still happier in a job. Future scientists, medics, and teachers were the most likely to feel that they would be much less happy in a job.

Those who expected to leave school earliest were more likely to have very positive attitudes towards work, though the differences were not so marked amongst the girls.

Table 16a
Whether Pupil would be Happier in Job by Occupation Hopes to Enter

Anticipated Occupation	Boys					Weighted Base (=100%)
	Much Happier in job	Somewhat Happier in Job	No Difference	Less Happy	Much less Happy in a Job	
Building and Construction	32	19	22	18	7	58
Fitters and Mechanics	26	22	23	11	10	31
Farming, Forestry and Fishing	16	32	24	17	11	19
Armed Forces, Fire or Police Service	17	21	22	33	5	20
Other Manual e.g. Forestry Worker, Baker, Machinist	17	17	13	26	18	12
Law, Accountancy and Research	13	18	21	21	27	44
Professional Engineers	10	19	19	14	39	29
Teaching	9	18	22	33	19	70
Other Professional Technicians: e.g. Draughtsman, Computer Programmers	12	14	22	16	36	25
Administration and Management	13	12	21	25	29	22
Ship and Flight Officers, Pilots and Navigators	11	12	23	34	18	44
Medicine, Dentist or Veterinary	6	12	19	31	32	26
Professional Scientific	4	4	16	43	32	22
Total	17	16	21	24	21	553

TABLE 16b
Whether Pupil would be Happier in Job by Occupation Hopes to Enter

Anticipated Occupation	Girls						Weighted Base (=100%)
	Much Happier in job	Somewhat Happier in Job	No Difference	Less Happy	Much less Happy in a Job		
Secretary, Shorthand Typist	19	19	24	23	15		60
General Clerical or Office Work	18	19	20	30	11		52
Nursing	11	14	26	33	12		80
Artistic Creative e.g. Journalist, Sports, Actor	11	11	13	30	30		19
Other Professional Technicians: e.g. Computer Programmer, Interpreter	0	22	37	16	25		14
Social Worker	6	12	0	34	47		16
Air Hostess, Sales Rep, Nanny	9	7	28	45	11		27
Teaching	7	9	23	29	33		134
Medicine, Dentist, Veterinary	3	0	7	25	65		31
Professional Scientific	0	0	21	14	63		19
Total	9	13	21	29	27		573

Who Hates School?

We have seen that pupils who saw themselves bound for certain destinations were much more likely than others to say they would be happier in a job than at school.

In the hope of gaining some insight into the ways in which schools might be improved to make them more acceptable to the sort of pupils who dislike them a detailed study was made of those pupils who sometimes or always hated going to school and of those who thought they would be much happier in a job. The importance these pupils attached to the various aims of education, the extent to which they felt schools should do more to achieve these aims, the sort of teacher they would work for, the sort of behaviour they felt deserved corporal punishment, their own reactions to corporal punishment, and their views on whether corporal punishment was used too much or too little were all studied in detail and compared with the views of other pupils.

This analysis yielded only one or two stray trends which were probably due to chance: compared with pupils who looked forward to going to school, pupils who hated going to school do not have different felt needs from education, think that different things about school should be changed, feel that they would work hard for a different sort of teacher, react differently to corporal punishment or more often think that corporal punishment was used too often. Nor did those who felt they would be happier in a job differ from those who preferred school on these variables.

In summary, we have been unable to discern any differences in the reactions to school of those who disliked it: the differences seem to be due to extra-school influences such as the pupils' reference groups.

Since satisfaction with school does relate to job aspirations, and since the British study showed that, to a considerable extent, young school leavers knew what the jobs they hoped to enter would be like, two things appear to be happening. First, the pupils who are shortly to leave school, and know what kind of jobs they are going to enter, ask themselves "What use is what I am learning going to be to me as a bricklayer/bus driver/housewife?" Pupils can only ask this question as they approach the point of entry to a career. Up to that point their elders' assurance that what they are doing is relevant is taken on trust. It is significant that, if university students get round to asking this question, it also tends to be in the last two years there. The more difficult question — which remarkably few educationalists seem to ask either — which runs "Given that this is what I am going to do, what might schools do to help me do the job better?", never get serious consideration. Hence the agreement on educational objectives between pupils who expect to enter different jobs. The second process which seems to be operating is that pupils who are bound for different destinations compare school with those destinations and conclude "in comparison with the sort of treatment and respect I will get there, I don't like this place". As a result of these two processes, pupils' answers to questions dealing with their overall satisfaction with school bear little relationship to their perception of school, what it should be doing, or what might be done to improve it.

The fact that liking for school is unrelated to so many of the variables with which one would have expected it to relate, is of considerable significance for currently popular theories which link dislike of school with failure at the sorts of tasks they are asked to do there. We have no evidence at all to support this position, and many of those who intend to continue in education and who are successful there, seem to dislike school.

The IEA Civics study provides further evidence supporting the idea that dislike of school is not due to failure at school, or to a conflict of values between the home and the school, or that it necessarily leads to dropping out from school. About a quarter of the students, who were drawn from the thirteen to fourteen and seventeen year old age groups, agreed that "I generally dislike school work"; half that "there are many school subjects I don't like"; and rather more than a third said that "school is not very enjoyable". Only one in five of the fourteen year olds (although one in three of the seventeen to eighteen year olds) said they enjoyed everything about school. Two thirds and a half, respectively, said that they did not find school exciting. Nevertheless ninety per cent. of the pupils said that they wanted as much education as they could get.

A composite measure of liking for school was prepared from these and similar items. Scores on this scale did not correlate at all with the frequency with which pupils took standardised tests, with whether or not they were taking examinations, with the pupils' general knowledge, with the pupil's belief in the rightness of authority, or with their father's socio-economic status, (i.e. with whether the pupil came from a background whose values would be expected to be congruent with those of the school and which would be likely to support school activities). They did correlate with the pupil's assessment of the amount of independence he was allowed in the classroom ($r = .26$), (itself influenced by his reference standards, of course), with his interest in civics TV (.25), with the level of education he expected to attain (.24), with his intelligence as measured by a vocabulary test (.12) and, negatively, with the extent to which he engaged in hedonistic (or adult) behaviours like smoking, drinking, and sex (-.26).

It is of great interest that liking for school should be unrelated to the complex of social and economic variables associated with father's occupation and that this data should support the findings of the attitude survey suggesting that destination is more important than social origin in determining pupils' reactions to school. It is also of great interest that so little of the variance — under 2% — should be associated with verbal intelligence or general knowledge. The measures themselves are not faulty because they did correlate with other variables. It is also of considerable interest that liking for school should be negatively correlated with the strength of the pupil's tendency to engage in adult behaviours like smoking and drinking and, as a result, his wish to be treated as an adult, that it should be positively correlated with the sedentary intellectual activity of watching serious television programmes, and that it should be correlated to about the same extent as the attitude survey figures suggest with expected education: many go on with their education in spite of the fact that they dislike it.

The sorts of results reported here are also found in some other studies. Thus Bill *et. al* (1974) find that actual age of leaving school is not predictable from whether or not the pupil likes school. It is predictable from whether or not he is in an examination class and taking examinations — thus reinforcing the stress we have ourselves placed on this variable — and from the pupil's values — such as the emphasis he places on hair styles, pop-music, and dancing (which may be taken as indexing the pupils' concern to be treated as an adult, and his desire to live an adult's and not a child's life).

Sandven (1968) in Scandinavia obtained very similar results to our own. Just under half the students only 'rarely' or 'now and then' enjoyed school. Thirteen per cent. saw little or no value in their school work and would leave if they could. More of the higher stream students than the lower stream students liked their school work 'always' or 'as a rule'. (Although the proportion who liked it 'rarely' or 'only now and then' dropped to a third among pupils in the higher streams this is still a size-

able disgruntled minority). A correlation similar to that found in the IEA study between liking for school and word knowledge was found between liking school work and 'problem-solving ability'. Nevertheless, real though the relationship was, it was not such as to explain much of the variance. A rather stronger, but still weak, relationship was found between home background and liking for school work, but the author is at pains to point out that this may be dependent on the relationship found with ability.

In contrast to the results of these studies, Summer and Warburton (1972) did find that alienated students were differentiated from others in terms of their attainments, home background, personality, attitudes, and, to a lesser extent, ability.

The figures from these surveys are distressing. Although it would not be correct to conclude that nobody likes school, the number who do dislike it is sufficiently large to form a highly disruptive minority, disruptive not only of their own achievement of educational goals but disruptive also of the teachers' attainment of his goals with other pupils as well. Furthermore, widely current explanations of alienation from school — in terms of such things as the values of school being congruent with those of middle class children, but not with those of working class children, or in terms of catering only for the more intelligent child, are obviously unsatisfactory. Reality seems to be much less esoteric, much more understandable, and much harder to deal with other than by radical reforms in education. If pupils are alienated from school it is not because their mothers don't favour it or understand it; it is not because the teaching techniques have left the pupils behind; it is because they are not able to exercise their abilities and competencies, and because they can see that what they are doing is going to be of little value to them in the lives they are going to lead. The sole value of school — one which virtually all pupils appreciate — is that the level of education one attains relative to other people determine one's status in society.

School as a Community Centre.

In the attitude survey pupils were asked whether, if schools were open in the evenings so that parents, other adults, and present pupils could come to take courses of education and pursue hobbies, attend social clubs or just meet informally for a chat, they would come. The answers to the question not only indicate their feelings about school-based activities, they also throw further light on pupils' feelings about extra-curricular activities. As we have seen, these provide a means of reaching some of the educational goals pupils considered most important. On the whole the response was favourable, particularly so far as the girls were concerned: 79 per cent of girls thought that they themselves would attend as against 67 per cent of the boys. It would seem that, whatever else the results may show, they show that pupils are not so alienated from school that they would refuse to enter the buildings. We have already seen that half the boys and two thirds of the girls indicated that they thought schools should do more by way of providing extra-curricular clubs and societies out of school hours, and about one pupil in five spontaneously mentioned at the end of the interview that there should be more extra-curricular activities. These results seem to lend weight to the conclusion that such activities would be well supported. The type of school attended, its size, equipment, clubs and whether it was single sex or co-educational did not appear to affect the way in which the pupils responded.

Summary and Discussion of Overall Attitudes to School.

We have seen that rather more than a third of the boys, and just under half of the girls, look forward to going to school most days. However more than a third

sometimes hate going to school and one in twenty nearly always hate it. A quarter generally dislike their school work, a third feel they would be happier in a job than at school, and less than half find school exciting. Only a quarter felt that there would be many advantages in staying on at school if they did not take examinations.

In spite of these rather negative attitudes, two thirds felt that they would come to school in the evening if it functioned as a community centre. We do not know whether the missing third are the same pupils as those who have negative attitudes toward school — whether they are the same third who hate going to school and the third who feel they would be happier in a job.

Nevertheless it would seem that something of the order of a third of the boys, most of whom are not "compulsorily" at school, have negative attitudes to school. They sometimes hate going to school or they believe they would be happier in a job. They may not come to community centres in the evenings. Half of the boys felt there were few or no advantages in staying on if one did not take examinations.

One cannot avoid the impression that there is a sizeable minority of pupils who see little value in school work as such (once examinations have been discounted), who dislike what they are doing, and who would rather not be there. Under such circumstances what hope have teachers of achieving the fine objectives they set themselves? And not only with these disillusioned, disgruntled, pupils: one can be quite certain that such a minority will prevent teachers achieving their objectives with the other pupils as well.

Teachers' Definition of Less Academic Pupils, and the Theory of the Intellect it Implies.

A final line of evidence suggesting that schools cannot be achieving their objectives in the character-development area comes from the definitions which about two thirds of the teachers interviewed in the survey gave of 'less academic' pupils, the model of the intellect implied by this definition, and the probable implications for classroom processes.

As we have seen, teachers think that an educational programme directed toward the same goals is equally appropriate for the more and for the less academic pupils, while, in fact, pupils do vary a great deal from one to another, and in systematic ways, in what they want out of their education. Although this data deals only with preferences for, or felt needs from, education one also suspects that, in spite of the slight evidence available to support the proposition adduced by Taylor (1971), serious investigation would reveal that different pupils had different strengths and talents to develop; that no pupil was devoid of some real strengths which educators could help him to develop if only they thought of their job in wide enough terms. Taylor, and some of the teachers interviewed in our own surveys believe that if a pupil is poor at academic activity that does not necessarily mean he will be poor at creativity, decision taking, forecasting, leading, or thinking clearly. Conversely a pupil who is good at one of these things is no more or less likely to be good at the others than a pupil who is poor at the first task. Considerable support for this theory comes from Taylor's own work. In addition Wing and Wallach (1971) have demonstrated that simply widening the university admission net to include talented non academic accomplishment would result in a 50% change in the names of the candidates selected.

This theory, of course, runs counter to the traditional European view of intelligence, which postulates a single factor theory of the intellect. In response to

this Taylor points out, firstly, that measures of many of these competencies were not included in the studies which led to the development of the single-factor theory of intelligence. As Vernon (1972), Cronbach (1970) and Tyler (1965) have at various times emphasised, these studies were based on the intercorrelations between tests of different types of academic performance. Secondly, Taylor emphasises that, even if one works within the terms of reference which these investigators have set themselves, even if one agrees that there is a general factor of ability in this area, many of the intercorrelations between tests are of the order of .3. This means that 91% of the variance is not explained. In other words there is at least an even chance that someone who has a low score on one test will obtain a high score on another. Conversely, someone who has a high score on the first test is only slightly more likely than someone with a low score to obtain a high score on the second.

Any educational programme designed to build on Taylor's model of the intellect, to widen the range of characteristics with the development of which schools are directly concerned, to capitalise on the fact that different pupils have very different potentialities which they could be helped to develop, would involve both highly individualised instruction and highly individualised evaluation, together with a commitment on the part of the teachers involved to develop all of the talents of all their pupils; an expectation that *all* pupils have talents which it is the schools' job to help them develop, and an understanding of how to foster such diverse competencies.

Not only do schools lack the necessary system of instruction and evaluation, it seems that many teachers do not at present believe that all students have talents which it is the schools' job to help them develop. They appear to have adopted a single factor theory of the structure of human abilities. When the teachers who took part in the survey were asked to say what they meant by the term "less academic pupils", only one third of the teachers defined them as "pupils who have talents in other areas". The rest described them in such terms as "pupils who have no place in school", "less intelligent", "the weaker pupils", "less interested in academic subjects", "lazy", "slow", or "incapable of application". Such descriptions suggest that many teachers are not tuned in to the strong points which such pupils might possess and, as a result, that they would be unlikely to strive hard to help these pupils to develop their abilities.

These opposed positions reflect opposing perspectives found widely among educational theorists. Skilbeck has described them as "classical" and "romantic" positions, although the latter label does not seem to do justice to the available evidence. Whereas classicists perceive the problem facing us as being to find ways of catering for the weaker pupils without lowering standards, the romantics have stoutly maintained that the so-called weaker pupils are not weaker at all: they are just different. Furthermore many of the so-called more able pupils possess their greatest talents in areas which receive scant attention in traditional academic programmes: an attempt to cater more adequately for the so-called "weaker" pupils would therefore be expected to result in educational programmes which were also more appropriate for the "more able" pupils. It would enable all students to develop their talents and would enable teachers to strive to reach the goals which everyone connected with education considers so important. But the theory of the intellect adopted by about two thirds of the teachers seems to preclude this possibility. However, it is only fair to remark that the evaluation system, by focusing teachers' attention on such a limited range of competencies, has itself prevented teachers from recognising the wide range of abilities which pupils possess and which they could be helped to develop, and prevented teachers recognising the pupils' serious mindedness and interest in learning *relevant* things.

If teachers are to pursue wholeheartedly the goals which everyone connected with education considers most important they may need, not only an evaluation system which permits them to monitor progress toward their goals in this area, not only stimulation in thinking through the methods to be used to achieve those goals, not only educational settings which permit them to achieve different goals with different pupils, but also much better research data on the structure of human abilities, much greater acquaintance with pupils' values and interests and the variety of those values and interests, and an assessment system which measures different pupils against different criteria, which draws attention to, and focuses on, pupils' strengths and ignores their weaknesses except insofar as cognizance has to be taken of these for guidance purposes. More than that: they also need an evaluation system which ensures that teachers and pupils who devote their energies to achieving these goals receive public recognition for their activities.

In the absence of these things it would not be surprising to find that schools were not achieving their general objectives very well. We will review such data as is available in the next chapter.

Chapter XXI

MORE DIRECT EVALUATIONS OF THE EXTENT TO WHICH SCHOOLS ATTAIN THEIR NON-ACADEMIC GOALS

In the last chapter we saw that it is unlikely that schools can be achieving the objectives which most people connected with education — pupils, ex-pupils, teachers, and parents alike — consider to be most important. We saw that considerable proportions of pupils find their school lives boring and frustrating and can therefore be expected to disrupt any educational programme in which they are involved and fail to attain anything worthwhile in their own studies; we saw that most teachers feel obliged to goad their pupils to work toward goals which they themselves do not accept, and, as a result, cannot discover their pupils' values, interests, and abilities or trust them to work on their own. The result is that these teachers could not, even if they wished, tailor individualised programmes of instruction to their pupils' values and interests in order to foster the competencies they are most anxious to help them to develop. We also saw that the model of the intellect adopted by many teachers seems inimical to the attainment of many of the goals they set themselves and that many teachers underestimate the serious-mindedness of their pupils and their real interest in education. We have seen that there is a great need for more variety in educational programmes to cater more adequately for pupils with different felt needs, with different occupational aspirations, and with different subject-area preferences. And we have seen that there is a need for major changes in the evaluation system to cater more adequately for the fact that different pupils have different talents to develop. Given these findings we cannot expect schools to be very effective in achieving their main goals. Is there any more direct evidence which throws light on whether this is indeed the case?

In this chapter we will first review some studies of the benefits pupils think they derive from their education. This will be followed by a discussion of teachers' and pupils' assessments of the extent to which they feel they attain the objectives discussed in Part III. After that, we will move on to some more "objective" studies of the changes in self-perceptions, attitudes, and values which take place in the course of education.

In the course of reviewing studies of the changes which take place in pupils' self-perceptions, we will look first at the development of their perceptions of the sort of satisfactions they want out of their jobs and their lives, their self-images, and the development of their images of a number of courses and careers which they might take up. We will find that pupils develop many unfortunate images of important careers, vocational opportunities, and positions in society. This leads to a discussion of the role of careers guidance. Unfortunately, these images, although dysfunctional, are not necessarily incorrect and, as a result, it might not be justified for schools to seek to change them. The chapter then moves on to review studies that have been made of the effects of particular courses. When appropriate and sensitive measuring instruments have been used, it has been found that educational courses often have either no effect, or have effects different from those intended, and that the effects they do have are often undesirable. Possible undesirable effects of education which might be assessed more often are then summarised.

Pupils' Assessments of the Benefits Yielded by Education.

In the Irish survey, and in the English Sixth-Form study, pupils were asked whether there were many benefits to be derived from staying on at school beyond

the compulsory school leaving age. The English pupils who said that there were benefits were also asked what those benefits were. The question asked differed markedly between the two surveys. Irish pupils were asked whether they thought there were any advantages in staying on at school after 14 for pupils who were not taking exams. The results are given below.

TABLE 17
Advantages in staying on at school for non-exam pupils
(Irish data)

	Boys %	Girls %
Many advantages	24	33
A good number of advantages	15	24
A few advantages	33	27
Hardly any or no advantages	24	12
No answer	4	3
Weighted Base (=100%)	553	573

It would seem that more than half the boys, and just under half of the girls, think that there are few, or hardly any, benefits to be obtained from staying on if one does not take examinations. The data hardly makes one feel that schools are attaining important non-examination goals and helping pupils to develop qualities they value. This conclusion is strongly supported by Bill's (1974) data: pupils who were *not* taking exams were the ones who left school at the first opportunity.

On the other hand the English data is much more encouraging. It was obtained from pupils who had stayed on longer and who had in general been very successful in examinations. Unlike the Irish sample it did not include pupils who would be leaving as soon as they reached the compulsory leaving age. Pupils were asked: 'Apart from any exams you may pass or have passed, do you think that you personally will have benefited from staying on at school?' More than nine pupils out of ten felt that they had benefited in one way or another. First-year leavers were the most likely to see the possibility of obtaining an examination pass as the only benefit of staying on; a fifth of this group saw no other advantages.

51 per cent. of the girls and 37 per cent. of the boys felt that by staying on at school they had gained in maturity and had developed a sense of responsibility; they had become more confident and more understanding of other people. Girls, even more than boys, commented on their greater maturity. They said things like "I seem to have grown up. Suddenly you find yourself discussing instead of chatting aimlessly. You learn to respect other people rather than just going out and facing them straight away. Suddenly you become aware that everyone there is more friendly, not trying to vie so much"; "I have become more responsible by having to take on posts of responsibility and have thought more how my actions affect other people. I have learned how to get on better with people"; "Developed my outlook on life. Before I was rather shy and kept to myself. Since being in the sixth I've been encouraged by masters and the small groups to express my opinions. I can prove this by the Youth Fellowship I attend. I used to go along with everyone else. Since I've been in the sixth, I'm on the committee and been leading the youths in several projects. I'm not nervous at all now with people or in company"; "I feel I can hold my own in debating. In the fifth I had no experience like that. It has given me confidence and a sense of responsibility. I am secretary

of the angling club and I have to look after the younger members. In fact I have to think of them rather than myself". It is worth noting, however, that these qualities could probably have been fostered among younger pupils, had the educational system been designed to do so.

About 35 per cent. of the pupils said that their education had been broadened and that they had learnt more about current affairs, politics and the way other people lived: "I have a broader outlook from taking more general courses — speech training, survival course, TV broadcasts. Know more about the world outside — feel more of a person — know more in general"; "Lower than the sixth there are no social studies but in the sixth you take current affairs and things like that help you to think. In the fifth politics was just a jumble but now we discuss things like Malta and South Africa and I've learned a lot that I didn't know before"; "I've got a wider education, I take far more subjects that I knew absolutely nothing about. Even in my own subjects I've begun to learn more about people than I knew before".

Almost 33 per cent. mentioned the deeper and more thorough knowledge of their main subjects which they had gained, while nearly 20 per cent. appreciated learning how to study on their own and to think for themselves: "Up to fifth form you take the same subjects but sixth form work is much more detailed — you learn so very much more about the subject"; "I will have become much more capable of working on my own. Before I was working because I had to work — now I work because I want to".

A quarter of the respondents commented on the greatly improved career prospects that obtaining qualifications or just having been in the sixth form gave them. However, it should be stressed once more that the question asked for benefits *other than* examination passes, and, without this restriction the proportion giving this kind of answer might well have been larger. An example of the comments grouped into this category is as follows: "If I had left at the end of the fifth form I would have been quite young and would probably have taken the first job I could get, but as I've stayed on, I'll have a lot more choice of jobs and a chance to go to university. And the fact that I've got more qualifications will make me more confident".

Another quarter had enjoyed the sixth form companionship, social activities, societies and sports facilities. "This year gives you time to take part in the life of the school — house activities, cross-country running. There is not so much exam pressure now. I'm enjoying the societies more now I'm older"; "I enjoy the sports life. If I had left after the fifth form I wouldn't be able to do sports but there are lots of facilities at school"; "I like the social life at school. There's a lot of it — a great deal you can do, can take part in at school, like clubs. You don't get it if you go to work. There's a great deal of organized games which are beneficial — keep you fit and teach you how to be part of a team. All the facilities open to you at school, you wouldn't find when you left".

It is of interest that sixth formers who were holding positions of responsibility in the school (such as prefects, house or games captains, society or committee officers or members) were more likely than other pupils to say that they had become more mature and had developed a sense of responsibility. They were also more likely to comment on the companionship, social activities, sport and other facilities which they had enjoyed by staying at school.

Responses of students in full-time education in colleges of further education were very similar to those of sixth form pupils. In addition they appreciated being treated as adults and being able to work at their chosen tasks all the time instead of

at all the things they could not do, as they had been made to at school. There was however less emphasis on clubs and societies.

A Still More Direct Approach to Discovering Whether Educational Objectives are Attained.

Pupils' Views.

It will be recalled that in the various studies referred to we asked the pupils to state how important they considered a number of educational objectives to be. We also asked all the Irish pupils, and British sixth-form pupils, whether the school did enough to achieve each of the objectives.

What emerged was that many sixth-form pupils felt that schools should do more of a number of relatively unimportant things like:

- Introduce you to new subjects like philosophy, sociology or archaeology.
- Teach you about rates and taxes.
- Give sex education.
- Help you to know how to behave in social situations.
- Teach you things about bringing up children, house repairs etc.
- Take you on visits to factories and offices to see what work is like; visits to hospitals etc.

The things which pupils regarded as important but which were not sufficiently provided by the schools were:

- Give you information about jobs and careers.
- Introduce you to a wide selection of subjects from which to choose.
- Give you advice on most suitable careers.
- Give you information about courses of further and higher education open to you.
- Help you to express yourself orally with ease.
- Help you to develop your personality and character.
- Help you to think out what you want to achieve in life.
- Teach you things of direct use in your career.
- Help you to be confident and at ease when dealing with people.
- Help you to be independent.
- More small teaching groups.
- More outside speakers on careers and other educational topics.
- Take you on educational visits in connection with your subjects.
- More discussion lessons.

As we have seen in Part III, Irish pupils' responses were very similar. Another set of questions in the sixth-form study asked whether the school did enough of a series of things. What emerged was that pupils were least satisfied with:

- The number of dances and parties.
- The stress on pottery, painting and sculpture.
- The amount of accommodation for peace and quiet.
- The extent to which they had to remain in the school buildings during private study periods.
- The extent to which the school tried out new ideas.
- The frequency with which sixth-form pupils met to discuss social problems.
- The emphasis on subjects like economics, politics and current affairs.
- The extent to which the school helped develop values and a philosophy of life.

Teachers' Views.

So far, we have only discussed results obtained from surveys of pupils' opinions. It will be recalled from Part III that, in the Irish study, teachers as well as pupils were asked which objectives they thought they were unsuccessful in attaining and that they felt that most objectives other than examination achievement were not very well or poorly attained. The objectives for which there were the largest discrepancies between ratings of importance and attainment were:

Help pupils develop an interest in subjects other than those studied for examinations.

Make sure that they get an education that is so interesting, useful and enjoyable that they will be keen to continue their formal education in adult life.

Help them to think out what they really want to achieve in life.

Encourage the pupils to be independent and able to stand on their own feet.

Help them to understand the implications and responsibilities of marriage.

Make sure that they are confident and at ease in social situations.

Make sure that they can speak well and put what they want to say into words easily.

Make sure that they leave school confident, willing and able to take the initiative in introducing changes.

Help them to develop a considerate attitude toward other people.

Make sure that they leave school determined to make Ireland a better place in which to live.

It will be noticed that many of the objectives which were not as well attained as their importance merited were those which pupils regarded as both important and neglected by their schools.

In conclusion to this section, we may therefore say that teachers and pupils are to a considerable extent in agreement that schools do *not* achieve some of their most important objectives.

Development of Life Concerns and Values.

It was mentioned earlier that one of the functions and dysfunctions of education was the part it played in moulding pupils' general and vocational self-images.

In the sixth-form study a considerable amount of time was devoted to an examination of these developments. It was necessary to analyse about 150 items in order to study what pupils wanted out of their sixth-form education, out of their jobs, and out of their lives. This mass of data reduced to 19 factors: seven from what they wanted out of their sixth-form education, six from what they wanted out of their careers, and six from what they wanted out of their lives. Since the latter were developed from work carried out by Handyside at the National Institute of Industrial Psychology they are referred to as "Handyside values".

The seven factors that emerged from their concern about sixth-form education were: the extent to which the pupil was concerned about passing exams; the extent to which he was concerned to develop character, independence, responsibility and leadership; the extent to which he was concerned to be taught facts of practical value in everyday life; the extent to which he was concerned to develop intellectual skills of obvious practical value; the extent to which he wished to have a "with-it" modern education; the extent to which he wished to become a well informed citizen; and the extent to which he wished to receive educational and careers guidance. These factors were independent; although a pupil was very concerned

that schools should try to reach the objectives falling into one cluster, one would not be able to predict whether he would also be anxious that they should try to reach objectives falling into any other cluster.

The factors that emerged from the career aspiration items were:

- 1 Concern to be dealing with a variety of people and doing a socially useful job.
- 2 Concern to be doing non-theoretical paperwork in business and commerce.
- 3 Concern with novelty and variety.
- 4 Concern with benefits and prospects.
- 5 Concern to be doing theoretical, intellectually-taxing work.
- 6 Concern to have a congenial atmosphere in which to work.

The Handyside value clusters, which represented the values they sought to strive for in their lives, were as follows:

<i>Individualistic:</i>	original, unconventional, creative.
<i>Wordly Success:</i>	successful, rich, important.
<i>Moral Goodness:</i>	kind, sincere, generous.
<i>Contentment:</i>	tranquil, contented, friendly.
<i>Puritan:</i>	thorough, conscientious, dependable.
<i>Intellectual:</i>	clear-thinking, clever, intelligent.

What then emerged was that, although there were statistically significant differences in the mean factor scores of pupils taking different school subjects and courses, the most striking finding was the enormous range of desires and aspirations within each subject and course: the distributions of factor scores overlapped enormously. In other words, one found approximately the same number of arts pupils who wanted to communicate and to help people as one did science students; almost as many of those taking chemistry as of those taking English wanted to be original and creative.

In contrast to these small average differences between groups on the one hand, and the large overlap in basic desires on the other, there were extremely large differences in the images and self-images of the different groups of pupils. Scientists were regarded, by themselves and by others, as extremely intelligent, going to get on, and hard-working. They themselves were particularly emphatic that they possessed these qualities but it is interesting to note that the image is general; it is an image of scientists which is shared by the other groups. Engineers were seen as being considerably less intelligent and less likely to be going to get on. Arts people were seen to be about as intelligent as engineers, but more mature. However, they were seen as much more lazy (even by themselves) and less responsible. They also saw themselves as much more lively than the other groups, although this self-image was not shared by the other groups. Social scientists were seen as outstandingly responsible and mature, and about as intelligent as engineers and arts students. They were seen as more hard-working than arts students.

The pupils had also formed very different images of various jobs, careers, and courses of further education that they could take after the sixth-form. University was seen as extra-ordinarily exciting (no wonder Marris (1964) found that many university students were disappointed when they got there!) and also extremely

difficult. In contrast to the image of university, the jobs that would be obtained after completing a university course were perceived as being even easier than the sixth form itself (let alone university), but much more satisfying than either. Perhaps this implies that the jobs were thought of as providing an opportunity to make some real contribution to society, or perhaps they were thought of as making use of a wider range of one's skills and abilities. We do not know. But whatever the explanation, the impression seems to be significant: education is perceived as difficult and non-satisfying; work is much easier and more satisfying. Both university and jobs afterwards were perceived as being much less friendly than the sixth form itself.

Sixth-form pupils, unlike thirteen-sixteen year olds intending to leave school at fifteen, had extremely negative images of the jobs they might get if they discontinued their education straight after the sixth form or went to regional colleges of technology. It appears that pupils believe that, whereas the jobs obtained by fifteen-year old leavers are varied, interesting and responsible (and, from our studies of twenty-year olds who had left school at fifteen, the pupils appear to be correct in this view), the jobs open to pupils who persist in education beyond this point, but do not complete university, are routine, lacking responsibility, and dead-end. Colleges of technology suffered from a particularly negative image because, as well as not serving to lead to a worthwhile destination, they were themselves seen as being cold and unfriendly.

Two things emerge clearly from this data: one is that pupils have acquired (at least partly through processes that have taken place in school) distinctive self-images and pronounced images of careers and other courses of action. We just do not know how accurate these are. The second thing that emerges from this data is that, in spite of being at least partly responsible for the development of these images and self-images, schools have failed, at least among this highly selected sub-group of the population, to match the courses they offer with the basic concerns, values, and personalities of their pupils; they have failed to perform the basic guidance and placement function that they often claim to perform.

It seems to follow that schools could, if they set about it systematically, probably alter the images that pupils have of different careers and courses of action. They could also significantly influence the pupils' self-images. Whether they should do so is another question. Peterson (1960) has argued that they should. Yet, although some of these impressions are wildly inaccurate, others, while operating to encourage or discourage pupils to enter certain fields are remarkably accurate. Inaccurate perceptions include pupils' perceptions of science as being glamorous, exciting and creative. They also include pupils' perceptions of the university. As Pace (1969) has shown, incoming students have unrealistically high expectations of community feeling, awareness of social and artistic issues including personal growth and the welfare of mankind. These in addition to unrealistically high levels of expectation in relation to scholarship and thoughtfulness! On the other hand, research carried out by the staff of the Graduate Employment Register and by Salek and Julius (1965) makes it clear that, to a very considerable extent, the sixth-form pupils' images are as correct as the career images of Irish fifteen-year olds. Technologists *do* find themselves doing dull, routine work; they *do* find their capacities under-utilised. Engineers *do* find that they cannot get on. Scientists *do* get on, but only by turning to management and administration, and wish they had studied social sciences. It therefore seems that this is yet another sphere in which at least certain aspects of general population images are remarkably accurate. Other examples will be found in Katona (1966).

Thus, although something important is happening in schools, although pupils

are learning and developing in specifiable ways, it is not yet clear how the changes are taking place or how functional they are. We do, however, have some data which seems to suggest that the images are dysfunctional for society, although it may be up to employers rather than teachers to remedy the situation. Some of this data is presented below.

Only 3% of the sixth-form pupils said that it was very important to them to work in an office; only 7 per cent. to undertake social service work (including hospital, probation service or youth service work), 7 per cent. to deal with manufacturing plant or machines, 7 per cent. to deal with figures, 10 per cent. to work in industry, 11 per cent. to do theoretical work aimed at increasing fundamental knowledge, 12 per cent. to work in business, and 12 per cent. to fulfill general administrative or organising roles. In contrast, 40 per cent. thought it was very important to work at a university, 35 per cent. to be meeting a variety of different types of people, 31 per cent. to do work which was of immediate benefit to others, 29 per cent. to do work that demanded considerable initiative, 27 per cent. to work out-of-doors, and 25 per cent. thought it was very important to do artistic, creative work such as painting, writing or composing. Almost twice as many pupils (i.e. 62 per cent.) thought it very important to have a good salary, good opportunities for promotion and secure employment, as thought it important to do a socially useful job or to be able to take initiative in one's work.

Although some aspects of this picture are encouraging (concern to be of benefit to others, to be able to show initiative and so on), other aspects would seem to be far from functional (concern with salary and concern with security).

When the actual jobs the pupils hoped to enter were examined, it was found that half the girls and a fifth of the boys hoped to enter teaching of one form or another. Only 7 per cent. hoped to enter administration or management and 8 per cent. to become professional engineers; nearly all the rest hoped to enter service occupations. While these aspirations and intentions will no doubt be tempered by reality when the time comes to take a job, they present a bleak picture of the negative attitudes held by the youth of the country toward what many would believe to be, economically, the key roles in development.

Unfortunately, as we have seen, the evidence of the survey carried out by the Graduate Employment Register and by Salek and Julius (1965) shows that pupils are quite right to have negative images of industry, for the graduates who entered industry were least satisfied with their jobs, most often wanted to change, and felt most under-utilised of any graduates.

Other Studies of the Origin of Vocational Self-Images.

One or two other studies may be reported which also throw light on the origin of self-images and, in particular, of vocational self-images.

Rowlands (1961) studied the origin of science preferences. He found that the father's occupation had little to do with it, that the interests and attitudes associated with a decision to take science developed at an early age, that liking for a particular teacher was not a major determinant of the decision to go on with it, that liking for a subject was quite distinct from finding it easy, and that boys with higher levels of educational aspiration tended to have more hobbies and to spend more time on them than other boys. They gave theoretical reasons for the pursuit of their hobbies, and had more observational and creative hobbies.

Other studies by Mayer and Penfold (1961) and by Kelly (1961) have supported Rowland's findings.

Interest in science was not associated with ability at English, previous attainment at science, father's interest in science, or attitude to teachers etc. The choice was the pupil's own and was largely a product of the school environment; influence outside the school were few and vague. In school it was the nature of the subject, rather than teacher or the influence of fellow pupils, that was responsible for the student preferring science.

These studies are of particular interest in that, in contrast to some other studies which we will review shortly, they clearly demonstrate that schools *do* have a marked impact on some attitude-interest variables. Furthermore they highlight the fact that the school variables which are most important are not those commonly thought to be the most important: they were subject-matter variables, not teacher interest, parent interest, or peer pressure.

Careers Advice.

We have now briefly reviewed the role which education plays in the development of self-images, and, in particular, in the development of vocational self-images. What part can, and should, the school play in providing information about careers and life-styles in order to help pupils choose explicitly between them?

We saw in Part III that pupils thought that the provision of careers advice was one of the most important, and most neglected goals of education. Their views were shared by their parents. Flanagan and Russ-Eft (1975) have shown that inadequate appraisal of pupils' strengths and weaknesses coupled with an insufficient variety of courses and poor vocational guidance is one of the most important sources of dissatisfaction and frustration among adults and is associated with a pronounced inability of society to utilize the talents available to it. There is also abundant evidence from the work of Jackson and Marsden (1962), Carter (1962), Marris (1964), Stevens (1960), Chown (1958), Hutchins (1963) and many others that most pupils simply do not know about the wide range of careers and courses open to them. Carter (1962) and Jackson and Marsden (1962) found that pupils aiming to go to university are likely to be going to teach simply because they do not know of anything else. The trouble is that although they do know of the existence of courses of higher education in the subjects taught at school, pupils are not in a position to realise that there are a vast number of other courses they could take, particularly at technical colleges.

Yet, on the whole, teachers themselves both do not know of these courses and, often through ignorance, are in any case prejudiced against many of them and would discourage their pupils from considering them. Indeed, as we have seen, there is remarkably little data on the patterns of life satisfaction and frustration which are available in different occupations and which could be presented to pupils to help them choose a career and life-style more rationally. Yet it would be quite irresponsible to teach pupils to value different occupations without evidence of this sort.

Further Direct Studies of the Success with which Non-Academic Educational Objectives are Attained.

We now turn to another group of studies of the extent to which the educational system achieves its non-academic objectives. Whereas the studies reviewed previously dealt with self-images and vocational images and interests, the studies we are about to review deal with schools' attainment of the qualities of character which nearly everyone connected with education thinks it is most important for schools to seek

to foster.

In one study, King (1969) asked teachers to rank forty social objectives in the order in which they wished to develop them in their pupils. The first eight are given below:

- 1 To be honest and truthful.
- 2 To believe that there is more to life than just material gratification.
- 3 To be tolerant.
- 4 To have knowledge of what is good and valuable.
- 5 To hold traditional Christian moral values.
- 6 To be questioning and sceptical.
- 7 To have self-confidence.
- 8 To take pride in one's work.

In order to get further information concerning the qualities the teachers wished to develop, King also asked them to indicate how much they approved or disapproved of a variety of teenage interests, including television programmes.

King then studied the pupils' actual interests and television-viewing habits, how these changed as they progressed through school, and, by means of specially constructed psychological scales, assessed their degree of tolerance, scepticism, and their attitudes toward honesty and truthfulness. He also asked the pupils to indicate the sort of features they wanted in their jobs and what factors they thought might assist them to get on in their careers — the latter included things like working harder than others, being honest, speaking one's mind, and keeping one's views to oneself.

Whereas the teachers hoped that there would be an increase in the amount and range of reading activity as the pupils got older and more educated, King found no change in either; furthermore the brighter pupils read less than the duller. Older pupils were no more tolerant than younger. There was no decrease in the number of disapproved activities the pupils followed. Older pupils were no more sceptical; and the brighter pupils were less sceptical than the duller. Older pupils had no different attitudes toward honesty and truthfulness. When asked what they wanted from their jobs, older pupils did not display less desire for materialistic gratification but there was a decrease in desire to help others — the reverse of what teachers hoped.

Dressell and Mayhew (1954), as secretaries to a large American committee, reported a study of the effects of general education.

First, the committee collected evidence from teachers and deliberated about the aims of general education. As a result of this work, six areas were isolated and six committees set up to investigate them. Unlike most British committees, these were working committees and their members were expected to go back to their own schools to undertake the necessary research.

The six aims of general education that they isolated were:

1 *Citizenship*

To participate actively as an informed and responsible citizen in solving the social, economic and political problems of one's community, state and nation.

2 *Develop Understanding of Scientific Method and Willingness to Apply the Knowledge and Techniques to Social Problems.*

To understand the common phenomenon in one's physical environment and to apply habits of scientific thought to both personal and civic problems and to appreciate the implications of scientific discoveries for human welfare.

3 *Communication.*

To understand the ideas of others and to express one's own effectively.

4 *Emotional and Social Adjustment.*

To attain a satisfactory emotional and social adjustment.

5 *Introduction to Culture and Hobbies.*

To understand and enjoy literature, art, music and other cultural activities as expressions of personal and social experience, and to participate to some extent in some form of creative activity.

6 *Develop Critical Thinking.*

To acquire and use the skills and habits involved in critical and constructive thinking.

A great deal of work was carried out to devise and validate means of assessing the effect of courses attempting to achieve these various aims, but the research ran into all sorts of difficulties.

Let us take the development of "critical thinking" as an example. The first thing that happened was that, although everyone thought they knew what they were talking about, once the researchers tried to construct items to measure levels of critical thinking in pupils, it became quite clear that they were all talking about different things and proposed to assess "critical thinking" in very different ways.

Next, when they asked themselves what they would expect to be important environmental variables and aspects of teaching method which they would expect to be correlated with degree of critical thinking among students, they found that, however they defined it, very little was being done to teach it.

Both of these surprises came in spite of the fact that the committee members had previously been convinced that it was very important to have general studies courses in order to teach just these skills. In fact, it transpired that the items could have six varieties of content and five varieties of process, giving rise to thirty possible types of item.

The processes were:

1 Ability to define a problem.

2 Ability to select pertinent information.

- 3 Ability to recognise assumptions.
- 4 Ability to formulate a relevant hypothesis.
- 5 Ability to draw conclusions validly.

The content may refer to:-

- 1 Self.
- 2 Others.
- 3 Society.
- 4 Natural and physical universe.
- 5 Values and ethical standards.
- 6 Non-content problems (logic).

Using items from the social sciences only, they obtained the following correlation between the various processes:-

	Definitions	Selecting Information	Recognising Assumptions	Selecting Hypothesis	Drawing Conclusions
Definitions					
Selecting Information	.15				
Recognising Assumptions	.19	.23			
Selecting Hypothesis	.08	.20	.18		
Drawing Conclusions	.28	.28	.42	.26	
TOTAL TEST	.40	.51	.67	.64	.73

In other words there is only a *weak* general factor running through these different abilities. Although one can talk of overall critical-thinking ability, many people will be good at, say, defining a problem and *poor* at formulating a relevant hypothesis to explain something.

When the test which they had constructed was administered to the students, there was a slight improvement in scores with duration of course but it did not vary much with type of course. People who initially scored low seemed to gain more than the others.

Quite clearly, then, there are great problems in

- Making educational objectives explicit.
- Explicitly planning educational courses to achieve them.
- Accurately assessing whether or not they have been achieved.

The IEA "Civics" Study.

The most thorough investigation of any in this area is that carried out by the International Association for the Evaluation of Educational Achievement (the IEA), [see Raven and Litton, (1976), Torney, Oppenheim and Farnen, (1976), Litton and Raven (1977)]. This study, although labelled a study of "Civics" education, is, in fact, a study of the outcomes of general education. Scales were constructed to assess, not only the pupils' understanding of society and social, civic and economic

processes, but also to measure such things as their perceptions of the institutional structure of the societies in which they lived, their perceptions of the way these worked, their perceptions of their own roles in relation to them, and their expectations of the behaviour of other people in the social system.

Scales were constructed to assess the pupils' value for democratic processes, their perceptions of the responsiveness of their national and local governments to public opinion, their perceptions of the power of their local and national governments, their egalitarianism, and their respect for civil liberties. All these scales stood up well in analyses carried out within a number of different countries: they were stable and replicable in spite of the differences in political and school systems. There can be no question that the scales were not good scales, although, as we shall see later, they leave much to be desired by way of sampling the universe of attitudes and understandings in which we are interested.

Scales were also constructed to assess many educational process variables: the extent to which the schools encouraged independence in their classrooms, the extent to which project based teaching methods were being used, and their emphasis on rote learning, discussion, and individualised instruction. Finally the teachers' own attitudes and perceptions of the role of the citizen were assessed so that it would be possible to find out to what extent these rubbed off on their pupils.

Perhaps the most striking finding of the study is the number of expectations of professional educators which were refuted. Out of hundreds and hundreds of correlations between 'outcome' variables and the school type or teaching method variables, with which they would be expected to be correlated, not more than a tiny fraction exceed .09. In retrospect it is easy to explain this: one simply says "Well, you wouldn't *really* have expected them to correlate, would you?" But the fact is that many people *did* expect them to correlate and were even prepared to call these expectations 'hypotheses', without being able to be at all explicit about the theoretical links which had led them to expect the relationships. It cannot be too strongly emphasised that these hundreds of zero correlations represent hundreds of refuted, or at least, 'inferred' hypotheses. And most of these refuted 'hypotheses' are widely believed to be established laws of learning and not even accorded the tentative status associated with the word "hypothesis". Educationalists who have argued that these variables have a major impact, if not *the* major impact, in shaping civic and social attitudes and behaviours have included Merriam (1931), Key (1963), Hess and Torney (1967), and Litt (1934).

Let us look at some of the results. First we will deal with some of the correlations between pupil beliefs and attitudes and school, teacher, classroom, and pupil background variables. Later we will move on to look in more detail at some of the descriptive data on the specific beliefs, understandings, expectations, and attitudes which the pupils held, for they would be expected to have very disturbing social consequences and strongly suggest that it would be desirable for schools to pay more attention to seeking to influence such beliefs, understandings and attitudes.

Economic, Social and Political Knowledge.

Pupils' knowledge of the way their society works, and their knowledge of social, political, and economic institutions (knowledge easily indexed through classical assessment procedures) does not vary systematically with other detectable differences between schools. It is unrelated to the extent to which the schools make use of audio-visual methods, small group teaching methods, field visits or project work. The extent of pupils' knowledge of these issues is, however, correlated .63 with their verbal intelligence, .34 with the status of their father's occupation, and

.29 with the status of the occupation they expect to enter. It is unrelated to the extent of the pupils' participation in civic activities, to their liking for school, or to the degree to which they engage in adult behaviours like smoking, drinking, and dancing. Interestingly, it correlates .59 with the pupils' respect for, and unwillingness to question, the decisions of authority: pupils who have a wide general knowledge show little authoritarianism of this sort. The direction of the casual connection is not, of course, clear. Knowledge may lead to anti-authoritarianism, authoritarianism may lead to a refusal to absorb knowledge, or both may be the products of some other variable such as intelligence. The pupils' general knowledge of society also correlates .47 with their egalitarianism, and .44 with the value they place on the expression of criticism of government activity. It is unrelated to time spent watching television or listening to the radio, a fact which will come as something of a surprise to many people who regard these media as major educational influences.

Anti-Authoritarianism.

As was seen in the last paragraph an anti-authoritarianism scale was developed to measure such things as rejection of the belief that authority tends to be right, knows what it is doing, should not be criticised, and is entitled to force its ideas on others. A high score involved disagreeing with such statements as: "Hotels are right in refusing to admit people of certain races or nationalities" (endorsed by 9% of Irish thirteen year olds and 6% of seventeen year olds), "Regular elections are unnecessary" (endorsed by 29% and 23% respectively), "The people in power know best" (25% and 17%), "It is wrong to criticise our government" (21% and 6%) and "War is sometimes the only way in which a country can save its self respect" (31% and 30%).

Scores on this scale (*rejection of authoritarian beliefs*) correlated .41 with the pupils' verbal intelligence, and, as we have just seen, .59 with their knowledge of social institutions and processes. They did not correlate with the degree to which the pupils had been exposed to any of the teaching methods which were assessed in the survey, with the size of the family the pupil came from, with the pupil's liking for school, or with the extent to which they had engaged in adult behaviours like smoking, drinking, and getting into trouble with the police.

Efficacy.

The strength of the pupil's conviction that the government was responsive to public opinion was unrelated to the role they thought it appropriate for a citizen to adopt in society, and unrelated to any of the dimensions of teaching procedures, classroom processes, and teacher attitudes which were measured in the survey. However, by way of validation of the scale, it is worth recording that the pupils' scores on the scale correlated .43 with their evaluation of the government and .47 with their scores on another scale measuring the perceived responsiveness of the government.

Value for Criticism and Respect for Civil Liberties.

The strength of the pupils' belief that people should be free to criticise the government was related to their verbal intelligence and to the level of their formal understanding of social processes and institutions. The scale also correlated -.62 with authoritarianism, but correlated little, if at all, with the role the pupils thought it was appropriate for a citizen to adopt in society, and little, if at all, with the attitudes of their teachers, the educational processes or classroom processes to which they were subjected, or with their interest in civics TV and their participation in civic activities.

A broader scale measuring respect for civil liberties — the right of people to meet, to protest, and criticise the government if they want to, to swim in swimming pools with members of other races, and the right of newspapers to print what they wish — correlated .45 with anti-authoritarianism, and .72 with value for criticism of government activity. These correlations are not surprising since there was some overlap in the items. The scale correlated .31 with verbal intelligence and .40 with knowledge of civic facts and processes, but very little with measures of the educational practices and procedures to which the pupil was subject or with his teachers' attitudes.

Egalitarianism.

The extent to which pupils believed that all members of society — be they communists, policemen, doctors, or released prisoners — should have the same rights and freedoms ("Egalitarianism") was related to their anti-authoritarianism (.46), and general knowledge of society (.47), their verbal intelligence (.31), the socio-economic status of their father's occupation (.25), and their respect for civil liberties (.31). However their scores on this variable were unrelated to the role they thought appropriate to a citizen and very little related to their civic activities or to any of the school or classroom process variables included in the survey, or to their teachers' attitudes.

Expectations of a Citizen.

The extent to which the pupils thought it was important to engage in an active citizenship role, that is, to vote in elections, join a party, try to change things in government, and join a trade union, was unrelated to their intelligence, background, knowledge of social and civic processes, their assessments of the responsiveness of their government (c.f. Inkeles, below) or to the classroom processes and teacher attitudes they had encountered. It was related to their participation in civic activities (.10) and to the extent to which they engaged in adult behaviours like smoking and drinking (.21).

The extent to which the pupil thought it was important to engage in non political citizenship behaviour, i.e. to be polite, work hard, have good manners, and be loyal to their families, was negatively related to the status of their father's occupation (-.17) and their own verbal intelligence, but otherwise it was unrelated to the nature of the school processes or teacher attitudes to which they had been exposed.

Civic Activities.

Actual participation in civic activities was uncorrelated with social background, verbal intelligence, knowledge of social and economic processes, and with most measures of classroom processes and teacher attitudes. It did correlate .44 with the amount of political discussion the pupil engaged in with friends, parents, and teachers, .20 with interest in civics classes, and .27 with interest in civics TV.

The amount of political discussion in which the pupil engaged with teachers, parents, and friends (all of which were highly correlated with each other), which many people would have expected to relate to home background and school variables, was unrelated to the status of the pupil's father's occupation, the sex of the pupil, the pupil's expected level of education, the pupil's assessment of the extent to which his teachers tolerated discussion of controversial issues in their classrooms, the number of projects and special trips in which the pupil had participated, the pupil's general knowledge of sociology, economics, and social processes, his verbal intelligence, and his assessment of the extent to which the

national government was warm and helpful. It was related to the pupil's interest in civic activities (.44), his interest in civics TV (.29), the extent to which his parents encouraged contact with culture, and the pupil's assessment of the extent to which his school engaged in patriotic rituals.

In summary, then, although these measures leave much to be desired, two impressions come over clearly: Firstly the variance between pupils in these important respects is neither closely related to variance in the educational processes to which the pupils have been subjected, nor to variance in their home backgrounds. Secondly, political activism, at least at this age, is neither predominantly a middle-class activity nor the consequence of having attended certain types of school.

Summary.

Before moving on we should, perhaps, pause for a moment to relate these results more closely to the theme of this book. Translated into other terms, the scales we have been discussing in the last few paragraphs assessed such characteristics as the pupils' ability to understand other people and their points of view, their willingness and ability to take on themselves the responsibility for getting necessary changes introduced into their society, their initiative, their ability to form their own opinions, and their respect for the opinions and values of others. As we have seen, all of these are qualities which teachers, pupils, ex-pupils, and parents are most anxious that schools should seek to foster. Yet the data does not suggest that some schools are being particularly effective in fostering them. If schools are affecting pupils' attitudes and expectations in this area — as they may well be doing — they are either all doing so in much the same way or doing so in such different ways that the effects do not show up in measures designed to tap common content. There is evidence to support the first of these hypotheses: In all countries, as students got older they knew more about social and economic processes and institutions, became less authoritarian, thought it was more important to respect civil liberties, and came to value criticism of government and authority more highly. However their perceptions and evaluations of their own government became less positive: They grew to feel that they were less likely to be able to influence their government and that it was less responsive and effective than it should be. We do not know how much of this overall change is due to schooling, but the universal nature of the change, and the lack of correlation between pupils' knowledge and attitudes and school variables at any one age, suggest that most of the change is due to learning which takes place outside school.

Pupils' Perceptions of the Role of the Citizen.

We have just seen that the variance in pupil characteristics in this area does not seem to be related to differences between schools. But the perceptions and expectations of older pupils did differ from those of younger pupils and it is possible that some of these differences result from explicit or implicit instruction at school. Let us now look at some of the actual replies of the pupils. This data is of particular importance because, even if schools have not in the past affected pupils' beliefs, attitudes, and expectations, it may be that data on the current situation, and consideration of its probable social consequences, might lead us to think that schools should make a more systematic attempt to do so.

The Irish pupils defined a good citizen as someone who obeys the law (84%) said that this was an essential characteristic of the good citizen — an average level of endorsement by international standards), pays his taxes (74%, high by international standards), is loyal to his family (71%, very high when compared with an international average of 62%, and 46% in the Netherlands and 37% in the Federal Republic of Germany), votes in all elections (68%) and works hard (68%, top of the

international league, compared with 15% in the Federal Republic of Germany). One third (about average by international standards) say that a good citizen does *not* join a party or a trade union or try to change things in the government.

Not only do the pupils not think that one should try to influence what happens in the government or take an active role to try to improve society (whether through the political process or by means of individual action) one in three of the pupils think that elections are unnecessary, one in three think that people in power know best, one in five think that it is wrong to criticise the government, one in four think that people who disagree with the government should not be free to meet and protest, one in five think that doctors, military leaders, and religious leaders should have more rights and freedoms than anyone else, one in three don't think women should have the same rights and freedoms as men, one in ten think that hotels are right in refusing to admit people of certain races and nationalities, a similar proportion think that people of different races and nationalities should not be allowed to mix in swimming pools, and one in three don't think newspapers and magazines should be allowed to print anything they want except military secrets.

These results suggest that Irish pupils view the role of the citizen as being one of working hard at the tasks his elders and betters have decided are important. Only if it becomes apparent that the judgement of these leaders is faulty are they prepared to take steps to influence the general situation — and then only by voting them out of office. And, as we have seen, about a third of the pupils don't even think that this safeguard is necessary.

These suggestions are confirmed by the pupils' answers to a question intended to probe their understanding of the word "citizen". The alternatives they were offered are shown in the table below together with some of the pupils' responses.

TABLE 18

Which of the following most fully defines the meaning of the word citizen:

	13 Year Olds %	Pre-University Year Students	Year %
He actively works in politics	2	1	
He obeys the laws of the nation in which he lives	39	18	
He pays taxes in the nation in which he lives	15	5	
He has certain rights and responsibilities in his nation	38	72	
He is literate	3	1	
Question not reached or omitted	6	3	

Each of the answers reflect definitions found in the history of political thought. The Aristotelean position, reflected in the answer "He actively works in Politics" has few takers. The greatest challenge to orthodoxy is the Hobbesian "He obeys the laws of the nation in which he lives". This attracts 18% of the pre-university year students and 39% of the 13 year olds. It would be rash to infer from the evidence presented that a substantial minority of Irish students would be the happy subjects of a Leviathan. However the answers reported in Table 19 support the idea that they would. When asked which of a number of groups ought to govern the nation, 25% of the pre-university year students and 38% of the 13 year olds chose "Experts on Government and Political Affairs", and 8% of 13 year olds and 6% of the pre-university year students chose "One strong leader".

TABLE 19

In a democratic political system which of the following ought to govern the nation?

	13 Year Olds %	Pre-University Year Students %
One strong leader	9	6
One small group of well educated people	9	6
Popularly elected representatives	39	59
Large landowners and important businessmen	1	0
Experts on government and political affairs	38	25
Omitted or question not reached	4	3

It is worth making a few comments on the possible dysfunctional nature of these beliefs, expectations and attitudes in order to raise the question of whether it can be considered satisfactory that schools should not make greater efforts to influence these attitudes and expectations. Some of these have already been explored in Chapter XIX following our presentation of the teachers' perceptions of the role of the citizen. There we saw that a management system — which is what the political system is — which operates in the way the teachers and pupils would like, is likely to deprive senior managers of much useful information and many insights. It is likely to function reasonably well so long as people approve of what their leaders are doing — but people are likely to have the greatest difficulty in removing a leader they do not approve of from power. At that point a rather violent situation is likely to ensue. A non-participative system is not likely to lead its citizenry to identify with the laws and to regard them as their own. They are unlikely to abide by them without coercion and are likely to be unable to adapt those laws to meet changing situations. Given an authoritative leadership structure people are unlikely to develop the abilities required to share leadership and followership responsibilities; they are unlikely to develop respect for other people's values and the willingness to make flexible arrangements which permit others to lead their lives as they would like to lead them. Given the general acceptance of an individualistic rather than institutional explanation of social phenomena citizens are likely to be very careful to rather ruthlessly look after their own interests and be unwilling to consider the sorts of behaviour which would be best for the society as a whole and certainly unwilling to take steps to introduce the changes into society which would benefit all. Given these probable consequences it would seem highly desirable that schools take their role in fostering these attitudes and expectations very seriously indeed.

A Study of the Effects of Literature.

One of the first controversies we reviewed in Part II dealt with the supposed effects of science and literature education.

Some very interesting information relevant to the effects of studying literature is to be gleaned from another IEA study. Purves (1973) found that pupils' interest in literature was little related to the sort of educational programme to which the pupil had been exposed. Most of the variance was unexplained. As in the case of science, it seems that interest in literature is an individual matter, not a product of the pupils' educational environment.

On the other hand the sorts of questions pupils thought it was appropriate to

ask after they had read a short story were markedly related to the culture in which they lived and the pre-occupations and concerns of their teachers. In some school systems as pupils got older they focussed increasingly on questions like 'How has the author created his effects?' 'Is the story well written?' and 'Does the story have an appropriate structure?' In other countries they asked 'Is this something one ought to write about?', 'Do I approve of the characters?' and 'Do I approve of the author?'. In others they focussed increasingly on questions like 'Is this an important topic to write about?', 'What emotions does this story arouse in me?'. In others they focussed on questions like 'What is the motivation of the characters involved?' 'How does the story relate to the historical situation which existed at the time it was written?'. Purves suggests that the increasing divergence between the concerns of students in different countries with increasing age reflects the pre-occupations of their teachers and the concerns of the examiners who lurk behind public examination systems. As Purves acknowledges, evidence that teachers can have a marked effect on the questions which pupils think it is appropriate to ask, or not to ask, is potentially a matter of the gravest concern, particularly if it extends outside the area of literature to the evaluation of research reports and social commentary. In some cultures students may be encouraged to moralise about the actions which are described and to allocate blame, in others they may be more encouraged to try to understand the causes of the social phenomena which are described. The need to conform to the received views of their educators may also squeeze those who are willing to ask the culturally disapproved questions out of the educational system, and therefore out of influential positions in their society. The data shows convincingly that teachers do not have an open mind on these issues. They have very definite views on the sorts of questions which students should ask. From the point of view of a wider perspective it would be very interesting to know what the social consequences of asking alternative questions might be.

An Intensive, Depth, Study.

The final investigation of the non-academic outcomes of education to be reviewed here was carried out by McClelland in the United States in 1963. It is of interest because the research techniques used differed markedly from those used in the studies we have already reviewed. McClelland studied very able boys from rural backgrounds who had been given scholarships to attend a special intensive academic course at one of the best private boarding schools in the United States.

This school stressed that the learning of facts wasn't everything, and emphasised the development of good judgement, lively intellectual curiosity, the development of a concern with service toward others, and the importance of truth, goodness and beauty.

However, a participant observer found that, in spite of the stated objectives of the school, teachers in their day to day relationships with the pupils, stressed hard academic work and the need to obtain high grades in order to get into university above all else. In addition, it was repeatedly emphasised that the boys were part of an *elite* and that they were expected to display formal good manners, self-control, and to refrain from ungentlemanly, cheap, immature, noisy and boisterous behaviour and such everyday pleasures as dating, smoking, drinking and visiting bowling alleys. Authority in the school was freely exercised (unlike authority in American public schools, which tends to be arbitrary and weak) and was clearly portrayed as strong, impersonal, but sympathetic, and based on the accumulated wisdom of the past as to what is good for boys. Masters were to be treated with friendly respect and neither treated as arbitrary law enforcers like policemen, nor as persons no different from the boys themselves.

Under these circumstances, the boys did not direct their aggression at the curtailment of their freedoms in the words they would normally have used (which would have been disastrous) but maintained the same aloof, depersonalised, emotionally neutral, attitude adopted by the school itself when dealing with emotional issues. ("It is expected that . . .") and couched their criticisms, direct and explicit though they were, in the framework of classical Greek mythology.

When the pupils were tested before and after the course, no differences were found on a wide variety of personality and attitude measures derived from questionnaires. The boys' attitudes and values apparently had been quite unaltered, thus replicating the findings reviewed by Jacob (1956), and summarised below.

However, samples of pupils' spontaneous thoughts (elicited by asking them to make up stories about ambiguous pictures) did reveal effects. Pupils who had been on the course became more likely than other pupils to see the characters in the pictures thinking about such things as the control of impulses like shiftlessness, impulsiveness, and emotion. They were also less likely to see them working earnestly toward some humanitarian objective like furthering the advance of scientific knowledge or thinking about social problems like juvenile delinquency or race relationships. Instead they became positively cynical about people who slaved hard for humanitarian objectives.

This study is particularly important in that it illustrates:

- 1 that appropriate and sensitive measuring instruments have to be used to detect the effects of educational courses.
- 2 that explicit ideologies may be in conflict with what happens in practice, and
- 3 that educational courses may have effects quite different from those intended by the organisers.

Possible Negative Effects of "Education".

We may now turn to a more detailed discussion of the bad effects that traditional educational programmes may have. It seems that if appropriate studies were mounted, it might be found that these programmes have at least the following effects.

- they may foster dislike of culture, further education, and retraining.
- they may foster feelings of trained incapacity by making people feel that it is necessary to master a great deal of knowledge before transferring to some other occupation, or even evaluating the pronouncements of a specialist in some other field.
- they may develop a reliance on explicit instructional programmes which draw one's attention to what is to be learned, rather than developing the tendency to notice problems, seek out the information one needs, find the resources one needs, seek out others who are working on similar problems, work out causal connections for oneself, pay attention to the feelings of unease which indicate why one is not achieving one's goals more effectively, pay attention to what is going on, analyse it, and generally learn without instruction.

- they may give rise to an unwillingness to behave in a responsible fashion when coercion is absent.
- they may lead pupils to expect to have their attention drawn to problems which need to be studied rather than develop the tendency to notice these problems for themselves: in other words they may encourage a reactive rather than a pro-active disposition.
- they may lead pupils to believe that all important problems have been solved rather than recognise that books contain no answers to most of the problems with which they will have to deal: Most answers are *not* to be found in textbooks or in the heads of experts. They are to be found by working with other people tackling the same problem.
- they may result in an unwillingness to cooperate with authorities and this spirit of non-cooperation may persist throughout life.
- because of the style of behaviour portrayed by teachers vis a vis their pupils they may result in a disinclination to consider consulting sub-ordinates when these ex-students find themselves in positions of authority.
- they may convey damaging and dysfunctional images of many essential roles in society.
- they may encourage people to be satisfied to work indolently at boring and trivial tasks rather than seek out something interesting and important at which they can work with enthusiasm. As McLuhan has claimed, the medium may be the message: and the message may be “learn to work at trivia, absorb like sponges, don’t create, be deceitful, pretend that you know that which you do not know, put yourself first and make sure you get on, never mind the others but learn to evince due sorrow at the plight of the less fortunate members of society, while doing nothing to change the social structure in order to help them”.
- they may encourage deceitfulness as a means of survival within a community whose authorities do not share one’s views and are unwilling to consider them rather than forthrightness, honesty, respect for the views of others and a willingness to work to change the community for the benefit of all concerned.
- they may generate that form of nationalism which depreciates and disparages the doings of other nations, rather than that form which encourages pride in national and international achievements.
- they may encourage a tendency to turn to experts for advice rather than develop the tendency to rely on one’s own powers of thought, one’s ability to work with others, and one’s ability to take corrective action.
- they may encourage atrophy of creative, inventive, responsible tendencies through lack of exercise.
- they may encourage concern with knowledgeability and ‘up-to-dateness’ rather than the pursuit of one’s own ideas; in so far as it is concerned with knowledge (rather than generating passports to good jobs), the knowledge explosion is almost entirely concerned with repeating the views of others rather than

generating new knowledge. The worst academic sin appears to be to fail to have read the latest reference; that one could have used the time more profitably thinking for oneself, appears to escape attention.

- they may encourage one to believe that what one has read (or, more probably *not* read) is more important than what one is saying.
- they may develop the ability to pay attention to authority, work out what authority wishes to hear, and the tendency to say what that authority wants to hear, rather than the tendency to examine reality and describe what one sees and what should be done about it.
- they may encourage pupils to turn to books and authority for information rather than encourage them to rely on their own observations.
- they may encourage people to pay attention to developing strategies for personal advancement, rather than pay attention to, and to seek to influence, general social processes which affect everyone.
- they may lead to an unwillingness to question the relevance to the problems of society of what one is doing, an unwillingness to ask whether what one is doing or reading about is important and in the general interest of society, an unwillingness to question whether what one is doing is important and worthwhile, and an unwillingness to refuse to perform socially irresponsible tasks.

Not only may the current educational system lead to the *development* of such socially dysfunctional characteristics, it may also lead to the promotion of people into important social positions who already possess the tendency to engage in conformist, unquestioning behaviour, and who do not ask or care about the relevance of what they are doing and its importance to society. For all we know, we may be promoting into positions of authority in our society, not the most talented individuals who are most willing and able to grapple with the pressing social problems which beset us, but individuals who are more adept at saying what their superiors want to hear than at noticing untackled problems and variables and pointing to the truth, those who are most insensitive to the problems of other members of society and most concerned only with their own advancement, those who are most adept at deception for the sake of personal gain, those who are least able to make their own observations about the defects in society and the steps that need to be taken to remedy those defects, those who are most likely to rely on received authority concerning the way society does and should work, those who are least likely to question the social value of what they are doing and who are most willing to work at boring, useless, and socially irrelevant tasks, those who are least sensitive to the fact that what they are doing is worthless, unimportant, and socially irresponsible, those who are most likely to despise practical activity, and those who are least able to make good decisions (i.e. to weight several variables subjectively rather than become preoccupied with one or two, probably relatively minor, considerations), make good judgements (i.e. weight incomplete evidence to arrive at the *probable* conclusion), have the confidence in their ability to take corrective action which would enable them to take action on the basis of these tentative judgements, take steps to monitor the effects of those actions, and then take effective corrective action.

We have seen that there is in fact evidence for both causal sequences: some studies have shown that some schools do lead some pupils to develop some of these dysfunctional qualities. We have also seen that upwardly mobile pupils in

Ireland were relatively unlikely to wish to develop the ability to work with others, considerateness, initiative, or the ability to apply what they had learned to new problems. It therefore seems highly likely that the social selective and placement functions of education are leading us to promote into influential positions in society a disproportionate number of people who do not possess the characteristics which it would be most desirable for members of society occupying those positions to possess. As one highly socially mobile and influential colleague of the author's put it 'No intelligent person would be interested in practical activity'.

In view of the fact that there may be some truth in these hypotheses, we not only need studies of the extent to which schools *develop* characteristics of the sort mentioned earlier, but studies of the extent to which schools, as a part of the social system, serve to channel into important positions people who have the socially dysfunctional characteristics we have just listed.

Differential Effects of Different Types of Educational Programme.

There is one further field of research which throws light on whether the non-academic goals of education are attained effectively. This area of research is made up of studies of the effects of different types of educational environment. Whereas the focus of the previous enquiries was on whether stated objectives were being attained, the focus of the investigations we are about to review was on assessing the effects of different types of educational programme across a wide range of possible outcomes.

The effects of streaming have been studies by Douglas (1964), by Svensson (1962) and by Barker-Lunn *et. al.* (1966 and 1970).

Svensson found that streamed classes are normally differentiated, not only by ability, but also by social class. When ability and social class were held constant, streaming had *no effect* on attainment, thus confirming Douglas's results, at least for the brighter children. Thus, as Douglas maintained, streaming versus undifferentiation does not affect the *outcome* of the educational process when judged in terms of the conventional framework of academic performance. However, Svensson was able to show, firstly, that streaming versus undifferentiation (mixed ability teaching) *was* markedly associated with variation in educational *inputs*, and secondly that most of the variance in instructional techniques between different school classes was accounted for by differences in the pupils' social background and not by differences in their levels of ability. Furthermore he was able to show that undifferentiated (mixed ability) classes were more difficult to *teach* owing to the variation in social background within the classes and hence in the forms of discipline that the pupils expected from figures of authority (in this case the teachers).

The problem becomes more complicated the more one introduces considerations other than academic attainment. The best of the work in this area, which takes many of these variables into consideration, is that conducted by Joan Barker-Lunn, for the Plowden Committee (1966) on primary education.

What has emerged is that, to a very large extent, it is the teachers' attitudes which are important. Teachers who taught in non-streamed schools, but who believed in streaming, obtained a higher level of arithmetic computation from their pupils, while those who believed in non-streaming and mixed ability teaching had fewer pupils who had no friends in the class, caused less anxiety about tests and found more of their pupils a pleasure to have in the class.

In general, streamed and unstreamed schools embodied different philosophies

i.e. their *objectives* were different. The streamed school seemed to be more systematic in its approach, concentrated more on conventional lessons, gave more attention to the three R's and was likely to be more 'traditional'. Its staff was likely to be somewhat older and more experienced, to approve of A-stream children, of 11-plus selection and of streaming. Teachers in unstreamed schools were more tolerant of noise, and less fussy about manners and cleanliness. They tended to disapprove of streaming, the 11-plus and A-stream pupils.

While this research casts doubt on the belief that un-streaming or mixed ability teaching *per se* will have much effect, the research again highlights the need, discussed in Part II, to consider carefully what it is hoped to achieve by mixed ability classes, to ask how these objectives might be most effectively attained, and to push the *means* (un-streaming, mixed ability teaching) from the forefront of discussion.

Teacher Attitudes.

Barker-Lunn's research highlights the need to develop better measures of teacher attitudes and concerns if any progress is to be made in studying the effects of different types of teacher and different types of teaching technique. As the reader who has read this book through to this point will now know, the British surveys of the attitudes of teachers and pupils, which we have discussed at length, collected a great deal of information about (a) teachers' teaching objectives, (b) how they would like to see courses changed to meet the needs of the sort of pupil who at present leaves school at fifteen, (c) the accommodation and facilities they particularly wanted to help them teach these pupils, (d) their feelings about the importance of knowing about the pupils' home background, and (e) their own background.

From this data it would obviously be possible to develop a classification of the different kinds of concerns of individual teachers, but it would unfortunately not be possible from that survey to relate the pupils' responses to the type of teacher they had. Nevertheless, such a classification would be expected to be of major importance in future work.

The Irish data has already been analysed in order to try to discover whether there was any pattern in the variation between teachers: whether the apparently endless variety could be summarised in any way.

We had six sets of data:

- 1 Ratings of the "importance" of the objectives, separately for the "more" and for the "less academic" pupils.
- 2 Ratings of "own effort to achieve" the objectives, again separately for the more and for the less academic pupils.
- 3 Ratings of the overall success of education in achieving these objectives, again for the more and for the less academic pupils. We asked for "overall success" since a teacher may well think the attainment of some objective important, but think it is the prerogative of some other teacher.

In order to discover ways in which the apparently endless variety would be summarised the data was factor analysed, but only the ratings of the importance of the objectives and the effort put into achieving them were included in the analysis. With one important exception, these four analyses produced very similar pictures, that is, one obtained the same factor structure whether one looked at the

more or the less academic pupils or ratings of importance or effort.

The exception was that a very different factor structure was obtained for ratings of "importance" in relation to the less academic pupil. It was not that there was *no* structure, but that there was a different structure. The actual pattern of intercorrelations between the items changed.

We have not thought of a satisfactory explanation of this but it seems to have something to do with the fact that teachers feel that the more and the less academic pupils should be treated differently, but are not, in practice, able to treat them differently at the present time. Under these circumstances, additional considerations come into play, and so for this group the variance between teachers forms a different pattern.

Because of the consistency between the other three sets of results, it was decided to use ratings of "own effort to achieve" to develop a classification of teacher concerns.

Teachers seemed to vary on seven basic variables. The items making up each factor are listed below, together with the short-hand label we gave the factor.

1 Their concern with personality and character development.

This factor was made up of the following items:

- Help them to get on with other people.
- Help them to develop their characters and personalities.
- Make sure they are confident and at ease in dealing with people.
- Encourage them to have opinions of their own.
- Encourage pupils to be independent and able to stand on their own feet.
- Give them experience of taking responsibility.
- Encourage them to have a sense of duty toward the community.
- Ensure that they leave school confident, willing and able to take the initiative in introducing changes.
- Help them to think out what they really want to achieve in life.
- Make sure that they really enjoy the lesson.
- Help them to develop a considerate attitude toward other people.

2 Their concern with providing a preparation for home life.

Made up of:

- Provide the pupils with sex education in school.
- Advise parents to give sex education to their children.
- Help them to understand the implications and responsibilities of marriage.
- Teach them about bringing up children, home repairs, decorating and so on.

3 Their stress on a wide academic education and fostering a real love of academic life.

Made up of:

- Introduce them to new subjects e.g. philosophy, sociology, and archaeology.
- Teach them about a wide range of cultures and philosophies so that their own can be seen to be one of many.
- Enable them to develop an interest in subjects other than those studied for examinations.

Ensure that they are aware of aspects of your subject which they do not have to know for examinations.

Help them to take an interest in and understand what's going on in the world now.

Make sure that they get an education that is so interesting, useful and enjoyable that they will be keen to continue their formal education in adult life.

4 *Their stress on the vocational aspects of education, and, in particular, vocational guidance.*

Made up of:

Tell them about different sorts of jobs and careers so that they can decide what they want to do.

Give them information about the courses of further and higher education that are open to them.

Help them to think out what they really want to achieve in life.

Teach them things which will be of direct use to them when they start work in their jobs or careers.

5 *Their concern with academic skills.*

Made up of:

Ensure that all students can express themselves clearly in writing.

Ensure that all students can speak well and put what they want to say into words easily.

Make sure that they are able to read and study on their own.

6 *The emphasis which they placed on religion and nationalism.*

Made up of:

Ensure that they are aware of the prolonged struggle for Irish freedom and are determined to uphold the ideals which inspired it.

Make sure that they go out into the world determined to make Ireland a better place in which to live.

Make sure they get a thorough religious education.

Teach them about right and wrong.

7 *Their concern to develop a scientific attitude on the part of their pupils.*

Made up of:

Ensure that all pupils feel at home with figures and numbers.

Ensure that they know how to apply the facts and techniques they have learned to new problems.

Ensure that they can formulate hypotheses, seek evidence, and reason logically.

Teachers could get high or low scores on any one of these seven variables without necessarily having high or low scores on the other variables. It seems possible that such a classification of teachers would prove to be important in studies of the effects of different types of educational programme. As Barker-Lunn's work shows, teachers are likely to strive to achieve the goals which they themselves consider important regardless of the formal requirements of the programme in which they are placed. More generally, schools may wish to select teachers, and parents select schools, at particular points in this framework — or, indeed, to select teachers and schools at points not even represented in the framework because the views required are not represented anywhere in the teaching profession at the present time.

The Effects of Variation in School Size.

Barker and Gump (1948) carried out an interesting study of the effects of school size. They found that small schools had the advantage of providing many more opportunities than did large schools for students to take initiative, develop enthusiasm, and learn to play a variety of roles. Such results are of extreme importance educationally; the development of initiative, enthusiasm, adaptability, and ability to engage in a variety of roles in social organisations are among the most important objectives of education. Nevertheless one must add that, in spite of Barker and Gump's work, development of these characteristics *can* also be fostered in large schools if these schools are appropriately organised and run by teachers who value these aims and understand how to achieve them.

The effects which the size of a school has on its pupils deserve much fuller study than they have received in the past. Thereafter, educational organisations designed to capitalise on the merits of both large and small schools need to be invented. It is probable that large schools have considerable advantages in terms of the number of specialist courses, staff, facilities and equipment that they can provide at an economic rate. In calculating what is an economic rate it is important to emphasise too that, as far as facilities and equipment are concerned, it is also necessary to provide personnel to use it: not just technicians, but also teaching staff who can develop educational programmes that can effectively utilise the resources available and tailor the utilisation of different *inputs* to different pupils. It seems likely that there is no one educational programme which is best for all pupils, but that different pupils will require to be taught different things and come to learn the *same* things in *different* ways. As far as studies of school size are concerned, it is also probable that, unless large schools are explicitly broken up in such a way as to provide the sort of educational settings that lead to the sort of outcome that Barker and Gump found to characterise small schools, small schools will continue to have advantages in the non-academic, character development, area which is so important. However, it is likely that in small organizations pupils will fail to acquire the specialist attitudes and skills necessary to cope with the large organisations which characterise modern society.

If these conjectures are correct, how can one obtain the advantages of both large and small organisations? Copcutt has suggested that it is not necessary to think in terms of large schools being broken up. He has suggested that by making use of a pupil-centred, project-based, educational procedure, one could provide the educational-cum-councilling base, around which these programmes are organised, in private houses close to the pupils' homes. Here the teachers would become familiar with the pupil's background and his particular abilities, aptitudes, interests and aspirations. The pupil's project-based, individually tailored, education would take him out of his local base for two or three days a week to one of a number of larger centres offering programmes to equip him with specialist knowledge, skills and attitudes. Here he would also acquire the attitudes and skills necessary to cope with a large and changing organisation. But the pupil's motivation to learn would be stimulated by the opportunity provided to see that the skills were necessary in order to cope with the project work he, with the aid of his councillor, had undertaken to execute.

This discussion also leads one to conclude that the question "What is the optimal size of school?" is misleading. The question should be "What is the optimal size and structure of a unit to achieve certain educational objectives; what is the optimal size and structure required to achieve other objectives; and what are the consequences of various patterns of educational organisation and varieties of educational input?" It should particularly be noted that, by making use of the

appropriate forms of project-based education, a great deal of variety — and in many ways much more meaningful variety than a variety of “subjects” — can be made available in small schools and, indeed, within classrooms. Furthermore project-based education means that a wide variety of even specialist teachers can be available in small schools because there is less need for duplication in ‘basic’ areas. Whether large units are required depends on the sort of variety one is interested in obtaining.

The Effects of College Education.

So far we have discussed only studies of school education. As far as college education is concerned, a whole series of studies have been carried out (largely because college students are more available to lecturers as research subjects than are school pupils). These studies were reviewed by Jacob (1956). However, we may first look at the results of one British investigation carried out by Peter Marris in 1964.

Marris found:

- that very few students attended lectures in a course other than the one they were taking; in other words, university did not serve to introduce students to new intellectual stimulation and interests.
- that the cross-fertilisation of ideas that students appreciated was across social and religious groups, and not across subject disciplines.
- that very few students did any leisure reading or opened a book outside their studies.
- that there was little relationship between the amount of work a student did and his success in examinations.
- that there was a basic rift running through university education — both in the minds of those organising the courses and those taking them.

One aim (and wish) is to give (or receive) vocational training. This could be done in a university composed of teaching machines and objective examinations: it could (and perhaps should) be available to anyone who can master it, whatever his age, and should be limited to the attitudes, skills, and information actually required in the occupation, whether it be philosopher or engineer.

The other area of educational aims has to do with the pursuit of interests, the development of the capacity for intellectual argument, development of generally useful ways of thought, habits, and attitudes, and development of strategies which can be applied to further understanding in all areas. Such educational programmes, Marris argues, should be available to anyone interested enough to attend courses regardless of ability.

Marris found that the conflict of these aims (coupled with a large amount of course content which fell into line with neither objective) led to feelings of frustration and disappointment in very many students: those who went to university seeking intellectual stimulation were disappointed because of the heavy vocational content of courses and the amount of work they had to do which denied them the opportunity to attend lectures in other subjects and to attend clubs, societies and social events. Meanwhile, other students were frustrated because they had to do a great deal of work which they could see could not conceivably be any use to them

in the jobs and careers for which they were bound.

Jacob's review of studies of the effects that different sorts of college education have on value systems shows that, on the whole, colleges *socialise* but do not liberalise. Students shift their values toward the values of the majority of other students: they learn not to make racially prejudiced statements; they become less critical of people who become intoxicated, who don't vote, who have sexual intercourse before marriage, and who are law breakers. However, they leave college with *more* uniform social attitudes than when they came; they do not become free-thinking people.

In this connection it is relevant to report some fascinating results from studies of student activists. These studies showed, as the many earlier studies reviewed by Jacob had found, that most students uncritically accept the status quo. Most vote for the parents' political party but can give no good reason for doing so; most accept religion; most hope to gain vocational skills and talents from college; and most are entirely satisfied with their college education. On the other hand Trent and Craise (1967), and Flacks (1967) found that activists come from the higher social classes, are among the brightest and most able students, and are more autonomous, flexible, liberal and individualistic. They are more intellectually dedicated, interested in reflective abstract thought and ideas, and more objective and independent in thought. To a very considerable extent, they are supported in their activities by their parents who, while not so radical as their children, are decidedly more liberal than others of their status. Both the students and their parents stress involvement in intellectual and aesthetic pursuits, humanitarian objectives, opportunity for self-expression, and de-emphasise or disvalue, personal aggrandisement, conventional morality, and conventional religiosity. Whereas non-activists stress marriage, career and religion, activists give prior place to the world of ideas, art and music, and primarily wish to work for national and international betterment.

The authors conclude that, although training to think is one of the prime functions of the university, "what is missing from among current college graduates is the thinking, critical man, deeply aware of his cultural and intellectual heritage, and alert to the contemporary problems existing in society."

A few colleges do seem to produce more significant changes in values than most. These tend to be colleges whose aims and objectives are well-known outside: they attract a certain sort of student and the prevailing atmosphere allows the students' values to change in a cocoon, protected from the world outside, and then to solidify until they are strong enough to survive.

Students in other colleges who are subjected to social science courses, for example, are no more sceptical of the political process than other students. Nor are they more racially tolerant, hold different beliefs about war, hold different religious beliefs, nor want different satisfactions out of life. There is no justification whatsoever for the belief than even specially prepared liberal arts, or integrated general courses, produce students who are more able to make mature judgements on issues of social policy, or have more sensitivity to human values, than students who have gone through a strictly professional training. On the other hand, such students are better informed about public affairs and take a more active interest in community affairs.

Ex-students in general are no more resistant to social pressures than the rest of the population. Although they are more tolerant — which includes tolerance of such groups as communists — than the rest of the population, the proportion of college-

educated Americans who would deny freedom of speech to a communist rose from 31 per cent. to 71 per cent. from 1945-53 while the figures for the general population rose from 42 per cent. to 78 per cent.

Nor do such variations in teaching method as discussions versus lectures, or self-directed teaching versus directive teaching, have much overall effect on either values or acquired content. However, some types of student are happier with one method of instruction and others are happier with another. Students who have been taught through 'free' approaches usually do about as well on objective tests as those taught directly, but they are often dissatisfied with the course and feel that they should have been *taught* more. In particular, students who have a high need for structure are very critical of courses run on non-directive lines while students with high autonomy needs are critical of directive classroom situations.

One study got students to record their thoughts at random intervals in lectures and discussions. During the discussions, a higher proportion of students' thoughts were relevant to the subject in hand than in the lecture, but a considerable amount of thought was also devoted to devising means of trying to appear adequate in the discussion.

The failure of these investigators to establish any general superiority or inferiority of the 'discussion method' may arise entirely from differing objectives that teachers may be trying to pursue: the discussion method may be more effective for one purpose than another: for example, it may well encourage pupils to place more reliance on their own thoughts and observations than they do at present. (At present they lean heavily on material learned by rote).

The factors which encourage and discourage independence of thought deserve careful study in their own right. Probably pupils are only too right when they assert that if they express their own views in an examination, the examiner will say "Ah, by this he shows he hasn't read what Joe Bloggs says", and accordingly give him a low mark rather than give him a high mark for showing originality and independence of thought. In short, it is safer to repeat, parrot-fashion, what the authorities say and the standard criticisms than to think for oneself.

The observation by Trent and Craise that the thinking, critical, man, alert to the current problems of society, and willing and able to do something about them, is missing from the general body of students also deserves further comment and study. We have already discussed the relatively ineffectual role-models presented by teachers to students. Here we may simply observe that the characteristics Trent and Craise felt to be lacking in the students also seem to be missing from their teachers. Not only do we have our research results: we have all come up through the school system and know how many of our teachers were inclined to think about what they were there *for*, how many noticed or used the feedback that was readily available to them concerning what they should be doing and how effectively they were achieving their goals, how many monitored progress toward their goals, how many critically evaluated (as distinct from reacted cynically to) the things they read and heard, and how many continuously and systematically sought to increase the effectiveness with which they tried to reach their goals.

Summary.

Very little has been done to assess the effect that different types of educational programme have on various non-academic outcomes of education. Such work as has been done suggests, firstly, that it is unlikely that teachers can expect to achieve their goals in the realm of character development in the present atmosphere of misunderstanding and despondency found in schools. Secondly, that not only do

schools and universities generally fail to achieve their objectives in this area, they often have actual negative effects. This would seem to be particularly marked in relation to the pupils' aspirations and feelings of ability to cope with life.

In saying this we must, of course, emphasise that these studies leave much to be desired by way of using specific and sensitive measuring instruments closely tailored to the effects that one would wish to assess or to the precise aims and objectives of the educational variant being studied. The development of such instruments seems to be a high research priority and it will be taken up in the final chapter of this book.

Chapter XXII

STUDIES OF THE OVERALL EFFECTS OF EDUCATION

So far we have looked at direct and indirect assessments of the effects that different types of courses have on particular outcomes of education. We turn now to studies of the *overall* correlates of level of education and quality of educational award. In this chapter we will mostly be concerned with studies of adults, with studies of social mobility and contributions to society of adults and the extent to which that mobility and contribution to society can be attributed to their education.

Before moving on let us re-state our reasons for looking at this material and briefly summarise our conclusions. Education has been pursued on the assumption that it is good both for the individual concerned and for the country in which he lives. It has been assumed that it is good for the individual in that he can develop his talents and skills, form new interests, and obtain a more stable and interesting job. It has been assumed that it is good for the country, partly because there will be more skilled people about, but also partly because it is believed that a more educated population will be less complacent and more inclined to take on more demanding jobs and do the jobs which need to be done more efficiently. In other words, the hope has been that prolonged education would increase the number of people in the country who had a high level of need for achievement, and that this increase in the number of such people would, in the long run, benefit *everyone* in the society.

None of these assumptions (that education will benefit the individual; that more education leads to higher levels of need achievement; or that higher levels of education lead to economic or social advance) has been subjected to careful test. Only one or two good studies have been done and we may briefly anticipate the conclusion of this chapter by saying that these studies indicate that, once entry to an occupational group has been achieved, neither education nor intelligence are important determinants of life success. On the other hand they indicate that people who make a major contribution to advances in their field tend to obtain high scores on measures of 'need achievement'. The explanation of the lack of a marked general relationship between success and intelligence appears to be due to the fact that most occupations do not tax intellectual ability to any significant extent. As many young people interviewed by Carter (1962) and Stevens (1960), observed, work is *easy* compared with school. The lack of a relationship between amount of education and life success is, for the most part, explained by the fact that the main function of educational programmes has been to teach pupils academic information. Since students generally forget 50% of what they have learned after one year, and 75% after two years, the absence of a relationship between assessed educational performance and success should no longer surprise us. What is surprising is that this criterion should still be used as the basis for selection of job applicants.

But to details. Let us first look at the relationship between level of education and admission to an occupational group (or status position in society) and then move on to look at correlates of quality of educational award.

Education and Social Mobility

The relationship between level of education and life success is not as close as has often been thought. Anderson (1961) showed that in Sweden, England and the United States upwardly socially mobile people usually had typical, not superior,

schooling, and a sizeable proportion of better-educated sons of upper-class fathers were downwardly socially mobile. However, Hutchinson (1969) in Ireland, has shown that while it is true that, overall, there is no difference in level of education between the upwardly mobile, the static, and the downwardly mobile, there are very marked tendencies for people who have higher levels of education than is normal for their class of origin to move up and for people with lower levels of education than is normal for their class of origin (high though their level of education may be) to move down. The figures given in Table 20, which is abstracted from a much more complete table given by Hutchinson, give some idea of the extent of the real relationship. Note, however, that the relationship may not be causative: the same factors that make for persistence at school may make for social mobility in life.

TABLE 20
Relative Social Status of Persons Completing Secondary School
but then Terminating their Education

Father's Status		Son's Status (%)		
		Higher	Same	Lower
1. Professional and high administration	—	28	72	
3. Inspectional, supervisory, etc.	18	25	57	
5. Skilled manual, routine non-manual	52	36	12	
7. Unskilled	94	6	—	

It seems that one needs more than secondary education (or whatever it takes to acquire secondary education) to maintain high status, but secondary education (or whatever gives rise to persistence in education beyond the elementary level) will move one out of a low status position. Since one would not expect secondary education to be sufficient to move people out of skilled manual occupations in the United States, it is obvious that this relationship is not generalizable cross culturally, but is in fact a relationship which is dependant on one's level of education relative to that of the various status groups in the society in which one lives.

In Norway, Boalt (1967) has shown that 80% of persons with IQ's of 119 and over who originated in working class homes were subsequently upwardly mobile, while 84% of persons originating in the upper class, but whose IQ's were 118 or less were subsequently downwardly mobile. It should be noted that IQ itself may not have been the causal variable. IQ may be related to success at school, and educational success itself may operate like a passport rather than itself contributing in important ways to a person's ability to perform a particular job.

More recently Jencks (1973) has applied multiple regression techniques to status differentials in the United States and shown that, while duration of education is an important determinant of status (though not of income), neither IQ nor quality of educational award is very important among people with the same number of years of education. However, important though they are, years of education (and all other measured variables taken together, for that matter) do not account for more than half of the variance in status positions. Even in the United States, it seems, there is still a reasonable chance of obtaining a high status position with little education, and high levels of education do not automatically ensure one a high status occupation. It may be of interest to mention that home background is not as important as has often been thought: the status inequality between brothers amounts to 82% of status inequality in general, Fagerlind (1975) has obtained similar results in Sweden: if one does not obtain high academic credentials one's background is powerless to prevent downward mobility and loss of income.

Education and the Desire to Stretch Oneself

As was mentioned in the introduction to this chapter, it has been widely accepted that a higher level of education will lead people to develop a positive self image, to wish to stretch themselves, and to be able to do whatever job they take up more effectively. Data collected by Berg (1970) relates closely to this set of issues. It shows that, as might be expected from our own results, upwardly mobile pupils are relatively unconcerned to develop competencies which would be expected to be socially important (such as the ability to lead and to follow, the ability to work with others, and the ability to take initiative). The overall effect of selection of employees on the basis of the quality of their educational credentials is therefore likely to be dysfunctional. People with higher levels of education *do* either already possess, or develop, more positive self images than others, but the result is that they feel that many jobs are not good enough for them. They disdain them and are affronted if they are asked to perform them. They think that these jobs are not something which an intelligent (and educated) person, such as they assume themselves to be, should be asked to do. As a result they change their jobs frequently, do not stay in one job long enough to learn how to do it effectively, spend their time grumbling, grousing and breeding discontent, and do not do the jobs which need to be done. The stretching of themselves they wish to do is the same as it always was: it is to obtain a higher status job — not to do the job in front of them particularly well. Above all, it turns out that more educated people are not in fact *able* to do a particular job better than less educated people. Again this is not surprising: nothing they have been taught in fact related to their ability to do a job, and their conspicuous inability to do it better than others leads to increased levels of frustration, dissatisfaction, and disruptiveness.

Education and Civic Participation

We saw in Chapter XXI that, in the IEA study, there was no correlation between a large number of measures of educational practices and procedures and measures of a large number of components of civic attitudes. Pupils' civic attitudes seemed to reflect those of the overall society in which they lived and education had little distinctive effect.

One or two researchers have examined the relationship between level of education and civic participation and political attitudes among adults.

In the United States, Centers (1949) found that the correlation between education and social class was .56, thus confirming results we have already reviewed. The correlation between radical-conservatism and education was .38. Among people from the same social class the correlation between radical-conservatism and education fell to zero. In other words, although level of education relates to social status, education in *itself* does not tend to make people more conservative.

Almond and Verba (1963) found a marked association between level of education within the USA, UK, Germany, Italy and Mexico and the proportion of people thinking that the national government had some effect on their own life, in spite of the fact that there were marked differences between the countries. Raven and Whelan (1976) have confirmed the same results in Ireland.

TABLE 21
Percentage saying national government had effect on own life

	UK	USA	Mexico	Italy	Germany	Ireland
No education	—	—	25	24	—	—
Basic legal education	70	73	30	48	69	73
Some further education	76	89	35	72	83	86
Some university education	92	96	57	85	92	93

Similarly, although there were large differences between countries in the proportion of the inhabitants who thought that they would be treated as well as anyone else if they took a problem to a government office or to the police (83 per cent. believed this in the case of the government office in the United States, compared with 42 per cent. in Mexico), the proportion expecting to be treated as well as anyone else was markedly related to the level of education.

Further light is thrown on the background to civic attitudes and behaviour by the work of Inkeles (1969). Inkeles constructed a number of scales to measure:

Active Citizenship: This was made up of sub-scales designed to assess: political identification and allegiance, interest in politics, political information, participation in civic affairs, and political rationality. The latter included belief in the importance of applying laws impartially, without being influenced by the social status of the person being dealt with, and interestingly enough, a belief that education, rather than lineage, is what should mainly qualify a man to hold high office.

Within the eight countries Inkeles studied, these scales were shown to be reliable and to correlate well with the overall scale of active citizenship. In general, the man who was informed about politics was also more likely to identify with the national state over local leaders, to take an interest in political affairs, to participate actively in civic matters, and to support the use of rational rules impersonally applied as a basis for running government affairs.

Political Anomie: Anomie is the tendency of people to feel that others are not following the rules of the society, and not to know, or comply with, these rules themselves. In particular, Inkeles assessed the tendency to believe that political and government officials did not apply the rules impartially and serve the public faithfully. In other words, the scale assessed the tendency to believe that bureaucracy is unreliable and, whatever it is dedicated to, it is *not* the common good.

Evaluation of Government Effectiveness: This scale was concerned with whether the informant felt that his chances of improving his economic condition, getting attention from the government, and securing education for his children were increasing or decreasing. People got high scores if they expected government intervention to secure these things for them soon.

Group Hostility: the extent of distrust of the doings and motives of other people and groups; the tendency to dislike other people and groups (including political parties); a belief that one cannot cooperate with them. In other words the degree of personal antagonism felt to exist in the society: If other people are thought to be lacking in goodwill, to be totally unreliable, and to be working in ways absolutely inimical to one's own interests, cooperation becomes impossible

and solutions will be sought outside the regular channels of politics, often in ways disruptive of the political system itself.

Inkeles found that in different countries the participative citizen was *not* consistently non-anomic, non-hostile, and satisfied with the performance of his government. Rather it depended on the country. One cannot generalise and say that more active citizens (who believe in applying the law in the same way, regardless of the status of the person concerned and one's own kin relationship with them) also trust others and believe that the government is working in the people's interest.

On the other hand, *within* each of the countries studied, the citizenship scores correlated:

- .5 with level of education
- .4 with amount of radio listening
- .4 with exposure to other mass media
- .3 with occupational class
- .3 with years working in a factory (rather than rural life)
- .3 with years of urban experience since age fifteen
- .3 with an index of consumer goods
- .2 with income

Once again, one does not know whether these correlates were causes. For example, a person may have stayed on longer at school, or been upwardly socially mobile, because he had a particular personality which also led him to adopt the role of a more active citizen.

Both education and occupational class were correlated with citizenship in such a way that neither correlation is explained by the other. At each level of education those from the higher occupational classes obtained higher citizenship scores, while, within each occupational class, those with more education obtained higher scores on the citizenship scales.

The same also applied for rural versus urban origins: education, industrial experience, and urban origins all operated independently to enhance active citizenship.

Nevertheless, *education* had the most powerful effect, everything else held constant. Once again, one does not know why people persisted with education: the explanation of that persistence may also be the explanation of the active style of citizenship which the individual adopted.

We may summarise Inkeles's work by saying that it shows that degree of trust, belief in the non-corruptability of politicians, and so on varies markedly from country to country and, in doing so, reflects the conditions within each country. Of course, one does not know whether the conditions gave rise to the lack of trust, or whether belief in the corruptability and lack of trustworthiness of human nature gave rise to corrupt and untrustworthy behaviour because of the self-fulfilling propensity of human beliefs about human nature and society.

On the other hand, across cultures, in each and every country, those who are more active citizens are predominantly more educated, of higher social status, and have more experience of industry. A decent standard of living seems to be a necessary precondition to active political participation. Urban living, other things held constant, is *not* a school for active citizenship. Higher IQ and a positive self-image — belief in

one's superior level of status and skill — *is*.

In the United Kingdom work done by the Government Social Survey also showed that lack of confidence and knowledge was the main factor deterring urban working-class people from seeking election to local government.

Once again, we have established that crude *level* of education attained is a correlate of an important social skill, although the relationship may be dependent on some intervening variable which either causes both effects, or is an unintended consequence of a higher level of education (e.g. belief in one's superior ability and the inappropriateness of performing menial tasks) which then gives rise to particular patterns of behaviour. We do not know what specific educational inputs, if any, led to the outcome or whether variations in educational attainment among people who left school at any particular age have any detectable effect.

It is of interest that Inkeles goes on to demonstrate similar relationships for sense of efficacy, interest in planning, and readiness for new experiences.

Results we have obtained in Ireland make us suspect that attitudes and understanding acquired in the course of one's education are not the most important variables; that the relationships, where found, are due either to the selectivity of the system or to the characteristics of people who are prepared to persist with their education.

We find (Raven and Whelan, 1976) that there is very little relationship between level of education and our measures of such things as toleration of viewpoints differing from one's own, beliefs about the best way to get things done in society, the means one would oneself use to get things done, and ability to cooperate with others. On the other hand, there *is* a marked relationship between level of education and feelings of ability to get things done. Perhaps more educated people have been educated alongside the people who take decisions in society: perhaps they have acquired a more positive self-image; or perhaps they feel more at ease with other educated people than do less educated people. We do not know. But the pattern of intercorrelations makes us suspect that the relevant variable is, not what happened to them in the course of their education, but the selectivity of the system: if more educated people felt better able to get things done because they were better informed, one would expect them to use different *methods* to get things done. Such was not the case. It seems that they feel more able to get things done, not as a result of anything they have gained from their education, but because they have moved into high status positions from which they *can* get things done. Likewise, although Centers (1948) and Kohn (1969) argue that the differences in the values, concerns, self perceptions, and beliefs of different social classes arise as a result of experience in those sectors of society, the results we reported earlier show that these differences have arisen among pupils from other social backgrounds who see themselves bound for these positions in society long before they leave school.

At this point we may change our viewpoint somewhat and focus on the levels of correlation found in these studies. Even where correlations with level of education have been obtained, education accounts for not more than 25 per cent. of the variance in attitudes and behaviour. One may well ask whether such levels of correlation justify the amount of time and money spent on education.

Of course, the low correlations are not surprising when one considers the other variables that are probably involved, and the crudity of the attitudinal and behavioural measures. But until we can be more precise about both the educational inputs that do relate to the development of important competencies, and about the other factors

involved, are we justified in emphasising the importance of education in relation to these things? This point will become still sharper in the next section of this chapter. In it we consider correlates of quality of educational award.

Before turning to that data we may however summarise the results of the present section. Social mobility, upward or downward, appears to be related to the level of education attained by an individual relative to the level of education generally attained by members of each social class in the society in which he lives. Radical versus conservative political attitudes are also related to level of education. Here the available data enables us to move some way toward explaining the relationship. Since there is no relationship with level of education within social classes, education itself is clearly not responsible. For some time it was thought that the radicalism of the lower social classes was a reflection of experience in those sectors of society. However our own data shows that these differences are well established among pupils from other backgrounds but who intend to enter occupations in those social classes before they leave school. It seems that it may after all be the case that people with certain psychological characteristics *both* persist for different lengths of time in the school system *and* seek to enter different sorts of job.

It will be recalled that Purves' data suggests that the characteristics which lead to persistence in, or drop-out from, the school system vary markedly from country to country.

Active citizens — that is people who participate in civic affairs, know about politics, have broad rather than local allegiances and believe in political rationality — appear to be similar types of people in many types of society. This holds whether or not members of those societies habitually flout rules and regulations, distrust others, and intensely dislike and break off communication with those with whom they disagree. In all societies, too, active citizens tend to be more educated, of higher social class, have more industrial experience, and are more urbanised than less active citizens. Level of education and industrial experience, but not urbanisation, have independent associations with active citizenships. We do not know whether education and industrial experience tend to give rise to this social skill, or whether both they and civic participation are a result of some other characteristic or characteristics.

Correlates of Quality of Educational Award.

We turn now to studies which have been concerned with correlates of the quality of educational award at any one terminal level. An early study by Thorndike (1934) showed that success at school (for an eight year follow-up of 2,000 children) was unrelated to any of a series of criteria.

Christopher Jencks' study, which has already been referred to, found that quality of educational award was almost completely unrelated to income or status, regardless of whether or not field of employment was held constant. In line with a large number of previous researches which he summarised he found that there was almost as much income inequality among people with the same educational credentials as in the population as a whole. Furthermore, the average economic return to an individual for persisting in education for an extra year was very much less than most people think, especially at the college level.

Holland and Richards (1965) studied 7,000 college freshmen, attending twenty four colleges. They correlated scores on academic aptitude tests with academic attainments, actual contribution to science, arts, leadership, business entrepreneurship, ability to undertake tasks in a wide variety of fields (i.e. whether a person already

possessed the requisite knowledge, skills and attitudes to perform well in scientific, governmental, business, social and educational environments) and creativity tests. Correlations between academic abilities averaged about .5, but there was no correlation at all between academic abilities and any of the real life achievement or competency scores; nor was the correlation any higher within areas. Academic scientific ability correlated .1 with science real life achievement and .07 with scientific competency, even though all the measures had good internal consistency.

As we have seen, Wing and Wallach (1971) found that, if university selectors paid attention to significant non-academic accomplishments they would have to change half the names in their admission lists.

Jepsen (1951) found no relationship between college grades and income, field of employment held constant. On the other hand, he found a correlation of .27 between number of extra-curricular activities and income. Fifty studies reviewed by Hoyt (1965) also support the contention that there is no correlation between college grades and income. Where correlations *are* obtained, they seem to be due to a tendency of some firms to pay higher salaries to those with better qualifications from the time they first join the firm.

Turning now to studies of the relationship between educational performance and job or life performance, several studies suggested a correlation of about .2 between college grades and the creativity of scientists, but Taylor, Smith and Ghiselin (1963) found that, when degree class was not used as a selection device, degree results were unrelated to research productivity. Berg (1970) found a similar lack of relationship between quality of educational award and performance in the US Federal Aviation Authority, which is responsible for managing the flight paths and landings of pilots at airports throughout the US. Necessarily committed to a policy of staff development rather than recruitment as conditions changed, the Authority found no correlation between either years of education or quality of educational award and ability to master, or perform well at, a wide range of tasks which, in the outside world, would normally have been assumed to be dependent on having obtained the highest levels of academic achievement. Similar results were obtained in studies of the performance of insurance salesmen, magazine salesmen, blue-collar workers, and at all levels in the navy and army. More surprising than anything else, perhaps, was the fact that the ability to master further formal educational courses was unrelated to years of education or quality of educational award. Perhaps this was because it really was necessary to master the material concerned in order to perform one's job more effectively. Schools, it seems, do not even teach their pupils how to learn within the very restricted interpretation they usually place on the phrase 'learning to learn', let alone teach pupils how to make their own observations and learn *without* instruction.

Bray and Grant (1966) showed that, while managerial success was somewhat related to scholastic success, interpersonal and administrative skills were much more important determinants of managerial success.

Little work has been done on the relationship between college grades and such things as participation in community affairs, but, where such work has been done, it, too, shows little relationship between these.

Perhaps the results summarised in the last few paragraphs should not surprise us. A moment's reflection suggests that academic attainment would not be expected to be as important in determining real life accomplishment as such things as creativity, the ability to work with others, the ability to lead and to follow, the ability to take

decisions, the ability to make one's own observations and learn without instruction, and resourcefulness. And the complications do not end there, for one expects these different competencies to be important in different situations: one expects one person to be successful because he is creative, another because he is a good leader, and a third because he has a fine analytic mind. Such abilities do not correlate very highly with each other. Guildford's (1956) work suggests that they correlate only about .3 with each other, leaving 91 per cent. of the variance unaccounted for in the case of any two variables. Taylor (1963) has shown that, in real life situations, there are at least fifteen different types of 'creativity', all of which have different consequences for the lives of the individual concerned and the organisation in which he works. We therefore cannot expect to find that academic accomplishment is a good predictor of life success *however* the latter is defined.

Implications.

What are the implications of what has just been said for the process of education and for educational evaluation? Just let us listen to what we are saying.

We are saying that we are at present using a device (academic attainment) — which does not relate, and cannot be expected to relate, to life success — to control entry into further education and hence entry to positions of status in society which determine an individual's life chances. And we are saying that, even if the latent curriculum is helping to develop important competencies, entry to the learning experiences which would lead to the development of those competencies is being denied to many of those who have the highest potential to develop them. We are using academic attainment as a criterion on the basis of which to restrict the numbers entering the higher stages of education, even though that criterion is irrelevant to the selection of those who possess the potential to develop the competencies that are needed in the life positions to which those levels of education lead. And we are, perhaps, not even teaching those we do allow into those privileged positions of our educational system to learn the things they most need to learn. Gone are the days of a 'broad' education for the pre-selected leaders of the nation — not that they were the only people who needed to develop these competencies: the point is that the baby went out with the bathwater.

The Problems for Research.

It seems from the data we have presented that it is very important for researchers at this point to turn their attention to trying to specify ways of developing a *variety* of competencies — different ones in different pupils — and to develop a system of evaluation which would be applicable in such circumstances. If we are to train a wide variety of pupils with very different talents and competencies, we cannot expect all pupils to clear the same examination hurdles: we want some good leaders, some good inventors, some good analytic thinkers, some who are good at weighting many variables subjectively and making good judgements, some good coordinators, some good information retrievers, some good communicators, and some good followers. To ask them all to clear the same hurdles would be to confine unduly both them and their teachers. Yet this is just what is being done.

Level of Education and Economic Growth.

We turn now to the final topic of our chapter. We have seen that level of education is an important (if socially mediating) correlate of social mobility and that it correlates somewhat with civic participation. On the other hand quality of educational award has few correlates. If education is operating as anything other than as a means of maintaining in short supply the number of applicants for well-paid high status jobs and acting as a rationing device for these positions, it follows

from these findings that it must either act as a selective device which lets through only those possessed of certain qualities such as persistence or intelligence, or it must be the other, unassessed, qualities which schools foster through the latent curriculum, or the social functions schools perform, which are important. Schools may foster such competencies as the ability to work with others and the ability to see things from other people's points of view (and we have seen in Chapter XXI that, to some extent, they *do* do this) or they may do such things as place future leaders in contact with each other on a personal basis so that they come to trust each other. But although continuance in education may be good for the individual, is there any evidence that education does *society* any good? Is there any evidence that promotion on the basis of academic merit gets creative people and good managers into influential positions? Or do high levels of education operate as a costly luxury to the detriment of society?

We have already summarised the results of Berg's work in this area. Let us now look at an interesting study by McClelland (1966). Using UNESCO statistics McClelland was able to compute the following table.

TABLE 22

Mean Rate of Economic Development

(Standard Scores)

Need for Achievement (Desire to do things better than they have been done before, rather than as they have been done before)	Proportion of inhabitants in Higher Education for given level of development	
	High	Low
	+ .86	- .18
	.09	- .68

Although education, by itself, does prevent a society falling behind when the people in that society are not particularly concerned with achievement, high levels of education on their own are not sufficient to speed up development. More detailed analysis of McClelland's data suggests that what seems to happen is that if there are a lot of people in a country who are concerned to do things better than they have been done before, they will develop higher education institutions because they need the vocational skills. Other people — who are more concerned with material possessions than with doing things better than they have been done before — then notice that the people who attend these institutions do well, and they begin to demand that these institutions should be available to *everyone*. However they are also less vocationally-oriented than those who set up the institutions in the first place and, as part of the universalisation of education, the conception of education is changed from *useful* things to concepts like "A well rounded personality".

This mass education turns out to be largely wasted as far as economic development is concerned, although it does manage to place one or two individuals (who would otherwise have fallen by the wayside) in positions from which they can make a contribution to development which they would not otherwise have made.

Thus it emerges that the fostering of certain attitudes which rarely figure explicitly in discussions of the goals and role of education, is at least as important for economic development as the communication of up-to-date knowledge and technology.

Implications of Studies of Correlates of Level of Education and Quality of Educational Award.

From the data we have examined it seems, first, that level of education is closely related to the status we will attain in society. On the other hand, second, academic ability and quality of educational award at any one terminal level is not closely related to life success. And third that the economic development of a society is related to education through intervening variables.

There are three possible explanations of these results, each of which is probably partly true. One is that the factors which make for continuance in education (both in terms of background, such as financial connections or knowledge of influential people, and personal characteristics, such as self-confidence or the ability to learn without instruction), also enable one to hold down a high status job and perform well in it. These personal characteristics may be relatively uninfluenced by schooling. A second explanation may be that the unwritten, latent, educational curriculum has the effect of developing personal characteristics which make for the ability to perform high status jobs although these characteristics are not assessed in the examinations set by schools. If so, it is obvious that more attention ought to be paid to this unwritten curriculum and such things assessed and taken into account by employers. The third possible explanation is that the educational system is one of the most effective restrictive practices mankind has known, and operates principally to keep people *out* of 'high status' occupations and maintain 'qualified' personnel in short supply, thereby enabling such people to exact a high income from society. This last view gains some support from the work of Folger and Nam (1964) who showed that, although the formal entry requirements of a number of occupations had been dramatically revised upward over a period of years, there was very little change in what those employed in these fields were called upon to do. This viewpoint also gains a great deal of support from the work of Jencks (1973) and Berg (1970). The latter showed that, with one or two exceptions, there were no differences in the level of skill required to perform a large number of occupations between which there were marked income differentials which were maintained by erecting barriers in the form of educational qualifications which it was necessary to obtain before one could gain entry to the occupation.

Both Berg and Jencks concluded that there is very little evidence that more educated people are, as a result of their education, better able to perform important roles in society than less educated people. There is no evidence at all that more educated people are more productive or effective within occupations than the less educated. Indeed, as we have seen, Berg's data points quite clearly in the opposite direction: more educated people are more dissatisfied, more disruptive of their organisations, and stay in their jobs for much shorter periods of time than do less educated people.

Occupational groups seem to raise their educational entry qualifications *more* to increase their own status than because they need more educated entrants; indeed, there is usually an increased supply of more highly educated applicants *before* occupations raise their entry requirements. These entry requirements seem to operate to maintain the apparently qualified personnel in short supply and, as a result, to enable the incomes of the incumbents to be maintained at an inflated level because of the apparent shortage of 'supply'. It seems that Jencks is right: the function of education, and of educational qualifications, is to ration privilege by socially legitimised, if irrelevant, means. Berg adds that, as the efforts of the individual become further and further removed from a discernible end-product, and as his activities become more and more dependent on the activities of others, it would in most cases be practically impossible to assign differential rewards on any-

thing other than an arbitrary basis.

The Social Functions of the Educational System.

We may now focus for a moment on the possible social functions of the educational system as a means of allocating pupils to their position in society, and, in particular, raise the question of the extent to which the social functions of the educational system, as a mechanism for allocating people to their position in society, are compatible with its educational functions.

If the educational and examination system's prime function is to determine who will be thrown on the scrap heap of the unemployed and who will be admitted to high status positions in society, we can expect people in societies which have high levels of unemployment (such as Ireland or the United States) to be anxious to persist with their education and to obtain certificates which will enable them to gain entry to high status positions. We can also expect them to be very concerned that those certificates be awarded as objectively as possible, with little opportunity for teachers who know the pupil, and who might have personal reasons for wishing to influence his future, to affect the assessments.

If these certificates do not assess qualities which are important to society — such as the ability to understand social processes and take the initiative to do something about them, or the ability to get other people to work together effectively — we cannot expect students to be willing to devote time to the development of these competencies: It is the certificates which will determine their life chances and these other qualities will (a) probably not be recognised at all by their selectors and (b) only stand to their credit if they supplement, rather than supplant, traditional academic attainments.

Yet a number of rather disturbing corollaries follow. If the people who get into high status positions in the society have not developed these competencies, one cannot expect them to be able to tackle the institutional problems which give rise to high unemployment rates. Furthermore, if certificates which do not include assessments of such important competencies are used for selection purposes, one can expect the selection of managers and other influential figures in society to be almost random in terms of the abilities that are required.

In due course this irrelevance of academic qualifications will come to be recognised. But once it is recognised, and attempts are made to select influential people on the basis of other competencies, a 'social bias' will, once again, creep into selection, since the opportunities to develop communication skills, the ability to get other people to work together effectively, and the ability to understand social processes, will occur only in out-of-school settings. Furthermore the appropriate learning experiences will be more likely to occur among pupils from high status backgrounds where they will be more likely to be involved in discussions in which attention is focussed on the problems of leadership, the welfare of the community, responsibility, and dealing with people and will also be more likely to have opportunities to engage in, and practice, such activities and explore the implications for themselves.

In the long run, therefore, the answer to our initial question about the compatibility of the social and educational functions of the educational system must be 'yes'. The educational and social selection functions of the school *must* be *made* compatible, and this must be done by focussing the attention of both educators and evaluators on competencies which are socially important.

How, then, can one develop and assess such socially important competencies? How can one help pupils develop such important competencies within the context of a school system which at present (to at least some degree) functions as a set of restrictive practices and as a means of allocating life chances? How can education be made more relevant and enjoyable without overloading our educational, and disrupting our social, systems? These are questions to which we turn in our later chapters. At this point in our argument, it is clear that there is a major conflict between developing from the current system of education and evaluation a system of education and evaluation which is educationally desirable and developing one which is an effective system of allocating life chances. From this conflict between two functions of the educational system stem a whole series of problems: how does one make educationally desirable policies acceptable to parents who wish their children to avoid being thrown on the scrap heap of the unemployed, if one does not simultaneously change the summative, selective, evaluation system? How does one encourage teachers who are overwhelmingly concerned with ensuring that their pupils individually have as bright a future as possible to run educationally desirable programmes which may cause their pupils to risk failing the examination? How does one run evaluation systems which would involve teachers in assessing these and other qualities in their pupils and in thinking about what is to be achieved in education and how it is to be achieved in a situation in which they will be accused of favouring the life chances of some of their pupils if they are in fact involved in assessment?

Summary and Conclusions.

Social mobility, upward or downward, appears to be related to the level of education attained by an individual in relation to the level of education generally attained in each social class. Level of education may relate to individual social mobility or to the rate of development of a society either by providing a sort of entrance ticket to knowledge or occupations, or by fostering certain attitudes. If the latter is the case, these attitudes appear to be incidental to the educational process rather than at the focus of the attention of educators who design educational programmes and who determine the awards to mete out to students. Quality of educational award does not appear to be related to income, and only slightly to other criteria of occupational performance.

Radical versus conservative political attitudes are related to level of education, but the relationship appears to be due to the fact that pupils with more radical views drop out of the educational system sooner and not, as was once thought, that lower levels of education lead those concerned to come into contact with the institutions of our society in such a way that they develop radical attitudes.

Active citizens — that is people who participate in civic affairs, know about politics, have broad rather than local allegiances, and believe in political rationality — appear to be similar types of people in many types of society. This holds whether or not members of those societies habitually flout rules and regulations, distrust others, and intensely dislike and break off communications with those with whom they disagree. In all societies, too, active citizens are more educated, of higher social class, have more industrial experience, and are more urbanised than less active citizens. Crude level of education and industrial experience, but not urbanisation, have independent associations with active citizenship. We do not know whether they give rise to this social skill, or whether both they and civic participation are a result of some other characteristic or characteristics. However, even here, the most important finding is that level of education only accounts for a very small proportion of the total variance. In total, other unassessed variables are more important.

Markedly upwardly socially mobile pupils are characterised by a concern with personal advancement and a below-average concern to develop initiative, responsibility, the ability to work with others, considerateness, and concern with the wider community. The selection of the people who will in future be in a position to have the greatest influence on our society on the basis of academic credentials as we know them today is likely to be, not merely random, but positively dysfunctional so far as getting socially committed and innovative people into those positions is concerned. Personal ambition is not the same thing as *need* achievement, and its consequences are likely to be anything but socially desirable.

These findings about social mobility, and the absence of correlates of quality of educational award, seem to leave the educational system wide open to the charge of being primarily a system of restrictive practices. If educationalists are to refute this charge, it seems imperative that they set about developing measures which will enable us to detect the important positive and negative consequences of different types of educational programme, and that they experiment with, and carefully assess, new courses specifically designed to develop important human resource capacities such as the ability to cope with the physical and social problems which beset mankind. Indeed, until this is done, can we be said to have an Educational Research and Development programme worth the name? We return to a discussion of ways of fostering such characteristics in the next chapter.

Part VI

A THEORETICAL BASIS FOR PROGRESS

We have seen that most people connected with education attach most importance to its character-development goals and that some people have devoted a great deal of energy to thinking out how such goals are to be reached. Nevertheless, all the evidence, both circumstantial and direct, suggests that these goals are not being well attained and that schools may be having actual harmful effects in this area.

We have at times reflected on the psychological nature of the characteristics which most people think it is most important for schools to foster and on ways in which it might be possible to foster such qualities more effectively. The aim of this part of our book is to try to push forward our understanding of the nature of these qualities and the ways in which they might be fostered more effectively.

The first thing we will do in pursuit of this quest is to try to build on the previously presented evidence on the psychology of people who contribute disproportionately to economic and social advance and the way in which such characteristics might be fostered. We will then move on to present a more comprehensive theory of motivation and the way in which motivational dispositions are to be fostered. This theory is then used to outline changes which might be introduced into classrooms in order to foster motivational dispositions more effectively. Results of experimental work based on this theoretical model are also reviewed.

Chapter XXIII concludes with an outline of the steps which need to be taken if an important intermediary variable in fostering motivational dispositions — classroom climate — is to be more effectively assessed.

Chapter XXIV is devoted to a detailed analysis of the values and behavioural predispositions which make for different types of effective behaviour.

Chapter XXIII

MOTIVATION AND EXPERIMENTAL PROGRAMMES TO FOSTER MOTIVATIONAL DISPOSITIONS MORE EFFECTIVELY

In the last chapter we saw that it is possible to make a fairly strong case for saying that, at the present time, the educational system operates primarily as an allocator of social position. It does this without either particularly helping people who will occupy different positions in society to develop the competencies which they will require if they are to lead their lives effectively, or perform their jobs well, or allocating people to different positions on the basis of the abilities and competencies which would contribute to their effective performance in those positions. If the charge that the educational system is primarily a means of maintaining in short supply the number of people who possess certain relatively irrelevant academic qualifications is to be countered a number of steps need to be taken. In the first place educationalists must develop the educational practices and procedures which would be expected to enable them to foster the important competencies to which we have repeatedly referred. Then they must seek to evaluate their progress toward those goals — and not other goals — both in their formative evaluation procedures and in summative certificates which will be used to allocate pupils to their careers.

We will return to the question of if, and how, appropriate evaluation instruments developed in Chapter XXVIII. In this chapter we will concentrate on ways in which such competencies might be more effectively fostered.

The data reviewed in Chapter XVIII contains a number of hints which might be pursued if one wished to develop higher levels of creativity and initiative. We saw that creative and innovative people had been socialised in a particular way and had many distinctive characteristics. They had been exposed to hardworking, creative, innovative, role models; they had been encouraged to be independent and to think for themselves, and, in particular, had been expected to clarify their own values and strive hard to reach their valued goals. As adults, they pursued their goals single-mindedly, set challenging, realistic but measurable sub-goals, sought to monitor the success with which they were achieving them, were sensitive to their feelings and the slight indications that there may be better ways of doing things, utilised the resources that were available to them, moved themselves into positions from which they could work toward valued objectives, and were supported by friends with similar values.

Would it be possible to structure educational programmes which would contain the features conspicuous in the background of such people or in any other way help to foster the characteristics which these creative and innovative people now display? That is to say: would it be possible to structure educational programmes that would expose pupils to appropriate role models, that would encourage them to think about their goals, that would encourage them to consider their value systems and the consequences of pursuing different goals, that would provide useful information about the consequences of pursuing different goals, that would enable them to develop the spontaneous tendency to set realistic, challenging, goals, monitor their progress toward them, and become sensitive to the slight indications that there are better ways of doing things?

Experimental Programmes with Adults.

Indeed it would be. Since the first attempts to make use of the data we have discussed were with adults we will discuss these first. Next we will look at more

general applications to community development because of the additional insights such programmes yield into alternative educational programmes. Finally we will turn to classroom settings.

These programmes with adults, which are still in the course of development, encourage people to:

- 1 Think carefully about what they want to do with their lives and, having clarified their objectives, *commit* themselves to achieving those objectives. In doing this, they look carefully at their past and articulate (perhaps for the first time) the factors that give rise to feelings of satisfaction and frustration. As a result, people are often surprised to discover that they really do enjoy making innovations or breaking with tradition, and that the conventional wisdom, which tells them that only objectionable people enjoy these things, is wrong. They are therefore able to pursue their goals much more wholeheartedly.
- 2 Think carefully about the obstacles they are likely to encounter in achieving their goals.
- 3 Divide the route to their goals into a number of challenging but realistic stages which they can commit themselves to achieving by specific dates.
- 4 Study the research results relating to people who are successful in achieving their goals and relate this data to their own behaviour in ways which will help them to improve their own performance. In particular, they can, by participating in a number of formal exercises, role playing situations (both paper and pencil and inter-personal), and educational 'games', practice thinking, feeling and acting in the same way that successful people think, feel and act.
- 5 Keep a record of the progress they are making toward their goals — so that they can continuously monitor the effectiveness with which they are achieving the standards they set for themselves and examine, and find ways of surmounting, obstacles to improved performance.
- 6 Establish a network of friends who will support them in their new role, provide emotional support, and help them out of their difficulties.

The general result of the courses is that the participants come to think a little more clearly about the life-goals that are important to them, to assess the extent to which they gain satisfaction from such things as making innovations, being friendly, and getting the best out of others, to consider the long-term consequences of their decisions and actions a little more often and to pursue a little less haphazardly the objectives which are important to them and which will bring happiness to themselves and to others.

Courses for Businessmen.

When such courses have been run for businessmen and their characteristic behaviour is studied before and after one of the courses, it is usually found that the sort of behaviour that is characteristic of only the best third of businessmen before the courses is characteristic of two-thirds of them afterwards (McClelland, 1969). When financed out of government funds, the courses seem to pay for themselves in about nine months in increased tax revenue alone (not counting the number of new jobs created or the gains arising from moving some people from subsistence on social welfare payments to productive employment).

Community Development.

As confidence in the courses has developed, they have been extended to whole communities. As yet it is too early to say exactly what the pay-off will be. However, what has been done in this case is as follows:—

While standard courses are run for the younger members of the community, the community leaders come together for a special course. Firstly an attempt is made to bring home to them the need for the support of others and an appropriate social climate if people who are motivated to develop their communities (which it is hoped that the young people are, or will become) are to be able to function effectively. This is done by first familiarising them with the patterns of feeling, thought and action which are characteristic of individuals who are highly achievement-oriented. Then the oldest among them play the role of young achievement-oriented individuals in their community while the youngest among them play the role of a commission trying to solve the problem of emigration. This not only dramatically presents the problems of the community to the leaders of that community; it also leads to a discussion of the goals which those leaders have for the community. This in itself is often instructive in that the community leaders come to realise, often for the first time, that their neighbours share their desires, hopes and fears; that there had been a situation of pluralistic ignorance in which they and their neighbours each wanted to see the same changes in the community but did not realise that the others also wanted the changes.

Once they come to mapping out a course to achieve these objectives, the community leaders come face to face with conflicts which have existed between them in the past and prevented them cooperating effectively. In order to help them develop an effective strategy to deal with these conflicts, educational simulations of real life situations are arranged so that trial of a new style of relating to others which ends in disaster will not have the irreversible effect it would have in real life, and so that these new styles of relating to others can be practiced until they become smooth, well formed, habits which can be engaged in without fear. Since the people being dealt with are the people the participants will be dealing with in real life, it is anticipated that *effective* strategies *will* be translated into real life behaviour. The likelihood that this will be so is increased, of course, when the group returns to its discussion of the real problems of the community and ways of remedying them. In the end, some of the most pressing problems of the community are singled out for special attention, and a challenging, but realistic, route toward their solution is mapped out and adopted. Finally, ways of assessing and reviewing progress toward these goals are agreed upon.

Motivation in the Classroom.

How can this work be put to use in a classroom?

Before attempting to answer this question, it is necessary to say something more about the overall theory of motivation developed by McClelland and his associates.

There are essentially three sets of variables involved in motivation in the classroom. The first is the pupil and his internal motivation — that is, his values and attitudes, what he will choose to do spontaneously when not under pressure from the outside world to do anything in particular.

The second set of variables are those concerned with the tasks we may wish pupils to perform. These tasks vary a good deal and include, at one extreme, learning

facts for recitation in an examination. As we have already seen, there are tasks designed to foster qualities of 'character' such as skills of social cooperation, integrity, willingness to take personal responsibility, and willingness to take the initiative for introducing changes into one's community or organisation upon oneself. Still other tasks are concerned with developing creativity and originality.

At this point it is important to highlight the fact that the *objective* of many educational tasks is to change the pupil's personality and motivational make-up. This adds a dimension to educational tasks which is not shared by most other tasks found in society: In industry, for example, the problem is chiefly to get the job done efficiently, not to change the values and motivation of the work force. An important consequence of this distinctive feature of educational tasks is that, when describing the task variables involved in motivation in the classroom, it is necessary to consider both the motives they arouse in pupils at the time they undertake the tasks and the enduring patterns of motivation they lead pupils to develop (or which they are intended to lead pupils to develop).

The third set of variables with which one is concerned when dealing with motivation are those which describe the pressures that can be brought to bear on a particular individual in order to get him to perform any particular task. In thinking about the nature of the pressures which will have to be brought to bear to get a particular individual to perform a particular task it is necessary to consider both the motivational disposition of the individual — the type of tasks he tends to engage in spontaneously and with enthusiasm — and the types of motive a particular task tends to arouse. A particular task may involve inventiveness and long term planning — in which case it would be threatening to someone who liked order and short time horizons — unless the task were re-designed. On the other hand it may be relatively routine, in which case it would be unattractive to someone with strong needs for challenge unless it could be re-designed to tap other motives.

In education, therefore, we can alter any of these three sets of variables. Firstly, we can influence the pupil's values so that he will tend spontaneously to engage in different activities. Secondly, we can change the tasks the pupil is asked to perform (and hence the motives these tasks arouse, develop, or satisfy). Thirdly, leaving the individual and the tasks unchanged, we can structure the environmental pressures brought to bear on the individual so that he will in fact perform the tasks we wish him to perform (and therefore, perhaps, attain the objectives to which the performance of the task is meant to lead).

These environmental pressure variables include the types of task rewarded by teachers or peers. But it should be noted that the appropriate environmental pressure varies with the pupil's own motivational make-up, with the task to be performed, and with the match between a pupil's internal motivations (that is what he would choose to do spontaneously) and the type of task we set before him. Thus we can rig situations so that a pupil reaches his own goals (i.e. satisfies his needs for affiliation, recognition, variety, and so on) only by performing some task we set before him.

We may now discuss the consequences of different ways of arousing enthusiasm and interest in school tasks in more detail. It is clear that two people may perform the same task, or behave in the same way, for very different reasons. One person may perform a task because he tends spontaneously to perform tasks of that sort; because the nature of the task is such that it arouses a particular motivational pattern easily aroused in that individual. Another individual may display the same behaviour because its performance brings satisfactions of a very different kind; for example, successful completion of school tasks may bring rewards of prestige or

approval. The difference between the two individuals will only become apparent when the reward system is withdrawn, at which point the first individual will continue to behave in the same way while the other will not (unless, of course, performance of the task has increased the individual's interest in performing tasks of that sort).

If one looks at the theoretical framework we have just presented one becomes aware of a considerable number of changes that could be introduced into classrooms. Depending on one's objectives and one's freedom of movement, one could:

- (a) Restructure existing educational tasks so that they arouse and satisfy a wider range of motives. Such changes could include re-structuring educational tasks in such a way as to provide greater opportunities for pupils to work toward goals which are important to them, to measure their performance against targets which are realistic and challenging in relation to their own valued goals and their own previous performance (and not against the performance of others at a task in which they are uninterested), and to engage in the important, and to many people satisfying, activity of diagnosing real barriers to improving performance and focussing on these problem areas rather than blindly striving to exert themselves to achieve an unacceptable extrinsic goal with no attention to the real problems of achieving it. They could also be restructured to tap and engage springs of motivation and enthusiasm which are currently neglected in classrooms. These might involve restructuring educational tasks in such a way as to permit those who enjoy friendly interaction to work with others to achieve educational goals, to permit those who seek power, and positions of authority, to take responsibility for ensuring that groups achieve joint goals, or to permit those who enjoy an audience to have that audience in relation to the task that is to be accomplished. Thought of in this way there seems to be ample opportunity to restructure existing tasks to tap and engage a wider range of motivational dispositions.
- (b) Restructure existing tasks in such a way that working at them leads to the development of a different range of personality and motivational characteristics. Examples here would include the possibility of restructuring traditional school tasks in such a way as to encourage pupils to practice planning and goal-setting skills and to develop the habit of searching for indications as to how effectively they are achieving their goals and the habit of examining, and finding ways of surmounting, obstacles to improved performance. School tasks could also be restructured so that pupils could more easily turn their emotions (both positive and negative) into their work. All these things would be expected to lead pupils to develop the general ability to achieve valued goals effectively, quite apart from the fact that they would be expected to lead pupils to perform the particular task in front of them more effectively and enthusiastically.
- (c) Rethink educational tasks so that they explicitly encourage pupils to develop changed self-images, and new ways of thinking, feeling, and behaving, through, for example, carefully structured learning experiences designed to encourage them to think about their values and about the consequences of adopting different value systems, and to explore the consequences of different ways of behaving. The learning experiences may include carefully structured role-play situations and educational games designed to encourage pupils to try out new ways of thinking, feeling and behaving (including, particularly, new ways of relating to others) in situations in which the consequences of a mistake in the performance of a new behaviour pattern would not be so disastrous as in real life. In real life a mistake often brings punishing consequences which are sufficient to discourage people from trying out a style of behaviour which is

very different from that which they are used to. The objective of educational games is to lessen this risk. These learning experiences should also be designed to ensure that pupils correct a number of mis-perceptions they have of the consequences of engaging in a number of styles of behaviour and to encourage them to haltingly evolve and establish new patterns of behaviour so that the habit patterns can later be released without self-consciousness in everyday situations. In parenthesis, we may note that even if these learning situations proved to be ineffective as far as helping the pupil to develop a specific style of behaviour was concerned, they may still be useful in other ways. For example, pupils may become familiar, at affective and behavioural levels, with a great diversity of ways of thinking, feeling, and behaving. Thorough familiarity with these styles of behaviour, to the extent of being able to feel and behave in these ways, would be expected to increase pupils' ability to put themselves in other people's shoes, and hence to their becoming more considerate of others and more open to new ideas.

- (d) Redesign the educational environment as a whole in order to expose more pupils to the patterns of socialisation to which people who have developed outstanding characteristics have been exposed. Thus, if one is interested in helping pupils to develop the characteristics they will need if they are to reach their chosen goals more effectively, one might consider such changes as giving them more personal responsibility and independence, encouraging them to move themselves into situations in which more of the experiences they receive are due to their own actions, and provide the sort of role models to which, as we have seen, outstanding individuals have more often than others been exposed. It will be recalled that the role models to whom such people were exposed particularly stressed honesty, openness, forthrightness, respect for others, making the most of one's abilities, and pride, diligence, resourcefulness, and joy in work. More pupils could be exposed to such role models if more teachers made a point of exemplifying these virtues in their own lives, if more people possessing such characteristics were brought into educational settings alongside professional teachers, and if more of the characters in the literature with which pupils came into contact stressed these characteristics.
- (e) Attempt to restructure educational tasks, and the general educational environment, in order to activate a wider variety of motives in the hope that arousal and engagement of these motives will enable pupils to go about their tasks more enthusiastically and develop a wider range of motivational dispositions. We spoke earlier about the possibility of redesigning educational tasks in such a way that it was possible for pupils with a wider variety of motivational dispositions to become enthusiastic about them. The point here is rather different. We have seen that different types of task *arouse* different motives. Thus some tasks more or less force those who engage in them to take a delight in doing new things well; they lead people to engage in this type of activity and to experience the satisfactions which follow. As such they both arouse and satisfy this motive. The enthusiasm so generated can be used to lead them to carry out tasks which they would not otherwise have performed and, as a result of undertaking those tasks, to develop new motivational dispositions. Their motivation, in the sense of enthusiasm for school tasks in general, would have been increased by redesigning the motive arousal potential of individual tasks. The inputs one might use to increase levels of arousal of achievement motivation might consist of changing tasks in order to permit pupils to experience the enjoyment which comes from successfully completing a new task, the satisfaction (and frustration) of assuming personal responsibility, or the satisfaction (and frustration) which comes from having something

worthwhile to communicate. Once again the provision of appropriate role models might serve to arouse latent motives. Latent achievement motivation might be aroused by presenting the pupils with role models who seek feedback, are creative and resourceful, who enjoy their work, who work energetically, who anticipate obstacles and search for ways to deal with them, who enlist help with their task, and who set themselves realistic but challenging goals. Latent motives having been aroused, they may be strengthened in the sense that pupils will be more likely to seek to satisfy them in many situations. Merely arousing the motive often may lead pupils to seek out situations in which it will be aroused.

- (f) Increase the *environmental press* toward achievement, for example, by making it clear that it is unthinkable to do anything other than turn in a first-rate performance and give of one's best. This could be done by approving of, and rewarding, creativity, resourcefulness, and inventiveness; by providing support, and encouragement, for those who attempt to display initiative and break with tradition; by making it clear that only the highest standards of work are acceptable; by avoiding disorganisation; by providing frequent opportunities for pupils to find out how well they are doing and to isolate the precise reasons why they are not achieving their goals more effectively; by creating an atmosphere of hard work, dedication, resourcefulness and enjoyment of work, and by providing structures which make it easier to engage in achievement behaviours and more difficult to engage in other behaviours by, for example, deciding to contribute in important ways to wider community activities which have genuine and immovable deadlines before which any worthwhile work must be done, by removing red tape and administrative blocks to genuine achievement activity (including expectations that certain types of activity are 'not appropriate') and by making it more difficult to engage in social actions unrelated to the accomplishment of achievement tasks, such as working up resentment and unrest through a series of private person to person conversations. Both of these last two goals may be achieved by adopting an appropriate form of open planning which forces such behaviour out into the open, and, as a result, makes it more difficult for individuals to engage in it. Once again it should be emphasised that the effect of these changes should be, not merely to get more 'work' done more effectively, not merely to lead pupils to develop the habit of setting realistic but challenging goals, seeking feedback etc., but also to strengthen the *motive*, to lead pupils to seek out situations in which it is possible to experience the satisfactions which arise from engaging in such behaviours.
- (g) Encourage teachers to think about the types of behaviours they reward, the types of reward they use, and the *effects* of different sorts of reward. Teachers may be encouraged to reward one pupil for displaying an ability to learn and memorise, another for initiative, another for cooperativeness, another for leadership, another for ability to express himself well, another for ability to make wise decisions, another for planning, and another for attempting to forecast the future, and so on.

Cutting across this emphasis on the appropriateness of encouraging diversity and different types of outcome, teachers may be encouraged to reward pupils, not only for their absolute levels of performance, but also for making an *attempt* to increase their levels of performance in these areas (low though these may be), to reward them for willingness to recognise the need for improvements, to reward them for striving to diagnose barriers to improved performance, and for striving to find ways of surmounting them, and so on.

Teachers may also be encouraged to reward different pupils in different ways — to reward one pupil with promotion, another with affection, and another by encouraging him to continue with a creative task, the appropriate reward being dependent on the motives which are strongest in the pupil.

Most important of all teachers may be encouraged to think of their role, not as being one of meting out rewards to students, but as being one of structuring situations in which pupils can experience the personal consequences of behaving in different ways and experiencing the intrinsic satisfactions which come from engaging in various types of effective activity.

Encouraging teachers to think in these terms about the incentive — behaviour — process — reward matrix they use, may help them, and us, to make the processes of effective teaching — which good teachers engage in habitually and sub-consciously — more explicit, and, as a result, help us to develop a genuine body of professional educational knowledge. It may also help pupils to participate more enthusiastically in the educational process. Whether it will lead pupils to develop the spontaneous tendencies to behave in particular ways in future is a different question. Educationalists in the past have tended to assume that if pupils can, usually through fear of punishment, be caused to engage in a particular pattern of behaviour the tendency to engage in that behaviour in the future will be strengthened.

Although this theory has the weight of centuries behind it, and although it formed the basis for Hullian theories of learning, the truth is that Hull's theory, in order to continue to be tenable, became incredibly complex, and this, in the end, succeeded in demonstrating that the basic propositions on which it was based were insufficient to account for the acquisition of habits.

From our present standpoint it seems that the question is not so much whether rewards are essential (they do not seem to be since pupils learn by observation and practice (imitation), without rewards extrinsic to the task to encourage them), as whether rewards extrinsic to the task are anything like so effective in establishing continuing tendencies to engage in particular patterns of behaviour, as the self-administered rewards which come from intrinsic satisfactions experienced whilst performing the behaviour. Although this question awaits further research it is clear that the answer is not simple, and we may highlight some of the questions which will have to be answered. The first of these includes the question of whether extrinsic rewards lead pupils to become dependent on the teacher for guidance and insensitive to their own feelings — insensitive to their own problems — which they need to seek and find appropriate ways of mastering, insensitive to their own feelings of delight on having mastered something which was difficult and distasteful, or on having gained an understanding of some aspects of the world which were previously unclear.

A more basic question has to do with the status which has been accorded to rewards in behaviour modification throughout modern psychology. Whatever may be the situation when the recipient does not know his behaviour is of concern to another, the fact that pupils *know* that their teachers have it in their power to dispense or withhold coveted rewards, and to make these rewards contingent on certain behaviours of their own, shifts the whole set of relationships which are being discussed into a different ball-game.

As every parent knows, the statement 'If you are a good boy I'll give you a sweetie' may be met, not by a desired behaviour, but by 'If you *don't*'

give me a sweetie I'll give you hell'. Likewise the attempt to reinforce spontaneous contributions to keeping the house tidy by proffering pocket money may serve to eliminate any contribution which has not been specifically contracted for. Similarly it is common for teachers to find that their pupils stop doing precisely those things which they are praised for. This effect stems in part from many pupils' desire to avoid their peers seeing them try to curry favour. But the common core of the reaction 'If she wants me to do that I won't do it' is harder to understand. Following a number of demonstrations of the reality of a widespread tendency for rewards to weaken behaviour tendencies (e.g. Deci, 1971, and Lepper, 1973) — to convert 'play' into 'work' — DeCharms (1968) has suggested that human beings have a strong predisposition to wish to feel in control of their own lives — to be origins rather than pawns. He goes on to suggest that the attempt by a third party to use rewards to manipulate a person's behaviour results in the individual concerned feeling that he is a pawn in someone else's game and an equally strong inclination to do whatever is necessary to escape from such a status. The emotion and annoyance engendered by such attempts at manipulation may have effects which run directly counter to those intended. Depending on a number of other variables, such as the strength of the individual's desire for autonomy, the strength of his desire for the long term rewards controlled by the teacher or superior, and the options open to him, the person concerned may do exactly the opposite of what was desired, develop a capacity to obtain the rewards by devious means, learn to be deceitful, come to despise authority, and develop an enduring disrespect for regulatory mechanisms which facilitate social functioning or turn the tables on the person in authority by dispensing rewards valued by the authority in return for behaviour desired by the subordinates: if you give *me* a sweetie, I'll give you a kiss!

If more attention were paid to such questions it might result in more teachers thinking not only about the rewards they use and what they reward, but also about restructuring tasks so that pupils can seek their own feedback and different types of reward, and so that they can set, and plan to reach, their own goals.

Teachers interested in pupil-centred learning, geared to the non-academic objectives we have discussed at length in this book, have clearly a great deal to learn from what has just been said. However, its relevance to normal class and group-teaching may not be so clear.

In normal class or group-teaching the best that can be done may be for teachers to provide a *diversity* of types of educational task and programme, geared to the needs of the different sorts of pupils making up the class, and a diversity of different types of reward, so that all pupils will find something of interest, will develop some of their talents, and will gain some recognition and reward for their efforts.

The contrast between this approach and that normally encountered in class teaching deserves to be stressed. At present, it is frequently the case that teachers, largely because of the constraints of the system within which they operate, and their own background and training, address themselves primarily to one subset of students within the class, motivate one subset of students, and seek to foster only one or two types of ability. As a result they fail to involve some of their pupils in any of the class activities: some of the pupils find all the class activity unpleasant, boring, frustrating, and irrelevant to their needs. The alternative suggested here would ensure that *all* of the pupils find *some* of the activities interesting and relevant. Equally, *all* would experience some of the activities as unnecessary, boring,

frustrating, and irrelevant.

Implications for Educational Policy.

At this point we may remark that, even though we may agree that some of the changes we have discussed are *desirable*, we have little hope of bringing them about so long as we do not change the environmental constraints on *teachers'* behaviour.

Given that pressures on teachers have tended to be toward conformist, traditional, behaviour; given that teachers have gained prestige and recognition (among superiors, colleagues, and parents) for obtaining examination successes on the part of their pupils and for maintaining 'discipline'; given that little or no encouragement and support has been provided for teachers who attempted to attain the objectives mentioned above, it follows that a self-selective process has occurred in the recruitment of teachers. This has meant that the profession has been deprived of highly achievement oriented individuals. Having entered the profession, teachers have been discouraged from seeking to achieve non-academic objectives. Firstly, there is the difficulty of obtaining information about how well they are achieving these goals and diagnosing the nature of the difficulties which prevent them attaining them more effectively. If such information is to be provided, appropriate evaluation instruments are needed. Secondly, there is the absence of general discussion and understanding of the need to develop well-thought-out learning experiences specifically designed to lead to the development of these qualities. Thirdly, there is an absence of support for, encouragement to pursue, and rewards and recognition for having pursued such activities. Fourthly, headmasters and education officials themselves often portray forms of behaviour which differ sharply from those they wish to foster in pupils — they often (but by no means always, of course) do not seem to consult their subordinates, to respect them as people, to respect their competence and decision making ability, or to trust them to have their pupils' best interests at heart.

Experimental Work.

So far, as far as classroom learning is concerned, we have discussed only the theoretical basis of possible developments. We now turn to one or two more experiments in which this theoretical understanding has been applied and tested.

But before we get into a detailed discussion of classroom experiments, we may draw attention to an important difference between the task of running programmes in school classrooms and running courses in industry. In the classroom, because one has a captive audience, and the school environment is more total, it is much easier to use that side of motivational theory which deals with the situational constraints on behaviour and the environmental pressures toward particular types of behaviour.

All aspects (personal needs, tasks, and environmental press) of the model have been used in a number of studies by McClelland's associates, notably Alschuler (1969, 1973) and DeCharms (1971). Both worked with teachers who had been through one of the courses for adults which were described earlier. These courses gave the teachers an opportunity to think about their own life goals, the theory of motivation, varieties of personality and appropriate external motivations, their own goals in education, and the methods to be used to achieve them.

The courses also encouraged the teachers to realise that individuals who are able to achieve their own goals effectively tend to:

- Seek to locate barriers to increased performance, barriers both from within themselves and from the world outside.
- Set realistic but challenging goals.
- Continually wish to know about how well they are doing.
- Seek the help of others to achieve their goals.

The investigators then sought the aid of the teachers in trying to see how these, and other aspects of the motivational framework we have discussed, could be put to use in practice in the classroom.

In Alschuler's studies, 10-11 year-old children were studied. One class was studying typing and another arithmetic. In the previous year the typing class had been taught by practice, practice and still more practice. It was assumed that lack of practice was the only major obstacle.

In the experimental year several modifications were introduced:

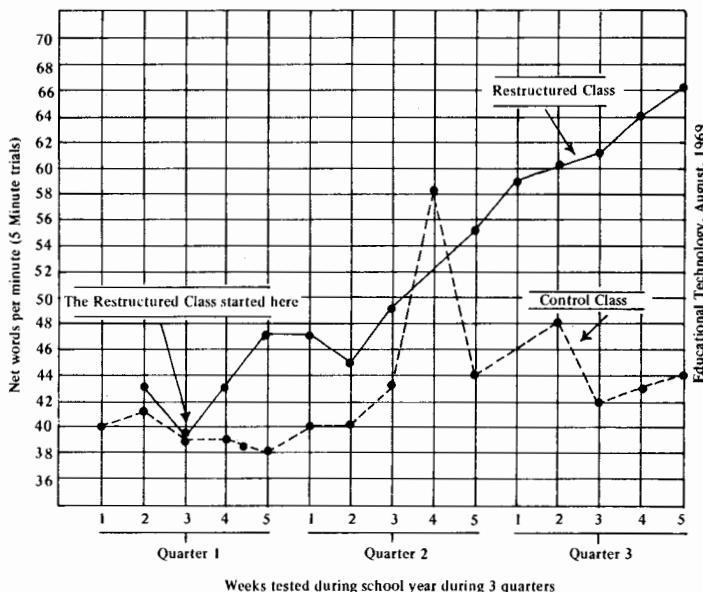
- 1 Before taking the typing tests, all typing material was inspected by the pupils and teachers together in order to discover difficulties and the causes of those difficulties. These difficulties, together with possible solutions, were freely discussed by the group as a whole in a problem solving manner. Students were encouraged to search for personal obstacles to improved performance as well as difficulties inherent in the task or material itself. These personal obstacles involved a number of things like mental blocks, sitting position, and feelings of annoyance.
- 2 Whereas in the previous year the teacher herself had decided what rates of typing would earn what letter grades, now the pupils decided this through group discussion and decision. (The beneficial results of *this* process, although rarely utilised in schools or industry, are well known in psychology).
- 3 Speed records, instead of being publicly posted once a month, were recorded daily by individual students so that they could see how well they were doing.
- 4 In addition to keeping records, the students set short and long-term achievement goals for themselves.

In summary, then, the students took greater personal responsibility for setting moderately risky goals for themselves, and they explored obstacles to increased performance and what might be done to overcome them. They worked in cooperation rather than in competition with others (thus satisfying their affiliation as well as their achievement needs), and they were encouraged to think and act for themselves rather than for a teacher acting in a power role and demanding compliance.

As can be seen in the following chart, over the first quarter year, before the experimental modifications were introduced, there were no differences between the two classes. By the end of the year the experimental class was performing half as well again.

CHART VIII

Average Net Words/min typed by a traditionally taught class and by a class structured for achievement motivation



Similar results were obtained in the arithmetic class.

In these studies no assessments were made of changes in levels of achievement motivation itself, although it was assumed that, as a result of the pupils having practiced these new ways of thinking and behaving, the pupils motivational make up would have changed too. In DeCharms' study, development of achievement motivation itself was the topic of central concern.

DeCharms' teachers encouraged 10-11 year-old pupils to clarify their own life-objectives and develop a better understanding of their own personal values and needs. This was done by means of discussion lessons and essays written on a series of topics such as "My Favourite Daydream" and "The Sort of Person I Want to Be". Essays were also written around prepared outlines which encouraged the pupils to think about the need to plan ahead, to anticipate obstacles, to set challenging but realistic targets, to monitor progress toward these targets, and to recognise feelings of satisfaction and frustration. The specially trained teachers went on to engage the children in games constructed around schoolwork (such as spelling and arithmetic) in which pupils could set their own goals but in which they were not rewarded if they set a standard they failed to attain, and experienced no feelings of success if they set a standard which was too easy for them. Pupils were encouraged to seek the help of others in achieving their goals. Finally, each pupil compiled a manual for each part of his work, in which he and the teacher together set personal goals for him. The pupil kept a record of his progress toward these goals, adjusting his targets where

necessary. Throughout the course, children were encouraged to reflect about what it felt like to succeed and what it felt like to allow oneself to be pushed around by the teacher or by anyone else. In indirect tests, which were given before and after the course, it was found that many more of the pupils' spontaneous thoughts were afterwards concerned with seeking unusual accomplishments, setting realistic but challenging goals, anticipating obstacles, seeking the help of others where necessary to achieve their goals, and thinking about the misery of failure and the pleasures of success.

The Concept of Classroom Climate.

We have seen that there are a large number of ways in which the focus of teachers' attention and teacher behaviour could vary from classroom to classroom, a large number of ways in which the patterns of classroom management they adopt could vary, a large number of ways in which the pattern of classroom activity and the objectives on which teachers and pupils focus could vary (not least of these being the *diversity* of objectives considered important), and a large number of ways in which the pattern of classroom environmental press could vary from classroom to classroom.

Whereas we have so far simply suggested ways in which the general theory of motivation we have outlined could be used to generate specific examples of changes which might be introduced, it is possible to develop a much more complete and systematic description of the relevant variables. This set of variables may be generically referred to as concerned with the description and assessment of 'classroom climate'. Explication of the nature and consequences of these variables represents the major step to be taken in the development of a professional understanding of the educational process. It represents the move from an individual — and sometimes highly effective — intuitive and sub-conscious understanding of these variables to a public, sharable, explicit, and systematic understanding. It represents the step which is needed if everyone connected with education is to be able to achieve the goals they set themselves more effectively.

Although it is undoubtedly the case that classrooms could vary a great deal more than they do in the respects we have mentioned, it is also the case that they already vary a great deal from one to another in these ways. Much more could therefore be done to document the consequences of existing variation in this area and to enable teachers to assess and consider the consequences of the pattern of classroom climate they in part created and in part have to adjust to.

Although the term 'classroom climate' may be used to designate this set of variables, it should be noted that the way in which the term is used here differs somewhat from the way it is used by some other researchers. As used here it refers to a set of variables which would, on theoretical grounds, be expected to relate to the development of the human resource competencies or motivational dispositions with which we have been most concerned in this book. Other researchers, (e.g. Astin, 1968, Coleman, 1959, Kounin, 1970, Pace, 1969, Peterson, 1970, Stern, 1962, Thelen, 1974) have used it to describe attempts to capture the entire pattern of variables which differentiates the ethos of one classroom from another. These researchers have paid less attention to variables which, while accounting for little of the variance between existing classrooms, *could* contribute in important ways to the development of important human competencies.

The author has, unfortunately, not been able to devote as much time and thought as he would have liked to formalising this set of variables. The outline presented below is therefore a tentative and incomplete description which is in need of further systematization and refinement.

A questionnaire is being developed which is intended firstly to provide teachers with a picture of relevant pressures operating on their pupils so that they can take them into account when considering how best to go about achieving their goals, and the particular areas in which their own behaviours most need to change. Secondly it is hoped that data collected by using the questionnaires will provide the basis for problem solving discussions to help teachers understand, in detail, that aspect of motivational theory which is concerned with environmental press, and help them consider the specific steps they might take in their own classrooms in order to increase levels of achievement press through a wide variety of changes in input.

Before describing the set of variables we have so far been dealing with, we should once more emphasise that, while we are primarily concerned with environmental press, many of the variables we will consider would be expected to produce their effects via the influence they would be likely to have on the pupils' pattern of motivation. Some of the variables, although here described as 'environmental press' variables in fact deal with the nature of the tasks that the pupils are set and whether these are such that the pupils, can, in fact, experience the sorts of satisfactions with which Herzberg and McClelland have been concerned.

It should also once more be emphasised that, when considering environmental press in classroom settings, it is necessary to consider the fact that different pupils in the class will have different values and different patterns of motivation. To produce maximum effect, therefore, a variety of inputs, geared to the needs of different sectors of the class, is required. In other words one cannot predict that certain types of change in environmental press will produce particular effects with *all* pupils. Some pupils will respond to a pattern of environmental press which triggers off their achievement motivation. Others will respond more to the reward-contingency structure and a pattern of environmental press which allows them to satisfy their affiliation needs by performing an achievement task. Ideally one would wish to assess the motivational dispositions and educational needs of each pupil and tailor an individualised learning programme to these. While a move in this direction will undoubtedly come about as a result of increasingly individualised and pupil-centred education and through programmed learning, individual project work, group teaching, and pupil guidance and counselling, it is undoubtedly the case that many educational programmes will, for practical reasons, continue to be provided on a group basis to, psychologically speaking, relatively heterogeneous groups of students. Under these circumstances the best that can be done, and it should be noted that it is often not done at the moment, is to provide a diversity of inputs explicitly geared to the needs of the different groups which are known to exist within the class. While this will mean that all of the pupils find some of the inputs meaningless or irrelevant some of the time, it avoids the common situation in which some of the pupils find all of the inputs irrelevant all of the time. Instead of directing one's teaching to one type of pupil and failing to bring the others with one, it is necessary to provide a variety of inputs such that one teaches all of the pupils some of the time.

An understanding of motivation, of individual needs, and environmental press is absolutely essential if pupil-centred learning, group teaching, and project work are to have a major impact. If this understanding is absent, if the teacher's reasons for adopting pupil-centred education are not clear, if the teacher does not explicitly vary the pressure he brings to bear from one pupil to another, in order to allocate to each child the educational environment he needs in order to develop further from the psychological condition in which he finds himself, then pupil-centred learning degenerates into a laissez-faire situation in which the teacher abdicates leadership responsibility and the pupil is blamed for not taking responsibility for his own affairs and for not showing interest and initiative. If he fails to learn it will be said that it is his own fault! It cannot be stressed too strongly that

the objective of pupil-centred education is to develop self-motivation, personal responsibility and initiative. The objective is not to throw children into a situation in which initiative is demanded and then leave them to sink or swim, to show initiative or to learn nothing.

As a result, which ever way one seeks to progress, through class teaching or through individual project work, it is necessary to diagnose individual needs and provide a diversity of inputs suited to those different needs. There is no *one best* educational programme or educational environment suited to the needs of *all* pupils.

Dimensions of Achievement Press.

A satisfactory assessment of achievement press in classrooms would probably have to include at least the following variables:

The opportunities pupils have to engage in the components of effective behaviour and explore the consequences for themselves:

If pupils never have an opportunity to explore the consequences of behaving in various ways they will never have an opportunity to experience the satisfactions which follow; they will never learn that the anxieties of doing a new task pass; they will never learn that they can take effective corrective action if they decide to do something about a problem, but, after considering all the information they can reasonably obtain, they set out in the wrong direction; they will never learn that their fears of dire consequences on engaging in certain sorts of behaviour are unwarranted; they will never learn to tune in to their feelings and develop self-reliance; they will never learn how many different ways of perceiving situations there are; they will never learn how to enlist the help of others to achieve their goals; they will never learn that they can master tasks which at first appeared too difficult; they will never learn to take responsibility themselves; they will never learn effective strategies for relating to others; they will never learn not to usurp responsibilities that can confidently be left to others; they will never learn the importance of paying attention to, and taking effective steps to influence, social processes outside the limits of their immediate job; they will never learn that they do not have to be certain of an outcome of an activity before embarking upon it; they will never learn that if they want to reach a goal the sooner they embark on relevant activities the better — otherwise the march of external events is likely to make it impossible to reach it.

The degree to which the teacher provides a good role model for effective behaviour:

The extent to which he appears to enjoy his work, the energy he appears to put into it, the pride he takes in his work, the amount of planning he displays, the extent to which he appears to try to make the most of his skills and abilities, the respect he has for others, the degree to which he trusts his pupils and the degree to which he emphasises trustworthiness as a goal for himself, the stress he places on standards for himself, the openness and forthrightness of his behaviour, his interest in new ideas, the extent to which he seeks feedback on his performance, etc.

Tasks Set:

What sort of tasks are the pupils set? Does the pupil have opportunities to engage in all the components of efficacy we have mentioned, and which will be discussed more fully in the next chapter, in relation to goals he considers important? Does he have an opportunity to notice problems, to collect relevant information, to make judgements as to what should be done, to initiate action, to monitor the effects of that action and take corrective action when necessary? Does he have an opportunity to work with others to achieve goals which are important to him and to experience, and think about, the sorts of behaviours which result in effective, group, goal achievement? Does he have opportunities to work out better ways of

doing things, to experience the frustrations and anxieties of doing so, and to experience the satisfactions which follow? Does he have opportunities to work with others in situations in which conflicts of goals are inevitable and to learn leadership skills and the ability to arrive at good compromises? Does he have an opportunity to practice communication skills? Does he have opportunities to recognise the importance of, and learn to take steps to deal with, the institutions responsible for the management of the society in which he lives?

The degree to which the teacher provides warmth and support for effective behaviour on the part of pupils:

To what extent does the teacher encourage pupils who attempt to do new things well, to what extent does he react negatively to pupils who have tried and failed, and to what extent does he try to help people who help themselves?

The rewards the teacher uses to encourage effective achievement of the pupils' own goals:

To what extent does the teacher provide rewards for excellence, innovation, creativity, and critical thinking in relation to the pupils' achievement of their own goals? These rewards may be in terms of allowing the pupils to do something they like, providing prizes or other symbols, or showing that he approves of this type of behaviour. But more particularly they will be in terms of structuring learning situations such that achievement of goals of this sort generates its own reward. It would also be relevant to know to what extent the teacher varies the rewards he uses with what he takes to be the main motivation of the pupil with whom he is dealing. He may have to structure situations in which some pupils receive rewards in terms of affiliation for performing an achievement task. And vice versa.

Teacher stress on Standards:

How highly, in a relative sense, does the teacher value extremely good work in comparison with passable work? Does he expect his pupils to set high, but realistic, goals in relation to their abilities?

Teacher feedback, planning and goalsetting:

To what extent does the teacher try to help pupils to become sensitive towards what is going wrong and why, how hard does he try to find out what pupils want to do and help them to set about doing it effectively, how often does he encourage his pupils to set challenging but realistic goals for themselves, to monitor progress toward those goals, and to be sensitive to the reasons why they have not been more effectively achieved, make these fully explicit, think about them, and find ways of surmounting them?

Teacher delegation of responsibility:

To what extent does the teacher provide opportunities for the pupils to try out and assess their own methods of doing things, to what extent does he encourage them to follow their own interests, how many rules does he have to constrain and organise his class, how much does he trust his pupils to work on their own, what confidence does he have in their ability to do what is best for themselves without direction from him and how often does he provide them with opportunities to evaluate and test their own decisions?

Task structure: its organisation and clarity:

How easily can pupils find out how well they are doing, how well do they

know what to do next, how much time is wasted in class, and to what extent do the pupils feel they understand what the teacher is trying to do?

Task structure: feedback possibilities:

To what extent do the tasks the pupils are encouraged to do, and the way in which the pupils' attempt to reach their goals, encourage the pupils to be sensitive to the indications which tell them where they have made mistakes? To what extent do these tasks enable pupils to set individual targets concerning what they should accomplish in the future, to progress as fast as they are able to go and to assess rates of progress toward these goals and the reasons for lack of progress?

Task structure: the extent to which it encourages innovativeness and excellence:

To what extent do pupils spend their time doing that which has been done before, how often do pupils spend their time working on projects aimed at discovering things which were previously unknown, to what extent can pupils choose their own area of work and mark it off as something different from that which others do?

Role models in texts and in literature:

To what extent do role models presented in literature and history present role models of effective behaviour directed toward goals other than power? How varied are the goals to which these individuals work? How illustrative are the texts of particular values and ways of behaving: do they emphasise the success of co-operative effort in social advancement or the importance of battles and control as the most important aspect of society to be valued and attended to? Do they clearly illustrate a variety of concerns and the consequences of pursuing these goals? Are characters displaying systematic innovative behaviour greatly esteemed by the author of the material?

Behaviour model presented by peers:

To what extent do pupils feel their classmates to be people who try to have good ideas, try to be original, try to improve things, want to work for the good of the community, want to work at things that they like doing, want to work energetically, enjoy their work, take a pride in their work, are always on the look-out for new ideas, think that trustworthiness is important, value outspokenness in dealing with others, try to plan their activities carefully, seek feedback on how well they are doing and seek the help of others to achieve their goals, etc.?

Pupil warmth and support for effective behaviour:

How strongly do the pupils' classmates approve of those who help each other with their work, of those who find new and better ways of doing things, who have high standards, help each other to do better, and how proud are they of those who do well?

Peer pressure to conform:

How much do the pupils' peers derogate people who are different, approve of people who do not stand out, and approve of people who always seem to do the same things as everyone else is doing?

Peer stress on independence and responsibility:

How much do pupils respect those who try to solve their own problems on their own, how strongly do they admire their peers who are always on the look-out

for new things to do, how hard do their peers work when they are left on their own, and how often do they make things and work hard out of class?

Peer stress on standards:

How strongly do the pupils' peers approve of people who don't work hard? How many of the pupils in the class are prepared to turn in poor work, how many would one describe as being dedicated to their work?

Peer concern with clarity:

How much importance do pupils attach to having things clearly and well organised? How important do they think it is to know exactly what they are going to do etc.?

Although the set of variables we have described have been entirely concerned with the sort of classroom press variables which would be expected to result in achievement behaviour or in the development of achievement motivation, it is clear that equally valid questions could be generated to assess *press* toward power behaviours, affiliation behaviours, or any specifiable outcome. Although it would be desirable to have better standardised instruments in this area there is also a strong case for encouraging teachers to develop such instruments for themselves. By doing this they will gain much greater insight into the relevant variables and a much better understanding of the changes they might introduce.

Once the information has been collected and collated, and a profile plotted to indicate the actual situation in any particular class, it can form the basis for thinking about how to improve the situation. For example the following profiles were obtained for several classes, two of them from teachers teaching the same group of pupils.

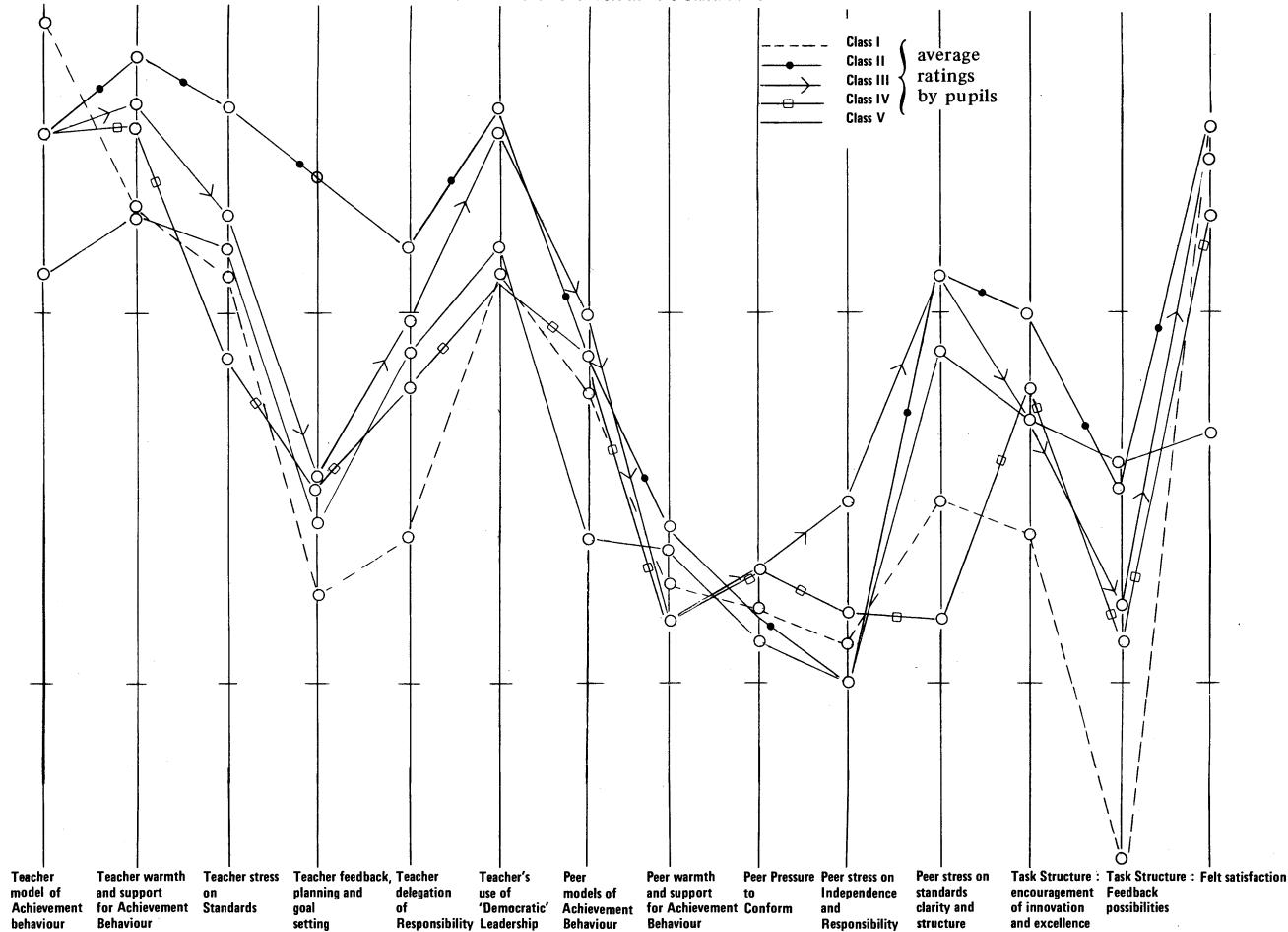
It is clear that there were considerable differences between the teachers, but that all encountered a common problem deriving from peer pressures. Discussion of these profiles at a meeting of teachers led the teachers to suggest a number of ways in which the problem might be tackled. For example, a number of ways in which it might be possible to get classes to work together more, and to support achievement-oriented behaviours of class members were suggested.

The first general theme was that a group project work situation would have to be structured. The focus of this project should be such as to involve all the pupils in work directed toward a shared goal, which was of importance to all. It was suggested that it would be useful to find some genuine crises for the group to tackle, a problem which had to be solved within a specific period of time. It was suggested that this would have the effect of encouraging the group to work as a group. The pupils would thereby come to get to know each other and respect each others' strengths and abilities.

Next it was suggested that it might be possible to help the group members to examine the processes which operate within groups. It was felt that sessions directed towards these ends could be linked to the group-project work. Pupils could be assisted in their discussion of group processes by looking at what went on in their own group, and have the opportunity to try out new ways of behaving in the group-project work.

Considerable discussion centered around the possibility of structuring tasks in which habits of co-operative work and support for achievement behaviour of

Chart IX
Profile of Achievement Press in Five Classrooms.



others, would be *elicited* without having the pupils *discuss* what was going on at an intellectual level. Eventually it was suggested that a relatively simple task, which should generate support for achievement behaviours, would be group discussions organised around the obstacles encountered in performing many important tasks currently presented to the pupils in classroom settings. It was also suggested that discussion of case histories, illustrating the need for achievement oriented individuals to be supported, would be an appropriate input designed to help the pupils think more clearly about the need for behaviours of this sort. The two together should prove a very effective means of changing this aspect of classroom climate.

Measures of Other Aspects of Classroom Behaviour.

Measures may also be generated to assess other aspects of classroom behaviour. For example, although one would not expect a teacher's recognition of the *legitimacy* of a wide variety of educational outcomes to lead to higher levels of *need* achievement, one would expect it to be related to the attainment of a wider variety of outcomes, and to a generally high level of pupil involvement in classroom activities. Whether this is so or not is an empirical matter to be investigated.

If one wished to build up a picture of the reward-matrix a teacher used it would involve at least the following dimensions:

- 1 The *range* of outcomes recognised as legitimate. For example, which of the following are recognised as legitimate educational objectives: development of creativity, innovativeness, leadership (socialized n. power), critical faculties, decision-making skills, development of need affiliation, development of need achievement, memorization, understanding, ability to apply methods to new situations, persistence, willingness to work hard at boring tasks, concern with efficacy, concern with the future, planning skills, artistic accomplishments, athletic accomplishments etc.
- 2 The *focus* of the teachers' concerns within the above — which area does he devote *most* attention to?
- 3 The extent to which he varies his goals (and the methods he uses to achieve them) from one pupil to another depending on the pupils' interests and abilities.
- 4 The extent to which he emphasises processes as well as outcomes — i.e. is he concerned with, and does he reward, progress over one's previous level of attainment, persistence, hard work, excitement, etc.?
- 5 The types of rewards he uses — shared excitement, encouragement, approval, competition, public praise, promotion, time off, etc?
- 6 The extent to which he varies his rewards to suit the individual pupil — does he reward one pupil with promotion, another with public praise (unpopular though this is with most pupils), another by private praise, another by giving him an opportunity to work on his own, another by allowing him to teach others, another by allowing him to work in group activities (which is punishment for another pupil).
- 7 The extent to which the teacher not only recognises the legitimacy of a wide variety of outcomes, but also structures specific learning (socialization)

experiences to lead to them. In other words how often does he create situations in which pupils can display initiative, can practice thinking and feeling themselves into the role of others, can make decisions for themselves, can experience enthusiasm and have the opportunity to pursue the things in which they are interested etc?

As has been said, development of instruments of this sort would be valuable, not only for research purposes, not only as an aid to the teacher in discovering what is going on in his or her classroom, but also, even without data, as an aid to teachers in thinking about their teaching style. Thus, while teachers should certainly collect empirical information about their classrooms, simply working through such questionnaires, asking themselves what they would expect the answers to be, is likely to encourage them to think about the objectives they are trying to pursue and about alternative strategies which they might adopt in order to reach their objectives more effectively.

Once data has been collected such profiles can be used by teachers in order to gain a better understanding of what is going on in their classrooms. By tracing profiles back to the items that make up the scales, and forwards to the outcomes that would be expected to arise from the attitudinal and behavioural components of the measures, it is possible to pinpoint problem areas both in school systems and in particular classes. In addition profiles obtained from individual classes can be discussed with the teachers and pupils concerned in a problem solving manner. Once we have research studies which relate different patterns of classroom management to their outcomes the data will become still more meaningful.

Evaluation of Educational-System Incentive Pressures.

Assessments of environmental press of this sort need to be extended to include assessments of the incentive pressures operating on teachers. To what role models are *they* exposed? For what activities are *they* rewarded? To what extent are *they* involved in an environment which stresses clear achievement goals? To what extent are *they* involved in goal setting in their environment? What range of outcomes are valued by those for whom *they* work? What range of outcomes are they encouraged to teach for? What types of rewards are they encouraged to use? To what extent do they receive warmth and support when trying to achieve innovative goals and new targets? To what extent are they encouraged to take individual initiative and personal responsibility?

Summary

If one is interested in increasing levels of creativity and innovativeness, it seems likely that it would be possible to do so by making educational environments more similar to the environments in which innovative and creative people have grown up, and by providing pupils with opportunities to practice thinking, feeling, and behaving like highly innovative and creative individuals.

Theoretically-based experimental programmes in this area were first run with businessmen. This was because it was assumed that these individuals would already be anxious to innovate and achieve their goals effectively, and already have developed the tendency to engage in a number of the behaviours which are prerequisites to the achievement of any valued goal. It therefore seemed that it would be easier to build on and strengthen these, rather than start from a much less well developed base in others.

The educational programmes we have discussed involve providing course participants with opportunities to clarify their values and the personal consequences

of pursuing different valued goals, providing them with role models which portray different styles of behaviour in some detail, so that the relevant behaviour can, where the participants think it is appropriate, be conceptualized and adopted, and providing opportunities to discuss the consequences of different ways of thinking, feeling, and behaving. These inputs are followed by experience-based learning exercises designed to help people perfect, and firmly establish in their behaviour repertoire, the behaviours associated with effective goal attainment. In developing these qualities, particular care is taken to build on the individual's existing strengths and predispositions, to provide practice in more effective ways of thinking, feeling, and behaving, to conceptualise what is involved in the changed life-style, to relate what is learned to the participant's own previous experience, and to demonstrate convincingly to the participants the importance of behaving in these ways. Steps are also taken to build up a social environment which will provide continued help and support for the new life-style. These programmes are also applicable as part of more general community development schemes. The aim here is to help those involved to develop the competencies needed to achieve their goals effectively and the motivation, the ability, and the structures needed to jointly tackle shared problems that it was previously beyond the capacity of the people of the community to tackle individually.

Discussion of these programmes led to a review of the general theory of motivation and ways in which motivational dispositions develop. Basically, three sets of variables are involved in motivation: the individual and his motivational make-up: his values and his spontaneous tendency to engage in the behaviours which are pre-requisites to effective goal attainment, the environmental pressures that are brought to bear on him, and the nature of the tasks he has to perform. If one is interested in motivation in the classroom, one of the first things to consider is the nature of the characteristics it is hoped to foster by involving pupils in educational programmes. Both the cognitive and affective components of these competencies should be considered and the precise ways in which the educational task is expected to lead to the development of these qualities should be made explicit. Thereafter the pressures that are brought to bear on pupils, and the tasks they are asked to perform, can be modified to achieve any desired outcome. These may range from simply getting the pupils to perform traditional school tasks more effectively to stimulating and fostering high level competencies and abilities. The former may be described as the management of motivation, and the second as the fostering of motivational dispositions. The two are by no means independent because, whether we do it explicitly or not, the management of motivation to produce outcomes in the first area will, under different conditions, lead to the development of both desirable and undesirable motivational dispositions. We may simply foster a dislike of thinking and learning and an unwillingness and inability to be inventive or creative. By explicitly considering what is to be done and why, it is possible to achieve more desirable results in both areas simultaneously.

After reviewing some experimental programmes with children, a detailed analysis was presented of a number of the classroom climate variables which would be expected to result in pupils engaging in more achievement related behaviour. It was suggested that development of a better understanding of these variables and their consequences represents one of the main advances required in educational thinking, and it was further suggested that it would greatly help teachers to achieve their goals more effectively if they more often took stock of what was going on in their classrooms by collecting data of this sort.

Chapter XI

THE VARIETIES OF VALUES AND THE COMPONENTS OF COMPETENCE

In previous chapters we have suggested that most human resource characteristics can be thought of as involving, firstly, a values component — a valued end state or style of behaviour, and, secondly, a set of activities which the individual must engage in spontaneously and effectively if he is to reach his valued goals. In the last two or three chapters we have devoted a considerable amount of attention to the nature of achievement motivation and the ways in which it might be fostered more effectively. Many teachers may feel that it would have been more important to have concentrated on the ability to work effectively with others or on some other motivational disposition. The purpose of the present chapter is to present a more complete and detailed account of the variety of values and competencies than has so far been presented, and to suggest that it would be possible to conceptualise and foster other human resource characteristics in much the same way as achievement motivation. Nevertheless, lest we encourage the reader to expect too much, we must immediately add that it will not be possible to foster these competencies as effectively until they have been as carefully conceptualised as 'achievement motivation' has been, until equally satisfactory measuring instruments have been developed, and until the consequences of these characteristics have been explored as thoroughly.

As we have seen, what people will do is dependent on (a) their values, (b) the extent to which they have developed the competencies required to reach their valued goals effectively, (c) the nature of the institutional structures with which they come into contact and (d) the pressures which are brought to bear on them by other members of society. In this chapter we will be concerned with the variety of human goals and with the nature of the competencies required to reach them. We will see that, while the goals which people may wish to achieve are legion, the competencies required to reach them seem to be more limited in number and seem to be similar from valued goal to valued goal.

We will have to pursue a somewhat cyclical course, combing over the same ground in greater detail each time. We start by providing some examples of what we take to be valued goals and competencies.

Examples of valued goals would include a concern to establish warm relationships with others, concern to achieve, concern to obstruct the work of others, concern to make a lot of money, concern to have high status and be in a position of power, and concern to be popular. Examples of the competencies needed to achieve these goals include: the tendency to be sensitive to, and to seize upon, numerous minor cues (which could easily otherwise pass unnoticed) which point to ways in which one might achieve one's goals more effectively, willingness to work hard and for long periods at the intermediate tasks necessary to reach the goal, the tendency to anticipate the problems that are likely to be encountered in reaching the goal and to plan strategies for dealing with them, the tendency to turn one's emotions (both positive and negative) into one's task, the tendency to seek the help of others (and especially of experts) to help one achieve one's goals, the tendency to seek out opportunities to achieve the goal, the tendency to try to move oneself into an organisation or network of people which will provide support in achieving the goal, and the tendency to notice and utilise resources which can be used to achieve the goal, but which would otherwise have been overlooked or dismissed as irrelevant.

Most people already engage in these activities, to at least some extent, in pursuit

of goals they value, and this fact provides one way of assessing their values. We can seek to discover what they tend to think about spontaneously, what they tend to enjoy doing, which goals they monitor their progress toward, and which goals they strive to find better ways of achieving. If an individual does not engage in any of these activities in pursuit of a goal he can hardly be said to 'value' it very much. It should be noted, however, that if an individual does not display these characteristics in relation to *one* goal it does *not* mean that he will not display them in relation to some other goal. A boy who displays no sensitivity to feedback, that is, no sensitivity to any of the information which executing a task inevitably provides to those who execute it as to ways in which it might be performed better, no emotional involvement, and no concern to improve his performance at Latin may well display a high level of each of these competencies in relation to football. From an educational point of view the key question is whether, if he could be brought to value the goal of doing well at Latin, he would transfer the tendency to engage in all these activities from football to Latin. More pointedly still: if he were given assistance in developing the ability to engage in these activities in one area of his life, that is to say in relation to one set of valued goals, could he transfer them to the achievement of other valued goals?

So far we have spoken as if values, although alterable, were relatively stable from situation to situation. This is not necessarily true. One advantage of McClelland's term 'motive' is that one can speak of a motive either being, or not being, aroused by the situation in which an individual is placed. In making such a statement we are not simply saying that if a motive is to be displayed, the situation in which an individual is placed must allow the individual to engage in relevant behaviour. We are also saying that the cues in the situation can arouse and trigger off *latent* motives. Even more importantly, the continuing presence of certain situational cues will arouse general motivational dispositions such that, over a period of time, the strength of a given motive in an individual will increase. Over time he will become more likely to engage spontaneously in the behaviour associated with the effective achievement of the valued goal in a wide variety of situations, and not just in the situation which originally triggered off the motive.

It is much more difficult to speak of values or competencies being aroused and strengthened or weakened in this way. Yet there is a very real sense in which leaders can articulate values and arouse people to display the components of competence which would lead to the effective attainment of the valued goals. The same would no doubt also be true of other situational cues if only one could isolate them. It therefore seems that there is no reason why one should not expect the values and competencies a person displays to vary with the cues provided by the situation in which he is placed.

It is important to note that, not only can the environmental pressures which can be brought to bear on an individual be manipulated in such a way that, in order to achieve the goals they currently value, people must work toward goals that they do not value, the nature of the cues in this situation can also be manipulated to arouse or activate different motives, values and competencies with the result that one can strengthen enduring pre-dispositions to strive to reach certain goals.

The motives aroused by performing a task may persist only for the duration of the task. On the other hand they may lead to the development of a generalised pre-disposition to spontaneously seek to engage in certain sorts of activities and to reach certain goals in the future. Engaging in the activities required to reach a certain goal may bring unanticipated satisfactions. These may act as a reward to the activity and strengthen the tendency to display the behaviour in the future. These intrinsic satisfactions and rewards may be much more important as a means of

strengthening the tendency to engage in the behaviour than external rewards and punishments. As a result external rewards and punishments may have little effect on the behaviour. It is this self-reinforcing nature of certain behaviour, coupled with its resistance to extrinsic rewards and punishments, which, Heckhausen (1974) maintains, led us to coin the term 'motive' in the first place.

Although we have already assumed it to be the case we may draw particular attention to the fact that environmental press variables are not merely social. Tasks differ markedly in the motives (or concerns) they arouse and satisfy, without any reference to the social pressures which are brought to bear on one individual by another.

How Are We to Detect a Person's Values?

We will go into the procedures to be used to assess values much more thoroughly in a later chapter. Here it is sufficient to say that valued goals are things which people may pay more or less attention to and achieve more or less effectively. Verbal assertion that a goal is important is only one of the possible indices of whether an end state or activity is valued. More valuable is evidence of the presence of one or more of the cognitive, affective and behavioural components of activity directed toward attainment of the goal. More convincing still is evidence that the individual spontaneously tends to engage in many of the components of competence we have discussed in pursuit of the goal.

Values are not always well integrated and supportive. One often meets people who are unable to attain their goals effectively because, whenever they set out to attain one of them, they find that they cannot devote their energies wholeheartedly to achieving it because it conflicts with other goals. It is for this reason that educational exercises designed to help people to develop higher levels of competence have to include both exercises designed to help them strengthen the competencies we have mentioned and to help them clarify their life goals and values. Assistance in doing this would probably best be provided if one could make various goals explicit and say something about the consequences of pursuit of the goal for the individual and society. If this information is to be provided further research is needed. This must be based on a clear conceptualisation of values and on utilisation of the measurement procedures we have outlined; that is the research must assess the number of the components of competence the individual shows a spontaneous tendency to display in pursuit of goals he values and the degree to which his values are supportive.

Examples of Life-goals or Values.

With this brief discussion of the nature of values, their stability and situational variability, the components of competence, and these few hints as to ways in which values and competencies may be assessed and fostered behind us, we may provide a more comprehensive list of the sort of thing we think of as being values or goals which may be strived for. A fairly complete, if tentative, list is provided in the hope of alerting teachers to valued goals which one or other of their pupils or colleagues might be intent on pursuing. For the same reasons less reputable goals are included in the list. As yet we do not have data on the proportion of the population who value each of these activities although such data is urgently needed.

Getting other people to work together well; a value for being an "integrator".
Setting up social institutions through which people can devote their energies
to activities which will benefit the whole organisation or community
rather than just themselves.

- Personal advancement defined as gaining increasing control over others and ability to determine what happens to their lives.
 Personal advancement defined as performing work which is more valuable to society: getting important projects implemented, financed, and staffed.
 Personal advancement defined as having more scope to achieve one's goals with less interference from others.
 'Achievement' defined as professional advancement (including both money and status) achieved by conforming to extrinsic rules with the minimum of effort — by, for example, in the academic world, producing numerous publications most of which don't tell one very much.
 'Achievement' defined as gains in knowledge and understanding (and which may be very different from numerous publications).
 Getting on well with others.
 Not being thought immodest.
 Getting people to work in their own best interests.
 Being able to impress one's views on others.
 Helping others to pursue their own goals.
 Making contact with the supernatural.
 Getting a wide range of sensory (mystical) experiences.
 Sexual conquest.
 Being carefree.
 Attaining peace of mind.
 Establishing an appropriate balance of excitement and tranquility.
 Developing a new product.
 Fostering an enquiring mind in others.
 Making others knowledgeable.
 Inflicting punishment efficiently: torturing people.
 Maximising or minimising familial or social conflict.
 Maximising familial obedience.
 Improving the comfort and liveability of one's home, place of work, and general physical and social environment.
 Improving the efficiency (i.e. comfort and convenience) with which various tasks are performed, tasks such as one's milk round, one's driving, one's farming, or one's bricklaying.
 Improving social systems, to improve liveability, to save money, and to ensure smooth social functioning.
 Improving physical planning to ensure beauty, economy, sociability, an appearance of austerity, or liveability.
 Making sure that people do not get what they are not entitled to, by devising elaborate systems of formal rules, procedures for checking up on others and accounting.
 Maximising the number of new ideas developed by a society.
 Maximising the predictability of a society or an organisation.
 Beating examination and other evaluation systems in order to get degrees and status with minimum effort.
 Getting subordinates to do the things their superiors want them to do.
 Getting superiors to do things their subordinates want them to do.
 Making sure that others treat one with respect.
 Winning affection.
 Being feared and treated with deference.
 Being able to destroy the reputation of others and diminish them in the eyes of others.
 Getting the complexity and status of one's job over-rated.
 Being able to fool others and tell lies effectively.
 Maintaining one's job in existence when it isn't really necessary.
 Minimising disturbance of one's idleness.

Being able to help others without causing resentment.
Being able to intimidate those with power.
Getting others to turn their wealth over to you.
Being able to increase one's share of the national cake.
Being able to amuse children.
Being able to entertain and joke.
Being able to obstruct others effectively.
Being able to annoy people.
Being able to manipulate opinions of one's self and others.
Being able to vary the impression one gives, so that one is always favourably regarded.
Being honest and upright without needing to be supervised.
Respecting other people.
Thinking independently.
Thinking about the social consequences of one's actions.
Outwitting the makers of legislation.
Eliminating 'evil' people (such as Catholics, Protestants, Jews, communists, witches, anarchists, or authoritarians) from the world.
Getting everything one is 'entitled' to.
Winning arguments rather than finding the truth.
Preventing others getting more than their 'share' at all costs (c.f. labour relations).
Avoiding being taken for a sucker.
'Milking' others.
Being heroic.
Being stoical.
Not letting the side down.
Ensuring that people obey regulations.
Playing intellectual games.
Pursuing truth.
Being part of the stream of consciousness (i.e. not a distinctive individual nor having a recognisably separate existence, mind, or consciousness; although one may, of course, have a distinctive role to play in the whole, one should not stand out as in any way distinctive or different, or, worse still, as someone who strives to be different, take on responsibilities not assigned to one, or concerned with initiating developments. Such things clearly link with modesty and unwillingness to play a leadership role).

Concluding Comment on Values Section.

It will be noted that most of the valued goals we have listed represent specific instances of a concern with achievement, power, or affiliation. We may therefore note that the *more* situations an individual defines as situations in which it is appropriate to engage in achievement, affiliation, or power behaviours, the more correct it is to say that he shows a *general* concern with that goal. Thus if an individual only displays few of the components of competence when achievement is *demanded* by others (as in football), it suggests that his general level of concern with achievement is not very high. On the other hand if he perceives very many situations as those in which to spontaneously engage in the actions necessary to reach achievement goals we may infer that he is very concerned with achievement.

The same sort of analysis applies to affiliation and power. How many situations does the individual perceive as opportunities to engage in affiliation and power behaviours? And how actively, energetically and effectively is he likely to pursue these goals in those situations?

At this point it may be worth stressing that, in relation to McClelland's work on power, it may in fact be desirable to separate concern with money, status, and esteem, from concern to have direct control over other people, and, in particular, over their minds. And it may be necessary to make a distinction between a concern with control of this sort as an end in itself and concern with control over others in the service of some other goal such as achievement or status.

Consequences of Pursuit of Different Values for the Individual and Society.

Pursuit of a goal often brings unintended consequences, both for the individual and for the society in which he lives. Thus the pursuit of new and better ways of doing things, coupled with a tendency to work long and hard to achieve these goals and a relative lack of concern with money and the things it will buy, may bring moderate amounts of wealth to an individual, and economic development to the society in which the individual lives, while pursuit of money and material possessions may lead to riches for one or two individuals, but more generally to conflict in order to increase one's share of the national or global cake without anything being done to increase the size of that cake.

Documentation of the consequences of pursuing different goals therefore seems to be a pre-requisite to informed discussion of goals. In the long run, such information is likely to lead to a re-conceptualisation and re-formulation of the nature of the goals themselves.

Human-Resource, Efficacy, Characteristics or Competencies.

By the term 'efficacy characteristics' or 'competencies' we refer to the characteristics and abilities which will enable people to reach their valued goals — whatever these goals may be, and whatever the social structure in which these people live and work. These competencies involve much more than intelligence, and they include many competencies which have not received much attention in secondary or tertiary education for the last quarter of a century. It is the difference between the components of effective behaviour (as conceived of here) and intellectual ability, which accounts for the apparent paradox that, while most jobs do not tax intellectual ability to any great extent, very many people appear to be only barely competent at their jobs. The characteristics involved include inventiveness, the ability to monitor one's progress toward one's goals and to use what one learns from so doing to improve one's performance in achieving these goals, and the tendency and the ability to communicate effectively and release the activity of others in effective pursuit of goals which can only be achieved by concerted action. We give a much more detailed list below: all we wish to do here is to illustrate the sort of things we have in mind.

It is necessary to stress the fact that these competencies involve much more than *abilities*: they imply a self-motivated spontaneity which is entirely missing from the notion of an '*ability per se*'. In the past, this motivational component, even more than the ability component, has been neglected by both educationalists and researchers. It is this characteristic which will form our primary focus when we come to review ways in which these characteristics might be assessed or indexed.

Before going on to list some of these efficacy competencies, it is worth drawing attention to two more points. The first is that it seems to us that these efficacy characteristics are likely to be generalizable from one value area to another. If they have been developed in relation to one valued goal, the individual will be able to release them in pursuit of another valued goal. Nevertheless, once one comes to try to assess an individual's spontaneous tendency to engage in these activities, it doesn't make sense to say that an individual is not *able* to display one of these

characteristics simply because he does not display it in relation to the achievement of some goal which he does not value, or even in relation to some goal which he values at a cognitive and affective level but which he can see no way of translating into action in his present circumstances. (A primary function of leadership is in fact to make such shared goals explicit, to indicate a course of action which will enable people to achieve their latent goals through concerted activity and to encourage people to release the components of effective activity which they have developed in relation to other goals in the service of achieving the new objective). It seems highly probable that everyone displays some of the efficacy characteristics we shall list, at least in a rudimentary form, in relation to the goals *they* are concerned with. In a sense everyone already knows how to behave effectively. As a result, people who are successful in articulating latent goals tend to be effective leaders simply because, having made the latent goals explicit, other people are able to engage in relatively effective action to attain them without having to have much more specific direction or help to develop these basic skills.

The second point to be made is that, although it is true that these characteristics *are* likely to be displayed in relation to valued goals, they are often only present in very rudimentary forms. For example, people are often barely sensitive to indications which, if reflected upon, would provide insights into ways in which to achieve their goals more effectively. If we wish to help people to be able to achieve their goals more effectively, it seems that we need to help them to develop the competencies we list — but we must be sure that we do so in relation to goals *they* value, and we must, above all, avoid concluding that someone is *unable* to engage in one of these activities when, in fact, the real conclusion to be drawn from the observations we have made is that he does not value the goal in pursuit of which we expect him to display it.

Although we make this distinction between values and the components of competence, we must hasten to add that a number of the things we list, such as 'being able to control others', can be pursued as ends in themselves — as values in their own right — as well as means to achieve other goals.

Examples of Components of Competence.

Tendency to monitor performance.

Does the individual habitually monitor his progress toward his goals or does he avoid doing this? Does he examine his performance for clues to ways of improving his performance? Does he habitually set himself challenging, but realizable, targets in the pursuit of his goals and does he then check to see whether he has reached his targets, and, if not, why not? Without a target he cannot know whether he is achieving his goals. In setting targets and subsidiary objectives, does he utilise his previous experience or does he assume that his past contains no information that is relevant to his future?

Tendency to think about the goal.

Is the goal important to the individual? Are there some ways in which its attainment would be undesirable? If so, does he try to resolve the problem? Having done this, is the individual left with a highly positive anticipation of the experiences he will have on reaching the goal? And does he anticipate equally strong negative feelings if he fails to reach his goal? That is to say, does he really *care* about his goals and does he turn his emotions into achieving them?

Tendency to turn one's emotions into what one is doing.

Is the individual prepared, rather than lead a life of quiet desperation, to seek out something he enjoys doing and then admit to himself that there are distasteful tasks which he has to perform in order to reach his goals? If so is he prepared to decide that he had better get on with them as soon as possible in order to reach his goals?

Willingness and ability to learn without instruction.

Perhaps one of the most neglected components of competence is the ability to learn without instruction; the ability to build up one's own private, idiosyncratic, pool of knowledge. Our educational system has made people so dependent on formal instruction, whether from teachers or books, that many people find it extremely difficult to observe and to learn for themselves. They first fail to pay attention to the feelings of unease which are usually the first things to indicate that one has a problem. If they do notice that they have a problem, they often fail to notice, and think about, the minor feelings of unease and glimmerings of insight which, if attended to, would suggest ways in which a better understanding of the situation they are dealing with might be built up. Educationalists have distrusted attention from the importance of fostering the willingness and the ability to learn *without* instruction, from the importance of fostering the sorts of sensitivities we have mentioned, by defining 'learning to learn' as 'learning to absorb formal courses'. In these the student's attention tends to be directed toward particular problems and his mind bombarded with facts, thus destroying precisely the sorts of sensitivities which are most needed. As if that were not enough, the student is not encouraged to read selectively, seeking out everything important to the solution of his own problem, but rather encouraged to read diffusely, mastering everything which might one day be useful in the world at large. If the objective is to foster the ability to learn *without* instruction, attempts could be made to help pupils to develop a strategy suited to making their own observations and learning on their own, a strategy which is dependent on building on minor feelings and fleeting, half conscious, insights, on making playful use of ideas, on making use of unconscious processes and phantasy, and on delaying evaluation of the ideas produced by one's unconscious.

Like the other competencies we have mentioned, willingness to learn without instruction is not entirely independent of other competencies; for example it is obviously linked to self-reliance and self-confidence and to the ability and willingness to think for oneself and think critically. Although we will treat these various competencies separately, research is needed to discover the links of one with another.

The tendency to seek and utilise feedback.

It would be possible to avoid using the word 'feedback', but, since it neatly encapsulates a range of ideas which are not easily conveyed in any other way it is worth introducing the term. By the phrase 'the tendency to seek and utilise feedback' is meant more than the tendency to monitor progress toward one's goals — more than the tendency to systematically assess how well one is achieving one's goals. The performance of any task inevitably provides a wide range of information which could, if the individual used it, help the person concerned to perform his task much more effectively in the future. But most of this information is not usually utilised. In the first place pupils tend not to engage in any *systematic* search for such feedback. In the second place the ability to recognise the information, and to recognise its relevance, is dependent on a willingness to pay attention to fleeting feelings of unease and fleeting ideas, bring these up into full consciousness and

ponder on their meaning and implications. This kind of sensitivity is, as we have seen, not something which most people have cultivated — and which schools have certainly not encouraged them to cultivate. In the third place, most people have learned that a mistake is a bad thing — something one should not wish to recognise — not something to ponder on and learn from. And in the fourth place, most people have been taught that they should not rely on their own observations but should, instead, rely on 'authorities' or seek courses of instruction in which they will be taught how to improve their performance.

Self-confidence.

Are people confident that they will be able to master set-backs, and work with others? Are they afraid that strangers are out to do them down and that they will get the better of them (with the result that they cannot seek the help of other people with new ideas to help them to achieve their goals)? Or do they feel that, if they do ask for the help of others, they themselves will be able to assess the way a situation is developing and, if necessary, take effective corrective action? Do they feel they can get to know new people or do they feel that they have to rely on old contacts? Do they feel that they can locate information, master new techniques, overcome difficulties, invent methods of bridging gaps in their knowledge, invent ways of coping with previously untackled problems and make an efficient decision about whether to go to 'experts' for advice or to think things out for themselves? If the answer to these questions is 'no', it may be that behind all these feelings lies a lack of confidence in their own ability (if the worst came to the worst) to rethink the solution to the problems out for themselves. Self-confidence may be generalised or limited to the attainment of one or two important goals.

Self-confidence of these various sorts is obviously based on having had appropriate educational experiences, on having had experience of working with strangers and being able to cope with them, on having had experience of bringing a project to a successful conclusion and being able to master unexpected problems, and on having had experience of working with experts and discovering that in some ways one's own views are as good as those of the expert.

Lack of self-confidence probably has consequences which are not limited to being unable to achieve one's own goals on one's own, for lack of self-confidence breeds lack of confidence in others' ability to work without supervision. Lack of confidence in others leads to demands for rigid rules to constrain their behaviour and to creating institutions with numerous positions staffed by people whose sole job it is to ensure that other people do their jobs.

Adaptability: absence of feelings of trained incapacity.

Do people feel that they can master new tasks in order to achieve their goals, or do they feel that performance of new tasks requires extensive training and skills which they are not able to acquire? Do they feel stuck in a rut, resentful, and unable to move? Absence of feelings of adaptability are often due to people not having learned that they can master new situations without extensive formal training. However, if the theory of human motivation outlined in chapter XXIII is correct, they may also be due to the fact that the institutional structures present in the society do not facilitate — indeed often intentionally obstruct — such behaviour. At this point it becomes necessary for the individual to seek to take personal responsibility for taking steps to get the structures changed.

Willingness to think ahead; tolerance for abstract thought.

Are people willing to spend time anticipating the consequences of various

courses of action so that they can take prior corrective action? Do they systematically think about problems that will be encountered either in their own lives, or more generally about issues that affect the community and the nation in which they live? Do they think of ways of tackling these problems? Have they learned from their own experience that it pays to anticipate future difficulties, and do they habitually think ahead when striving to achieve their goals?

The tendency to pay attention to problems of goal achievement:

Willingness to notice social, physical, organisational, personal, theoretical, technical, and communications problems which impede one, or one's group, in the achievement of one's goals and the willingness to try to do something about them. Sensitivity to such problems again involves sensitivity to slight feelings of unease and minor indications that there might be hidden important problems, bring these into full consciousness, and think them through, toying with ideas and springing on the vague feelings on the fringe of consciousness which will later lead to new ideas.

Willingness to think for oneself, to be original.

Do people feel that they must echo the views of others and not deviate from them, or do they value innovativeness, improvement, development and originality? Although originality may be a value to be strived for in its own right, it should be stressed that it is possible to search for a better way of being in touch with tradition and in touch with the flow of life, the stream of consciousness, if these are the basic goals one really values. The more general value component is probably concerned with the extent to which someone values individuation, individuality and distinctiveness rather than being part of a group and individually unidentifiable; being part of the flow of life, experience and behaviour. But, in order to attain any goal, are people willing to tolerate the scorn heaped on the innovator, even the innovator concerned to be better in touch with tradition? Are they prepared to strive to get their ideas accepted? It seems that some people habitually *think* more than others about the issues which are important to them, whereas others either have not noticed the problem or have not thought about it.

Critical thinking versus uncritical acceptance of rumour and authority.

Are people prepared to question what others say and the 'advice' they are given concerning the way in which to attain their goals? Are they prepared to make deductions from such advice which can be validated or invalidated from their own experience? Do they habitually make such deductions and relate what they are told (in print as well as in words) to what they already know? Do they habitually treat the statements of others as hypotheses which have to be tested against available information? In other words, do they habitually take very little on trust from others?

Tolerance of cognitive complexity.

The preference for cognitive simplicity refers to the tendency, which many people display, to avoid trying to understand the complex factors which usually determine anything which happens in society. Instead of being prepared to do this, many people seem to prefer to fasten on one, probably not crucial, factor such as 'the system', the 'Gnomes of Zurich', or the 'lack of ability' of managers or employees. By doing this they avoid the need to thoroughly examine the issue and, still more importantly, if it is a factor which is defined as being beyond one's control, avoid the need to engage in any activity which would lead them to having to do something other than talk and complain about the situation. Willingness to tolerate cognitive complexity involves a willingness to consider many factors — a willingness

to recognise that what happens is due to a large number of factors — rather than a desire to seek clear, simple, explanations. The weighting of these variables one against another will normally have to be done subjectively and consideration of them will rarely lead to a single simple solution to one's problems.

Concern to work at something, but perhaps disturbing and challenging.

If successful, this will move one toward one's goals. It may be contrasted with a preference to work at something comfortable but trivial. The confidence required to tackle disturbing, challenging, tasks may have to be built up through a series of experiences in which one learns that one can in fact overcome unanticipated difficulties, that the worries pass, and that the problems are solved, and in which one experiences the satisfactions which come from having achieved a worthwhile outcome.

Willingness to research the environment, for opportunities, resources (physical and human) help, materials, know-how, insights, and ideas to help one achieve one's goals. And not only the willingness to do these things but also the tendency to engage in effective strategies for doing them.

Willingness to rely on subjective judgements and take moderate risks rather than seek to be absolutely certain that a projected course of action is the right one before embarking on it. Willingness to take moderate risks is, of course, only likely to pay off if the individual concerned is able to monitor the effects of his actions, utilise the new information he can gain about the situation as a result of acting, and take effective corrective action to master unanticipated problems which arise in the course of the activity. Nevertheless, in spite of the hazards, moderate risk-taking backed by the ability to monitor the effects of one's actions and take corrective action when necessary, is likely to be a great deal more productive than seeking for certainty before doing anything. The quest for prior certainty stifles initiative and action, particularly if both the individual concerned and his friends feel that it is more of a disgrace to try and fail than not to try at all. To accept the position put forward here seems obvious — but the reason why our counsel is seldom followed may be that it is widely believed that a sin of commission is worse than a sin of omission. To act and to fail is worse than to do nothing at all.

Absence of fatalism: Absence of the belief that it is wrong to interfere with the course of fate, that one should not, or cannot, intervene. Although it may seem obvious that fatalistic attitudes are unlikely to have desirable consequences we may note that fatalism does not of itself lead to lack of hard work and initiative, for it may be one's fate to fulfil the role of a hard-working, under-paid, innovator bringing into society better ways of making contact with the supernatural or better ways of promoting economic development! This is not a far fetched example: The Calvanists, who did so much to contribute to the development of modern society, believed that their fate was already sealed. All they could do was to work hard to assure themselves that that fate was not what they feared it might be.

Willingness to utilise new ideas and innovations to achieve the goal.

Previous literature has mostly discussed the desire to innovate and adopt new ideas in relation to economic goals. However new ways of achieving all goals can always be found and some people are more willing to adopt them than others. It is this general tendency to adopt innovations — regardless of the goal to be attained — which leads one to suspect that innovation is often valued as an end in itself. At the opposite end of the scale from people who seem to somewhat uncritically adopt all innovations, are people who have a great deal of respect for tradition and people who tend to dismiss new developments as 'fashions' or

'irrelevancies'. Spread through a society as a whole the number of people who incline to the traditionalist pole determine how much of a crusade, usually involving 'fifth column' activity, it is necessary to mount if good new ideas are to be adopted. It is important to note that research by Roberts (1969) and Revens (1975) shows that it is necessary for people to engage in very devious actions to get good new ideas adopted: they are *not* adopted primarily because of their merit. It is therefore very important that people who wish to see development come about do all they can to support innovators, eccentric and devious though they often are.

Knowledge of how to use innovations.

If new ideas are to lead to successful development rather than disaster, it is necessary for those who adopt them to know from experience that it is important to pilot proposed new ways of reaching one's goals, instead of introducing system-wide changes immediately. Successful innovators know that new methods and systems require extensive testing, whereas people who are not used to innovating are inclined to introduce full-scale changes without taking time to iron out the practical problems.

Confidence in the supportive nature of society.

Willingness to innovate, willingness to focus on attaining a goal effectively, is dependent on other needs having been satisfied. People are unlikely to be willing to concentrate on achieving other goals if they first have to secure their own living and future income. This illustrates that, contrary to the widely accepted view, security rather than insecurity is the mother of invention. Lack of security leads to cutting back and hoarding, lack of mobility (in ideas as much as occupation), to lack of open criticism of the current ways in which things are done, to failure to utilise the financial system to develop resources (because no return can be anticipated), to lack of creativity, and to the absence of moderate risk-taking. All these things are dependent on security and confidence regarding the future. As such, this characteristic, which we have listed here as a personal human resource characteristic, merges with the institutional structure of society as a determinant of behaviour.

Win-win attitudes and width of perspective.

Win-win expectations may be contrasted with the more common 'win-lose' expectations. In many situations people assume that resources are limited and that, if one person gains, another automatically loses. All that can be done is to compete for the scarce resources or goods. In contrast, in many situations, the *total* which may be achieved can be increased by cooperation. The educational task is to bring people to recognise that if one lets other people gain, one will probably gain oneself; conversely if one tries to maximise one's own gains on a narrow front, then no one gains, least of all oneself in the long run. This principle can be generalised to a wide range of situations including means of obtaining useful advice. Advice is rarely a one way thing: Ideas don't flow in unless one encourages people to come and talk about *their* projects and concerns as well as one's own.

Persistence.

Is the individual willing to tolerate the routine work and frustrations that occur in the course of conducting a piece of work? Does he give up easily? Has he gone through educational experiences which teach him, at affective and behavioural levels, the value of sticking at such tasks? Conversely, is he so indifferent to his feelings that he is willing to work at a boring routine task, the end product of which is *not* valued?

Willingness to utilise resources and make the most of what one *has* got in order to achieve one's goals, rather than wait for someone else (e.g. the government) to make things available (preferably freely available!) and organise for one.

Trustworthiness.

It may seem strange to find trustworthiness listed as a component of competence rather than as a value. Clearly, people who value trustworthiness in relation to economic activity are likely in many, but not all, circumstances to achieve economic goals more effectively. But that is in relation to one goal only. Trustworthiness in relation to the provision of emotional support, assistance, and the communication of feelings may necessitate untrustworthy behaviour in relation to rule-abidingness or economic activity. The very meaning of trustworthiness therefore varies in relation to the goals one values. Yet, in relation to a particular goal, some form of trustworthiness is likely to be very important.

Tendency to treat rules as guides to desirable ways of behaving rather than feel absolutely bound by the letter of the law. The propensity to try to understand, and act in accordance with, the purpose behind rules and regulations presupposes an opportunity to find out why the rules were made and would be expected to lead to identification with the rules and decisions and thus to responsibility and discretion.

The ability to make good decisions.

The ability to make good decisions presupposes a, somewhat uncommon, willingness to take several factors into account subjectively, rather than be pre-occupied with only one or two of the variables which will determine what happens. It therefore involves the willingness to anticipate a wide variety of consequences of alternative courses of action rather than become preoccupied with only one or two of them. It implies a willingness to think through *all* the consequences of one's actions, and this involves an understanding of organisations and the way they work and of the psychology of individuals, so that one can assess how they will react and take the necessary steps to enable them to turn their energies into their task. The ability to take good decisions therefore involves the ability to work effectively with others and the ability to respect the ability of others who work above, alongside, and below one in an organisation and expect them to have something of importance to contribute to one's understanding of the issues and what should be done.

Willingness to take personal responsibility.

Once again we must first caution that if someone appears to be unwilling to take personal responsibility for some activity, one of the reasons may be that he does not value the objective toward which the activity is directed. Nevertheless there are many situations in which people find themselves wishing to attain an end but unwilling to assume personal responsibility for attaining it. This may be due to lack of self-confidence, which we will discuss shortly, but it may also be due to feeling that it is the job of some higher authority to intervene on one's behalf, that others (whose approval one needs) will regard such behaviour as presumptuous, or to lack of confidence in one's ability to get others to work together to achieve the goal. In other situations, unwillingness to take personal responsibility for achieving goals may be due to a disinclination to recognise and deal with the many factors involved — to a tendency to make use of oversimplified explanations of events (such as 'its all due to the capitalist system', 'there are no good workers left these days', 'its all due to the government/the Gnomes of Zurich/the quality of the management'). Such an understanding makes it very difficult to see ways in which one could oneself take any action to improve the situation, and it thereby absolves one from any responsibility for dealing with it — or even for thinking further about it. The tendency to use such single — factor explanations may arise from an

inability to tolerate cognitive complexity or simply from having developed a habit of intellectualizing problems in such a way as to avoid really having to understand the issues or do anything about them. Unwillingness to assume personal responsibility may also arise from a lack of confidence in one's own ability to manage people or deal with the institutional problems involved.

Lack of confidence in one's ability to take responsibility, lack of ability to develop a sufficiently complex understanding of the issues, and lack of the necessary managerial skills may arise from not having had experience of working in situations in which it is necessary to combine thought and behaviour in effective action strategies. It is, in fact, extremely likely, given the current tendency to distinguish sharply between academic and practical activity, that people will not have had this sort of experience, and, as a result, not merely not have developed these abilities but also developed no understanding of social-psychological processes. In order to counter this problem, one of the objectives of project work in schools is to encourage students to develop the habit of participating in problem-solving activity in which thought and action are integrated and particular stress is laid on utilising the effects of action as one of the main ways of improving one's understanding of the situation one is dealing with. Participation in such educational experiences is intended to impress on the individual the value of such analytic-action strategies through seeing them work to achieve goals he values. It is also likely to lead to the strengthening of the tendency to engage in such behaviours as a result of having experienced the satisfactions which follow, and to the development of realistic confidence in one's ability to engage in such activities. This is particularly true if the project work is directed to accomplishing some societal goals the attainment of which involves working with others and dealing with the institutional management structure of society. Pupils would then be expected to develop a willingness to take personal responsibility for introducing changes into society as a whole.

In a rather different vein, willingness to take personal responsibility for actions includes a number of much more mundane activities than assuming a major leadership role in society. Yet these activities are no less important, for they are likely to cumulate to produce major consequences for the society in which the individual lives. If people seek to avoid taking personal responsibility for their actions and, instead, seek to pass responsibility on to some higher authority — such as the minister or God — they are, by the same token, likely to seek to avoid taking responsibility for dealing with people who engage in acts of vandalism — including both activities which are normally so described and a much wider range of acts of vandalism which occur in groups or organisations. People who take a delight in dragging red herrings through discussions, competing for the role of chairman, undermining the credibility of other members of the group, or creating a furore for the sake of the uproar produced or discrediting one or two individuals, are as correctly described as vandals as those who vandalise transport systems and social amenities. They have the effect of diverting the group from the attainment of group goals. And just as, in the long run, the only effective way of dealing with community vandals is for every citizen to be prepared to play his part in curbing them, so it is with the social vandals. They can only be dealt with if all other members of the group take personal responsibility for refusing to cooperate with them. If an individual is to be able to achieve goals which can only be realised through concerted group action it is necessary for everyone in the group to be willing to take on himself this sort of responsibility.

Ability to work with others in order to achieve a goal.

Are people able to work effectively with others? Do they possess the social skills necessary to perceive what lies behind what others are saying, and are they

willing to do so? Are they willing to tolerate differences of opinion about how things should be done? Do they possess the breadth of vision needed to recognise that what may not be in their own short-term interests may be for the long-term good of all? Can they play different roles (such as 'ideas-man', coordinator, or someone who takes responsibility for dealing with conspirators and dashing-bashers who know instantly exactly what should be done)? Have they developed the ability to tolerate apparently wandering discussion in the knowledge that it will usually lead to a better solution if one is prepared to think about what is said and utilise the information provided? Are they willing to take personal responsibility not to be a butterfly and hop from issue to issue in an undirected fashion, not to cause a discussion to wander, not to be a conspirator plotting with others in the group, how to achieve tangential goals, and thus not distract the group from its task for the sake of personal prestige? Are they willing to take some of the responsibility for dealing with those who try to make a mockery of the group or otherwise distract the group from its task by engaging in these, or other, disruptive activities? Have they learned to tolerate compromisers and compromises in order to deal with differences of interest? Have they learned to work with others who in many ways wish to pursue *different* goals in order to achieve their *joint* goals, and have they learned to notice, and set about tackling general organisational problems which must be tackled if individuals are to be able to achieve their goals.

At this point we may once more reiterate that such characteristics are only likely to be displayed if the individual values the group goal. It would be unjustified to conclude (as is frequently done) that someone lacks these skills, attitudes, and knowledge if he fails to display them in relation to some task he does not value. On the other hand, low levels of these competencies *are often* displayed in situations in which achievement of the group goal *is* valued by all the group members. And still more often they are not displayed in situations in which the individual has not realised that achievement of his own goals is dependent on communal action to tackle a shared problem.

Ability to get others to work together effectively to achieve the goal.

Is the individual able to take a leadership (or managerial) role so as to be able to get others to work with him to reach the goal? Is he able to articulate group goals, set up the social mechanisms and institutions which are needed if people are to work together to attain them, and is he able to generate that enthusiasm which will enable others to unleash their energies in pursuit of the goal? The ability to do this last requires the capacity to release other peoples' existing but latent abilities to function effectively, the ability to encourage other people to be willing to think for themselves, to make their own decisions, to anticipate obstacles for themselves, and to learn without instruction. The ability to stimulate other people to engage in these activities involves encouraging them to transfer the willingness and the ability to do these things from one set of valued goals to another set. In order to get them to do this the leader has to be humble enough to recognise that people have practiced at least rudimentary levels of the skills which are needed in pursuit of the goals they most valued in the past. Having recognised this fact, the leader's task becomes that of getting his 'followers' to engage in these actions in pursuit of a goal which they previously either did not value at all or which remained latent because they thought it was too difficult to achieve. Having once led his followers to release the components of competence they possess in pursuit of the new 'shared' goals, his task becomes that of creating situations in which people can perfect these competencies. Given the theory we have developed in this chapter, getting people to engage in these activities in a new area seems primarily to involve getting them to change their value-priorities. This may not in fact be too difficult since it may be necessary to do no more than arouse latent values and clarify the fact that,

through joint activity, in a new, appropriate, institutional framework and climate of support, those goals can be reached. Another activity which the 'leader' may need to undertake is to create an organizational structure which permits people to achieve their individual and joint goals effectively. And still another may involve helping them to deal with the psychological problems which often inhibit effective goal achievement: For example, people may feel that they would *like* to undertake a particular task, but that they would not be able to do so effectively; they may feel obliged to turn out a *perfect* performance, when, in fact, some performance may be better than no performance.

Ability to listen to others and take what they say into account.

This involves being able to put one's preconceptions on one side, to avoid dismissing the views of others as 'stupid' or 'irrelevant' and, instead, to listen to what is being said and, in particular, what lies behind it. The ability to listen to what lies behind an expressed position is dependent on the ability to notice key phrases and on having a knowledge of the other beliefs and understandings which are often associated with such patterns of thought and expression. Once having suspected that a phrase conceals unexpressed fears and attitudes it is necessary for the individual concerned to elicit the other information which is needed to find out whether his hypothesis is correct. The ability to engage in this sort of listening is in part dependent on the willingness to recognise that, even if a particular objection to a proposed course of action is unfounded, the objection may still be useful because it may reveal unexpressed fears which may have to be dealt with before any progress can be made toward achieving the goal. More than likely, such fears will involve a perceived conflict between the goal being pursued and some other goal, and it will then be necessary to see whether the two can be reconciled.

Willingness to rely on subjective impressions of the human potential of co-workers under good management, rather than seek hard (and, as such, usually irrelevant) formal criteria of status in selecting co-workers. Willingness to rely on judgements of the potential of others, rather than on hard data that the individual has performed well in the past is, once more, obviously linked to one's confidence in one's own ability to manage others. Realistic willingness to rely on subjective judgement and on one's power of management can only be fostered if one has the experience of making such judgements and engaging in such managerial activities in situations which provide feedback as to the quality of one's judgement and management. If such feedback is lacking one can easily make such judgements — and continue to make them — *feeling* that they are good without ever finding out whether they are good or making explicit the basis of one's judgement. An obsession with status, representing as it does, a quest for simple indices of complex interactive characteristics, may well be associated also with an intolerance of cognitive complexity, an unwillingness to examine issues in their complexity and a disrespect for juniors and their ability to contribute anything worthwhile to discussion. In turn, it may be linked to the use of money as an index of status. It could also be linked to an unwillingness to discuss issues for fear of not finding an answer if one dared to admit that one's current preconceptions might be wrong. It could also be linked to a preoccupation with rules in order to maximise predictability.

Willingness to permit others to take their own decisions; confidence in the competence of others.

If one is to have confidence in the ability of others to make their own decisions it is probably necessary to know that they share one's values and priorities, or at least to have confidence in one's ability to bring them to share

one's values. If one suspects that others do not share one's values, one would have to spend a great deal of time checking up on them. This involves wasting their time as well as one's own. It also prevents them developing many of the competencies needed for effective goal attainment, especially confidence in their own abilities and their ability to handle progressively more difficult situations. In particular it prevents them developing the ability to assess the quality of their own judgement.

Ability to handle conflict and differences of opinion.

The ability to handle conflict and differences of opinion involves sensitivity to unexpressed fears and differences in priorities, the ability to clarify the consequences of those differing priorities, respect for people who hold different priorities, the ability to encourage others to explore the consequences both of their own position and that of others, belief that it is important to find a mutually acceptable position rather than belief that the other group should be put down, knowledge, based on experience, that mutually acceptable positions can usually be found if the consequences of alternatives are explored, and a greater respect for compromisers than for those who are able to push through their own point of view.

Ability to follow effectively.

The ability to follow effectively involves, first, the willingness to seek to understand the general principles of a programme of activity. This involves the ability to put together an overall picture of what is going on from scraps of information instead of waiting for someone to describe the whole to one. This ability, in itself, is no more than the, neglected, ability to learn without instruction. But the willingness to act on that understanding, to take on oneself the responsibility for deciding to play one's part in the whole is something very distinctive. From this discussion it should be clear that the ability to follow effectively implies a commitment to the overall goals of an exercise and a tendency to display most of the efficacy characteristics we are in the process of discussing in relation to that goal.

Tolerance for ways of life other than one's own, recognition of the relative, rather than the absolute, merit of one's own moral position; recognition that other people and groups do play an important role in the development of society and have an important part to play in helping one achieve one's own goals. When people look upon other ways of life as incomprehensible they have difficulty working with those who follow them even when their activity is directed toward shared goals. Under these circumstances a great deal of energy is wasted on fruitless conflict instead of being channeled into more productive activities.

Understanding of pluralistic politics.

Are people familiar with the sorts of constraints and circumstances which lead leaders and representatives to change their opinions. Are they, as a result, prepared to tolerate leaders who change their opinions and policies when confronted with points of view which differ from those they set out with? Do people recognise that one of the problems to be taken into account when trying to achieve their own goals is that other people wish to lead their own lives in very different ways, and that this means having overall policies which are very different from those that would be ideal from their own point of view? Are they prepared to tolerate compromisers and compromises? Are people prepared to continue to support, and work with, colleagues who start out by sharing their views but then change their minds as they become familiar with the points of view of other members of the community? Or is such mind changing regarded as a sign of weakness and untrustworthiness?

Willingness to put time and effort into community planning and organisational planning, rather than leave it to others and then grumble when things don't move in the direction one would like; willingness to take active steps to bring the course of development of the society into line with one's wishes; willingness to recognise that one cannot lead one's own life in one's own way unless one takes steps to influence the overall development of society, to bring under the control of man more of the forces which previously shaped his destiny. Although closely related to willingness to take personal responsibility, such activities involve both a marked orientation toward the future and, in particular, recognition of the social, national, and international source of many of one's own problems and of the importance of setting up social institutions to perform necessary functions.

Summary.

In this chapter we have seen that the personal (as distinct from the environmental press) components of motivation (or human resource characteristics) break down into two sub-components: a values component and a number of components of competence. If one wishes to assess human resource characteristics or motivational dispositions, one should first ask 'what does the individual value?' The answer to this question will be obtained by discovering what it is that he tends to spontaneously work toward and think about. It will be discovered by asking 'which goals does this person show a tendency to display the components of competence in order to reach?' Having discovered what the individual values, one should then ask 'how likely is it that he will effectively achieve goals in this area?'. This can be done by discovering *how many* of the components of competence he tends to display in relation to the goal.

Examples of values are legion. The components of competence are more limited in number. They include the ability to work with others, the tendency to pay attention to feedback which indicates ways of improving one's performance, the willingness to take personal responsibility, the tendency to break down the route to the goal into challenging but realistic steps, persistence, adaptability, self-confidence, and understanding of pluralistic politics. Unlike most traditional secondary school subjects, these competencies are of value to everyone: They are as important to the milkman as to the executive. Furthermore, again unlike most secondary school subjects, they do not consist of rapidly obsolescent knowledge. They are the competencies which secondary schools should be seeking to foster. They therefore qualify for the label 'the second 3 R's of education'.

Educational programmes to achieve these goals would involve conceptual inputs, information about the consequences of adopting, or failing to adopt, the various components of effective goal attainment, opportunities for pupils to clarify their values, role models demonstrating these characteristics, and opportunities to rehearse and practice more effective styles of behaviour in experience-based learning situations. We will take these topics up again in chapter XXV. Here we may simply note that it is the fact that most important human resource characteristics, like initiative, involve a major 'values component', as well as a number of the components of competence we have discussed, which makes it so difficult for teachers to agree to participate in educational programmes designed to foster them. They would explicitly be striving to influence their pupils' values. So long as one only wished to help pupils develop 'a skill', there was no problem. But, in spite of the fact that, as we have seen, everyone connected with education believes that schools *should* strive to foster these qualities, and in spite of the fact that schools, willy nilly, influence their pupils' values, once one admits that one is striving to influence pupils' values, teachers, quite rightly, become concerned about whether they are doing the right thing. The consequences for a pupil of having

developed initiative might be very unfortunate if he happened to live or work in certain types of organisation or society. It will become possible to surmount this problem satisfactorily only when we know more about the consequences of having developed, or failed to develop, these characteristics. And the consequences both for the individual and for the society in which he lives deserve to be studied.

Until we have that data we must make some judgements, based on the best available data, about characteristics which seem to be important and take the necessary steps to foster them. Then we must monitor the effects of our action and take corrective action if necessary. Whenever we are inhibited by the thought that we may be doing the wrong thing, we should immediately ask ourselves what we would expect the consequences of the *present* educational system to be. Does it encourage or stifle initiative? Does it encourage or stifle creativity, the ability to notice problems, and the ability to tackle them effectively? In the light of our answers to these questions, we may return to our task with renewed vigour. At present the schools are having an effect on the values and competencies which our children develop. But probably not the effect we would prefer.

We may conclude the chapter with a summary of what we have learned about the components of competence. To achieve one's goals effectively it seems that one must have developed a number of competencies. Schools could help pupils to develop these by providing appropriate educational and socialisation experiences. It seems more important to possess a number of these competencies than to have developed any one of them to a very high level.

A variety of types of self-confidence seem to be particularly important. These include confidence that one can work effectively with others, confidence that one's judgement and decision-taking ability are good, confidence that one can overcome unanticipated problems and effectively correct mistakes, confidence that one can find, or invent, the information one needs, confidence that one can change the pattern of one's knowledge, skills, and attitudes, should the need arise, and confidence that one can get other people to pursue important goals energetically.

Development of all these forms of self-confidence seems to involve going through sequences of learning experiences in which one develops higher and higher levels of the knowledge and behaviour tendencies required. One cannot develop realistic self-confidence unless one has had ample experience of tackling and mastering difficult tasks of each type.

Another important competency seems to be sensitivity to one's own feelings and the ability to use the information provided by them. Among these sensitivities are sensitivity to feelings of enjoyment and dislike and the tendency to turn these emotions into goal attainment; sensitivity to feelings which indicate that one has a problem or the germ of a solution; sensitivity to indications that one has not fully understood other people's concerns; sensitivity to summative, impressionistic judgements which one may not be able to fully explain; sensitivity to criticism which indicates whether or not one is likely to achieve one's goals and, if not, why not; and sensitivity to feelings of conflict about the desirability of achieving one's goals and the tendency to do something about resolving these conflicts. Once again, it would seem, education could do much more to encourage all these forms of sensitivity.

PART VII

RAISING LEVELS OF PUPIL ENTHUSIASM

Chapter XXV

MOTIVATION TO ATTEND TO SCHOOL TASKS

In Chapter XXIII we discussed a general theory of motivation and indicated ways in which it could be used to develop higher levels of initiative, creativity, and achievement motivation in the sense defined earlier in this book. In the last chapter we indicated that there were very many more important human resource characteristics than these three. Effective achievement of any goal seemed to require the exercise of a whole host of competencies, the development of which receive scant attention in current educational programmes. If these competencies are to be fostered it is necessary to make use of the educational practices and procedures which have been mentioned in earlier chapters and which will be discussed more fully later.

Enthusiasm in the Classroom

But, before we discuss the developments which are needed it will be useful to have behind us a discussion of the general question of pupil motivation in the colloquial sense of motivating pupils to attend to the tasks they are confronted with in schools. If pupils are to learn anything, whether it consists of mastering traditional school tasks or developing the competencies discussed in the last chapter, they must be *involved* in the activity; they must focus attention on the task to be undertaken; they must be interested and enthusiastic. One would have thought that this was a truism, but we must assume that it is not since, as we have seen, about one third of the pupils we interviewed, many of whom were not required by law to be at school, sometimes or always hated going to school, felt they would be happier in a job, and would not go to the school in the evenings if it functioned as a community centre. Between a quarter and three-quarters of the pupils who were studying each school subject found it either boring or useless. And more than half thought schools should do more to attain many of the objectives we asked them about. It seems from these findings that the message that pupils will not learn what they are supposed to learn unless they are interested in what they are doing needs driving home. Perhaps the best way of doing this is to remark that even Pavlov's dogs failed to 'condition' if they did not pay attention. Pavlov did not have to find means of motivating his dogs. He simply rejected those who did not pay attention. Whole breeds were rejected as too sleepy. Such a course of action is not open to teachers. What could be done to make courses more relevant and involving to pupils?

First we should note that the pupils who were unhappy at school were not evenly distributed through the population, but were more often to be found among those who hoped to become technicians, building workers, factory workers, farmers, or forestry workers. These findings suggest that one of the urgent priorities is to generate a range of courses suited to pupils who will enter a cross section of occupations.

Can we say anything more about how educational programmes might be changed to make them more acceptable, relevant and involving?

Enthusiasm for, and willingness to participate in, school tasks is, as we have seen, dependent on an appropriate match between the pupil's needs (determined by the background from which he comes, his present knowledge, skills, and attitudes, and the sort of knowledge, skills and attitudes that he will require for the life he is going to lead), the nature of the tasks that he is set, and the sort of environmental pressures which are brought to bear upon him.

Over the last quarter of a century most schools have concentrated on fostering a very narrow range of abilities and talents, provided very few options, and made use of a very limited number of the incentives open to them. If one looks around, or looks at Guilford's work on the structure of human abilities, one finds a whole range of skills and abilities that could be taught. As we have seen these include the ability to make good decisions, the ability to be inventive, and the ability to work effectively with others. Not only would it be *useful* for pupils to develop a wider variety of these skills, there is a high probability that *all* pupils would be good at *some* of these things. As a result, by changing the nature of educational tasks so that a much wider range of attitudes and skills were fostered, more pupils would be motivated to participate in school tasks and would have a much better chance of discovering their strengths and interests. Not only would they become more involved and enthusiastic, it is probable that their felt needs would change. Whereas many pupils at present find themselves being punished for not performing tasks which they are not good at and which they see no particular point in undertaking, they would find that the achievement of the goals they most valued made it necessary for them to develop some abilities which were not among those they were born with. It may be thought that such views are impractical, that the number of abilities with which schools should be concerned is not sufficiently large for *all* pupils to be able to find strengths to develop. Yet the number of tasks which adults are asked to perform is legion. These include driving, selling, gardening, tending machinery, persuading, designing, buying, travelling, writing, typing, researching, storekeeping, coordinating the activities of others, repairing machinery, cooking, cleaning, teaching, bringing up children, caretaking, nursing, helping, leading, following, managing, labouring, bricklaying, and accounting. In the course of undertaking these tasks they exercise all sorts of skills like learning without instruction (i.e. without formal courses), communicating, forecasting, decision-making, leading, inventing, judging, coordinating, encouraging, understanding, following, persuading, understanding people or society and working with others. The skills listed here are not of course, unitary abilities. There are undoubtedly many different forms of coordinating, judging, inventing and so on. But it seems that there is a great deal of scope for schools to foster a much wider range of abilities and competencies than they do at present. It is not suggested that all pupils should be encouraged to develop all these skills and abilities, nor that all teachers should try to foster the same skills in all their pupils — but all teachers could seek to foster a wider range of talents than they do at present, different teachers could seek to foster different talents, and different pupils could be encouraged to develop very different patterns of abilities, very different strengths and interests.

Thinking in terms of a diversity of educational objectives enables one more easily to integrate into one's thinking results such as those obtained by Taylor, Smith and Ghiselin (1963). These investigations obtained 52 measures of creativity for a cross section of scientists. Some of these assessments were made by peers, others by superiors in the same organisation, others were derived from the quantity and quality of publications the individual had produced, and others again were derived from organisational records. There was very little correlation between the measures; peers did not agree with supervisors, supervisors did not agree with laboratory chiefs, outsiders' assessments of publications did not agree with organisational reports, and so on. Fifteen independent factors were obtained and all sorts of fascinating results emerged: Those people who produced many written papers frustrated their organisations and were underrated by them because they would not get on with *new* projects. People who functioned 'effectively' *within* organisations were not well known outside. The people who were likeable to work with were not the same people as those whose word could be trusted — mastery of subject-matter gained respect, not liking. Well-known people tended to supervise many people, work outside their units monitoring other people's work, and give

many verbal papers but publish few.

Data of this sort underlines the importance of seeking to foster a wider range of talents and abilities from the point of view of personal development and social needs. But there are other reasons, reasons which are much closer to the classroom. A teacher who recognises the legitimacy of a wide variety of alternative criteria of educational development, and seeks to foster a wider variety of talent is likely to have more hard-working, enthusiastic, interested, 'motivated' pupils in his class than one who thinks that it is only legitimate to pursue conventional academic goals. One might expect, too, that teachers who use a variety of incentives and rewards, (including the 'reward' of allowing pupils to follow their spontaneous interests) will encourage pupils to become more engrossed in what they are doing.

Such suggestions may seem incompatible with our earlier stress on achievement motivation. They are not. Achievement motivation has been more extensively researched than other human resource qualities, and society needs a 'critical mass' of highly achievement-oriented individuals. But what happens to a society is dependent, firstly, on the balance between different sorts of people who have different patterns of motivation within it, secondly, on the social pressures which members of society bring to bear on each other, and thirdly on the social structures which exist in the society.

We know very little about the effects on society of having different balances of people with different motivational make-ups, or about the effects of different social structures. But it is clear that society does need a range of different sorts of people with different talents and preoccupations, and that learning experiences explicitly designed to foster a variety of talents could be developed. In addition, it is clear that not only do we need to foster in our schools and universities people with very different attitudes, values, skills and abilities, but we need to foster the willingness and the ability to re-enter the educational system in order to change one's pattern of knowledge, skills, and attitudes as one's needs, and the needs of society, change.

This last requirement also entails a major change in the educational system. Not only does it mean that pupils will have to be encouraged to develop the ability and willingness to re-enter the educational system, still more importantly it means that educational institutions will have to offer their courses in much smaller modules. These must be such that people who require, at any stage in their lives, to alter the configurations of their knowledge, skills and attitudes, can take a short unit containing only the experiences they really *need*. By this it is intended to stress that the units should *not* contain, as so often happens, everything which might, just possibly, be relevant to the student. In particular educationalists should avoid the temptation to attempt to produce the 'knowledgeable man'. Units should be such that, if they are thought to be needed, they can be readily located, easily obtained, quickly absorbed, and quickly discarded without repercussions, if, once sampled, they are found to be irrelevant to one's needs.

Barriers to Acting on These Insights.

One of the basic problems preventing movement in the direction we have discussed is that, by and large teachers do not feel strongly that there is a need for educational programmes geared to different goals for different pupils. Yet this fact is merely a symptom of problems which go much deeper than simply a failure to recognise that different pupils need different things from education and react differently to the current educational system, and that there are recognisably distinct groups of pupils who vary systematically from one to another in their felt

needs from, and reactions to, education. The roots of the problem seem to lie in the single-factor model of the nature and variety of human abilities which many teachers seem to have adopted and in the institutional structure in which the teachers are placed. We will expand on each of these below.

Although the data we have presented to support the case for a variety of educational programmes deals only with pupils' felt needs from, and reactions to, education, and in spite of the relatively slight evidence currently available to support the proposition (Taylor, 1971), it seems probable that appropriate investigation would reveal that different pupils not only *want* to develop different qualities, but also have the *potential* to develop very different strengths and talents.

One suspects that if one undertook an appropriate investigation, one would find that no pupil was devoid of some real strength which educators could help him develop if only they thought of their job in wide enough terms. This is the view of a minority (about a third) of the teachers we interviewed. They believe that if a pupil is poor at academic exercises, it does not necessarily follow that he will lack creativity, the ability to make decisions, the ability to make predictions, the ability to lead, or even the ability to think clearly. Conversely, a pupil who is good at one of these things is no more or less likely to be good at the others than one who is poor at the first task.

This theory, of course, runs directly counter to the traditional European view of intelligence which postulates a single-factor model of the nature and variety of human abilities. It is this single-factor theory which the majority of the teachers we interviewed seem to have adopted. According to them, if a pupil is not good at academic exercises, he is unlikely to be good at anything with which schools should be concerned. When asked to describe the sort of pupil they thought of as 'less academic', they mentioned 'pupils who have no place in school', 'the less intelligent', 'the weaker pupils', 'those less interested in academic subjects', 'lazy', 'slow', or 'those incapable of application'.

In response to the data collected by psychologists to support the single-factor theory, it may be pointed out, firstly, that measures of many of the competencies cited above were not included in the studies which led to the development of the single-factor theory of intelligence. As Vernon (1972) has emphasised, these studies were based on the intercorrelations between tests of different types of *academic* ability. Secondly, one may remark on the *low* level of correlation between many of the tests. It is true that they are all positive. But many of them are of the order of 0.3. This means that 91 per cent of the variance is *not* explained. In other words, there is at least an even chance that someone who has a low score on one test will have a high score on another. Conversely, someone who has a high score on the first test is only slightly more likely than someone with a low score to obtain a high score on the second test.

Any educational programme that is designed to build on the model of the intellect just put forward — in which there are a wide variety of independent abilities which pupils could be helped to develop, instead of one general ability — would have to provide for *both* highly individualised instruction and highly individualised evaluation. It would also have to be run by teachers who were committed to developing *all* the talents of their pupils, and who knew how to foster such a wide range of competencies. One reason why more teachers have not adopted the 'multiple-ability model' of the intellect may be that these prerequisites to establishing its truth or falsity have not been provided by the educational system.

Furthermore, these prerequisites are not the only barriers to its recognition and implementation. Most teachers have been taught the single-factor model by their professors, and what Bernstein (1971) has called the 'pedagogic boundary' is nowhere stronger than in pedagogy. Most teachers are subject-specialists first and teachers second: in spite of their explicit goals, they spend most of their time conveying knowledge of their subject speciality, not 'developing the whole person'. Furthermore, their teaching career has had to be pursued within their subject speciality, not in terms of 'someone who helps pupils develop as people'. It was as a subject specialist that the teacher was assessed. It is as a subject specialist he is known and evaluated. It is as a subject specialist that he can seek promotion. Syllabuses have focussed attention on academic knowledge rather than on the competencies with which we have been concerned in this book, and the ability to master different areas of knowledge *does* seem to be a fairly unitary trait. Supplementing all these problems is the fact that few teachers have been able even to envisage — let alone to produce — an individualised system in which knowledge of specialist subject-matter could be mastered through properly ordered specialised learning sequences. Worst of all, the only achievements for which most teachers or pupils have gained public recognition are academic examination passes.

The effect of the examination system deserves a fuller treatment than we have so far given it. Although, on the whole, teachers wish to foster the broad competencies discussed in chapter XIV, although they know that the academic qualities on which they currently concentrate are of little value to their pupils, although they know their pupils are aware that knowledge of academic subject-matter is of little value to them, they *know* that examination certificates determine the pupils' future career, and that their own status as a teacher depends on them getting pupils through those examinations. Their other activities, and those of their pupils, will only stand to the credit of either if they supplement rather than supplant success in examinations.

Since teachers themselves do not particularly value the goals toward which they have to work, believe that their pupils value these objectives still less, and underestimate the serious-mindedness of their pupils, how can they be expected to delegate to their pupils the responsibility for directing their own learning which is so essential if different pupils are to develop different competencies in the course of achieving relatively idiosyncratic goals which are important to them? Given the blinkered examination framework within which they must teach, and the fact that they are impelled to adopt an autocratic role, how could the full range of their pupils' potentials possibly force itself to their attention?

In conclusion, if teachers are to pursue wholeheartedly the goals which most people connected with education believe to be of cardinal importance, they will need, not only an evaluation system which permits them to monitor progress toward the goals they consider to be most important, not only the intellectual stimulation necessary to plan ways to achieve these goals, not only educational settings which permit them to achieve different goals with different pupils, but also more information on the structure of human abilities, much greater acquaintance with pupils' values and the variety of those values, and a system of assessment which measures different pupils by different criteria, which draws attention to pupils' strengths and ignores their weaknesses, except in so far as they must be recognised for guidance purposes. More than that: they may also need an evaluation system which ensures that teachers and pupils who devote their energies to achieving these important educational objectives receive public recognition for their activities.

Some More General Remarks on Pupil Motivation.

Pupils' Values and Felt Needs from Education.

So far in this chapter we have spoken about arousing pupils' interest and enthusiasm by teaching toward a variety of goals. In Part II we mentioned the possibility of studying pupils' interests — the sorts of activities they felt inclined to engage in spontaneously — and of using this information to establish individualised competency-oriented, educational programmes designed to help them develop the components of effective behaviour which we outlined in detail in the last chapter. We suggested that these competencies could best be developed in pursuit of goals which they already valued. We assumed that if pupils developed these competencies in pursuit of goals they now valued, they would later be able to use them to achieve other goals they might come to value later in life.

If this is to be done we need to know what the pupils' interests and felt needs are. In Chapter XI we saw that pupils wanted to develop initiative, independence, responsibility, the ability to work with others, and the ability to learn without formal instruction. In Chapter XX we saw that, amongst the 'subjects' most commonly taught in schools, pupils were particularly interested in those which enabled them to make something that they could call their own, which they could take a pride in, which called on the exercise of a variety of competencies (such as imagination, drawing, fine execulatory skills, and making contact with stimulating ideas), which involved physical activity rather than sitting at their desks all day, and which were presented in such a way that they could re-trace their steps in order to master information which they may have missed rather than have to spend most of their time feeling totally inadequate in a state of dazed incomprehension. In Chapter XX we also saw that pupils were much more serious-minded than their teachers thought: they wanted to do a worthwhile job in the community, to get good examination results, to care for their families, and to be able to apply what they have learned at school to the world outside. We also saw that they were interested in making close friends, and would therefore be expected to respond positively to educational tasks which enabled them to experience the joys of companionship as an integral part of educational activity.

All of these sets of data can be used to point up ways in which school tasks can be made more relevant and involving. The tasks which pupils are set could be geared more closely to the development of the competencies discussed in previous chapters. Pupils will be likely to respond positively to opportunities to develop these competencies if the opportunity to do so arises in the course of doing things which will enable them to improve the communities in which they live and help them to improve the lot of their families. They will be particularly likely to respond positively if the competencies can be developed in the course of project work which enables them to create something they can call their own, which enables them to take responsibility for directing their *own* learning, and which enables them to build on their strengths. They will become more involved and enthusiastic if they can work with their friends and take responsibility for group work. They will work harder if they are given responsibility for directing their own learning and are treated as mature, responsible, people capable of planning their own work.

We may tie these strands of information together by suggesting that pupils will be particularly likely to respond positively to community development orientated project based, educational programmes which enable them to interact with, and come to understand, the institutions of their community. And pupils will be still more inclined to respond positively if the contributions they have made, whether these were in the shape of ideas, facilitating group processes, or practical know-how, are

recorded in summative evaluation certificates designed to draw attention to their socially beneficial accomplishments instead of their deficiencies.

Nevertheless, we also saw that teachers' perceptions of their pupils' values and reactions to the subjects they were taught were not such as to be likely to lead them to trust their students to work on their own or to encourage them to delegate responsibility to them. Teachers were inclined to think that pupils were uninterested in school work and considered the subjects they were being taught to be useless; they were interested only in having a good time, in money, and in pop music.

To this summary of data we have already presented, we may now add some further data which will enable us to become clearer about the nature of the tasks which pupils will be most likely to find relevant and engrossing.

We asked the pupils to indicate how important it was to them to work in jobs which gave them different kinds of satisfaction. The full list of the characteristics they were asked to rate is given in the next two tables.

Most of them wanted to be able to do something worthwhile in their community; they valued variety in their work and were keen to have friendly people to work with, to take responsibility, and to take initiative. They wanted to be able to take a pride in doing a job *well* and to make full use of their capabilities. (It will be recalled from Chapter XVII that these are not unrealistic expectations). In general they did not want to do paper work, deal with figures, have to work for long spells at boring tasks in order to achieve a worthwhile objective, or be a small cog in a large group.

Apart from commenting that schools at present look remarkably like places where pupils do *not* want to be, we may ask whether schools might not do more to provide the satisfactions which pupils say they want in their jobs within school settings: Does education permit pupils to take a pride in doing a job well? If one is to be able to take a pride in doing one's job well one must be doing something which one believes to be important. Most pupils do not think that most school tasks fall into this category. Furthermore most school subjects seem to be paced in such a way that pupils move onto more difficult work before they can take a pride in completing one job well. And the work is often fragmented: An essay written on an unimportant subject in half an hour; sums which don't relate to any important problem; half learned French.

Is it possible to work with other people? Is it possible in school to experience the joys of companionship, the satisfactions of team work, and the satisfactions of leadership? Could not team work be built into schools to capitalise on these motivations, so that pupils help each other to analyse their difficulties and improve their performance?

Are there opportunities to move onto new things, to move onto more challenging, rather than just different, work as one masters particular areas of work; are there sufficient opportunities to take responsibility for others working, or to experience the satisfactions of making a breakthrough in understanding?

Is there much variety in school tasks? Could more be introduced? Could more be done to enable pupils to develop all their capabilities — including creativity, forecasting ability, decision-taking ability, leadership ability, and the ability to get other people to work together effectively?

Could more be done to make sure that pupils feel they have really created

Chart X
Desired Job Characteristics: Boys.
 Percentage of Boys Rating each Feature "Very Important".

1. You can really take a pride in doing the job well.
2. You have a lot of friendly people to work with.
3. There would be good opportunities for promotion throughout your career.
4. You can turn out high quality work.
5. There would be security of employment.
6. There is a great deal of variety in what you do.
7. You can feel you have really created something.
8. The work would make full use of your capabilities.
9. You have to ensure that a large number of people co-operate and work together without conflict.
10. The ultimate, but not immediate, salary prospects would be good.
11. The people you work with would be interesting, stimulating people.
12. You can sense continued progress.
13. You can work for the benefit of mankind.
14. There would be opportunities for travel on the job.
15. The quality of the output is entirely dependent on everyone in a large team pulling his weight.
16. You will be physically active and on the go most of the time.
17. You have to ensure that people carry out rules and regulations.
18. You have regular hours and an established routine.
19. You spend a lot of time talking to different people.
20. You have to keep learning new skills.
21. You can feel that you are contributing to national development.
22. You can quickly see the customers' or clients' reactions to your behaviour or goods.
23. Taxes your ability to think of new and better ways of doing things.
24. You have to plan for a long period ahead and in which the responsibility for making a correct decision rests entirely with you.
25. You have to pay a lot of attention to detail.
26. You have to try to get other people to turn in their best performance.
27. You will be able to go on living in the area you live in at present.
28. You can exercise your skill at dealing with people.
29. The livelihood and well-being of a lot of people is dependent on you.
30. You can go at your own speed, work when you want to, and stop and talk when you want to, but in which your earnings vary accordingly.
31. You do outdoor work.
32. You are expected by others in the organisation to attain very high standards of performance.
33. You are told, in detail, exactly what to do.
34. You can work hard rather than at the speed of others who take life more gently.
35. You have to take the responsibility for ensuring that other people work hard.
36. You have to persuade people to do what they feel to be right, but which they are unwilling to do.
37. You have to work for long spells at a boring task in order to arrive at a worthwhile outcome.
38. You have control over other people.
39. You would spend most of the time dealing with manufacturing plant or machines.
40. You would be only a small cog in a team of people creating something very worthwhile.
41. In which quantity of output is more important than quality.
42. You have to work through other people to get things done rather than do things yourself.
43. You are continually under pressure to do things quickly.
44. You have a lot of paper work to do.
45. Much of your time would be spent dealing with figures.
46. Much of your time would be spent dealing with office work.

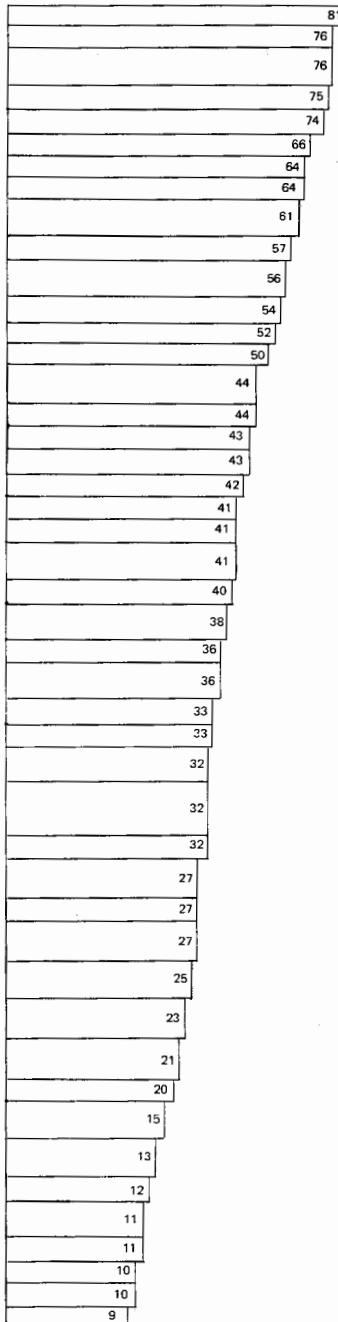
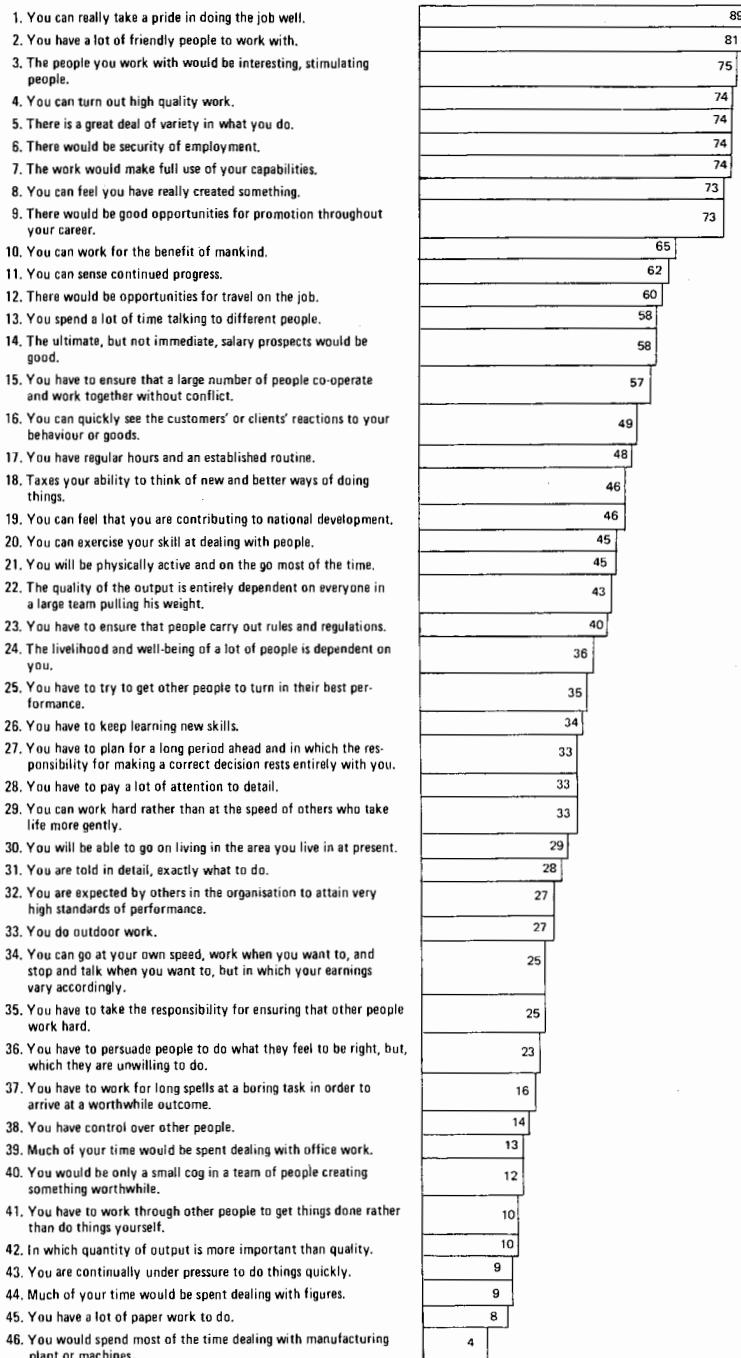


Chart XI
Desired Job Characteristics: Girls.
 Percentage of Girls Rating each Feature "Very Important".



something, to give them responsibility for the work of others, to make sure that they register a sense of progress, and to enable them to work for the benefit of mankind?

All these are sources of motivation which could be tapped by making use of individualised, group and individual, project based, enquiry methods of education. But they could only be tapped if such educational programmes were run by teachers who were aware of the wide range of competencies which could be developed through such procedures, and who were able to structure appropriate sequences of learning experiences to help pupils develop a wide range of different competencies.

Teacher Behaviour.

So far we have looked at the tasks which pupils would be likely to find relevant and absorbing. What about the management style of their teachers? Are pupils more likely to be enthusiastic when they work for a teacher who behaves in one way rather than another.

As the next two tables show, pupils feel that they would work hard for someone who is very similar to the sort of person Likert, (1967), McGregor, (1960), Tannenbaum, (1968) and others have shown adults say they *would* try to do their best work for, and for whom they do *in fact* work hardest. Pupils say they would work hard for someone who tries to help them with their work, and who is competent, enthusiastic and hard working; someone who makes clear what is to be done and how it is to be done, who thinks highly of his subordinates, and whom they would like to be like. Pupils recognise that they, like adults, will not work well for people who try to motivate them by threats, punishments, and sarcasm, or who use academic grades to select people for social leadership roles.

From these data it seems that pupils' levels of enthusiasm for their tasks might be increased if teachers were able to treat their pupils with respect and were themselves able to go about their work enthusiastically. Unfortunately, as we have seen, many teachers have been placed in a situation in which they are not convinced of the value of what they are doing, in which they are not able to allow all their pupils to display their strengths (with the result that they are unable to see them doing the things they are good at and, as a result, unable to develop a respect for them) and in which they feel constrained to goad their pupils (for the sake of their own long-term good) to work toward the goals they believe to be of little intrinsic value.

Under these conditions they are unlikely to work with great enthusiasm themselves, to treat their pupils with respect, or to trust them to direct their own learning. Quite the contrary. Not being able to see their pupils at their best, they are unlikely to develop a respect for them, not themselves accepting the importance of the goals toward which they are supposed to work, and suspecting that their pupils think likewise, they will feel obliged to use threats and close supervision to get their pupils to work rather than trust their pupils to work on their own. Seeing their pupils *not* working as hard as they know they might will naturally lead to an enhanced disrespect for them and a further attempt to motivate them by coercion. After all it is not only their pupils' future which is at stake if the pupils do not do well, their own is too.

TABLE 22
Teacher Behaviours Motivating Hard Work.

Boys

Figures give percentage of boys who say they would work as hard as they could for a teacher who used the incentive shown on the left.

A teacher who:

really tries to help you personally with his subject.	92
puts a great deal of effort and enthusiasm into his teaching.	84
thinks highly of you and you don't want to let him down.	79
makes sure EVERYONE in the class understands before he moves on.	75
you admire and would like to be like.	74
presents his subject well and shows that he really understands it.	67
takes a particular interest in pupils who find out new things for themselves.	57
just tells you privately when you are doing well.	55
explains exactly what is required in examinations and spends most of his time getting you to rehearse examination answers.	49
tells the class each week which pupils have done better than they did last week.	43
gives marks to your house or team if you have done well.	35
is constantly reminding you how near and important the examinations are.	31
makes the pupil who gets the best marks class captain or class prefect.	19
gives "lines" or similar punishments to pupils who do bad work.	17
gives the cane or strap to pupils who do bad work.	16
makes you stay in during your free time if you do poor work.	15
is sarcastic and makes you look foolish in class when you don't know the answer.	9
Weighted Base (=100%).	553

TABLE 23
Teacher Behaviours Motivating Hard Work.

Girls

Figures give percentage of girls who say they would work as hard as they could for a teacher who used the incentive shown on the left.

A teacher who:

really tries to help you personally with his subject.	92
puts a great deal of effort and enthusiasm into his teaching.	88
thinks highly of you and you don't want to let him down.	82
makes sure EVERYONE in the class understands before he moves on.	81
you admire and would like to be like.	76
presents his subject well and shows that he really understands it.	75
takes a particular interest in pupils who find out new things for themselves.	59
gives marks to your house or team if you have done well.	57
tells the class each week which pupils have done better than they did last week.	54
just tells you privately when you are doing well.	51
explains exactly what is required in examinations and spends most of his time getting you to rehearse examination answers.	49
is constantly reminding you how near and important the examinations are.	32
gives "lines" or similar punishments to pupils who do bad work.	27
makes you stay in during your free time if you do poor work.	26
makes the pupil who gets the best marks class captain or class prefect.	23
gives the cane or strap to pupils who do bad work.	22
is sarcastic and makes you look foolish in class when you don't know the answer.	19
Weighted Base (=100%)	573

It may help to flesh out this basic data if we spend a few moments discussing one or two features of the results. In approvingly describing the system of incentives used in the Soviet Union, Bronfenbrenner (1974) emphasises the use of team rewards, public recognition, and opportunities to move into positions of authority. Such incentives, it would seem, do not appeal too strongly to our own children. Less than half said that they would work as hard as they could for a teacher who made use of public praise, only one in three would work as hard as they could for team rewards, and only one in five said that they would work as hard as they could for a teacher who made the pupil with the best marks class captain. One wonders whether such incentives work in general in the U.S.S.R., and, more particularly, what sort of person is attracted by such incentives both here and in the U.S.S.R. We do not have data relevant to this question from the U.S.S.R., but we do have data for Ireland. There was little variation with the pupils' background but these incentives were more likely to appeal to those who were going to leave early and enter low status jobs. According to this data pupils were much more likely to respond to professionalism on the part of their teachers, and to teachers they would like to be like. However, as we shall see later, the average pupil would only like to be like about a third of his teachers. We do not have figures on the proportion of their teachers pupils felt admired *them*. But, given that such feelings of admiration tend to be mutual, it might be asked whether teachers and pupils might be put in situations in which each could come to admire more of the others' qualities. What type of educational process would be required if this were to be done?

Returning to the results presented in Tables 22 and 23 it is of interest to report that an early survey carried out by the NFER (Highfield and Pinset, 1952) and a later one by Gaskell (1960) showed that teachers are in general as aware as their pupils of the ineffectiveness of attempts to motivate pupils by means of threats. This forcefully raises the question of why teachers continue to seek to motivate their pupils by methods they know, and which their pupils know, to be ineffective. This question will be discussed at much greater length below. Here we may briefly anticipate some of the results of the discussion.

One reason why some teachers tend to resort to primitive exhortation when help is required is, as Nash (1973) has emphasised, that their training, unlike that of doctors, gives them few opportunities to practice diagnosing learning difficulties. But other processes, which are both more subtle in their operation and more devastating in their impact, include the following, which will be documented and discussed more fully later. As we have seen, most teachers are not themselves convinced that the examination goals toward which they are forced to work by the constraints of the situation in which they are placed (particularly, by pupils, parents and examinations) are the goals which are most important from the point of view of their pupils. Furthermore they believe that their pupils do not think that examination passes are very important, and they also underestimate their pupils' serious-mindedness. Yet they know that their own reputation, and the life chances of their pupils, is dependent on their pupils achieving 'success' in these terms. As a result, they cannot delegate to their pupils responsibility for directing their own learning. They therefore feel constrained to put pressure on them to try to force them to work toward goals they themselves do not fully accept and which they believe their pupils don't accept.

This only makes their problem worse, for they become blinded by the very narrow focus of these activities to their pupils' interests and the other talents they possess (and which they could help them to develop). They are prevented by their own narrow preoccupations (which are, of course, to a considerable extent forced on them from outside) from coming to respect all of their pupils for the real qualities

which they possess. Yet they are forced by the school system to have all these pupils — who, as far as they can see, have no place in schools as they are currently organised — in their classes. What else can they do but resort to attempts to motivate their pupils by methods which they know in their hearts to be inefficient?

An interesting study by Kipnis (1972) is also relevant to the explanation of the phenomena we are discussing. Following an experimental design, Kipnis asked students to carry out tasks under a 'manager'. Some of these 'managers' had power to reward and punish their 'subordinates' in order to get them to work hard; others did not have this power. The first significant finding was that the students whose 'managers' had no power to reward or punish worked just as hard as those whose 'managers' had such power. Still more significantly, those 'managers' who had the power to reward and punish came to distrust their 'subordinates' and grew to dislike them. They came to believe that their 'subordinates' could not be trusted to work on their own; indeed they came to believe that they were, by nature, 'irresponsible' and lazy. Extrinsic rewards and punishments came to be thought essential, and the 'managers' came to wish not to associate with their 'subordinates' in 'out of work' settings or to mix with them socially. They lost respect for them. No doubt the lack of respect was mutual, the result being that the 'supervisors' would be deprived of the opportunity to utilise the incentives to which pupils attach so much importance.

As in industry, then, the mere fact of making a teacher responsible for the work of his pupils is likely to bring in its train a disrespect for the integrity and serious mindedness of his pupils. But, as in industry, too, an attempt to give more responsibility to pupils is likely to bring a host of unexpected consequences for which teachers are poorly prepared. These problems, dimly glimpsed and poorly articulated though they are, may be among the reasons why teachers do not adopt the motivational procedures which they believe would be best. This may be illustrated from experience at Countesthorpe (OECD, 1973), which suggests that the consequences of adopting inter-disciplinary, project-based, enquiry methods which are based on delegating responsibility for learning to the pupils, are all pervasive and insidious. Nothing is untouched by the ramifications. Not only does the importance of knowledge content disappear — and with it the teacher's ability to be certain that he has achieved a worthwhile goal — the whole pattern of role relationships changes.

Since one is not primarily concerned with conveying knowledge of content (but, instead, with fostering individual competencies) it is much harder to find out whether the pupil has learned that which he is supposed to have learned. If one cannot find that out one cannot apply sanctions. In the absence of sanctions, effective working relationships are dependent on the personal qualities which teachers and pupils can bring to bear.

In the open situation of inter-disciplinary enquiry methods the presence of, and particularly the lack of, these personal qualities becomes much more conspicuous.

Yet little attention has in the past been paid to helping teachers to develop the necessary qualities.

Much more of the personality of teacher and pupil becomes public. Many more of their habitual behaviours, thoughts, feelings, and values, become public. In becoming public they become much more open to inspection, questioning, and manipulation. While this is often desirable — indeed it is one of the main explicit goals of inter-disciplinary, enquiry based, methods of education (I.D.E.) (Mason,

1970) — the need to strengthen the egos of the teachers and pupils involved if they are to cope with the situation may not always have been clearly recognised. As has already been suggested, these things are not peculiar to I.D.E. They arise whenever democratic management procedures are introduced. In order to reap the benefits which these procedures undoubtedly yield, much higher levels of responsibility, morality, commitment, sensitivity, and maturity are demanded from all those involved. In all such situations attention has to be paid to helping those involved to develop the attitudes and styles of behaviour required to share leadership responsibility. Just as I.D.E., like other moves to share management responsibility, makes it possible for those involved to accomplish much more than would have been possible under traditional arrangements, so it also makes it much easier for anyone who has not developed the attitudes and skills required to participate effectively to prevent anyone from achieving anything. The unwilling student becomes *more* of a problem.

The project focus of I.D.E. operates selectively on the knowledge within each subject area which is to be transmitted. The particulars of each subject become less important. Ways of acquiring knowledge become more important. Since these, by definition, have to be pupil-initiated and pupil-regulated, the authority for learning is shifted from the teacher to the pupil. The rights of the taught to choose what, when, how, from whom, and whether they will learn becomes greater. The pupil becomes conscious of his rights and his powers.

Many teachers do not find that an easy situation to which to adjust. And all are poorly prepared for the notion that power is not a zero-sum quality, that more power for the pupil does not necessarily mean less power for the teacher — provided, of course, the teacher turns his attention to gaining more control over factors that were previously beyond the control of the group, such as the aspects of the educational environment which influence the attainment of the educational goals which were discussed earlier.

A vague awareness of all these problems lurking round the corner may, therefore, be among the reasons why more teachers have not adopted the motivational procedures which they themselves believe to be best. Other reasons may include much more explicit demands from pupils to use sharp but effective sanctions to stop their fellow pupils from interfering with their work. As other data shows this is no mere speculation. Pupils *do* expect teachers to act quickly and effectively in this way to discipline disruptive peers. And they may back up these demands by bringing highly effective pressures to bear on teachers! There is every reason to think that pupils do not believe that all their peers will respond best to the sorts of incentives which they feel they would themselves respond to.

Variety in Pupils' Values, Felt Needs from Education, and in the sort of Teacher who makes them Enthusiastic.

At the beginning of this chapter we emphasised the need for greater variety in educational programmes and for concentrating on new goals. Later we expanded the implications of our material on pupils' felt needs from education, interests and values for the design of educational programmes. This data pointed in much the same direction as the conclusions we arrived at earlier: it is more important to concentrate on fostering competencies than on conveying knowledge of academic subject matter. We turn now to further evidence pointing to the need for greater variety in educational programmes. Although we have not stressed the fact so far in this chapter, pupils varied considerably from one to another in their felt needs from education, their values, and their interests.

Variance in what pupils wanted from their education could be summarised in terms of six factors. The details will be found in the technical reports on the survey (Raven *et al.*, 1975, 76). It is sufficient for our purposes here to list only the names we have given to these six independent clusters of items. Pupils varied from one to another in the emphasis they placed on the development of dutiful social responsibility; the development of qualities of character like independence and responsibility; learning the 3 R's; learning things that would be useful in married life; having codes laid down to structure their thoughts and actions; and receiving education outside the classroom.

As far as the satisfactions they wanted out of their jobs is concerned, pupils varied along seven main dimensions: their value for supervised routine work; their concern with security and assured promotion prospects; their desire for low level responsibility; their concern to make the most of themselves and obtain satisfaction from feedback from the work itself (a stated 'need for achievement' factor); their value for taking responsibility and leadership (a socialised power factor); their desire to avoid personally taxing work; and their concern with the human qualities of the work.

In terms of values, pupils varied considerably from one to another in the emphasis they placed on 'youth culture' and enjoyment — on pop music, dancing, having a good time, and having friends of the opposite sex; and in their serious mindedness — the extent to which they thought it important to involve themselves in religious and socially important issues and to cultivate hobbies. In other words, in spite of the overall order of value priorities we have described, some pupils would respond to an education which provided opportunities to engage in 'youth culture' (pop music, dancing etc.), while others *would* respond to an attempt to engage them in the *generally* unpopular religious and social issues.

When it comes to extrinsic motivators and incentives, pupils differed in the extent to which they would react negatively to attempts to motivate them by punishment or the threat of punishment; in the extent to which they would work for teachers who displayed a high degree of professionalism, enthusiasm and competence; for teachers who made use of rewards such as promotions in class and stress on examinations; and for teachers who established positive personal relationships with pupils by engendering admiration among their pupils and thinking highly of them.

All these results confirm that different pupils respond to different types of educational programme. In the technical reports on the survey the implications of each of the above sources of variation is discussed in some detail. However the main conclusion drawn is that all these sources of variation point to the need, not only to concentrate on the objectives and interests which *most* pupils share, but also to ensure that pupils are offered a wide variety of alternative educational programmes which are directed toward different goals, which offer different incentives to engage in them, and which are utilisable in different careers which demand different competencies and offer different patterns of satisfaction. Thus, even though there is considerable scope for pursuing neglected, but widely shared goals, it is necessary to do more than work toward the shared goals. It is necessary to devise educational programmes which are much more diversified in their objectives and incentives than can possibly be provided through any form of setting and streaming, no matter how complex. In addition, the evidence suggests that individualised, community-oriented, project based teaching methods are badly needed.

Disenchanted Pupils.

We have repeatedly stressed the need for teachers to take account of their pupils' backgrounds (educational and social), parents' values and wishes, pupils' own acquired attitudes, values, and knowledge, and pupils' future needs as far as these can be ascertained from analyses of the society and sub-section of society they are likely to enter.

It is particularly important to emphasise this last point. One of the major factors which will influence pupils' level of enthusiasm for educational tasks is whether they think that what they are doing there will be useful to them and to the community in which they are going to live in the future.

If we wish to understand the problem of disenchantment with school it is necessary to distinguish between, on the one hand, the reasons which lead pupils to go to school and the reasons they have for being enthusiastic about, or bored with, what goes on once they get there, and, on the other hand, between what teachers *intend* pupils to learn, and what they *actually* learn.

To illustrate these distinctions let us consider a society in which jobs are scarce and in which entry to those jobs, which provide the only satisfactory source of a livelihood in the society, is dependent, to a large extent, on the candidate's performance in school examinations. Under these circumstances, one would expect many children to wish to go to school, to try to stay at school as long as possible in order to obtain the highest academic awards, and to be keen to get the 'necessary qualifications'. However, one would also expect that there would be many attempts to beat the system: to find ways of getting high grades without having to acquire the knowledge and skills to the acquisition of which these grades were intended to testify. Pupils who learned to do this successfully would also learn how to make false claims about their abilities without embarrassment. Some pupils would learn that 'ability' conspicuously did not mean 'ability to do a job' (as is usually implied when the word 'ability' is used) but 'ability to beat the evaluation system, and make a good impression on one's superiors'. From the discrepancy between the reasons given by teachers to justify their role and function in society and pupils' first-hand knowledge of their own reasons for being at school, some pupils would learn to be cynical of the motives of others. Some pupils would learn to see, and to say, the "right" things rather than to make their own observations and fearlessly report what they observed. Pupils would learn to do all these things even though the society in which they lived actually urgently needed people who were prepared to make their own observations about important problems and take it on themselves to do something about them. Other pupils would be disgusted by the school system and the hypocritical society which gave birth to it. They would begin to wonder whether there was any possibility of making the contribution to society which they would like to make when they were surrounded by people who were conspicuously dedicated to feathering their own nests and only concerned with appearances instead of with the contribution they actually made to society. Such pupils would start to wonder whether they should not join the group they despised, rather than try to beat the system. They might well end up despising themselves for doing so. Still others would — mentally or physically — drop out of the school system altogether. They would develop negative self-images and negative feelings about those members of society who had been able to manipulate the system in their own interests. They would be inclined to view the world as a place where their abilities — which they would scarcely believe to be abilities anyway — were not wanted. They would be very unwilling to re-enter the educational system later in life in order to acquire skills they needed to acquire. This would be motivated in part by their feeling that they lacked educational ability and partly by the fact that they

had learned that educationalists' claims that they would profit from enrolling in educational tasks were likely to be bogus. Such pupils would be very unwilling to believe that the people who got into influential positions in their society were interested in the good of society as a whole. Rather they would feel that they got into those positions because of an overwhelming desire to look after their own interests.

Similarly, if pupils can see that the social system is such that they are never going to have an opportunity to put what they are being taught to use — in other words that they will be channelled into jobs where they will not be able to use what they have learned — even though the society in which they live may really have a great need for the knowledge, skills and attitudes that their teachers are trying to teach them — they are unlikely to participate enthusiastically in school tasks.

Many of the expectations derived from the theoretical model outlined above are confirmed empirically. If anything is to be done about the problem of disenchantment with school it is therefore necessary, first, to give pupils credit — or black marks — for what they have *actually* learned, as distinct from what their grades would lead one to suppose they had learned. It is necessary to give pupils credit for developing socially useful competencies, and for schools to concentrate on fostering competencies which really will be useful to the pupils concerned.

One urgent priority in educational research is, therefore, to assess the real needs of pupils who are bound for different sectors of society. Such an assertion gives rise to doubts in the minds of many teachers for they fear that it will lead to a perpetuation of the *status quo*. It is therefore important to emphasise that such assessments of pupils' needs must include a major component of empirically-based social forecasting. Such assessments must include assessments of how pupils' needs are going to change in the future. It is not suggested that schools should try to foster the necessary competencies long before they are needed. To do so would be to perpetuate one of the gravest errors of the educational system we have become used to. As the work of Carroll (1975) shows, not only do un-utilized competencies rapidly atrophy, the inability to use them brings disillusionment in its train. No, what is needed is an assessment of the skills pupils will require to cope with the changes which are envisaged, and this will probably involve the ability to acquire new skills as, and when, these are needed. The competencies to be fostered may, therefore, include the ability to learn without instruction, the tendency and the ability to continuously up-date one's store of knowledge (rather than wait until it is far out of date and then seek year-long courses which, it is hoped, will teach one everything one needs to know), and the willingness and the ability to introduce changes into the social system so that it is more suited to human needs. These are all competencies which the model outlined a few paragraphs earlier would predict that pupils will be particularly unlikely to develop at the present time.

If we are interested in explaining, and, in particular, if we are interested in doing something about, disenchantment with school, therefore, we need to assess what competencies pupils will have to exercise in the relatively near future if they are to achieve more distant goals; we need to assess what pupils have *actually* learned at school, uncomfortable though this may make us; we need to assess what opportunities pupils will have to give expression to the values they have, wittingly or unwittingly, learned at school, we need to assess what opportunities they will have to use the knowledge and skills they have learned; and we need to find out how pupils perceive the situation, the system, and the value of what they have learned.

As we have already reported we have collected some data on pupils' per-

ceptions in Ireland. It turns out that pupils' level of dissatisfaction with schools as they are currently organised is, indeed, related to the social status of the jobs they expect to enter, and very little related to their background or I.Q. It is therefore not true — as many would have us believe — either that dissatisfaction with school arises from a clash of culture between the home and the school or from an inability to cope with academic tasks. It arises from an inability to see the relevance of what one is doing at school to one's future life. Likewise pupils' felt needs from education were much more closely related to their aspirations than to their backgrounds.

It may be thought that pupils' occupational aspirations are unstable and therefore not an appropriate basis on which to design educational programmes. But it seems that, while pupils sometimes change the specific job they hope to enter, the level and nature of that job does not change all that much.

These data therefore support our contention that if we are to do anything about the problem of disenchantment with school we need to assess the educational needs of different sub-groups of pupils. To be useful, studies of pupils' needs must not focus solely on pupils' needs for low level abilities like the ability to read, but must include in their remit instructions which will enable pupils' needs for fairly general, but high level, behaviour tendencies to be documented: while it may be true that the qualities currently required to perform a particular job well may be very specific — such as the ability to spell or to lay bricks particularly well — these abilities may fall into a much less prominent position if one examines, not only the particular job, but also the overall functioning of the organisation in which the individual works, and the society in which he lives. When one examines the qualities he will need to possess if he is to function well as a member of the *total* organisation one may find that his ability to work with others, his ability to learn without instruction, the strength of his spontaneous tendency to build up his own general understanding of what is going on, what is to be done, and his own part in achieving it, without continuous instruction and supervision, looms much larger in one's assessments than one might have expected.

It is necessary too to comment on the implications for occupational selection. While we would agree with those who emphasise that selectors should focus on characteristics which are really important in a particular job, and that other general (educational) qualifications which are not demonstrably correlated with performance in the job, should be excluded from consideration, we suggest that proper socio-technical assessments of the characteristics needed to perform the various jobs would demonstrate the importance of the high level values, skills, and proactive behaviour tendencies we have been discussing.

As we have seen, remarkably little has been done to discover what human-resource characteristics are required in different sub-sectors of society. And that even less has been done to gear educational programmes to such information as is available. Yet we did, in the Young School Leavers' enquiry (1968) study precisely these things in order that better educational programmes could be devised for pupils who tend to leave school at the first opportunity. Some of the results were summarised earlier. Here we may, so to speak, turn the results around in order to provide some of the specifications for an educational programme suited to this group of pupils. On the basis of the results of the Young School Leavers' enquiry, one would hypothesise that a suitable educational programme for pupils who intend to leave school at the earliest opportunity would be one which incorporates the following features, all of which are derived from the data collected.

The programme should involve the pupils in activities which do not necessitate their sitting at their desks all day. The activities should be relevant to the pupils' careers — careers such as selling, driving, running a home, maintaining cars, building, working in a factory, decorating, packing and store-keeping. They should be things at which individual pupils can display competence. These results suggest that educational programmes for this group should seek to foster decision-making ability, (and it should be noted that pupils specifically *wanted* to be able to make their own decisions), forecasting ability, the ability to work with others, the ability to communicate, to read, to record, to plan, to invent, and to describe. The programmes should seek to help the pupils to make the most of what they *can* do (rather than emphasise what they *cannot* do, as happens so often at school).

The programme should involve the pupils in real tasks (rather than in absorbing arid information); they should be treated as adults, and given individual responsibility (all of these things were felt by our ex-pupils to be distinguishing and desirable features of work). It should involve them in dealing with the institutions of the wider community, not just the schools. It should encourage group activity as much as individual activity, and it should induce the pupils to meet more people and different types of people. It should not require that pupils do that which they cannot do. The tasks should be varied and interesting and not keep the pupils in one place.

The Role of Parents in Pupil Motivation.

There is abundant evidence from the work of Fraser (1959), Coleman (1966), Peaker (1971, 1976), Davé (1968), Cullen (1969), Fitzgerald (1975), Walker (1976) and others, that pupils' school performance is related to their background and, in particular, to the activities which go on in their homes. There is also abundant evidence that the activities which go on in pupils' homes are related to the social status of their parents, and that many working class parents fail to provide even minimum levels of stimulation for their children's intellectual faculties. As a result, vast resources have been poured into educational enrichment programmes which have been notoriously unsuccessful. One study, (Emrick, J.A. *et. al.*, 1973) compared more than a score of such projects.

There are at least three observations to be made about the logic which has permeated this debate.

Firstly, although most parents (Morton-Williams, 1968, Plowden, 1966, Ward, 1968), now attach great importance to their children staying on at school for as long as possible, this fact may reflect, not an interest in the *content* of education, but a desire for the benefits which follow from it. They may not wish their children to become one of the people whom our society treats with the greatest disdain and disrespect. They may not wish them to be subjected to endless frustrations and humiliations in a jungle-like world. But they still may not wish their children to develop cold, calculated, planning skills. They may not wish them to be 'intellectual' and converse about abstract ideas which they themselves know nothing about. More important still, the fact that they fail to provide even minimal levels of intellectual stimulation for their children may be telling us, not so much that their own education has been 'faulty', as that only minimal levels of intellectual activity are required in the situations in which they find themselves.

If this were the case it would seem somehow unethical either to run enrichment programmes with their children or to encourage the parents to stimulate their children's intellectual faculties by substituting one sort of play for another. This new sort of play may teach the children values and behaviour patterns which might be

unsuited to leading their lives effectively in the sort of world they are going to encounter. As we have seen, those who are going to move out of those life styles may, relatively automatically, acquire the values appropriate to the life styles they are going to enter.

There are other considerations too. Not only might we be encouraging their children to develop inappropriate values and competencies, we might be guilty of encouraging our society to squander badly needed resources on the educational system when the real need was to reform our social structures so that fewer people were subjected to these humiliations and degradations. We would be guilty of protecting our own jobs and gaining our livelihood under false pretences. If it is argued that it would be altogether too difficult for us to set about introducing these other changes and that we had best stick to our last it may be pointed out that that argument only suggests that it is our own education — and not that of our 'working class' peers which is at fault. They may well be able to do the jobs which our society requires them to do with the education they already have. We may not.

If, on the other hand, we either value intellectual activity as an end in itself or value the potential contributions which people who currently make little use of what we, rather snobbishly, regard as 'intellectual activity' could make to our society if they exercised those 'intellectual faculties', our task would seem to be to run enrichment programmes for *adults*, not children. If we did this those adults would be expected to engage in such activities and communicate their enthusiasm for them to their children. We will return to this line of thought a little later.

The second problem with the logic of the argument briefly alluded to at the beginning of this section may be highlighted by re-stating the argument as follows: Pupils from some backgrounds on average do worse at school than pupils from other backgrounds: if we can enrich the environment of those pupils who come from 'deprived' backgrounds, they will do as well as the others. This argument overlooks an important fact: there is always more variation between the performance of different pupils from similar backgrounds than there is between the mean scores of pupils who come from different backgrounds. If, therefore, one can improve the scores of pupils from 'deprived' backgrounds beyond recognition through the use of intervention strategies, so, too, it must be possible to produce dramatic improvements in the mean scores of those who come from 'rich' backgrounds.

The third problem has to do with the nature of the data itself. Where high correlations are obtained between 'background' and performance, many of the 'background' measures turn out to be surrogates for the pupils' ability. One such 'background' variable is the parents' level of the aspiration for their children's education. Others turn out to be surrogates for the parents' ability. These are, in turn, likely to be second-order surrogates for the child's ability. An example of a variable of the second type is whether the mother goes about her housework in a systematic fashion. One interpretation of the correlation between pupils' performance at school and this variable is in terms of character-development through modelling. The other is in terms of genetics.

The author has in fact carried out a series of re-analyses of data collected by Fitzgerald (1975), who made use of Dave's (1963), 'home background' questionnaire. This instrument has produced the highest multiple correlations between home background and attainment of any reported in the literature. A path analysis was carried out using multiple regression techniques. 75% of the variance in English attainment scores was predictable from the best weighted combination of 'environmental' variables and 'Verbal Reasoning Ability' (VRQ), the effect of age being partialled out first.

If VRQ was entered last into the regression equation, 64% of the variance which was not attributable to age was 'explained' by environmental variables, leaving only 11% for VRQ. If, however, VRQ was entered immediately after age, it, alone, 'explained' 67% of the non age-attributable variance, leaving only 8% for the environment. It therefore seems that, because of the high levels of correlation between the "background" variables, it is not possible to decide whether VRQ or home background is responsible for the observed correlation between background and performance. Of course, VRQ could be another surrogate for home background. But, as has already been mentioned, 'home background' could also be viewed as a surrogate for VRQ.

We did not give up at this point. We had other attainment measures. It seemed reasonable to hypothesise that, since English is more likely to be learned at home than mathematics, English attainment should be more dependent on home background than should mathematics. To put it the other way round, more of the explained variance in mathematics should be dependent on VRQ. Furthermore, if environment is the basic variable giving rise to the observed correlations, more of the variance in English should be predictable from the variables which were measured.

It turned out that, as hypothesised, English attainment was more predictable than mathematics attainment. Only 5% of the variance in mathematics was predictable, age held constant. However the hypothesis that more of the variance in mathematics would be predictable from VRQ was not confirmed. Of the predictable variance in mathematics other than that due to age, 98% was predictable from environmental variables when VRQ was entered last, but when VRQ was forced first it alone accounted for 76% of the predictable, non age specific, variance. When the figures given in the last paragraph are re-calculated as percentages of the predictable variance the figures for English emerge as 85% and 91% respectively. Whichever way one looks at it *more* of the *explainable* variance (but less of the total variance) is predictable from the environment in the case of mathematics compared with English. The proportions of the variance which is open to interpretation on the basis of the investigator's preconceptions is, therefore, of the same order of magnitude in the two cases.

There was still another opportunity to examine the relative importance of environment and VRQ. The English total score was made up of seven sub-scores, among which were a 'word usage' sub-score and a 'spelling' sub-score. Word usage should obviously be more predictable from cultural background than spelling. When we attempted to test this hypothesis we found to our surprise that both were equally predictable and that the proportion of the variance attributable to either VRQ or environment as one chose was much the same in the two cases.

It was at this point that it occurred to me that some of the 'home background' variables could, very obviously, be *dependent on* the child's VRQ. The example of the parents' level of educational aspiration for the child has already been given.

A large correlation matrix was therefore computed to show the correlation of every 'home background' variable with every attainment sub-score. This matrix was then arranged by hand in such a way that the 'home background' variables were ordered from 'those very likely to be dependent on the child's VRQ' to 'those totally independent of the child's ability'. The attainment scores were arranged to run from 'those expected to be dependent on the environment' to 'those expected to be dependant on VRQ, assuming that this is inherited'.

As hypothesised, the correlations in general increased as one moved from attainment scores hypothesised to be dependent on the environment to those hypothesised to be dependent on VRQ. But, contrary to prediction, (a) all scores hypothesised to be more dependent on VRQ than environment were less predictable from VRQ too, and (b) the predictive power of the 'home background' variables did not fall evenly as one moved from 'those dependent on the child's VRQ' to 'those totally independent on the child's VRQ'.

On examining the 'home background' variables which had greater predictive power than we would have expected if they were regarded as surrogates for the child's VRQ, it became clear that some could possibly be regarded as surrogates for the parents' VRQ — and therefore surrogates twice removed for the child's VRQ. Whether the mother went about her housework systematically is an example of such a variable.

Finally we turned again to the once-more-re-ordered correlation matrix. We observed that, while the amount of variance predictable or predicted varied considerably from variable to variable, the *profile* of correlations, across both rows and columns, was remarkably stable. Some attainment scores were less predictable than others, but the independent variables which predicted them relatively well were the same as the variables which predicted much more predictable dependent variables well. Some independent variables predicted all attainment scores better than others, but *all* independent variables predicted some of the attainment variables well. We concluded, therefore, that, in spite of the fact that some of the dependant variables *ought* to be more dependent on the environment, and therefore more predictable from variables which were unarguably measures of the quality of the environment than were others, no clear evidence to support this hypothesis could be found. Likewise, although some of the variables should be less dependent on the environment and more dependent on VRQ, if they could not be predicted from the environment, they could not be predicted from VRQ either. Furthermore the best predictors were never unambiguous measures of the environment. What was more clear was that, if an independent variable could be construed as neither a measure of the child's VRQ nor that of his parents, it predicted *all* attainment scores less well.

What became absolutely clear, therefore, was that the data did not unambiguously support the case of either the environmentalists or those who maintain that such abilities are innate, *and that all previous studies which had concluded that the 'environment' was responsible for the lion's share of the variance in educational attainment were open to alternative interpretations*. If the matter is to be resolved it will be necessary to undertake experimental studies based on an interventionist strategy — and, as previously suggested, intervening in the same way in middle class and in working class households, or to develop measures of environmental processes which are less closely correlated with the child's or the parent's ability.

Ways of Involving Parents in Education.

While experimental studies designed to assess the effect of teaching parents alternative patterns of inter-acting with their children are desirable, it is more in keeping with the theme of this book to ask whether it would be possible to develop educational programmes which will be found more relevant and involving by those, from all social classes, who are turned off by current programmes of education. It seems to the author probable that educational programmes which appeal to children who are turned off by school would appeal to their parents too, and help

them to develop the skills needed to lead their lives more effectively. Yet the task of involving parents in educational processes is no easy task. The parents we are talking about are unlikely to become involved in parent-teacher associations, in direct-action programmes designed to improve the school buildings, or in their children's discovery-based learning. They will be precluded from such activities either by economic constraints or by the intense feelings of inferiority which illiterate adults display when dealing with educated people.

It seems that people are most likely to become involved in education if they can participate in the achievement of goals which are important to them but which necessitate the acquisition of some of the skills normally learned, or learnable, in educational settings. If this is indeed the case it suggests that one way of dealing with the problem of disadvantaged children would be to engage the parents in community-development programmes of the sort discussed earlier. Pre-school programmes should be replaced by adult-education programmes. If parents can be involved in programmes designed to help them improve their communities (and, lest there be any doubt about it, there is ample evidence (e.g. Frieden and Morris, 1968), that they *want* to improve their way of life and their communities) and resources made available to help them do it, it seems probable that such programmes would be effective. As parents develop higher levels of efficacy and the ability to talk to others, as they learn to work with others, and how to deal with bureaucrats and the social institutions of modern society; as they learn to select positive and important tasks on which to spend their energies, as they learn how to frame questions, as they learn how to persuade others and how to tolerate the frustrations which come from working on something socially important, as they improve their self-images, and come to recognise their own need to acquire basic literacy and inter-personal skills, so they will encourage their children to do the same.

Without programmes of this sort, it is difficult for schools to make contact with parents. It is even more difficult for schools to avoid such contact being damaging to those children who do not want their teachers to know what their parents are like or who do not want their parents to know about the impression which the school has of them.

In the Young School Leavers enquiry we found that 48% of the parents of 15-year old leavers had had no real talks with the head or any of the pupil's class teachers. The main reasons for the lack of visits by parents was that they delegated all responsibility for their children's education to the schools. They felt that there was nothing that they could do to assist in the process and saw no need to visit the school unless something was seriously wrong and they were called there by the staff. Often they felt that they would be interfering if they visited the school uninvited, and many mentioned that they felt awkward and ill-at-ease in a situation in which they were not familiar with the topics discussed: they themselves had nearly all left school at fourteen. However, parents were in general in favour of what was going on in the schools and the changes that had been introduced since they were there.

Teachers' Attitudes to Parents.

The teachers were very much in favour of having talks with those parents who were less interested in education. However, as Young and McGreeney (1968) point out, this is rather like being in favour of goodness. When one discusses the *method* of involvement, disagreement occurs, and many teachers at this point reveal ambivalent, if not hostile attitudes toward parents. From the data collected by both Young and McGreeney and the author it seems that if teachers want to see parents it is mainly in order to tell them what they are doing, justify their activities,

and explain their difficulties. They are rarely anxious to work with them as partners in a joint enterprise which takes account of the parents' views as well as their own or in which they build on the parents' knowledge of the child's interests, talents, abilities and needs. This attitude is reflected in a widespread opposition, in England, to parent-teacher associations. According to Young and McGreeney (1968), this distrust of parent-teacher associations, and the rejection of partnership in education, is confined to the British Isles. Such attitudes are not found in France, Russia, or the United States of America, where education is regarded as a partnership, and where parent-teacher associations function effectively without resulting in parents dictating to teachers.

Young and McGreeney record that young teachers were particularly unsure of their ability to handle parents. Our Irish data likewise illustrates teachers' feelings of insecurity in relation to parents and their worries about being dictated to, and, it, too, shows that these fears and anxieties are more common among younger teachers and among those who have had less contact with adults. It also illustrates the teachers' perception of the parents' lack of understanding, and their own feelings of inability to do anything about it. The question we asked read: "It has been said that the only way to involve parents in modern education is to have them attend classes at school. Would you be happy to have parents attend your classes?" The question was worded in this way because previous research had already shown the futility of other methods of contacting disinterested parents, and only 6 per cent of the British teachers who were concerned to bring parents of the less interested pupils into the schools felt that PTA's would be a successful means of making contact with them.

60% of the teachers said they would not be willing to have parents attend their classes. Among the disadvantages which teachers saw in having parents attend school classes were the following:

"Parents would not understand what was going on at all — especially in my subject — shorthand and typing".

"Parents don't understand educational problems. I don't think it would solve anything".

"Parents don't understand educational methods. They do not like to see others disciplining their own children".

"Ruin discipline, make for bad feeling between parents, some children would shine and others would be hopeless as happens in ordinary classes every day. Teachers understand this but it is doubtful if parents would".

"Too artificial for the pupils. Parents unnecessary".

"Make me nervous and I feel I wouldn't teach so well. They would probably be critical or biased".

"Complete disruption of classes, embarrassing for the teacher and the pupils alike. Arguments about methods etc. To set up parents as school inspectors is highly undesirable".

"Opinion of parents may not be sufficiently informed to give an unbiased opinion and could have an upsetting effect on teachers and pupils".

"I would expect irrational behaviour from some of them which would upset the whole purpose".

"Parents in no position to decide whether educational methods used are the most suitable".

"Parents might dictate to the teacher".

When the material was classified and a quantitative analysis carried out, it transpired that the most common reason teachers gave for not wishing to have parents attend their classes was the feeling of inability to cope with them, a feeling of insecurity which seemed to be fueled by their own doubts about the value of what they were doing.

The reasons given by those who favoured having parents attend their classes are also revealing. As previously mentioned, teachers who wished parents to attend their classes wanted them to do so in order that they might convince them that they were doing the best job possible under difficult circumstances. Very few remarked on the opportunity that such a situation would provide to team up with parents and understand their concerns in such a way as to make it possible to establish joint educational programmes and inter-related activities. Still less did they regard such contacts as an opportunity to glean expert knowledge from the parents on the pupils' interests so that they would be able to individualise their instruction more effectively and help pupils to develop important competencies in pursuit of goals they valued. Nor did their comments suggest that they had moved from an individualistic model of pupil performance and educational objectives (in which what a pupil does is viewed as being almost entirely dependent on his own abilities and characteristics, and the educational task conceived of as being solely concerned with influencing the individual in isolation) towards the sort of model of performance developed in this book (in which what a person does and learns is seen to be dependent as much on the situation in which he finds himself as on his personal qualities and in which the educational task is therefore necessarily conceived of as being concerned with community development).

Whether teachers were for or against having parents attend their classes, therefore, it seems that they think of them as a threat to be 'dealt with' or 'handled', not as people who could help them with a difficult task, experts who have considerable insight into their children's interests, abilities, and learning difficulties, a group with a legitimate interest in defining the goals of education, a group who have a major impact on their pupils' educational performance and who must therefore be influenced if that performance is to be improved, or as a group which badly needs help to develop important skills and attitudes which teachers could help them to develop.

Parents, Teachers, and Disadvantage: Conclusion.

The material we have reviewed suggests that, while the majority of teachers perceive the problem of parents as being that of convincing them of the value of what they are doing, the real problem is to broaden out the range of activities undertaken by schools. The material suggests that, if teachers wish to help the disadvantaged, if they wish to help those pupils who become disenchanted with school, they will have to become much more amenable to meeting these pupils and their parents — particularly in their home and work environments, more open to suggestions that they may not be meeting such pupils' real needs, and more willing to think about tailoring their offerings to these newly recognized needs than to their own store of accumulated academic wisdom. They may need to develop new

courses geared to previously unrecognised needs. They may need to utilise many more of the most recent innovations in educational practices and procedures, particularly those which take them far outside the schoolroom. And they may need to be more willing to recognise that what a pupil learns, and how he performs, is a product of a total social situation (and not an individualistic matter) with the corollary that effective education means tackling that total situation.

No doubt in-service courses for teachers would help them to broaden their sights and to undertake new activities. But, perhaps more important, is organisational development in educational settings so that teachers are encouraged to branch out into new areas and supported and encouraged when they encounter difficulties.

It is probable that, if they are to undertake such activities effectively, teachers would benefit from becoming involved in the sorts of educational activity which we have recommended for pupils. Teachers would themselves benefit from participation in educational programmes which enabled them to develop more effective strategies for relating to others, both parents and pupils. Teachers would themselves benefit from opportunities to clarify their goals in education and from involvement as partners in the challenging task of inventing new methods to achieve their goals. Teachers would themselves benefit from participation in the real tasks of the community instead of conveying arid information to listless pupils. They would themselves benefit from involvement in research and development.

But it is also probably true that, much more important than the skills developed through participation in such educational exercises, would be the effect that legitimising such activity would have on the teaching profession as a whole. It would allow teachers to focus on new goals and enable them to work toward them in a way which would engross more pupils and parents in activities which are important to them and enable them to accomplish them effectively. Above all it would attract into the teaching profession the innovative, enthusiastic, socially-concerned individual who would provide a more appropriate role model for some pupils than do most teachers at the present time.

Summary.

The general discussion of motivation in chapter XXII suggested that there were a large number of options open to teachers who wished to increase levels of involvement in classroom activities. The present chapter has broadened the base of this discussion by further emphasising the wide number of educational outcomes toward which teachers could direct their attention. Not only would it be desirable for society to have a wider range of ex-pupils equipped with different competencies, knowledge, and attitudes, emerging from school, one would expect much higher levels of involvement in school activities to result from the more widespread feelings of mastery and competence. Society could make considerable use of better communicators, decision-makers, forecasters, observers of social structures, co-ordinators, and inventors. And these competencies are not all located in the same individuals. Their utilization is contingent on schools recognising the value of fostering a range of different sorts of individual.

The approach which we have suggested in relation to disenchanted pupils builds on this. In all probability their needs are *not* catered for at present. If more is to be done to meet their real needs, it will be necessary to have many more studies of the opportunities that exist to use various competencies in different sectors of society, and of the values, skills, and attitudes needed to function effectively in those sectors of society. Furthermore, if one is to provide a supportive social climate for these new kinds of educational performance in disadvantaged areas, it

will be necessary to work also with parents in order to demonstrate to them that the learning experiences being offered to their children are in fact relevant. This can probably be most satisfactorily provided through community development programmes of the sort discussed earlier. The consequences of such programmes would be that home environments would not only be more supportive; they would also be less torn by economic problems. It appears that, at present, such parents make little contact with the schools, partly because of their own feelings of inferiority, and partly as a result of teachers' attitudes toward them. There is an urgent need for educators to think of themselves less often as 'teachers' and more often as co-ordinators and facilitators of community-based learning. As we saw in Part II, many teachers will find it hard to make the transition while remaining intellectually convinced of its desirability.

PART VIII

SOME POSSIBLE INNOVATIONS IN EDUCATION.

Chapter XXVI

INNOVATIONS IN EDUCATIONAL PRACTICES AND PROCEDURES

In this penultimate section of our book we will attempt to utilise the data presented in the earlier sections as a basis for educational innovation. In Part II we reviewed a number of controversies in education and a number of innovations which could be geared to a variety of objectives which go beyond those with which teachers have been most concerned for the last quarter of a century. In Part III we discussed teachers', pupils' and parents' perceptions of educational objectives and saw that many teachers, pupils and parents placed a great deal of stress on the general, non subject-specific, goals of education. In particular they wished to foster a large number of pro-active, self-motivated, characteristics instead of concentrating so heavily on the knowledge of content which is required to gain examination certificates.

In Part V we saw that the *amount* of education an individual received had important social consequences, but that *quality* of educational award had few correlates. Elsewhere we summarised research dealing with the distinctive personalities and pattern of upbringing of people who make significant contributions to the development of society, and summarised the research that has been undertaken into motivation with a view to discerning ways in which traditional and new educational goals could be more effectively achieved.

These points may now be restated in order to sharpen their practical implications. Parents, teachers, and pupils *want* educators to spend more time on character development. The qualities being strived for in traditional academic courses, and measured in traditional examinations, are irrelevant to the pupils' lives, but enhancing their self-esteem, improving their self-images, and improving their levels of efficacy, are relevant if one is interested in helping pupils to develop qualities which they will find useful in later life.

Traditional methods of education are probably damaging so far as levels of creativity, innovativeness, social skills, and *need* achievement are concerned. So too, probably, are the role models which teachers currently provide for pupils. Finally teachers could probably do a great deal more to gear their courses, even traditional ones, to pupils' values and interests and to make use of the extrinsic motivators which appeal to them.

Suppose we now take a rather bold leap forward. What changes are needed in educational structures if more attention is to be paid to the educational objectives which we have emphasised so often in the course of this book? What changes need to be made in the practices and procedures adopted in educational institutions if more attention is to be paid to them? How can our knowledge of motivation be more effectively utilised to attain *all* educational goals more effectively?

Our chapter is divided into two parts. In the first half we discuss system-wide or inter-disciplinary changes which might profitably be introduced into schools. In the second half we discuss changes which might be introduced into subjects as they are currently organised.

SYSTEM-WIDE CHANGES.

Perhaps the most badly needed change is in the examination and evaluation system. We will focus centrally on the changes needed in examinations in the next

chapter. In this chapter we will deal first with other system-wide changes that may be needed if the most important goals of education are to be achieved more effectively, and then move on to indicate some changes which might be introduced into teaching methods. The ideas on curriculum development discussed in Part II will not be repeated, so the reader may care to reread that part of the book at this point. Many of the most worthwhile developments in education were briefly reviewed there, and the reader may well now view the topics discussed from a new perspective.

Syllabuses and Examinations must focus on Competencies instead of Content.

Although the whole of the next chapter will be devoted to a discussion of changes which could with advantage be introduced into examination and evaluation systems, it is necessary to say something about these topics here since one of the most important general developments needed in education is to move from specifying and evaluating educational goals in terms of material to be learned, or content to be mastered, by pupils, to specifying them in terms of competencies to be developed by them. Although this is an extension of the move to specify educational objectives in behavioural terms — that is, in terms of what the *student* will be able to *do* after taking the course — instead of in terms of what the *teacher* will do or the ground to be covered, the implications are very different. If we are to specify the *competencies* to be developed, it follows from what we have seen in earlier sections of this book that we will have to be able to specify the changes in *motivation* which are to be induced, that is, we will have to be able to specify the patterns of thinking, feeling, and behaving that are to be fostered, and, in our evaluation exercises, it is on whether or not we have succeeded in fostering these self-motivated competencies that we will have to focus.

Attention should be drawn to the size of the gap which separates our present position from this position. At the present time educational objectives are often specified, not even in terms of *pupil* characteristics, but in terms of *teacher* behaviour. For example it is not uncommon to come across objectives like 'expose pupils to a wide variety of literature'. Although this *can* be a useful way in which to achieve a wide variety of goals, the way in which it is phrased may lead the teachers involved to adopt very traditional teaching styles. Such teaching style would not enable them to achieve the intended goals, which may have included such things as the desire to lead the pupils to develop the spontaneous tendency to:

- be receptive to new ideas, rather than reject them out of hand because they are so different from anything with which they are familiar.
- seek out relevant ideas, absorb them and utilise them.
- understand a wide variety of ways of thinking, feeling and behaving, and use this understanding to improve their relationships with others.
- seek out effective techniques for communicating ideas, and monitor their effectiveness as a means of reaching the audience that it is important they should reach (which is probably not the teacher).
- ask whether that which is being taught is really important and relevant to the achievement of their own goals. (If it is not then the pupils should discard it, for, contrary to the argument of many educationalists in the past, it will almost certainly *not* be relevant to their future goals).
- clarify their own goals as a result of exploring the personal and social consequences of pursuing a variety of alternative goals.

If the goals are stated in this way, it is much easier to see that traditional 'literature' teaching would be totally inadequate to reach them, and it is also much easier to invent and adapt additional methods in order to reach them more effectively.

Attention may also be drawn to a few of the implications of what has just been said for evaluation. If these *are* the qualities one is seeking to foster it becomes necessary to ask: Do pupils habitually tend to:

- seek out, and strive to move into, a situation from which they will be able to do most to achieve the goals they most value for themselves and for the society in which they live?
 - consider their goals and whether their present activities lead them toward them?
 - behave in such a way that any group of which they are a member will function effectively to achieve its goals?
 - seek to understand other people's concerns and values, show consideration for them, and work effectively with them so that all attain their various goals?
 - seek feed-back concerning the effectiveness of what they are doing from the 'clients' of their activities, and not just from their bosses, teachers, or others on whom they are personally dependent?
 - consider the long term social implications of their actions and act responsibly to optimise the probable future benefits to society?
 - use the information and materials available to them in order to *be* competent?
 - behave creatively: spot new problems, bring to bear existing knowledge, seek out new knowledge, and master new knowledge and techniques in order to deal with them?
 - work for long spells at difficult tasks in order to achieve important results?
- and
- feel able to master *new* problems: feel, and be, able to think things out for themselves if they cannot get expert advice, feel competent to take corrective action, and able to acquire new expertise when necessary.

Organisation of Education

If one is to direct attention toward goals of this sort and to teach toward different goals with different pupils, basic changes are needed in educational structures. It is necessary to make new arrangements such that people can, at any time in their lives, obtain short, specialised, courses to acquaint them with the information they require to perform particular jobs. The provision of a much more flexible and modularised system of education would relieve schools of the burden of trying to communicate to their pupils all the knowledge that they may one day require. This in turn would leave them free to concentrate on general education.

In achieving the goals of general education teachers will have to adopt a new role. While their subject speciality will be of some value, it is impossible to believe

that any school, however large, could have on its staff the range of subject specialists with up-to-date knowledge of all the possible branches of specialist knowledge which pupils might require. To pursue these specialities pupils must be encouraged to develop the skills needed to learn on their own, to find necessary information for themselves. They must be encouraged to develop the habit of continuously developing themselves and updating their knowledge. They must be encouraged, not only to develop efficient strategies for tracking down relevant literature and writing to relevant experts, they must also be encouraged to enrol in short specialised courses on particular topics geared to their needs. Some of these will, of course, be organised by the teachers of their own school (although they will not only be addressed to pupils from that school). But most won't be. The pupils will have to travel.

Teachers will, therefore, on the one hand have to develop a unique speciality, unique not merely in their own school but also in the wider community. On the other hand they will have to become much more involved in helping pupils to develop the competencies which we have so often stressed in this book. The two are not unrelated, however, for a teacher who is intent on being an up-to-date specialist in a particular aspect of a rapidly changing field portrays a much more appropriate role model for most pupils than teachers who merely regurgitate out-of-date knowledge learned when they were at college. But, in general, in such a framework, teachers would be expected to make much more use of their professional knowledge of personal development, their *educational expertise*, than they do at present: they would make much less use of their somewhat dated knowledge of a specialist 'subject'. In other words they would have to make much more use of theoretically based educational procedures — project work, group work, team teaching, educational games and simulations, and experience-based learning. And just as their specialist lectures and tutorials could most profitably be open to anyone, of whatever age, who was interested in the topic, so, too, it would not be desirable from them to confine their general education activities to groups of students who were all of the same age.

The very notion of such a radical change in roles, is, of course, threatening to many teachers. Even though such a change would present them with an opportunity to work toward the goals they have always thought should be at the heart of their educational activities, it must be recognised that they would have to learn new skills. These new skills are not confined to a knowledge of how to foster the competencies which everyone connected with education believes to be so important, but also how to establish new patterns of relationship with pupils and peers, how to adopt new styles of management, and how to handle a markedly different set of personal relationships in which they experience the pains of learning and developing as acutely as do their pupils and students and in which control of the traditional rewards and sanctions is no longer open to them. Acutely threatening though such a conception is, I am not at all sure that the means to be adopted to reduce the anxiety is to provide teachers with an extensive series of in-service training courses. *Of course* in-service courses are needed. But among the key qualities which we want pupils to develop are qualities like the ability to make their own observations and develop *themselves* (without sitting down at every obstacle and calling for an 'expert' to tell them how to get over the obstacle), the ability to think about human situations and to handle them, the ability to initiate new developments, monitor their effects, and take corrective action when necessary. It would be highly beneficial to pupils to be exposed to role models who were actively engaged in such activities, and it would be highly beneficial to them to be involved with their teachers in collaborative efforts which were designed to ensure that such a new programme of education would work. If teachers come to rely too heavily on 'experts' who will come and tell them how to organise such activities

they will be behaving in ways which are incompatible with their achievement of their own most important goals.

In such a re-structured educational environment, pupils would learn principally through studying topics with a view to making a real contribution to the development of knowledge, their society, or their personalities. Students would be encouraged to consider and to plan for their future much more carefully than they do at present. If it could be shown that at some relatively specific time in the future it would be to their advantage to be familiar with the detailed content of some discipline, such as the Russian language, and that the importance of acquiring this knowledge and these specific skills outweighed the predicted importance and interest of doing other things, then they might be encouraged, probably as part of a group, to learn either written, spoken or scientific Russian through an appropriate training programme, which would probably involve programmed instruction itself designed to make use of what is known about motivation. However, even vocational education packages should be evaluated and planned much more from the point of view of the balance of attitudinal and behavioural skills that they would produce than they are at present. The skills to be considered would include such things as critical thinking, ability to communicate, ability to manipulate ideas, self-confidence, ability to locate and use reference sources, and the exposure to other values and thought-ways with a view to generating openness to new ideas, tolerance of, and ability to work with, people with other values, and the tendency to clarify one's own values and the consequences of pursuing alternative life goals.

Experience-Based Learning.

As we have seen, achievement of most of the educational goals we have discussed in this book, which can be appropriately described as the second 3 R's of education, requires a major change in the emphasis in education. Their achievement requires that educationalists focus on competencies to be developed rather than content to be mastered. Their achievement requires that we spell out the goals which are to be achieved much more fully and convince our teachers that knowledge of subject matter is only a small part of education; that broad knowledgeability has almost no place in education: students forget most of what they have been taught after two years and the specialist knowledge they acquire is rarely of use to them. Their achievement demands much wider recognition of the fact that students learn the most important things — i.e. develop important attitudes, styles of behaving and expectations of appropriate behaviour on their own part and on the part of others — from the human models to whom they are exposed (whether these models come in person or in the form of verbal descriptions), and from practising, thinking, feeling, and acting things out, rather than from being *told* what to think, feel or do. Their achievement implies recognition of the fact that the medium (the method) is the message.

Accordingly, education will have to provide many more learning experiences explicitly designed to achieve these goals.

The learning experiences which are required are opportunities for pupils to clarify their values and opportunities to develop the components of competence which were discussed in Chapter XXIV.

Value-Clarification Inputs.

Procedures to help pupils clarify their values may involve highlighting the consequences of pursuing different personal and end-state goals, consequences for both the individual concerned and for the society in which he lives, in different types of society or in different sub-sectors of society where different institutional

structures are present. If one had adequate anthropological, sociological, and social-psychological research reports, the long term consequences of pursuing different goals through different methods in different institutional structures could be documented. Students could be helped to absorb such research results by translating them into case history materials, role models, and educational 'games'.

Unfortunately most of the necessary research into the consequences of possessing different values and attitudes remains to be done, case history material still has to be collected, and demonstration exercises largely remain a thing of the future. It is, therefore, useful to consider the extent to which literature and history texts make certain values clear and portray their consequences in a helpful fashion.

History books may suggest that the important determinant of what happens in a society is only the personality of the people in power, who comes to power, and the battles that are fought. Few questions are raised about the importance of beliefs and attitudes widely shared in the society. These may have led to particular sorts of individuals being placed in positions of power and authority, or to their being able to wield their authority in particular ways. Questions might also be raised about the possible relevance of the values of the ordinary people, values and expectations widely shared in the population, which everyone in the society contributes to in a relatively inarticulate sort of way. Changes in these values and expectations may produce broad and continuing changes in society, changes over which great men and battles have relatively little influence. Such values and expectations may determine the general direction in which a society develops, a direction which great men can articulate and hasten, or retard, but not basically change.

As far as literature is concerned one may ask what are the dominant values of the different characters portrayed and seek to make the consequences of these values more explicit. One would wish to trace the consequences for the individuals themselves, for their families, for the institutions in which they work, and for the society in which they live. How many of the components of effective behaviour we have outlined do they portray? And what seem to be the consequences?

Fostering Competence.

Educational practices and procedures which might be expected to help students to develop the components of competence discussed in Chapter XXIV would involve:

- 1 *Providing pupils with the concepts required to think explicitly about the components of competence.* As we have seen, psychologists, educators, and those concerned with personnel selection and development have all neglected to analyse the components of competence and think about these characteristics explicitly. If professionals have themselves not been in the habit of using a differentiated terminology to discuss such qualities, students have had still less opportunity to analyse their own behaviour constructively in order to be able to isolate ways in which they might improve their performance in the future. They need to be helped to develop the habit of thinking about their own behaviour in terms like making plans to achieve their goals, anticipating obstacles to achieving them and finding ways of surmounting them, getting the help of others, regularly monitoring the effects of their actions and taking corrective action when necessary. They need to have an in-depth understanding of what these terms mean and what the consequences are.

To help them develop a thorough understanding of these constructs and

to relate that understanding to their own behaviour in ways in which can be used, rather than remaining something which is academic, in the sense of being divorced from their everyday lives, it might be useful to:

- (a) encourage them to analyse their own previous behaviour and its effectiveness in different situations in terms of these constructs, so that they develop the habit of relating the conceptual framework to themselves in a way which makes it meaningful from the point of view of organising their own lives and so that they can check from their own experience that such behaviours are effective in helping them to reach their goals.
 - (b) encourage them to think about the future, about their goals and how to achieve them, thereby demonstrating the relevance of the framework to achieving goals which are important to them.
 - (c) analyse case histories in order to develop a detailed and explicit understanding of the nature of each of the components of competence (rather than only a glib verbal familiarity with the words used to describe them) and in order to gain in-depth insights into the consequences which arose when people engaged in such behaviours.
 - (d) look at research results describing the antecedents and consequences of behaving in these ways in different social structures.
- 2 *Involving students in making explicit their expectations of the consequences of engaging in each of the types of behaviour which we have outlined.* Research carried out by the author, (Raven and Dolphin, 1976) shows that many people expect that many of the consequences of behaving in these ways will be anything but desirable. The expected consequences should be discussed under four heads: the personal consequences expected, the consequences for personal development in terms of helping them to become the sort of person they want to be, the consequences arising from the reactions of others, and the consequences which will be dependent on the organisational or institutional structures available.

Personal Consequences.

People often expect that the consequences of engaging in a particular pattern of behaviour will be unpleasant. For a start, they will not be able to undertake the activity successfully, and they certainly won't enjoy it. It will take up far more time than they have available and prevent them from achieving other life goals which are important to them (note the value conflict). It may be necessary to discuss such possible consequences at some length and to try to resolve the value conflicts which come to light.

Self-Image Consequences.

The thought of behaving in some of the ways discussed in our chapter on the components of competence makes many people uncomfortable. They feel it would be counter-productive in terms of their ability to live up to their expectations of themselves. To persuade others to help them, and particularly to be devious in order to do so, to be manipulative or aggressive would be to behave in ways which they despise. They do not wish to do any of these things. They might have to seek to influence their superiors, and they do not think it is any business of theirs to be telling their boss what to do. Such

conflicts between their ideal selves and the activities required if they are to reach their valued goals can represent serious barriers to any sort of activity. Clarification of priorities and acceptable routes to the goal may have a dramatic effect in releasing free energy for goal attainment.

Reference Groups' Reactions.

The expected reactions of others often represent major barriers to undertaking desired activities. Those in authority, whether they are teachers, parents, or the boss may be anything but grateful if one starts pointing out other activities which ought to be undertaken. The boss may perceive suggestions as personal criticisms rather than as ways of improving the performance of the organisation. One's fellow pupils or colleagues may think that one is getting above oneself and go out of their way to ensure that one does not reach one's goals.

Organisational Barriers.

Many people are unwilling to take on themselves responsibility for initiating activities which they believe ought to be undertaken because they can see no way in which the energies of others can be recruited to achieve the goal. The organisational structures and expectations are not such that they would release energy to pursue such a goal. Often it is impossible to achieve important personal goals because their achievement is dependent on prior changes in the community as a whole.

- 3 *Providing the pupils with appropriate role models.* The host of common negative expectations outlined in the last paragraph mean that it is of the utmost importance to present pupils with real-life models which either make it clear that their expectations are ill-founded, or which make clear ways of avoiding consequences which may realistically be expected if appropriate avoiding action is not taken. Effective behaviour in relation to non-leisure goals is something which is so theoretical, so far from the everyday experience, of most pupils that it is of the utmost importance to present pupils with role models clothed in real flesh and blood so that they can learn by imitation rather than precept. Teachers and their habitual styles of behaviour are particularly important in this respect. If pupils see their teachers as downtrodden, ineffectual individuals who complain that they are unable to do anything because of 'the system' in which they find themselves (that is to say because of the Department of Education), one can expect their pupils to behave in exactly the same way. If one hears teenagers saying that the only thing that will do any good is a revolution which will change the system, one may guess where they — at least in part — learned it.
- 4 *Providing pupils with opportunities to practice the components of competence so that they become well-formed and well-tried habits.* There are a number of aspects to which attention should particularly be drawn:
 - (i) If pupils are to practice generating the activities for themselves, then at least some of their learning must take place through performing activities in relation to goals which are important to them. One cannot expect pupils to learn to trigger off such activities, to want to engage in them, and to tolerate the consequent frustrations long enough to experience the satisfactions which follow, if they do not value the goal they are trying to achieve.

We have already presented material on the pupils' values — on the goals toward which they could be expected to work — and this material should obviously be used extensively when trying to design appropriate educational programmes.

- (ii) The learning experiences should involve educational games and role-play sessions which enable pupils to develop higher levels of these characteristics, to try out and practice new ways of behaving, to check out for themselves verbal statements that the behaviour is effective or enjoyable, and to experience the satisfactions which follow. They will then *know*, from first-hand experience, that the information they have been given is true, and will therefore not be inclined to believe those who try to pour scorn on them and tell them that these things do not work in the way in which they are supposed to work, they will *know* from first-hand experience what it feels like to behave in a certain way, that they *can* behave in that way, and what the consequences are.

As we said earlier, it is particularly important that these learning situations involve group as well as individual activities so that interpersonal competencies can be tried out and developed.

It is important that the learning situations created to help pupils practice and develop these competencies be non-threatening. In real life a mistake often brings severe punishments, not of the sort inflicted by teachers for transgressions of rules, but much more seriously, punishments arising from exploitative or derisory reactions of others. The object of educational tasks must be to ensure that mistakes in the performance of a new role are *not* punished in this way, so that the individual will feel free to try out new ways of behaving.

This is particularly true of interpersonal competencies; a mistake in the performance of a new social role in real life courts embarrassment, ridicule, and disaster. New ways of relating to others must therefore be practiced in non-threatening situations until they become strong enough to be used in the real world.

- (iii) The learning experiences must permit each individual pupil to experience the satisfactions which follow; the teacher's task becomes, not to reward even processes (such as trying hard) rather than result (the right answer), but to structure individual sequences of learning experiences for pupils so that they experience the intrinsic satisfactions which follow, intrinsic rewards which they will continue to obtain when the teacher is no longer present to reward them. In this context it is important to provide a conceptual framework which will enable pupils to think about the consequences of their behaviour in a differentiated manner, thereby enabling them to experience the immediate satisfactions which come from seeing their actions having an identifiable effect.
- (iv) If pupils are to develop interpersonal competencies, they will need to gain insight into the way in which other people think and feel and the constraints under which they work: once again, role-playing exercises will help to develop this tendency, even if they themselves do not adopt into their own behavioural repertoire features of the role they play.
- (v) Not merely is it desirable for pupils to engage in these activities and experience the satisfactions for themselves, it is also desirable for them to explore the consequences of a variety of ways of behaving. As we have

seen, pupils often believe that if they are asked to take initiative, a number of consequences will follow. Thus they may feel that they will be unable to tackle the situation. Disaster will ensue: they will be exposed as incompetent fools; others will laugh at them, deride them and lose their respect for them; they will not be able to obtain all the information they need to take a good decision; things will happen which they did not envisage and which they will not be able to control; others will not help them with their task and they will be unable to get others on whom they are dependent to pull their weight; the whole exercise will be thoroughly shameful, frustrating, frightening and unpleasant experience.

If teachers develop proper sequences of learning experiences, they can ensure that pupils will discover that such misfortunes do not happen. The learning experiences can also be structured to help pupils to develop the competencies required to *ensure* that such calamities do not ensue. In order to develop these sequences of learning experiences teachers must branch out into new and uncertain areas where *they* will be uncertain of the consequences, and may have to take corrective action later. But one thing is certain: so long as pupils continue to believe that these things *will* follow, they cannot be expected to engage effectively in the behaviours in which it is important for them to engage.

Summary of methods of fostering competence.

In summary, then, two features of the required learning experiences are, first, that pupils be able to practice and develop the qualities which we have termed the components of competence through graded sequences of learning experience geared to goals which are important to them: if they do develop them in relation to those goals, they will later be able to generalise them to other objectives which they come to value; and, second, that teachers develop case-history material, role models, educational games, and role-play sessions which will enable pupils to understand the components of effective behaviour and practice that behaviour — particularly the interpersonal components — in relatively non-threatening situations.

More generally, if what we have said is true, our task is to create situations in which students are confronted with diverse role models and really encouraged to feel themselves into other ways of behaving. This involves providing opportunities for students to work with others towards the achievement of something worthwhile; it involves giving students the opportunity to behave irresponsibly — *and not withdrawing that opportunity if they do behave irresponsibly*. If one wishes to cultivate responsibility and decision-taking skills, one must structure educational situations in which responsibility and decision-taking skills can be exercised. One must give pupils real responsibility, real decisions to make, and real involvement in planning their courses and in running the world in which they live.

Nevertheless, the word 'educational' deserves emphasis. It is meant to imply that the situations which one structures should be real and important, but that the consequences of a wrong decision should not be irrevocable; the situations one structures should permit and encourage testing alternative ways of behaving; they should allow the pupil to see how others behave and assess the consequences; and they should be sufficiently simple to permit the students to analyse causes and consequences without too many extraneous variables cluttering up the field of discussion.

While the main objective of experience-based learning of this sort is to enable

pupils to learn, at affective and behavioural levels, instead of merely at an intellectual level (i.e. knowing what, or how, but being unable either to engage in the behaviour or to experience the feelings), it is nevertheless necessary, as we have said, for pupils to be provided with a vocabulary with which to think about these things; and it is even more important for educators to know explicitly what they are doing and why they are doing it. It may seem odd to stress this last point, but new techniques, which are implemented in the belief that people will 'learn something about themselves' through engaging in them, are springing up in profusion, even though those who advocate and practice them cannot specify *what* it is that the students are expected to learn.

Counselling.

Education of the type envisaged earlier in this chapter involves making much more use of counselling. If it is clear that a particular student would benefit from a certain type of experience which he would not automatically acquire, then the counsellor would try first to draw this to the student's attention, and would mention the benefits that would follow. If this failed, however, it might be necessary to examine the student's motivations and discover how best to manoeuvre the student into acquiring the necessary experiences by using the theory outlined in Chapter XXIII. This is, of course, a highly dangerous operation, particularly if the student turned out not to be ready for the experience, and reacted to it as something of a trauma. But it is no more dangerous than confronting a slow learner with the task of learning to read against the threat of punishment from a teacher, the threat of ridicule from peers who had already learned to read, and competitive assessments which brand him as a failure for life.

Summary and Advantages.

A number of advantages emanate from reliance on a form of education which is based on:

- (a) Separating the acquisition of specialist knowledge, skills and attitudes from the general counselling and guidance functions of education.
- (b) Individualised, competency-centred, community-oriented, project-based educational programmes.
- (c) Designation of courses according to knowledge, skills, attitudes and competencies to be acquired, rather than according to age grades.
- (d) Explicit consideration of the need to foster value-efficacy characteristics.
- (e) Recognition of the need to impart very detailed specialised knowledge of relevance to the specific needs of a particular student, but in association with a changed educational structure which would admit students at whatever time in their lives that they came to require specialist information and which promoted the development of *generally* utilisable competencies (such as the ability to quickly and continuously up-date an area of specialist knowledge).

Among these advantages are the following:

- (a) The mixture of ages would help to ensure that learning took place in a mature atmosphere which also reflected commitment to hard work and achievement. The older students would also be in a better position to ensure that irrelevant material was removed from the course. They

would be able to bring a wider range of experiences to bear in discussion. One result of this might be that younger students would be able to see that their older classmates found the material valuable, and, as a result, take it more seriously themselves.

- (b) The provision of specialised vocational training programmes available to students at any age would make it impossible for teachers and those concerned with certification and selection to demand that students take courses which are in fact irrelevant, or are even felt to be irrelevant, to their needs by using arguments like ‘the material may one day be of use to you’. This would make it possible to cut out a great deal of the dead wood which currently occupies so much time in secondary schools. It would also promote a healthy on-going discussion of the value of whatever was being provided and thus contribute to a continuing tendency to provide courses which are more relevant to the students’ needs. The pressures to tailor ‘general education’ programmes to the development of competencies which would enable students to contribute as they would like to the development of their societies or their professions, or which would lead to their personal growth as individuals, and a requirement that these programmes should be available to students at any time in their lives when they came to feel need for them, should lead to the development of much more relevant courses, to higher levels of innovation in course design, and to higher levels of motivation among those enrolled in any particular course.
- (c) The focus on competencies to be developed, and recognition of the importance of the value-affective component of those competencies, would lead to a greater willingness to discuss questions like ‘what will the student be able to do better as a result of taking this course, and how important is it that he should be able to do that well?’ As a result of asking this question, much better use should be made of the time available to educationalists, tailor-made instructional programmes should be provided more often, and both teachers and students would develop higher levels of enthusiasm and innovation.
- (d) The openness of both the vocational-training and general-education sections of the educational programme to anyone at any time in life would mean that the pressures on students to master any knowledge, skills, or attitudes which they might eventually need to acquire would be greatly reduced. By the same stroke we would have introduced changes which would result in the educational system becoming a great deal more efficient from two independent points of view – from the point of view of producing specialists who were well informed, provided with up-to-date knowledge and skills, and in the habit of continuously updating that knowledge and those skills, and from the point of view of producing generalists able to play a major part in the management and development of modern society.
- (e) We would be able to create an appropriate balance between centralised and de-centralised educational institutions. There seems little doubt that, for economic reasons, it will be necessary to centralise instruction in specialist knowledge, skills and competencies. Only thus can a wide variety of courses be provided, and only thus will we be able to produce students equipped with very different types of knowledge, skills, and attitudes. Only thus can we provide the wide variety of different types of course which will be necessary if we are to enable people *quickly* to change the configuration of their knowledge, skills and attitudes, as

their interests and the needs of society change. Only thus can we provide the large number of specialist departments which are necessary if we are to further knowledge in a wide variety of areas and enable people to obtain specialist skills and attitudes.

But the guidance and counselling aspect, and much of the basic character-development work, need not be centralised. Indeed it *must* not be centralised, but instead carried out in a setting in which the counsellor is fully familiar with the pupil's background, his talents and interests, his idiosyncratic problems, his parents and others who have a major influence on the impact that education will have on him. Furthermore, as we have seen, the achievement of many educational objectives, such as participation in a wide range of roles and settings, making contact with others from different backgrounds, and learning to work with others, can best be achieved through relatively small and intimate group work (though it is, of course, necessary to structure the social composition of these groups very carefully, and to ensure that pupils learn to cope with large and anonymous organisations). Likewise students' project work and their specialist courses would also be organised from local units.

- (f) The establishment of small local units, perhaps in converted private houses, which were not isolated, but unlike the schools of today, closely articulated with a much wider educational system would have another major advantage. It would permit the community to diffuse into the "classroom". This would permit educational institutions to become centres through which people participate to a greater extent in the creation of the sort of community in which they want to live. As such, educational centres would become centres through which people could study their own community and from which they could organise community development projects, which might entail co-ordinated study exercises and contacts outside the community, not only with 'experts' but also with influential personnel in the national and international social management system. Organised in this way local centres would not be merely places where people received wisdom from others, but would be places where they *contributed* a great deal to their own personal development, to the personal development of others, and to the development of their societies. People learn best when they see that they require certain knowledge, skills, attitudes, and competencies *in order to make a contribution* to the development of their communities, their society, to the development of knowledge, or to valued personal growth.

CHANGES WITHIN SUBJECTS

So far we have discussed some very broad changes which could be introduced into educational systems. Major developments could also be introduced within subjects as they are currently organised.

- (a) A variety of *different* teaching inputs, geared to different objectives, could be used by subject teachers. Thus, when the objective is to convey existing knowledge to pupils, one set of inputs could be used; when the objective is to develop attitudes and skills relevant to noticing problems, formulating questions, and collecting evidence, another type of classroom procedure could be used; a third set of procedures could be used when the objective is to encourage pupils to learn to work with others; and a fourth when the objective is to foster such qualities as self-confidence and the willingness to take initiative.

- (b) A great deal more could be made of both individual and group project work. Both of these could be structured to ensure that whatever pupils work on is relevant to their needs, differs from one pupil to another, and encourages them to acquire the three R's as well as specialist competencies. Group project work could be used to provide pupils with opportunities to learn how to work with others, to develop an understanding of the nature of psychological processes in others, and to come to understand the effect which their actions have on others.

To be effective, both types of project work depend on teachers making their objectives explicit and themselves understanding something of the psychology of individuals and groups. A number of objectives will now be listed, and a few of their implications discussed.

In order to be effective as a motivator, and in order to ensure that pupils acquire basic skills that it is indeed important that they acquire, project work must be carefully tailored to the pupil's interests, abilities and background. In order to do this, the teacher requires specialist knowledge and competencies in the fields of diagnosis of pupils' learning needs and learning difficulties, and in the prescription and design of relevant learning experiences. He also has to be able to assess the pupil's readiness for new experiences.

To be able to effectively assist pupils to develop the tendency to notice problems, formulate questions, and collect evidence, teachers who organise project work must be familiar with the ways people react when they are suddenly asked to show initiative, ask questions and seek out their own material. They must understand that most people already display these characteristics in some of their activities (those that are important to them) and that the problem is to help them to strengthen these tendencies and to transfer or generalise them to the achievement of other goals.

In order effectively to familiarise pupils with a variety of different points of view on controversial issues, it is important to prepare materials beforehand and for the teachers to present them in a way which does not indicate to the student that the teacher considers *one* point of view to be correct.

If a teacher is to help students to assess their own conduct critically, to encourage them to try out new ways of behaving, reflect on the implications of other people's behaviour and the feedback it implies, and to reflect on the general principles which govern the behaviour of people in groups, the teacher must himself understand the nature of group processes, the pressures which group members bring to bear on each other, and the behaviour of individuals in groups, and he must also be able to bring the pupils to experience a variety of feelings and to practice a number of very different styles of behaviour many of which will be unfamiliar to him. He will have to provide pupils with a vocabulary to use to think about such feelings and styles of behaviour, but, in providing pupils with the words needed to think about feelings and behaviour patterns, he will need to bear in mind that it is all too easy for pupils to learn jargon and to memorise sequences of words, without relating the intellectual knowledge to themselves in a way which enables them to fully understand its implications and behave more

effectively.

Put another way what we are saying is that the basic justification for experience-based learning, which makes use of role play sessions and psychological games, is that it is designed to help students to develop new expectancies and perceptions, new habits of paying attention to different things and thinking about and behaving in new ways. As such it is directed toward goals which are totally distinct from simply developing new intellectual ways of thinking about problems presented by a teacher.

- (c) In all subjects, teachers could ensure that they present their pupils with role models of effective, hard-working, intelligent, forthright, resourceful, respectful, and honest behaviour.
- (d) Teachers could take steps to work with individual pupils to set joint goals that would be challenging but realistic. In setting these goals the reference points used should be previous performance, rather than the performance of others. They could also make contracts with pupils, ensure that what they are teaching is relevant to the pupils' needs, take particular care to diagnose pupils' learning difficulties in ways which will help them to improve their performance, and provide pupils with the information they need to decide how effectively they are reaching their goals and why they are not reaching them more effectively. This feedback could with particular value encompass the development of generally valuable perceptions of social institutions and expectations of themselves and of others, as well as the attainment of more traditional academic goals.
- (e) Steps could be taken to organise project based study in all school subjects around socially important issues, so that the results could be brought to the attention of the government, local authority, relevant industrialists, headmaster, or community action group. If this were done pupils would both be more strongly motivated to engage in the work and, as a by-product of their subject-based learning, learn more about the way in which society works and the competencies needed to cope with it.

Specific Subjects.

Although what has been said applies to most subjects, the proposals have particular implications for specific subjects. Since the implications are least clear for mathematics, we shall devote most attention to this subject.

1. Mathematics.

In mathematics teaching, there is obviously a great deal of scope to make much more use of programmed instruction to teach essential techniques through mastery learning techniques; much more use could be made of 'goal setting' and of contract systems geared to the pupils' own interests (whether these be gambling, affiliation, or an opportunity to succeed in other subjects); more effort could be made to gear the learning of mathematical techniques to project work which is important and interesting to the pupil; more could be done to encourage positive attitudes towards the subject-matter; more could be done to indicate how, in later life, the student can make contact with further branches of mathematics which may be useful to him; and, as we saw in Chapter XXIII, more can be done to encourage mathematics students to develop the habit of setting realistic goals and

examining obstacles to improved performance.

But much more basic work is needed in relation to mathematics syllabii. Very few mathematics *teachers* seem to understand what mathematics is about. Many mathematics teachers, like many so-called science and humanities teachers, are "Nellies". Their method of teaching is the classical "Sitting by Nellie" method which has fallen into disrepute in industrial settings. They may know, intuitively, how to advance the frontiers of mathematics. But rarely have they made the essential features of their *method* explicit, and this, after all, is mainly what they should be teaching. Life is too short to communicate all possibly useful techniques, in all specialities, to all pupils, in the belief that some part of what is taught may one day turn out to be useful to them.

What is it about mathematics that should be communicated to all pupils?

First, there are a few mathematical techniques which will be of value to almost everyone: arithmetical ability, techniques of presenting and analysing data, histograms, graphs, and so on.

Secondly, it is essential that pupils learn:

- (a) Not to feel daunted when confronted by figures, charts, graphs, and numbers.
- (b) To be aware of the snares in drawing conclusions from apparently simple sets of numbers.

Thirdly, pupils should be aware of the general principles of summarising sets of descriptive data using appropriate algebraic equations, including the use of such relatively advanced techniques as regression equations and matrix algebra notations.

Fourthly, pupils should be aware of the function which mathematics plays in logic and in helping us to describe the world. If one thinks that one has grasped some principle, which one believes to be a useful description of some aspect of the world, but which is not directly verifiable by reference to the senses in the way in which the existence of, say, a clump of trees can be directly verified, one should try to derive a testable hypothesis from one's theory. It is very important that, if at all possible, an appropriate *mathematics* should be used to derive the testable proposition from one's theory because it is much less amenable to the sleight of hand which so often occurs in verbal reasoning. All too often in verbal reasoning one finds that words have been used in different senses at different stages in what appears to be a coherent, logical, deductive proof.

While this may seem obvious, it is fair to ask how many pupils, or university students, would be able to tell one that mathematics is an aid to accurate description and logic (not, let us note, an 'aid to the development of logical, critical, thinking' as is so often proposed). If teachers and university students are unable to give a coherent account of what they are about, are they likely to use the subject matter correctly, apply it to appropriate new situations, or develop appropriate attitudes towards it?

Given that it is an aid to description, and that training in mathematics does not, of itself, produce a logical mind in relation to issues and questions which have not been formulated in mathematical terms, what kinds of things are pupils likely to want to describe, how can one familiarise them with the *range* of techniques available to help them describe them, how can one teach them where

the details are to be found, how can one teach them what they will need to know to master these languages themselves, and how can one train them to be able to locate the particular details they want and to apply them to their own problems?

The teaching of mathematics, like that of English, could focus on a series of questions like:

“What sorts of situations are you likely to want to describe?”

“What techniques are available?”

“Where can you find those languages?”

“What other mathematical languages do you really need to know in order to understand the particular languages you will want to use, ie. what other sets of techniques do you really *need* to master before you can become proficient in the language you really want?”

“What practice should you be given in noticing the aspects of the world that it is appropriate to describe in different types of mathematical notation, making use of different types of logic, and based on the legitimacy of different types of operations?”

“What practice should you be given in searching out appropriate mathematical techniques, and what mathematical techniques should you practice applying in detail?”

Such a major re-evaluation may seem dangerous when one considers the risks that might be incurred in breaking up a system which has served mankind so well in the past. But it is important to emphasise that the mathematical system we are proposing to disband served well under conditions which are totally different from those which confront us today. Unless we can adapt to the present *and* the future, we are lost.

The main changes which have occurred in the social context of mathematics teaching include, firstly, universal education. In the past, when the system served us well, it was not envisaged that mathematics would be taught to *everyone*; the mathematics that was taught was appropriate to the needs of a reasonable proportion of the small number who received it. Whether they understood what they were doing, or why they were doing it, did not matter all that much (apart from the fact that more people might have used mathematics more appropriately if they had understood) so long as what was taught was pertinent to the needs of the students. In practice, pupils and students accepted what they were taught either because they were told by their elders and betters that what they were learning *was* necessary (which it often was, although it must be admitted that considerable effort was wasted on ‘mind training’, a concept generated by what would today be regarded as naive psychological theories of education), or they pursued mathematics because erudition was valued as an end in itself. As it happened mathematics acquired as a means of gaining prestigious learning often turned out to be useful because students were later either precipitated into real-world situations in which their learning turned out to be *useful*, or they were carried along by a social climate which stressed empiricism and which suggested that status could be gained only by making an empirical contribution to knowledge. Had this social climate been absent, the education would have been wasted. Academic endeavours would have been confined to an ivory tower concerned with erudite disputes divorced from the principle of reality-testing. Lest this be regarded as totally unlikely, it is worth noting that this is precisely what *did* happen in countries where the quality of scholarship was judged, not by reference to its social utility, but by reference to the prestigious and

authoritative nature of the pronouncements, their incontrovertible tone, their ability to commend themselves to authority, and the tendency for the population to demand tests against other-wordly criteria like magic and the pronouncements of religious authority, in place of demands for evidence of practical utility. Again it should be pointed out that, contrary to the arguments that such a ‘dysfunctional’ system would not be supported by the public, some societies have expended large sums of money on this type of scholarship; it is just not true that ‘people are not willing to pay academics who do not ‘produce the goods’. The question is ‘what goods?’

If we do not wish to follow the example of those societies, we must ask ourselves what *types* of mathematics *are* appropriate to the members of our society; we must be careful to reality-test our courses and not be guided by *what worked* (often for the wrong reasons) in a different situation, bearing in mind that many of those who accomplished much were *not* “realistic”, “practical”, people in the crude sense in which these terms are often used, but visionaries who were rejected as dreamers and idealists by their peers.

Once the objectives of mathematics courses have been clarified, there is ample scope for applying what is known about motivation. Much of the work will already have been done: a variety of programmed texts suited to the aptitudes of different types of student will have been developed, and pupils and students will seek to master these packages when motivated to acquire the techniques when they can see they will need to master them to achieve their goals under the guidance of the counsellor. It remains for the counsellor, following the theory of motivation outlined in Chapter XXIII to select an appropriate programme for the students and make use of his knowledge of the external press variables of motivation in relation to his knowledge of the pupil’s personal need-structure. Goals can be set, and pupils offered an appropriate incentive and rewarded in an appropriate way. The pupils’ motivation can itself be heightened if the counsellor provides an appropriate role model and if the pupil has a genuine interest in the project for which he requires the mathematics. The instructional programme selected should provide a reward structure geared to the need structure of the pupil; there is no ideal programme for teaching the same material and a variety of explicitly different programmes should be available. Furthermore, care should be taken to organise the course in such a way that the pupil learns behavioural habits — like the behaviour of high *n.ach* people — and experiences the satisfactions that come from successfully completing a difficult task. He can also be taught lessons such as that “it is sometimes necessary to spend a great deal of time on things the importance of which is not recognised, in order to arrive at a position of value”, or “I can master that which at first seemed too difficult, if I take things step by step”.

Since mathematics lends itself to both programmed instruction and to the development of character traits, it is the latter that should be tested in examinations. Programmed texts contain inbuilt mechanisms with which to assess knowledge, so that there is no need to have examinations to assess knowledgeability; *that* can be discovered by enquiring which programmes the student has mastered.

If the effects of mathematics on character development were evaluated, it would probably be found that they were mostly negative. It would probably be found that most pupils learned:

- That there is always a great deal of material which one has to master before one can make a new contribution to understanding. (A lesson which is usually wrong).

- To wait until problems were presented to them, rather than make explicit problems which were preventing them achieving their own goals and bring to bear an appropriate mathematics in order to solve them.
- That there is only one right answer to a problem. (Usually wrong, and highly dysfunctional in important fields such as the development of social policy).
- That there is *one* right way of solving problems, and that that method is ‘routine’, to think that their task is to trace previous uses of the right method rather than invent a method of solving the problem for themselves.
- To feel that the most important thing to do is to learn routine methods of solving routine problems, rather than seek out that form of mathematics which is most relevant to their own problems.
- That growth in knowledge is sequential; that one cannot jump over part of it and select only the aspect that is of immediate use.
- That one must not use techniques without understanding them. (Is it true that one cannot use other technical processes and machines if one does not know how they work?).
- That anything presented in symbols was too difficult for them to understand.
- That anything to which numbers or symbols were attached was unquestionable.

2. Humanities.

In the humanities, as in mathematics, there is a great need to involve more teachers in thinking more clearly about their objectives, in structuring learning experiences to achieve those objectives (c.f. “Nellie”), and in ascertaining whether the objectives are attained.

Not only are the humanities concerned with encouraging pupils to learn to think, to test propositions, and to express themselves well (which means that humanities teachers have to do more to give pupils an opportunity to practice thinking for themselves and expressing themselves in *real* situations which are important to them and to generate specific educational programmes designed to develop these competencies), these are the subjects which lend themselves best to the development of certain character traits, to teaching pupils about the ways in which people think, feel and behave, and to fostering an understanding of individual and group psychology. They present a superb opportunity to help pupils to clarify their self-images, think about the consequences of various possible courses of action, present pupils with a diversity of role models and to study the consequences of each, and ensure that pupils are able to perform a wide variety of roles. If these objectives are to be achieved, it is necessary to structure humanities classes, not only to involve project work to achieve the objective of teaching the pupils to think — but also to include group project work to achieve the other objectives discussed earlier. Individual and group project work could be used to strengthen pupils’ spontaneous tendencies to seek out information, to be sensitive to their own and to other peoples’ feelings and reactions to their own behaviours, to be sensitive to feedback from the environment and from other people and able to use this information efficiently to develop more effective life styles, more effective ways of relating to others, and communicating. Project work of this sort could be used to strengthen the habit of putting oneself in other people’s shoes — seeing things from

their point of view and realising that what was appropriate to them was appropriate to oneself (that is to say, developing the tendency to seek out and utilise new ideas rather than closing one's mind to new experiences because they seem so different to what one is used to). Individual and group project work could be used to provide opportunities to become thoroughly familiar with the way other social systems, staffed by different sorts of people, with different values and concerns, work and to lead to an examination of the real possibility of transposing those social institutions to other cultures and modifying them in appropriate ways.

Role-playing situations and creative drama enable pupils to practice other ways of thinking, feeling, and behaving so that they are able to understand the way others think and feel, without feeling self-conscious and uncertain about what they are doing or about what other people's reactions will be — and thus able, if they so choose, to incorporate these styles of thought, behaviour and perception into themselves.

3. Geography.

Geography could be used to present pupils with detailed pictures of the ways of life to be found in different societies, the varieties of moral codes which exist, and the variety of social organisations and what their consequences are, so that pupils can think about their own personal positions and the sorts of behaviour and social organisations that will be likely to lead to desired consequences. In order to assist them thoroughly to understand the institutional structures of these other cultures and the perceptions, expectations, values and styles of behaviour of their members, and thereby to help pupils to be in a position to adopt such aspects of the value-systems and way of life as they choose, they could be encouraged to role play the way of life of people in different situations in other countries at the same time as learning about the scientific research data which summarises the consequences of different ways of life.

4. History.

History provides a particular opportunity to study social processes, and the consequences of different social structures, social systems, and personal decisions. Thus, it, too, lends itself, not only to group and individual project work, and thereby by the achievement of all the goals which can be achieved by the use of these educational processes, but also to detailed consideration of the long-term consequences of individual choices and thereby the achievement of high level moral reasoning and behaviour. It also provides an excellent opportunity to stress the applicability of scientific method to social processes and personal decision-making. We are not suggesting that 'history repeats itself', merely that sociological and social-psychological concepts can be appropriately used to think about the institutions present in a particular society, the role expectations of the members of those societies, their values, preoccupations, habitual thought ways and assumptions, and that the consequences of these institutions, values and expectations can be traced in history. Students can be encouraged to formulate hypotheses about possible consequences of the presence of certain institutions, ways of defining social reality, role expectations and values and encouraged to test these hypotheses by seeking out relevant data. They can be encouraged to role play particular situations and individuals in order to feel their way into alternative ways of perceiving, assuming and thinking, so that they can adopt these patterns of perceiving and thinking into their behavioural repertoire should they conclude that the consequences of so doing would be desirable from both a personal and a social point of view.

5. Civics.

Civics, like geography, science, and the humanities, presents an opportunity to foster a wide range of skills, competencies, perceptions of social institutions and expectations of oneself and of others, and an unequalled opportunity for educationalists to study the sequences through which pupils progress to maturity. It is particularly important for teachers to study the latter since the crucial learning which has to take place before higher levels of behaviour can be engaged in have yet to be isolated, whether this behaviour is social, moral, or intellectual. As Piaget has emphasised, even such basic processes as abstract thinking are dependent on developing social skills. Once this developmental process can be made explicit, it should be possible to organise education so that more pupils reach higher levels of development in all these areas more quickly.

Perhaps more than any other subject, Civics can be used to encourage pupils to develop the tendency to notice socially important problems, and to take on themselves the responsibility for doing something about them, to be sensitive to the feelings that indicate that all is not as well as it might be, to bring these feelings up into full consciousness and think about the situation, to translate these thoughts into effective action by collecting relevant data, and sifting the relevant from the irrelevant, to analyse situations, plan strategies for action, anticipate obstacles to attaining goals, seek out help and resources, and monitor progress toward one's goals and, if necessary, take effective corrective action, to lead and to follow, to articulate group goals and means to be used to attain them, and to build up one's own understanding of a total plan of action and one's own part within it without having to be told exactly what to do and when to do it.

It should be noted that, if our concern is to foster the ability to engage spontaneously and effectively in innovative activities for the benefit of society, it is necessary to avoid telling pupils what they should do. They need to establish their *own* goals and practice the behaviours we have termed the components of competence in the process of achieving them. They need to clarify their own values and to plan effective strategies to attain them. They need to learn how to learn *without* instruction. They need to learn how to find out how the organisations of society in fact work, and to understand the reasons that lie behind the tendency of the organisations to function in particular ways, that is to say, they need to come to accept people and social organisations for what they are and understand why they behave as they do, rather than criticise them and refuse to have anything to do with them because they do not function as textbooks say they should. They then need to use this knowledge to set up new institutions and procedures in order to improve the organisation of society.

If pupils are to develop the tendency to notice other people's feelings, to articulate their concerns and reflect on that which is important to them (the only way in which to be creative), teachers must avoid battering them with facts to learn. This dulls the senses, stifles creativity and initiative, and inhibits pupils from learning on their own. Instead, educators must encourage them to make explicit and discuss the particular social problems which they themselves care about, to entertain 'crazy' and idealistic notions of ways in which these might be dealt with, and then to translate these ideas into more practical schemes. (The germ of most worthwhile ideas is crazy). Teachers have to avoid trying to force all their pupils to worry about the same problems, ask the same questions, do the same things, value the same things, and think in the same way. To insist that a pupil care about a particular social problem is likely to make him feel that it is his 'duty' to do something about it — and one is much less likely to transform a 'duty' into effective action than something that one is genuinely concerned about.

In the course of community activities pupils can also be brought to respect each other for their different abilities and, as a result, come to look upon each other as valuable collaborators, thereby establishing the perceptions and skills required for effective cooperation. Through such activities they will also learn how to cope with controversy — a particularly important ability in social life because virtually anything that is important is controversial, and things that are not controversial are rarely important. In the course of such activities pupils will also learn to tolerate the anxieties which come from tackling new and challenging problems, from tackling the unknown, from not knowing if one is doing the right thing or even asking the right questions. They will learn not to worry too much about the possibility of making the same mistakes as others have made, and that, although one cannot put the world to rights, one can do something worthwhile to further understanding of the problem or to remedy the situation. They will learn that one can take corrective action if, after taking as much into account as possible, one finds that one has set out in the wrong direction. The exercise should be structured in such a way that pupils learn that they cannot always be certain that what they are doing is worthwhile, but that, even if they do not achieve their immediate goal, they might learn something which will enable them to achieve similar goals more effectively in the future. Many pupils also need to learn to tolerate committee discussions which have apparently gone off at a tangent. In the end such discussions have a habit of leading the group to a better understanding of the situation they are dealing with. At the same time they can be encouraged to evolve and practice the behaviours which are necessary if they are to play their part in *not* distracting a group from its goals and thereby jeopardising the achievement of group goals by engaging in social vandalism.

Although we have touched on some of the things which Civics teachers might more often try to do and to avoid doing, it should be recognised that their job is unenviable. They have to tread a narrow path between stimulating strategies which lead to effective action and stimulating disruptive rebellion. The problem can be illustrated by posing the common question of "What to do about the Maoists". To take the line that the Civics teacher's job is to inculcate a respect for our existing democratic institutions and show the pupils why the Maoists are wrong, is to ignore the important questions the Maoists pose, and to refuse to face the sort of issues which most basically need to be tackled in our society. To stamp out this sort of sensitivity to problems, to fail to respect the concern if not the solution, is to invite defeat in the achievement of one's goals. Equally, to fan the belief that a 'revolution' will provide the 'answer', even though one cannot specify the institutions and personal competencies that are required to achieve the desired goals, seems likely to prove non-productive. A more constructive course might be to consider the problems posed, the sort of political (management) institutions that would be required to tackle them, and the competencies, self-images, perceptions and expectations required by those who will man those organisations. And how are these institutional structures, expectations, and competencies to be fostered? If we are to solve the sort of problems to which the Maoists point we need answers to these questions. We need answers to them if we are at last going to be able to cope with the problems of unemployment, pollution, war, cold war, poverty and rich nations getting richer while the poor get poorer.

It is taboo to 'attack' our 'democratic' institutions in this way. It is even less acceptable to suggest that pupils be helped to understand the way these organisations *really* function and to develop the political (Machiavellian?) skills needed to deal with them. And it will be almost as unpopular to suggest that we need new bureaucratic institutions, staffed by more civil servants ("living off the tax payer") to deal with these social problems.

The trouble is that the terms 'political', 'bureaucratic', and 'civil servant' carry both positive and negative evaluative overtones. Less emotionally, what we are saying here is simply that we need better organisations, staffed by people with appropriate competencies, perceptions, values, preoccupations, and expectations of themselves and of others. Among the most important developments we need, both in organisational structures and in the skills, preoccupations, and competencies of those who staff them, are developments which will ensure that our public service organisations do function to achieve the goals of the people they are intended to serve. Both the structures of these organisations and the personnel who man them seem to need to pay more attention to the fact that society is pluralistic — that a variety of goals have to be achieved and that each section of the population has to be catered for differently: it is not a question of the majority will being binding on all. The organisations we need have, to a considerable extent, to be decentralised and non-hierarchical. The people who staff them have to learn to take several criteria into account when making decisions. They have to learn, for example, not just to consider the cost-effectiveness of alternative policies, but must recognise that there is no *one best* decision on most problems; compromise is essential. The essence of 'democracy' may be, not that the will of the majority be followed, but that the majority makes decisions which will allow all to go their own way. (This, of course, contradicts the belief that politicians should find the one right way to do things and not be influenced by pressure groups). They have to take care to bring controversial and heated issues on which opinion is divided out into the open, instead of confining them to backstairs arguments in order that the public can be hoodwinked into thinking that all issues have been discussed and that there is one best solution that can be found.

So, as the need arises, the Civics teacher will have to help his pupils to develop management skills and to become familiar with the tools of management — fiscal policies (and the psychological processes which are responsible for their differential success), subtle processes of leadership, management, and conflict resolution, and an understanding of the management of motivation. The pupil has to be freed from restricting commonsense notions (such as 'the government must balance its budget') and have his attention directed to specific and immediate problems (such as inflation or the balance of payments). By directing attention to the social processes which lie behind problems expressed in more abstract terms, solutions to the problems might become apparent.

For the benefit of those Civics teachers who stress the development of citizenship, it may be worth emphasising that if this quality is to be fostered it is necessary to provide pupils with an opportunity to practice citizenship behaviour. Yet children are more deprived of their civil rights than *any* other comparable group in the population: they cannot choose their place of work; they have no say in decisions which affect them; they do not help formulate the laws which govern them; they have no right to aid in order to defend themselves against punishments which are inflicted on them for the transgression of these laws, with which they may not identify, and with which they may not even agree.

To achieve the goals we have outlined will call for a great deal of patient work by teachers. The goals can only be achieved through highly structured educational processes carefully designed to achieve them. If they are to be achieved, teachers must be clear about what is to be achieved, how it is to be achieved, and how to find out whether they have achieved it. They must be able to pursue these objectives without being distracted onto many of the less important goals which they have had to pursue in the past. In particular, they must give up any notion that they ought to quiz their pupils on a detailed reading of the newspapers and statements about what's in the news in conventional terms: pupils need to

understand the *general* processes that lie behind economic, political and social events and how to work out what they themselves should *do* about it. They have to avoid the traditional trap of emphasising ‘knowing what’s going on in the world’. Understanding is more important — and to *understand* one does not need to “*know*” at the sort of level reported in most newspapers. We do not need to teach pupils that war, rape, and poverty are terrible. They know that. The question is why war, why rape, and why poverty — and what can I do about it? The task is to ensure that pupils become astute students of their environment.

6. Science.

Science courses could do much more to encourage pupils to practice the skills that are required by scientists (see Chapter XVII). They could encourage students to make conceptual analyses, to evolve concepts, to *invent* tests, to consider the undesired side-effects of the activities they engage in, to work with others, to select an appropriate mathematics as an aid to logic and description, and to communicate their thoughts. To be effective in achieving these goals, science students would have to become involved in real tasks, in making real discoveries etc., and they would have to be presented by their teachers with role models exhibiting the qualities we have discussed. “Discovery methods” can be very misleading. They tend to focus the learner’s attention on the facts to be discovered rather than on general strategies for making discoveries. Furthermore, it cannot be too strongly emphasised that the world is full of real problems. There is no need to invent them: if the teacher knows something that will be of value to his students in solving real problems, or if he knows where to acquire such knowledge he should share it with his pupils, not say it is up to them to discover it.

Summary.

We first reviewed the main conclusions that have emerged from the earlier chapters of this book. We saw that basic developments in educational structures and procedures are required if the most important goals of general education are to be achieved. Attainment of the second 3 R’s of education necessitates the use of experience-based learning, educational games, simulation exercises, role-playing sessions, interdisciplinary methods of enquiry, and project work. It involves diffusing the school into the community and the community into the school. Educational centres should be established to teach specialist skills through short, carefully programmed modules concentrating on only that material which is relevant. Teachers must become counsellors who will use their knowledge of motivation, human development, and learning, to assist pupils acquire the learning experiences they need if they are to build on their strengths and special competencies so that they can reach their own goals and contribute to those of society. These counsellors would have to be thoroughly familiar with the pupil’s background and motivational make up, yet fully aware of his potential for change and how to bring it about.

Since these developments require major changes in educational organisations it would be neither possible nor desirable to introduce them everywhere at once. Much pilot and development work is needed. We therefore discussed changes that could take place within schools, within specially introduced new activities (such as project work), and within traditional subjects, in order to be able haltingly to progress towards a new type of educational system.

Chapter XXVII

THE ROLE OF EVALUATION AND EXAMINATION SYSTEMS

The last few chapters have demonstrated that changes are needed in educational practices and procedures if the educational system is to be able effectively to achieve its most important goals. We have discussed changes that might take place in the overall organisation of education, in the goals to which educational programmes should be directed, in school curricula and methods of presentation and organisation of material, and within traditional (and new) 'subject areas'.

We turn now to the implications for evaluation. There are basically three different problems to be tackled. One is to free education from an examination system which distracts teachers from their main goals. The second is to develop a form of evaluation which *helps* educationalists to progress toward their objectives. And the third is to develop a system of summative evaluation which really does record pupils' important strengths and is of value to both pupils and employers.

Unfortunately, before we can address our minds wholeheartedly to these questions, we must look at some of the functions examinations perform at the present time, we must consider their implications, we must consider some alternative methods of performing these functions, and we must assess the teaching profession's attitudes toward the examination system.

Examinations and Selection

Although many teachers would like it to be otherwise, a major function of examinations is to determine which candidates will persist in education and thence to 'high status' occupations. This social function of examinations is the main barrier which makes it difficult to introduce systems of educational evaluation which would help teachers and pupils to achieve their goals more effectively.

There is a very strong case for changing these summative assessments. In the first place, as we have seen, the predictive value of academic qualifications, other than as indices of the ability to do well in further educational programmes or as indices of "intelligence", persistence and docility, has never been satisfactorily demonstrated in longitudinal studies. The qualities assessed in school examinations are, at best, irrelevant to life performance and are, in all probability, detrimental to it. The function of examinations seems to have much more to do with legitimising the rationing of privilege and thereby bolstering up the notion that there are no forms of egalitarian society which are not totally impractical. These findings suggest that there might well be sense in arguing that, until evidence of the predictive validity of academic assessments is produced, employers should be restrained by law from selecting their employees on the basis of courses taken or grades obtained — in exactly the same way as they are currently restrained from placing great weight on other marginally relevant predictors of performance such as race, religion, and social background.

The situation that has developed is particularly ironical. It was precisely the concern to select people for employment on the basis of non-socially biased, valid, and objective criteria (criteria which would avoid discrimination in favour of certain races, religions, or socio-economic backgrounds) which led to the use of the even more irrelevant 'objective' criterion of educational performance. Yet, rather than use social criteria which are related (admittedly at relatively low levels) to occupational performance, society has chosen to adopt a selection device which is *entirely* irrelevant. Although random allocation of privilege might be more

desirable from a societal point of view than allocation according to social background, the present system does not work as effectively as it might from that point of view either: both success in, and persistence at, education is itself related to the very background characteristics which society has sought to exclude from consideration: race, religion, and social class of origin.

Yet we should not lose sight of the fact that society has not been seeking to allocate privilege at random! Our fellow citizens have been trying to select the people who are most likely to contribute most to our society, educate them in an appropriate way, place them in a position from which they can contribute, and reward them appropriately. It is therefore unfortunate and disturbing to find, as we did find in previous chapters, that the knowledge, skills and attitudes associated with the different socialisation experiences characteristic of people who come from certain racial, religious and social backgrounds are more closely related to performance than is the knowledge gained in most educational programmes and assessed in academic examinations.

The evidence attests that the only way of moving toward the original goals of validity and impartiality of assessment, justice to individuals, and maximum benefit to society as a whole, is for employers (and others who wish to select entrants) to study carefully the qualities they really need in their employees, and then to select (or, much preferably, *place*) them on that basis. Studies of the qualities "required" must, of course, include assessments of the need for high-level skills of the type we have been most concerned with in this book. These are the skills which people will probably require to cope with the social and technical demands of the organizations in which they live and work. Selection, placement, and development procedures will, therefore, almost certainly need to include assessments of the ability to display initiative, the ability to learn without instruction, the willingness to notice problems and to assume responsibility for doing something about them, the ability to lead and to follow, to invent, to forecast, and to make good decisions.

In addition to making provision for the assessment of high-level skills, studies of the competencies needed in different occupations will need to allow for the fact that employees will probably progress from the jobs into which they are recruited, take further courses, and move into other roles. Thus, the qualities on which those concerned with staff selection, placement and development need to base their choice must not only include the characteristics required to function well in existing socio-technical systems but also the characteristics which will be needed in the future. Among these qualities is the ability to *create* the future. And, of course, employees should select their employers on the basis of the opportunity those employers offer to develop and utilize such competencies.

So far we have assumed that the selection and placement functions of examinations will continue to operate in much the same way in the future as they do now. This assumption is not necessarily correct. Instead of focussing on the overall efficiency of an organisation or of society, the members of our society may choose to focus on the dignity of the individual and be inclined to leave efficiency to look after itself. A considerable shift in public opinion in this direction has been evident in the debate on equality. Firms are already required — in flagrant conflict with their need for efficiency — to employ a proportion of mentally and physically handicapped persons. As the average size of organisations gets larger it becomes more practical to insist that they focus on staff development instead of on staff selection because there is a much higher probability that they will be able to find a niche for everyone within their walls.

A relatively easy step to take in pursuit of justice and dignity would be to insist that employers select their employees, not on the basis of their *absolute* suitability for a particular job, but on the basis of the applicant's abilities *relative to their own other abilities*. From the point of view of individual justice, why should an applicant who, for example, is able to communicate very well, but who also happens to be an even better inventor, be selected for a communications post over a candidate whose greatest strength lies in communications, although the absolute level of his ability in this area is less than that of the first candidate? If it is argued that this might render the first candidate unemployed (and therefore unable to contribute to society) because he might never find an opportunity to utilise his cardinal skill, the reply might be that this is precisely what was intended. If only those who are sickest, weakest and possessed of least inventiveness are rendered unemployed, society is unlikely to do anything about its social organisation and render unemployment unnecessary. So long as unemployment is a social fact why, from the point of view of social justice, should it be concentrated among those who are least able to do anything about it, either personally, or by influencing social structures for the good of all?

Teachers' Views on Examinations and Occupational Selection.

We may now link what we have just said about the developments needed in selection procedures with educational goals and evaluation procedures. As we have seen, most teachers think that schools *should* be concerned with fostering the qualities which we have suggested that employers most need in their employees. Many teachers are also uneasy about employers selecting their staff on the basis of academic results. Sixty-four per cent. of the teachers we interviewed agreed that "employers and universities should have their own selection procedures, and thus leave the schools free to gear their curriculum to the educational objectives that they consider most important and to award certificates indicating that pupils have completed a *general education* course, rather than certificates concentrating only on academic accomplishments".

Perhaps the reason for teachers wanting employers to do their own selection was that they felt — as our other data shows that they *did* feel — that the current examination system distracted them from their most important goals (in which case the solution might be to include assessment of the extent to which they achieved these goals in the examination so that it impelled them in the direction in which they wanted to go, rather than do as they suggested and try to abolish the selection functions of the examination). But perhaps, too, they felt that selecting employees only on the basis of academic qualifications ignored some of the most important competencies of their pupils, and that these skills would be required in the jobs for which selection was taking place. If this were so, current selection procedures could be damaging the life chances of many pupils and depriving society of the opportunity to gain the maximum benefit from the resources available to it. Other data we have collected shows that very many teachers do think in this way.

But this line of reasoning only leads to the conclusion which the teachers concerned have arrived at if one either assumes that some of the characteristics most teachers wish to help their pupils develop cannot be evaluated, or that these characteristics are of no interest to employers.

Even if one were to accept these two assumptions for the time being, it is probably still not *practical*, given what we have seen of the social functions of the educational system, to do as the teachers suggest. If pupils persist in education in order to avoid being thrown on the scrap heap of the unemployed, to avoid the humiliations and degradations meted out to those who have low status occupations, or in order to gain entry to high status occupations, it is unlikely that they will be

content to leave school without some recognition of the competencies they have developed in the form of hard currency acceptable for selection purposes. Furthermore, if the competencies which most teachers hope to help their pupils to develop are indeed socially or personally important, the teachers concerned both need to be able to draw attention to the fact that their pupils have developed them and to be able to monitor their own progress toward these goals in order to be able to achieve them efficiently. They will also need to be able to assess and compare the relative merits of alternative ways of helping their pupils to develop these characteristics.

From this discussion it seems that what is really needed is, not that teachers should withdraw from assessing these qualities, but evaluation certificates which draw attention to the pupils' strengths and talents. Such certificates might be more useful to employers than current examination certificates, they might make the assignment of certain pupils to the social scrap heap much less automatic, and they may be much more useful to pupils from the point of view of thinking about their talents and how best to develop and utilize them.

Teachers' Attitudes to Broadened Assessments.

Although the teachers interviewed in the surveys insisted that they wanted to help pupils to develop important, general, life-useful competencies, most did not think that it was an important function of examinations to help them to monitor progress toward the development of these qualities of character, and they were even more opposed to recording these qualities on summative evaluation certificates.

It is not clear why they were opposed to assessing and recording these qualities. There are a number of possible explanations, and we must go into these in some detail and explore their implications. In brief, these explanations are (a) that they did not believe that progress toward such important goals could be evaluated, (b) that they believed that schools currently do little to foster these competencies and that it would therefore be an intrusion into an area with which they could not claim responsibility if they did attempt to assess them, (c) that they believed that pupils' competencies would probably change dramatically after they left school and that they would therefore damage their pupils' life chances if they were to report on them, and (d) that they feared hostility from their pupils if they publicly assessed their characters.

We will now expand and discuss these possible explanations one by one:

(a) *Progress toward such goals cannot be evaluated.*

One possible explanation of teachers' reluctance to assess the competencies we have been discussing in summative evaluations is that they are not at all clear that they could evaluate with sufficient objectivity the extent to which their pupils have developed these characteristics. However, since the teachers feel that the development of these characteristics is important, that the current examination system diverts them from fostering them, that these qualities are important to employers, and that employers should themselves make assessments of the characteristics, they are getting themselves into a cleft stick if they argue that they cannot be evaluated. If they, who know the pupils reasonably well, cannot make good assessments of the extent to which pupils display such characteristics, how are potential employers, who know the pupils a great deal less well, going to evaluate them? Furthermore, such a position is inherently self-contradictory. If these competencies have any meaning at all, it must be possible for teachers to estimate whether the characteristics are present to a greater degree in some pupils than others, and, if that is possible, it should not be impossible to improve on those assessments and make them more reliable and valid.

(b) *Schools do insufficient to help pupils develop these characteristics to warrant their assessment.*

We have seen that in spite of teachers' desire to help pupils develop initiative, leadership, and the ability to work with others, many teachers also feel that schools do little to help pupils develop such characteristics. As a result, most teachers may feel that they should have no hand in assessing them. If schools have done little to foster these characteristics, why should they assess them? Furthermore, if they did assess them, many teachers must suspect that the overall picture which would emerge would not stand to their credit or do much for their public image.

If these are valid components of the explanation of most teachers' reluctance to assess these qualities, the implications could be serious. In the first place, such attitudes would lead to the perpetuation of the existing state of affairs. If progress toward these goals is not assessed, most teachers would be inclined to continue to devote more of their energies to the achievement of the goals which are assessed and to neglect these other objectives, in spite of the fact that they consider them to be more important. Of all the objectives we studied, the one to which most teachers devoted more energy than its importance merited was examination performance. Secondly, if teachers do not strive to evaluate their progress toward these goals, they will not obtain sufficient feedback to help them to improve their performance in this area. Thirdly, perhaps more seriously, failure to evaluate such competencies would lead to continuing damage to the life chances of those of their pupils who have important competencies in these areas, competencies which schools could help them to develop, and which will not be recognised by society if they are not included in the schools' evaluations. Fourthly, and most seriously of all, as the low predictive validity of academic assessments in occupational settings becomes more widely recognised, the failure of schools to be concerned with assessing such qualities would strengthen employers' tendency to select candidates for employment on the basis of their home backgrounds: if schools do insufficient to help pupils develop these characteristics to justify their inclusion in school assessments, it can be assumed that the only place where pupils will have an opportunity to develop managerial skills, the ability to make good decisions, wide horizons, and knowledge of (and therefore tolerance for) ways of life other than their own, is at home or in out-of-school activities. Participation in the latter is itself likely to be correlated with home background. As a result, if teachers continue to argue — as many seem to argue — that employers should select their entrants on the basis of such life-useful competencies, they will, in effect, be arguing that employers should select employees on the basis of their home background — in spite of all the things schools could do to foster these characteristics. The whole case for equality of opportunity would have become specious — as, indeed, it is already if teachers do not strive to foster these qualities while at the same time recognising that they are important for occupational success and a satisfying way of life.

(c) *Such characteristics are age- or situation-specific.*

Another possible explanation of teachers' general reluctance to make assessments of the kind described above may be that they feel that they might find themselves recording such things as their pupils' level of honesty. A record of dishonesty, they may fear, may damage the life chances of certain pupils much more seriously than a poor record at mathematics. It would be particularly damaging because potential employers may believe honesty to be both a more significant and a more unalterable characteristic than mathematical ability. In other words, some teachers may consider that, although they themselves are aware that dishonesty may disappear as the pupil gets older or moves into a different environment, other people would not necessarily recognise this. It would therefore be unfair to record this characteristic on a permanent document. Yet, if this is the nature of the objection,

one wonders why this logic is not applied equally to the things which schools *do* assess. For example, a person's performance at mathematics might change markedly if he worked at a job in which a knowledge of the subject was essential to perform it successfully. (It will be recalled that Berg's (1970) data suggests that this is just what happens in practice). As we have indicated, the explanation of the difference between teachers' reactions to the two situations may be that traditional academic qualities are considered by them to be of *less* general significance and importance to their pupils than are these qualities of character.

Such an hypothesis is strongly supported by the fact that traditional academic performance came well below moral and character qualities in the list of activities with which most teachers felt schools should be concerned. Nevertheless, if correct, the significance of the position must be emphasised. Schools should strive to develop socially important characteristics, but they should not report on them (at least not openly): the information is so explosive that open discussion would damage the pupils, the assessment procedures, and not least, one suspects, the reputation of the teachers themselves. Attention should be drawn to the phrase 'open' reporting, for many members of our society are very willing to make assessments of these qualities available in private and on the telephone — without providing any right of appeal to the person concerned. Given our hypocrisy in such matters, it may well be true that open reporting, of such things could have unfortunate consequences. Yet it could have desirable consequences too. Instead of using any character defect we discover in another as potential ammunition with which to discredit him, we could recognise that everyone has shortcomings as well as virtues, that these deficiencies are largely amenable to change, and that there is room for all sorts of people in our society if our society commits itself to using the human resources available to it as effectively as possible. This being so, making information of this sort public would not be harmful and would enable both schools and society to cherish and utilise the talents of all citizens.

Even though it is not at present possible to include such assessments in summative evaluations, it is significant that if schools were serious about fostering their pupils' honesty, it would still be necessary for teachers to evaluate progress in order to be able to assess the effectiveness with which the goals were being achieved. Such assessments would also provide some indication of the meaningfulness or otherwise of the concepts: if such qualities cannot be reliably and validly assessed, then there is obviously no point in retaining the terms in our vocabulary — in which case there is no question of employers or schools assessing them on referees' reports. If they can be assessed, can the school help to foster them? If so, they are clearly not unalterable characteristics, and this fact, too, would become part of the context in which the assessments would be viewed. If they *can* be assessed but the research simultaneously reveals that such qualities are situation-specific — that, for example, initiative, leadership, and honesty, are more dependent on the situation in which an individual is placed than on his personal qualities — one would have data of the utmost social and educational importance. Far from having established, as some people suggest, that such terms were meaningless, one would have established a very strong case for carrying out the research needed to establish the dimensions of environmental *press* (see Chapter XXIII) which lead people to display these important qualities. It cannot be too strongly emphasised that the attempt to measure such qualities brings in its train a host of social and educational benefits which are commonly thought to be totally incompatible with psychometrics. (Nevertheless it is also true that, if one is to recoup these benefits, one must approach "science" and "research" in a way which has been alien to most social scientists for the past half century — see Raven, 1975).

There are, of course, many areas of great importance which are less highly charged emotionally than "honesty". It is obviously with these that one would begin to work.

It is with qualities like inventiveness, or the ability to communicate effectively that we should begin to experiment with possible evaluation procedures, to tackle the question of the reliability and validity of assessments, and to study the extent of their situational specificity.

(d) *Fear of Repercussions.*

Now for the argument about the danger of damaging pupils' life chances and the possibility that schools which assessed these qualities might be sued by pupils for defamation of character. First, attention should once more be drawn to the fact that assessments of such characteristics as 'dishonesty' are repeatedly made *in confidence* by teachers who offer the pupils no right of appeal. These assessments are not accompanied by *any* systematic assessment procedures and are often arrived at as a result of chance circumstances: a teacher might happen to observe a particular pupil doing something which other pupils also do but which remain undetected. Such assessments are often made with scant regard to the possibility that the pupil will change his behaviour as he grows older. They are often made on record forms supplied by employers (and the data subsequently stored on magnetic tapes) — yet the reliability and validity of the data so collected has never been scrutinised.

From this discussion it would seem that teachers' apparent reluctance to make assessments of character is based, not so much on a principled unwillingness to make such assessments (although an element of that is undoubtedly present), as on an unwillingness to make them *in public*. The situation in which they are placed seems to force them to make such assessments against their better judgement and to take cover to avoid being sued by either pupils or employers for providing misleading information.

But what if pupils were encouraged to sue teachers for publicly recording the things they are not good at (such as, perhaps, maths or English), but *not* recording the things they are good at (inventing things, finding out how things worked) and thereby damaging their life chances at least as much as by recording their dishonesty? Would not this then change the rules of the whole ball-game?

Conclusions.

All in all it seems that the way out of the difficulty posed by these non-academic competencies is not to follow the path preferred by most teachers — not to attempt to withdraw from making such assessments — but to try to improve on the quality and width of the assessments and to produce evidence to justify refusal to assess characteristics which either cannot be validly assessed or which are almost entirely determined by the situation in which the individual is placed. Teachers want to help pupils develop characteristics like initiative, ability to work with others, and willingness to work for the good of the community, but they feel distracted from doing so by the present examinations, they want to help their pupils to be successful in life, and they wish to teach them things that will prove useful to them. How can we help teachers improve their assessments of such characteristics? And not merely in summative evaluations but in assessing the progress they themselves are making toward achieving these goals? The next chapter will be devoted to an attempt to answer these questions, but first we must consider the question of why we have an examination and assessment system *at all*.

The Functions of Examinations.

So far we have asserted that evaluation instruments are intended for selection purposes and to provide teachers with diagnostic information which will tell them how effectively they are achieving their goals and how to go about their tasks more effectively. But evaluations may also serve other functions: they may be used by pupils to help them select careers and areas of further study; they may be used as an incentive to encourage pupils to work; they may be used as a means of ensuring that teachers concentrate on achieving the objectives which society has decided are the most important ones for schools to strive to attain; they may be used to ensure that certain schools do not lag behind others and fail to perform the tasks which society expects them to perform, and they may be used by national bodies to monitor the quality of human resources emerging from the schools and to initiate policy changes to rectify any shortcomings.

Difficulty of Reconciling these Objectives.

These different functions are sometimes difficult to reconcile. Employers probably need fairly general assessments of pupils' abilities, supplemented by detailed information concerning their specific knowledge, skills and aptitudes in specific areas of direct relevance to the particular occupation for which they are being recruited. Teachers and pupils probably need detailed information, set in the context of either or both national normative data or specific performance criteria, which provides them with diagnostic information to help them to improve their performance within specific areas. National policy-making bodies probably need a broad and detailed picture of the attitudes, values, expectations, perceptions and competencies of school leavers, but this does not necessarily need to be based on a census of *everyone* in the system but could be based on sample surveys. (The same would apply to assessments of school efficiency). It would probably be best to attempt to stimulate pupils to work hard by ensuring that teachers understood the theory of motivation discussed earlier.

The fact that current examinations attempt to perform all these functions probably accounts for the fact that, when we asked teachers how important they thought a number of possible functions of examinations were, only half thought *any* of the functions were "very important" and most of the functions were thought "very important" by less than a third of the teachers (see chart XII). This contrasts starkly with the data reported in chapter X on teachers' perceptions of educational objectives. There we saw that more than two-thirds of the teachers thought that more than two-thirds of the educational objectives were "very important". Perhaps their failure to place great emphasis on any of the objectives of examinations arose because only 68% of them considered examination success to be a very important objective of education. If examinations are not very important, how can any of their functions be very important?

A particular paradox arose in the case of character-development objectives. Although teachers felt that the character-development goals were particularly important educational objectives, and despite the fact that most felt that they were poorly attained, few felt that it was the function of examinations to evaluate progress toward such goals. As can be seen from chart XV those who did feel that such progress should be evaluated were particularly dissatisfied with the current examination system.

Overall, it seems that most teachers are unclear about why they have examinations. What is clear from chart XII is that they do not think of them as being primarily either a means of helping them achieve their goals more effectively or a selection device to be used by employers.

Chart XII

Percentage of teachers saying each topic is a very important function of examinations, averaged across ratings for "More" and "Less" academic pupils at the end of the Junior and Senior Cycles.

1. Assess the pupil's ability to express himself clearly.
2. Assess the pupil's reasoning ability.
3. Provide the teacher with information so that he can think how to help them.
4. Provide educationalists with the information they need to guide and place their pupils within the educational system.
5. Provide feedback to the pupil concerning his academic strengths and weaknesses and the areas to which he should devote more attention.
6. To teach the pupils that you don't get anything without working for it.
7. To motivate the pupils by providing them with clearly defined goals.
8. To provide a detailed picture of the pupil's academic performance.
9. To provide feedback to the school concerning how effectively they are achieving academic objectives.
10. To provide employers and the universities with information about the candidate's academic strengths and weaknesses.
11. To assess the pupil's knowledge.
12. To provide feedback to the pupil about his character strengths and weaknesses and the areas to which he should devote more attention.
13. To motivate the staff by providing them with clearly defined goals.
14. To provide an assessment of the pupil which is completely uninfluenced by the teacher's other knowledge of the pupil.
15. To provide feedback to the school concerning how effectively they are achieving their objectives in the realm of character and personality.
16. To provide a detailed picture of the pupil's character and personality: its strengths and weaknesses.
17. To provide employers and the universities with information about the candidates character strengths and weaknesses.
18. To motivate the pupils by letting them know who is better than they are so that they can compete with them.
19. To enable schools to be compared.
20. To enable teachers to be compared.

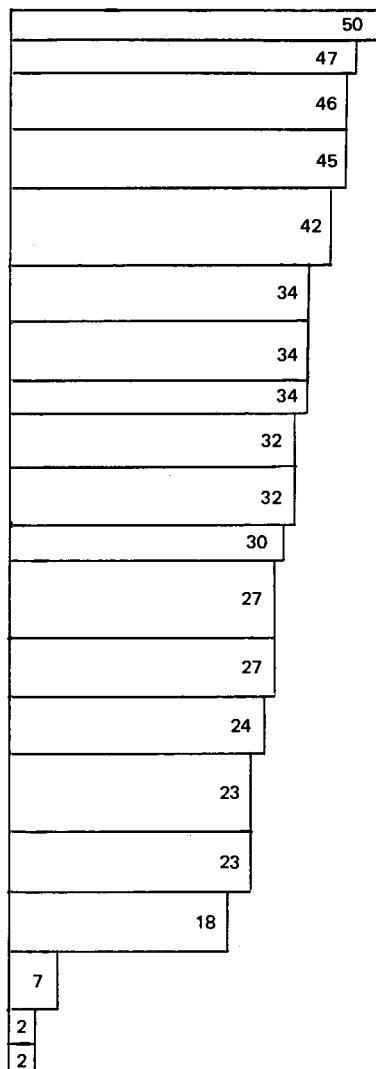


Chart XIII

Percentage of teachers who think the present examination system achieves each objective 'Very Well' or 'Well' and 'Not Very Well', 'Badly' or 'Very Badly', averaged across ratings for 'More' and 'Less' academic pupils at the end of the Junior and Senior Cycles.

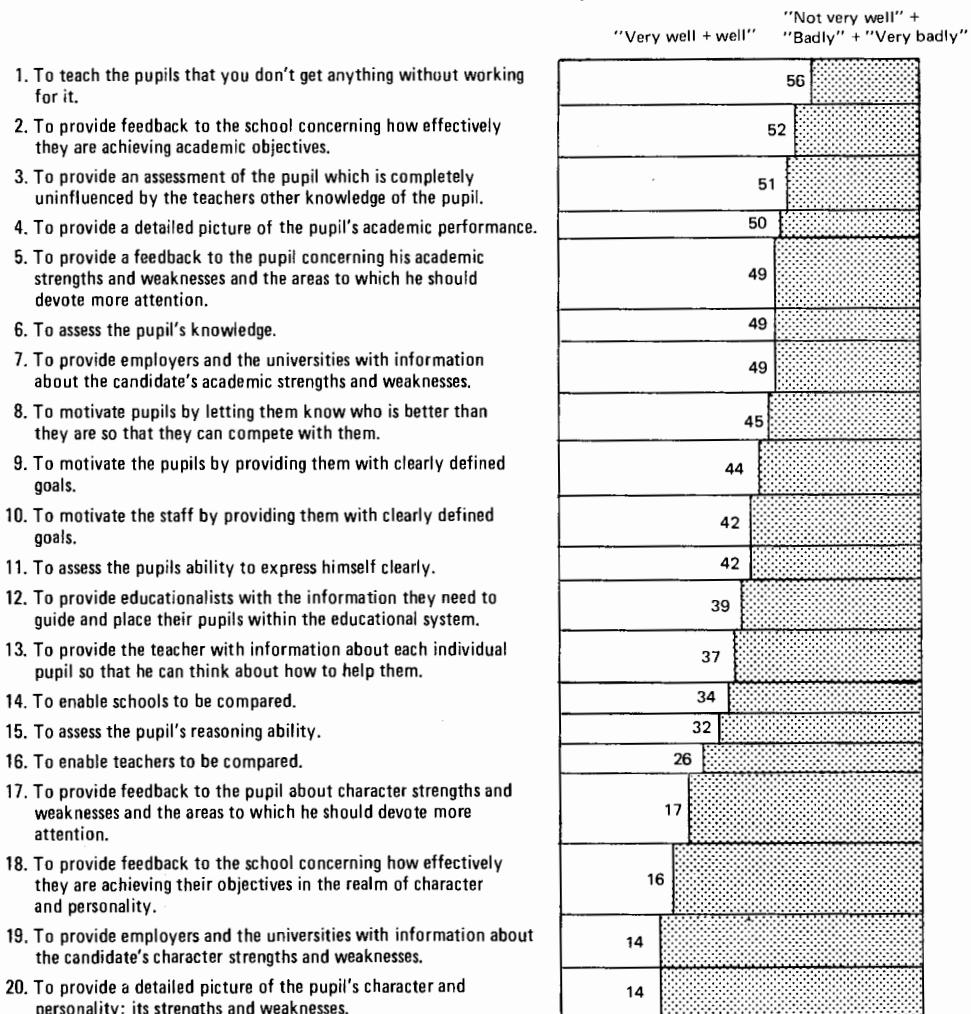


Chart XIV

Percentage of All Teachers who thought each objective both Very Important and Not Very Well, Badly, or Very Badly Achieved.

1. To assess the pupils reasoning ability.
2. To provide educationalists with the information they need to guide and place their pupils within the educational system.
3. To provide the *teacher* with information about each individual pupil so that he can think about how to help them.
4. To assess the pupils ability to express himself clearly.
5. To provide feedback to the *pupil* about his character strengths and weaknesses and the areas to which he should devote more attention.
6. To provide feedback to the *school* concerning how effectively they are achieving their objectives in the realm of character and personality.
7. To provide a detailed picture of the *pupil's* character and personality; its strengths and weaknesses.
8. To provide feedback to the *pupil* concerning his academic strengths and weaknesses and the areas to which he should devote more attention.
9. To motivate the pupils by providing them with clearly defined goals.
10. To provide employers and the universities with information about the candidate's character strengths and weaknesses.
11. To assess the pupils knowledge.
12. To motivate the staff by providing them with clearly defined goals.
13. To provide employers and the universities with information about the candidate's academic strengths and weaknesses.
14. To provide a detailed picture of the *pupil's* academic performance.
15. To provide feedback to the *school* concerning how effectively they are achieving academic objectives.
16. To teach the pupils that you don't get anything without working for it.
17. To provide an assessment of the *pupil* which is completely uninfluenced by the teachers other knowledge of the *pupil*.
18. To motivate the pupils by letting them know who is better than they are so that they can compete with them.
19. To enable schools to be compared.
20. To enable teachers to be compared.

1	31
2	26
3	25
4	25
5	21
6	20
7	19
8	17
9	17
10	15
11	13
12	13
13	12
14	12
15	10
16	8
17	8
18	2
19	2
20	1

Chart XV

Percentage of those Teachers thinking each Objective very Important who were Dissatisfied with its Achievement.

(Figs. in brackets give the proportion of the teachers who thought the objective very important).

1. To provide a detailed picture of the pupil's character and personality; its strengths and weaknesses. 77 (23)
2. To provide feedback to the *school* concerning how effectively they are achieving their objectives in the realm of character and personality. 77 (23)
3. To provide employers and the universities with information about the candidate's character strengths and weaknesses. 72 (18)
4. To provide feedback to the *pupil* about his character strengths and weaknesses and the areas to which he should devote more attention. 72 (27)
5. To assess the pupil's reasoning ability. 60 (47)
6. To provide the *teacher* with information about each individual pupil so that he can think about how to help them. 52 (46)
7. To provide educationalists with the information they need to guide and place their pupils within the educational system. 51 (45)
8. To assess the pupil's ability to express himself clearly. 47 (50)
9. To motivate the pupils by providing them with clearly defined goals. 45 (34)
10. To motivate the staff by providing them with clearly defined goals. 45 (27)
11. To assess the pupil's knowledge. 40 (30)
12. To provide feedback to the *pupil* concerning his academic strengths and weaknesses and the areas to which he should devote more attention. 37 (42)
13. To provide employers and the universities with information about the candidate's academic strengths and weaknesses. 35 (32)
14. To enable schools to be compared. 35 (2)
15. To enable teachers to be compared. 33 (3)
16. To provide a detailed picture of the pupil's academic performance. 32 (34)
17. To provide feedback to the *school* concerning how effectively they are achieving academic objectives. 30 (32)
18. To provide an assessment of the pupil which is completely uninfluenced by the teachers other knowledge of the pupil. 29 (24)
19. To motivate the pupils by letting them know who is better than they are so that they can compete with them. 24 (7)
20. To teach the pupils that you don't get anything without working for it. 23 (34)

Whatever the functions of examinations *should* be, most teachers agree that examinations do not perform *any* of the functions about which we inquired even moderately well (chart XIII). This is not surprising: at present examinations have too many functions and, as a result, are not adequately geared to achieving any of them.

Project Work: An Educational Process Highlighting many Problems for Evaluation.

The material we have reviewed points to the need for a radical change in our evaluation system. But, before discussing more explicitly the sort of evaluation system that one might strive to work toward, we may highlight another basic problem by citing an example. We have seen that, among other things, project work may be directed toward helping pupils develop the ability to learn on their own, to work with others, the tendency to notice problems and set about tackling them effectively, the tendency to bring slight feelings of unease into full consciousness and think about them, the tendency to work effectively toward goals and effectively to communicate to others the results of what one has learned. It may also be directed toward developing self-confidence (based on the experience of being able to tackle problems successfully), to developing specialists who are able to *change* their specialities, to ensuring that pupils develop effective strategies for acquiring the information they need, and willingness to take an active role in bringing about social and economic development.

If these goals are considered to be important, it is progress toward these goals, and not some more easily measured goals, that has to be assessed. To assess the efficacy of project work in terms of whether or not the pupils demonstrate that they have a knowledge of geography, chemistry or English, or even by determining whether they have contributed in important ways to new knowledge, is to direct the attention of teachers and pupils to objectives different from those which the technique is intended to achieve. If one adds that project work is intended to enable each pupil to identify and develop his own idiosyncratic strengths and competencies and to enable the educational system to produce pupils with very diverse patterns of knowledge, skills and attitudes, the problem of evaluation becomes even more intractable because all pupils will have to be evaluated against different criteria.

We may summarise the problems illustrated by this example by saying that an effective system of evaluation must be 'competency-oriented' rather than 'content-oriented', and that it must somehow cope with individualised, modulised, instruction in which different pupils take different courses and strive to reach different goals.

In spite of these difficulties, it is worth emphasising once more that, if the goals we have just described are the ones that are most important, then it is progress toward *them*, and not toward some other goals, that must be evaluated.

We say *must* be evaluated, but the very notion that progress toward educational goals should be evaluated is debatable. As we have seen, many educational innovators would resist it. Before we can clarify the roles which an efficient system of evaluation should perform we must first ask ourselves why we need *any* evaluation system.

The Need for Evaluation.

As we have seen, an essential feature of the effective achievement of any goal is the tendency to monitor progress toward it and to use the information so obtained to take action designed to achieve the objective more effectively. But there are other very good reasons for evaluating progress toward goals such as those we have

mentioned. Spelling these reasons out will help us to clarify the different levels at which evaluation is needed: from an educational viewpoint it is needed by policy-makers at a national level, by researchers, curriculum developers, teachers, pupils, and by parents. It is also needed by employers. We will discuss the needs of each of these groups separately.

National Evaluations.

At the national level, information is needed to take stock of the quality of the human resources which are available in the youth of the nation in order that broad policy decisions on education can be made. If useful information is to be provided, these national assessments must include measures of at least the following things: How are the pupils' personalities developing? What guidance do they need? How do the pupils perceive their future? In what ways are their self-images developing and changing? That is: In what areas do pupils feel themselves to be competent and incompetent? How do they feel about their ability to master new things? How do they perceive their school and society? How do they think society works and what do they see as their place in it? How effectively do they relate to others? How willing are they to take initiative? How willing are they to listen to others and take what they say into account? How ready are they to tolerate people with values other than their own and how ready are they to tolerate other ways of life?

Once this information has been collected, it is necessary to use it. The examination system itself provides one way of ensuring that teachers and pupils pay attention to the goals that society considers most important. So long as the goals to be attended to were the development of the three R's, things worked reasonably well. But as the numbers in post-primary schools grew, employers and the universities came under pressure to use 'objective' means of assessment — and schools provided the only convenient 'objective' assessment system, irrelevant though it was for the purposes for which it was used. As a result, selection on the basis of academic attainments reduced the emphasis on the character-development goals of the old schools and universities. These qualities were, in any case, difficult to assess and, in a situation of rapid growth, no one had the time to think about the implications of *not* developing better means of assessing them. The result was that the examination system, as we have seen, far from making sure that teachers paid attention to the goals they believed to be most important, operated to *prevent* schools achieving their main objectives by directing teachers' and pupils' attention to less important goals. Yet this does not mean that national evaluation systems could not, once again, perform an important function in redirecting the attention of teachers and pupils.

Reasons why Pupils, Teachers, and Researchers need Evaluation.

Pupils, teachers, curriculum developers and researchers all need feedback to allow them to monitor progress toward their objectives, to evaluate the relative merits of various curriculum developments and educational innovations, to correct their mistakes, and to improve their performance in the future.

The reliability and detail required in these assessments differs from that required by the national monitoring system, and differs from group to group; but all groups need detailed, reliable and valid assessments of their progress toward attaining their educational goals.

The need for educational assessments at this level is important for another reason. Teachers, parents, and pupils all need to know that schools are attaining something worthwhile. Simply to free teachers from the present examination pressures is insufficient. One meets many teachers who have adopted the 'new

methods' of education, but, in the end, come to wonder whether they have achieved anything at all: at least with the traditional yardstick, they knew they had achieved *something*. So long as teachers can only monitor progress towards *some* of their objectives, they will tend to concentrate on *those* objectives simply because they can detect progress toward them. If one cannot detect progress toward a goal, one tends rapidly to give it up. The fact that the current examinations are a key to occupational success is not the only reason for the current preoccupation with them.

Another reason for stressing the need for educational assessments is that documentation of the consequences of alternative educational programmes is essential if people are rationally to choose between alternatives which are offered to them.

A final reason for stressing the need for evaluation arises from the fact noted earlier that, in part, national examinations are intended to ensure that teachers pay attention to the most important goals of education. When we were talking about this, it may have been noticed that we oscillated between stressing the need to study the relative merits of different types of course on the one hand, and providing feedback to pupils to help them to improve their performance on the other. Although both require the same instruments, the fact that the former is basically directed toward helping *teachers* improve their performance should not escape attention. This is particularly important in view of the fact that in the past there has been a tendency to assume that a teacher's performance can be evaluated directly — by methods other than assessing the performance of his pupils. Although it is often argued, as we have done, that examinations are necessary in order to keep teachers on their toes, the corollary that teachers, as well as pupils, should be judged on the results is often ignored. Just as pupils need to change their attitudes to evaluation if they are to make use of the developments we are suggesting to attain the goals they set themselves more effectively, so too, do teachers. Both will have to come to view the very different sorts of evaluation we are proposing not as unalterable judgements on their character, but as aids to improving their performance.

Levels of Assessment.

To achieve their goals, educationalists, policy-makers, teachers and pupils require three different levels of feedback. One is a broad picture of the human resources available amongst the youth of the nation. The objective of assessments of this sort is to monitor, over a very wide range of attitudes, values, knowledge, and social and intellectual skills, what is happening over time and with improved, or at least changed, methods of education, and to assess the quality of the current output from our educational institutions. This monitoring would enable one to detect whether there was a drift in standards in any area of educational endeavour and whether some aspects of education were being neglected or overemphasised in education as a whole. The feedback would necessarily be concerned with *all* pupils and with providing an objective picture of what their knowledge, skills and attitudes *are*. It would be possible to see from this whether the percentage of pupils reaching a given standard in any area of social, intellectual, or attitudinal, competency was increasing or decreasing. Although the assessments would have to relate to *all* pupils, this does not mean that evaluations could not be carried out on random samples of pupils rather than the total population. In fact, fairly reliable estimates of what was happening in the total population could be obtained from well-constructed samples.

It is also necessary to provide teachers and pupils with information relating to their attainment of the objectives they set themselves. It would be necessary to provide detailed information covering a wide range of educational outcomes so that corrective action could be taken in relation to the needs of individual pupils or

methods of instruction. The information required includes data on the effects which the educational methods currently in use were having on the attitudes of the pupils, their feelings of competence, and on their motivation to apply themselves. It would have to include feedback of this broad type since it is possible to envisage that instructional techniques which facilitate the attainment of one goal (e.g., imparting knowledge of routine procedures) might have negative effects in other areas (e.g. stifling initiative).

The third level of feedback which educationalists need is documentation of the long-term consequences of different types of educational programme both at an individual and a societal level. This is another way of saying that we need better information about the predictive validity of school assessments. As we have seen, there is a remarkable lack of good information in this area.

Some Implications, especially for Summative Evaluation: Goals and Competencies.

Having emphasised the 'formative-feedback' rather than the 'summative-judgmental' aspects of evaluation, it may be noted that, so far as these assessments are concerned, we would have by-passed the problem of cheating (for who would cheat if it meant one would be less able to achieve one's goals). Nevertheless, the need to orientate evaluations toward the individual's achievement of his own goals implies radically different concepts of summative evaluation — whether that individual be pupil, teacher or policy-maker.

For Pupils.

Some examples may make the position clear. If a pupil wants to be an excellent footballer and uses feedback, insights, and ideas, plans strategies, anticipates obstacles and finds means of circumventing them, seeks out new ideas, reads and makes contact with others outside his community in order to become a better footballer, he is obviously displaying very high-level skills. It does not make sense to say that he lacks intellectual ability. If he does not evince the same levels of efficacy in mathematics, it is because he does not value mathematical performance so highly — which is not the same thing as saying that he's no good at it. (When people say that someone is 'no good at' something, they generally imply that the individual concerned *could* not be good at whatever it is even if he wanted to be). It seems highly likely from McClelland's work (which was reviewed earlier) that our footballer could be very good at mathematics if he so desired. It is therefore essential to separate assessments of pupils' values from assessments of their competence. The implications of this may be made explicit by taking another example. If what we have said is true, we have no right to expect a pupil to demonstrate his capacity to understand prose by asking him to answer questions on a passage which does not interest him and help him to achieve his own goals.

For Teachers.

The same considerations apply when teachers are evaluated. The teacher who strives to help his pupils develop the ability to work with others, to learn without instruction, and to find information themselves, may turn out pupils who get poor results in traditional memorisation examinations. Joan Barker-Lunn's (1966, 70) results suggest that this is indeed the case. But the main conclusion to be drawn is not that the teacher is poor, but that he does not value the traditional examination goal. What is needed is information which tells us (and him) how successfully he attains the goals he sets himself, supplemented by information about the unintended (and perhaps unwanted) consequences of his work (e.g., his pupils may fail examinations, and, if employers' selection criteria are not changed, be thrown onto the unemployed scrapheap). If we had information about the short and long-term effects of a teacher's educational programmes we could consider more rationally

whether or not we approved of the educational programme he was offering.

For Administrators.

The administrator who measures the attainments of the educational system against only one or two criteria, particularly criteria which he has established without reference to teachers' or pupils' views, or research data on the long-term consequences of alternatives, may well be imposing standards which may not be appropriate: the information he needs would be very different if he asked whether the system was helping people to achieve their own goals. In fact information on whether the system is enabling its members to achieve their goals is needed on the societal as well as on an individual level because some outcomes which are desirable at an individual level (e.g. a dedication to get ahead as an individual regardless of the plight of others) may cumulate to prevent society (and therefore most of the individuals within it) achieving shared goals. The administrator's responsibility under such circumstances is to point out the facts of the case to the public in general and, in particular, to relevant decision-makers.

Goals, Starting-Points and Relative Strengths.

Not only is it necessary for evaluation to take the individual's own goals into account and to allow for the fact that different pupils will have developed different competencies, it is also necessary to consider the individual's starting-point. Evaluation is intended as much to measure progress toward goals as the standards attained at any point in time. Furthermore, what is most often needed is an assessment of pupils' strengths — strengths measured relative to their own abilities, not in relation to the abilities of others — and of the problems that their weakness may lead them to encounter when they are developing and building on those strengths. This seems to spell the death-knell for the sort of examination or school certificate to which we have grown so accustomed and to which we have geared our society: certificates in which pupils are almost always judged against virtually the same criterion. If we are to have certificates on which pupils' competencies are evaluated against their own, diverse, valued goals, and on which the pupils' abilities are judged in relation to their own other abilities, school-based, externally moderated, systems of evaluation would seem to provide the only answer.

A New Concept of Evaluation: Evaluation as a Stimulus to the Advancement of Educational Theory.

The structures required to operate a system of school-based evaluations not only provide an opportunity for teachers to participate in discussions about how to find out whether they have achieved their goals: they also provide an opportunity for them to consider and talk about what is required in education and how it is to be achieved. The discussion of educational objectives, the way such objectives should vary from pupil to pupil, the means to be used to attain them, and the means to be used to find out whether they have been attained, is much more important than the quest for comparable standards in marking — although this is the goal most commonly pursued through external moderation systems.

Although, as we have seen, most of the teachers interviewed in the survey seemed to be unclear about why they had examinations, they thought that examinations were intended more to provide feedback to schools, teachers, and pupils than to provide assistance to employers. In this, they were anticipating the line of thought advanced here, although, in the light of what we have seen of the social functions of education, the goal of safeguarding the objectivity of summative assessments cannot be discarded.

What sort of process, which would be of maximum benefit to teachers, could

we seek to initiate by introducing an appropriate school-based evaluation system? It seems that an appropriate evaluation system could induce teachers to scrutinise what they are trying to achieve, the meaning of the terms they use to describe educational objectives, the psychological nature of the characteristics they wish to help their pupils develop, the adequacy of the means they use to discover whether they have attained their objectives, and the relative merits of alternative ways of achieving their goals and assessing their effects.

The System in Operation: An Example.

An example such as the evaluation of pupils' skills at woodwork might clarify the role of discussions of evaluation. Let us now consider a question which usually comes up in discussions of how pupils' performance in woodwork should be evaluated. The question is this: "what proportion of the marks should be allotted to theoretical work and what proportion to practical work?" To answer this question, one has to get back to one's objectives and explore their implications. Does a boy whose practical work is excellent deserve to get a poor mark if he cannot cope with the theoretical work? Clearly, the question being posed in this way, the marking scheme divides into two separately recorded elements: practical and theoretical. Next, what of objectives like encouraging the development of initiative, self-reliance, and resourcefulness? For the benefit of readers outside Ireland, it should be mentioned that these objectives appear in the Irish Department of Education's woodwork syllabus. *Can* these things be assessed? (If not, what do the terms mean?) If they cannot be assessed, what right have teachers to use such words when writing confidential references for their pupils? If they *can* be assessed, exactly what does initiative consist of? And once the word has been defined, might there not be better ways to foster it? How permanent is the characteristic? If its occurrence is dependent on particular social circumstances what right have we to record its existence as a relatively enduring characteristic of the pupil, whether in confidential references or in school reports?

More Detail on the System.

Obviously the development of a system which encourages teachers to participate in such a discussion would have a lot to commend it — and this would involve giving teachers a great deal of responsibility for assessment. They would also need the assistance of personnel who would help them to assess the reliability and validity (particularly the predictive validity) of their assessments; they would need standardised, national, normative data to tell them where their pupils stood in relation to others, and they would need criterion-referenced tests which would enable them and their pupils to discover whether they had achieved the goals which they set themselves. These tests would need to assess both knowledge of content conveyed by any specialised programmed modules which the pupil had studied and the more general competencies being developed through the particular educational programme. But, from an educational viewpoint, these things should be secondary to the responsibility of teachers. From the point of view of the social functions of summative evaluation certificates, it is important to guard against teachers favouring certain pupils but, even so, the evaluations would have to be responsive to teachers' concerns — and not something imposed externally. Additional structures and procedures, such as rotating sample surveys, would also be needed to provide national evaluations which, while equally responsive to teachers' concerns, would make it possible for feedback to draw teachers' attention to competencies which they were failing to foster.

The place of standardised tests in such a scheme needs to be discussed in more detail. We have seen that *formative* evaluation would probably be best carried out using a combination of pre-prepared instruments (including both tests providing very detailed feedback covering both competencies developed and knowledge content

learned, and systematic rating scales) and assessment techniques which the teacher himself had developed in consultation with others. From these two sources, detailed information would be obtained about the effects of the educational programmes the pupils were following. Assessment systems formulated by the teacher would not only provide a particularly important means of finding out whether he had achieved his own goals but would also help him to clarify his goals and thereafter achieve them more effectively. Professional assessment instruments would provide a great deal of detailed information, of a kind which is not usually obtained, that would help to improve instructional practices and procedures.

In comparison with the *formative* evaluation procedures we have just discussed, *summative* evaluations would have to incorporate more assessments which were either endorsed by other teachers or backed up by information obtained with standardised tests. Nevertheless, it is important to note that, even in summative evaluation, standardised tests cannot provide the main means of moderating teachers' evaluations. Many characteristics, including oral skills, initiative, persistence, followership and the ability to make good decisions cannot be evaluated effectively by paper and pencil tests at present, although considerable developments in this area are possible. Such traits can largely be assessed only through teacher ratings of behaviour which leaves no permanent record that is available for corroboration by others. We are therefore left with a number of questions. What behaviours are to be included in such assessments? What can be done to ensure that different teachers mean the same things by the terms they use? What can be done to ensure that rating scales, once developed, are used in the same way by different teachers? We will consider these questions in considerable detail in the next chapter. Here our concern is to consider the *system* requirements more fully. But, before we discuss them we should first devote a paragraph or two to clarifying what is meant by 'objectivity' in assessments, and, secondly, clarify the stance we are taking in relation to some aspects of the structure of human abilities and the competencies called for in society.

Two Conceptual Blocks to Creativity

"Objectivity"

Psychologists have been responsible for some rather neat sleight of hand in relation to the concept of 'objectivity'. In the first place they have, as we have seen, been party to a conspiracy in which the attention of teachers, selectors, personnel managers, and others concerned with staff placement and development (as well as politicians) has been focussed on the abilities which it is easiest to assess rather than on those which are probably the most important in society. But, more seriously, many of them have been unwilling accomplices in the following trick. First one establishes that teachers'— or anyone else's, for that matter — ratings of some such trait as 'initiative' don't correlate very highly with each other. So one brands the ratings as 'subjective'. Next one delves into one's bag and produces a piece of paper labelled 'Test of Initiative'. Behold, if one asks one's pupils to complete the test on two separate occasions they get much the same score. *Ergo:* The Test is 'objective'.

Now, what's wrong with that? What's wrong is that, in all probability, had fifty psychologists who had not all read the same literature each developed a reliable 'objective' test of initiative, the pupils' scores on these tests would have been little more highly correlated with each other than were the teachers' ratings. What has happened is that the 'subjective' judgement as to what should count as 'initiative' has been pushed back from everyday people into the hands of 'professionals'. But it is no less subjective for that. Yet its subjectivity is not so apparent. This is partly

because of the shared socialisation experiences of psychologists, and partly because there are fewer psychologists around to be the subject of such studies. Although the problem we are discussing is essentially that of construct validity rather than subjectivity-objectivity, the notion of objectivity unfortunately looms large in many discussions about educational assessment. There has been a particularly unfortunate tendency to equate the word 'objective' with 'multiple choice'. It behoves us, therefore, to tread with extreme caution when words like 'subjective' and 'objective' crop up in discussions. Although opinions, judgements, observations and measurements vary in a large number of ways it is worth remembering that there is *no* opinion, judgement, observation, or measurement which is *not* "subjective".

The Structure of Human Abilities

The other topic which must be briefly introduced before we consider the systems requirements for an effective system of educational evaluation is the model of human competence we adopt and the relationship between those competencies and education and society. Our model of competence, the teaching processes required to foster its components, and our understanding of the qualities required by society all have a marked bearing on what we are likely to conceive of as an appropriate system of educational evaluation. Let us summarise some of the most important conclusions we have come to in previous chapters concerning these three issues.

- (a) No one can develop all his potentialities to the fullest extent — simply because he has too many potentialities. We have seen that schools could help pupils to develop high levels of decision-taking ability, leadership, forecasting ability, planning skills, a number of different types of creativity, or follower-ship ability. But pupils have to choose which skills they wish to develop: they have to build on their strengths. They *cannot* become all-rounders, extremely good at everything.
- (b) No one can master more than a tiny fraction of the knowledge available in modern society. Again, it is necessary to be selective.
- (c) There is so much that it is extremely important for each individual pupil to attend to in the course of his education that there is no point in a pupil attempting to develop competencies, or to master areas of knowledge, which it is *not* important that he master.
- (d) Society needs a wide variety of different sorts of people who value different things and who are good at different things.

If we accept these conclusions it follows that teachers have an inescapable and absolute responsibility to ensure that all pupils *master* the competencies that it is important that they should develop to the level at which it is important that they should develop them and to ensure that pupils do not spend time developing *irrelevant* competencies. The pupils and teacher should agree both on the profile of competencies each pupil needs to develop and the level to which he needs to develop them. Once that has been agreed, half-developed competencies are un-acceptable. Furthermore they are entirely the responsibility of the teacher — because either he has not done his counselling properly or he has not done his teaching properly. There is no point in a pupil who needs to be able to solve differential equations, being able to only half solve them. There is no point in a pupil who needs to be able to understand spoken French being able to understand only written French. Equally it is evidence of a teacher's failure if a pupil has been allowed to develop a particular competency *beyond* the level at which he will need it at the cost of not developing some other

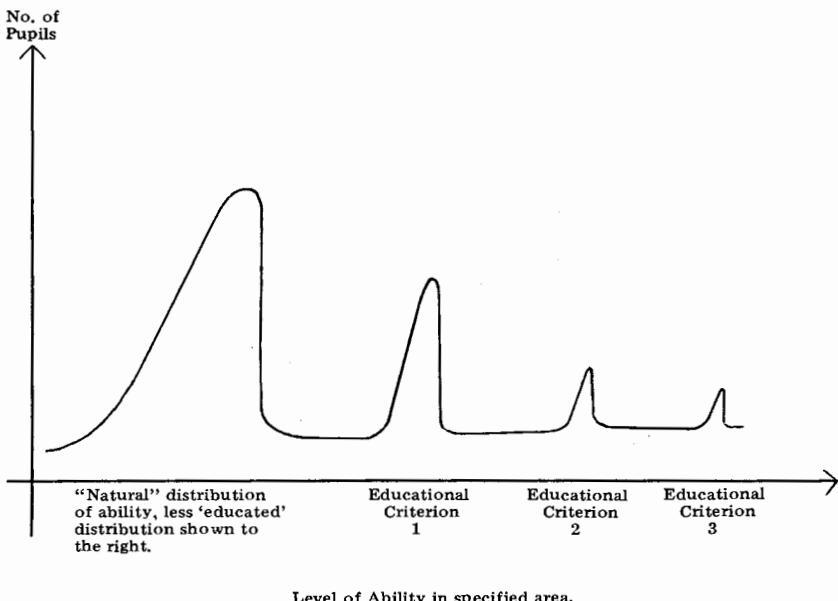
competency which, at that point, becomes more important to the pupil.

If this viewpoint is rational, why does it sound so radical? Perhaps because teachers in the past have neither been convinced that they had a responsibility to help *all* their pupils nor that what they were teaching was of the utmost importance to *all* of them. The radical point we are making here is simply (and rather remarkably) that there *are* educational benefits which are vitally important to all pupils.

Implications of the Structure of Educated Ability for Educational Evaluation Systems.

It follows from what has just been said that, whereas abilities, in their uneducated state, can be expected to be 'normally' distributed, 'educated' abilities developed according to the philosophy outlined above, and measured by power, not speed, tests, should *not* be distributed 'normally'. The distribution might be as in Chart XVI.

CHART XVI



This chart indicates that most pupils do not attempt to improve on their naturally occurring competence in the area, and the three subsequent peaks indicate the mastery level appropriate to different pupils who require different levels of the competency and which are covered by different instructional programmes which are

mastered by those pupils who enrol for them. Pupils who, through traditional teaching methods, would have filled in the troughs in the distribution have either been brought to one of the mastery levels or have developed *alternative competencies*.

Distributions which depart from the ideal tell us that some pupils have done better than others. However 'normal' distributions, of the form commonly strived for, mostly tell us that teachers have failed to counsel their students properly; they have not advised different pupils to do different things; they have not asked themselves whether it is important that pupils learn what they are teaching and answered the question positively; and they have not taken seriously their job of making sure that pupils master the things which it is really important for them to master. All of these reflect much more badly on the teaching profession than on the pupils who do not do well.

Thus, while national testing programmes are desirable in order to discover whether pupils have mastered that which they are said to have learned and in order to find out which areas have been neglected by the school system (or in which it might have had actual negative effects), and while carefully developed diagnostic instruments are required for use in the development of modular teaching materials and in the course of executing modularised programmes of learning, as far as summative pupil evaluations are concerned, once knowledge has been packaged into small optional units, what is needed is:

- (a) Overall diagnostic and guidance information useful to the pupil, his teachers, and his prospective employers; information indicating strengths and weakness, information which would include pupils' competencies and areas of knowledge, their self-images, their feelings of adaptability and their perceptions of social institutions. It would also include overall assessments which might prove useful in life planning, life planning which would necessitate guidance information concerning further development and education and data on the areas the pupil values (areas in which he is therefore most likely to master new knowledge in the future).
- (b) A report on the nature and levels of the competencies the pupil has mastered in the course of his education. This report should tell us both the areas in which the pupil is most competent relative to his own other competencies and where he stands *in relation to others who have their greatest competencies in these same areas*. This information should not be set against norms and standards derived from *all* other pupils. The relevant normative group is the group of pupils who also have their greatest strengths in the same area.

It should be noted that the content of this report reflects more on the school than on the pupil — for the competencies a pupil has had an opportunity to develop depend almost entirely on the ability of the school to assess the pupil's values, talents and interests, and then to tailor an appropriate individualised programme of education to those talents and interests. As a result, although data on the proportion of students failing to achieve mastery of competencies they have tried to develop is very important from the point of view of helping schools to improve their performance, the fact that a pupil has not succeeded in developing some competency he set out to develop is not something which should be included on any school certificate.

A Summary of Systems Requirements.

So far in this chapter we have examined a number of educational issues and

considered their implications for evaluation. The time has come to tie a number of these strands together in order to gain a more complete picture of the parameters of an effective system of educational evaluation.

We have seen that we badly need a *differentiated* system of evaluation which performs *all* the diverse functions performed by the current examination system, only much more effectively. Separate evaluation systems are required to monitor the balance of different skills and competencies emerging from the educational system on a national basis, to give schools, teachers and pupils recognition for working toward the goals of education which everyone connected with education believes to be the most important, to stimulate teachers to think about their goals and how best to achieve them, to provide feedback to teachers and pupils to enable them to attain their goals more effectively, to contribute to the (lifelong) needs of the individual for guidance in his personal development, and to enable society to utilize the talents which each individual possesses.

Nevertheless, although the *systems* required for these purposes are very different, and although the content and detail required varies markedly from purpose to purpose, a number of general parameters which each has to fulfil emerge very clearly. These parameters delineate a set of procedures which differ markedly from those we are used to. In the first place the system requires that many apparently summative assessments be used for formative purposes. Summative assessments carried out by National monitoring bodies should be designed in such a way that they yield information which will promote discussion of educational policy — including the goals of the educational system — and help to improve the performance of the educational system. Summative assessments designed to find out whether an educational programme has worked in the way in which it was intended to work should also yield data on how to improve that programme. Summative assessments carried out at a particular point in time for guidance purposes, and covering the individual's values, competencies, interests, expectations and aspirations, should be designed in such a way that they promote useful discussion of his needs in terms of placement and development. Summative assessments designed for certification purposes should also indicate how best the individual's talents could be utilized and developed through work organised as an educational experience.

The second way in which these assessments must differ from the assessments we are used to is that they should force those who use them — administrators, politicians, teachers, pupils, parents, and employers — to become clearer about the psychological nature of the competencies they are concerned with, the way in which these competencies are to be fostered, the way in which progress toward them is to be assessed, and the way in which, once fostered, they are to be utilized. When politicians and administrators consider the last question they may be led to strive to introduce some major reforms into our social system — particularly into our systems for social placement, manpower utilization, and social security.

The third way in which they must differ from traditional assessments is that they must be competency-oriented rather than content-oriented. The implications of this are, firstly, that they must focus on the development of competencies — such as initiative, leadership, or responsibility — which leave no permanent record or product which enables the assessment to be corroborated by others who do not have a close acquaintance with the individual concerned. This means that we will have to find ways of enabling the pupil's teachers and peers to make more reliable assessments of such qualities. Secondly they must be capable of much greater individualisation — of recording talents which no other pupil in the same school possesses or has tried to develop. And, thirdly, they must be much more closely tailored to each individual's values.

A school-based, externally moderated, system of evaluation would seem capable of fulfilling these requirements. The external monitoring would have to involve an extensive network of meetings between teachers from different schools, inspectors, researchers, administrators, parents, and pupils (and anyone else with an interest in education). It would have to provide for much fuller participation and involvement of each of these groups in all educational settings. And it would have to be backed up by a wide array of professionally-developed evaluation instruments and procedures.

In the following sections the role of each of these components is spelt out in more detail.

The Role of Professionally Developed Evaluation Instruments.

In relation to such a system, the main functions to be performed by professionally developed evaluation devices would seem to include the following:

- (1) To stimulate the development of the theoretical framework which is needed to develop an appropriate means of classifying and organizing the units of instruction. In relation to each module, one needs to be able to specify:
 - i. the nature of the competency to be developed.
 - ii. the level and practical utility of the competency.
 - iii. the competencies which *must* be mastered prior to embarking on the unit. (Great care should be taken to minimise these by studying the nature of, and interrelationship between, competencies and by making the modules as small as possible).
 - iv. the position of the unit in a multi-dimensional descriptive classification of competencies i.e., links forward, backward, and sideways.
- (2) To aid in the development and use of modular units of instruction. What is needed here is a series of diagnostic instruments which will indicate where pupils are going wrong and why — so that appropriate remedial action can be taken. Such intra-unit diagnostic evaluation procedures should include both paper and pencil tests and systematic observational procedures. It should be noted that, although the units of instruction will be modularised, the intra-module evaluation procedures will need to do much more than paint an overall picture of a student's progress. To be useful it will be necessary for them to provide information about the development of all the competencies intentionally and unintentionally touched on in the module; they will have to provide detailed information on what is happening in each of these areas.
- (3) To provide more general diagnostic and feedback information about all aspects of an individual pupil's development in order to help the pupil and his teachers in career and life planning. Information is needed about the competencies the pupil has developed, the gaps in that structure, his values and life goals, and so on.
- (4) To provide the instruments needed to carry out broad surveys of the quality of human resources emerging from the schools or from particular educational programmes, broad surveys which would go far beyond the competencies developed in any particular programme and which would include possible dysfunctional characteristics developed unintentionally in the course of the instructional programme currently in operation. This information would provide guidance for teachers, schools and administrative bodies.

A variety of types of professionally developed evaluation instruments are needed. These would have to include: standard sets of professionally developed teacher-rating scales for assessing characteristics which cannot be assessed through paper and pencil tests, standard questionnaires for assessing pupils' values, which would be used in guidance and counselling, standard means of assessing pupils' cognitive-affective maps, maps showing the perceived personal implications of engaging in various courses of activity (these are discussed in detail in the next chapter), standard means of assessing the extent to which pupils have developed the competencies which we have talked about in this book, standard means of assessing whether pupils have mastered the knowledge, skills and attitudes that it was the intention that certain modules of instruction would lead them to master, standard means of finding out why pupils have not mastered that which they set out to master — so that the means of instruction could be improved in the future — and standard measures of career and life plans and values.

Note that many of these instruments do not refer specifically to a particular course or syllabus. The objective of certain forms of project work might be to stimulate *some* pupils to develop creativity and to encourage *all* pupils to become more tolerant of other viewpoints and to be more willing to work with others. The instruments required to assess the extent to which these competencies have been developed might be drawn from a pool of tests which are also used to evaluate other courses — such as an English literature syllabus which includes the development of these competencies among its goals.

Other instruments need to be tailored to the particular educational programme under consideration. For example, an instrument may be needed to find out whether all the pupils who claimed to have studied a module in a certain type of commercial arithmetic, had in fact mastered it. Such an instrument could not readily be generalised to the evaluation of other competencies or courses.

Not only must the instruments vary in the extent to which they are tailored to the precise goals of a particular programme, they also need to vary in the extent to which they are intended to be used primarily to provide feedback to help schools, teachers and pupils improve their performance or primarily for summative purposes. Thus an instrument to be used early in an educational programme to discover where a pupil was going wrong and what could be done to help him, would need to provide very detailed diagnostic information. In this way it would differ markedly from a summative instrument designed to paint a profile of the competencies he had developed, or not developed, as a result of taking the programme. A rating instrument, and a system of moderation of ratings, which were designed to stimulate teachers to think about their goals and about whether or not they were achieving them, to compare the relative merits of alternative ways of achieving them, and about how best to help each pupil, might need to be very different from an externally moderated set of ratings designed to assess the pupils' competencies at the end of a course. In the latter, the emphasis would be much more on the agreement between assessors, the content validity of the assessments (had the pupils in fact mastered that which it would be claimed they had mastered) and on the validity of the assessments in predicting pupils' out-of-school performance.

The instruments which are required also need to vary in the extent to which they are 'criterion referenced' as distinct from 'norm-referenced'. Criterion reference tests are required to find out whether pupils have developed the particular knowledge, skills, values, perceptions and expectations which it was intended that they should develop. If they have developed them it is irrelevant to ask how many other people have also developed them. On the other hand norm-referenced tests

designed to find out where a particular pupil stands in relation to others are required to assess the extent to which pupils have developed certain characteristics in the course of their overall education although not forming the central objective of any particular part of it. They are also needed in order to make overall evaluations of the effectiveness of alternative programmes — overall evaluations which include negative as well as positive outcomes. Such primarily 'competency-oriented' rather than 'content-oriented' overall assessments could not realistically be anything other than norm-referenced — for it would not be appropriate for all pupils to strive to develop these competencies.

The Role of Teachers

In the sort of evaluation system envisaged here teachers would be primarily involved in:

1. Discussing and clarifying the goals of education and the ways in which they are to be achieved.
2. Counselling and guiding their pupils.
3. Selecting educational inputs suited to the achievements of their own, and their pupils' goals.
4. Helping to develop modular units of instruction.
5. Contributing items for machine-scorable tests which fulfill the best criteria of test construction.
6. Developing schemes for the assessment of characteristics which could not be reduced to machine-scorable forms. These range from schemes for assessing essays and oral and practical work where there may be a permanent record of the pupils' performance, to assessment of characteristics which may be visible only transitorily in the course of group project work, for example.
7. In selecting and utilising evaluation instruments suited to their own educational programmes.
8. Assessing pupils by such schemes of evaluation.
9. Drawing attention to areas of educational endeavour, or unintended effects of educational programmes, for which suitable evaluation instruments had not yet been developed.

The Role of Researchers.

Researchers would be involved in:

1. Clarifying the goals of education.
2. Clarifying the nature of the competencies to be developed.
3. Clarifying the ways in which they are to be developed.
4. Clarifying the means of finding out whether they have been developed, and what unintended consequences these programmes of education might have.
5. Carrying out nation-wide evaluations of the educational system in order

to evaluate it as a system and drawing attention to areas of educational endeavour which might be in need of greater attention.

SUMMARY

Before we review some evaluation procedures which may provide leads to better ways of assessing the motivational characteristics with which we have been mainly concerned in this book, and which might be more widely used in education, we may summarise what we have so far said about the system of evaluation that is needed.

What seems to be needed is a system of evaluation which:

- (a) Much more effectively separates the functions which the current examination system strives to perform. We need a *system* of evaluation which makes procedures available to perform each of these functions. We need a system which will provide useful and effective feedback to teachers and pupils to help them achieve their goals more effectively. We need a method of monitoring the quality of the human resources emerging from the schools and which will provide the data needed to stimulate discussion of educational policy. We need a better guidance system to help pupils choose educational programmes, careers, and life styles from a better informed vantage point. We need a system which will enable employers to make the best use of the talents available to them. We need better procedures for motivating teachers and pupils to turn more of their energy into important educational activities. And we need a system which will ensure that schools pay attention to the goals of education that society considers most important. At the present time the examination system is charged with all of these functions and, according to the teachers we interviewed, performs none of them very well.
- (b) Evaluates the performance of the educational system, schools, teachers and pupils across a much wider range of criteria which take into account many more of the competencies pupils could be helped to develop, the perceptions they develop, and the unintended characteristics they develop as a by-product of achieving particular educational goals.
- (c) Validates much more thoroughly such evaluation instruments as are used in terms of the long-term consequences for the individuals concerned.
- (d) Requires teachers to think more explicitly about what they are trying to achieve with individual pupils who have different needs, how they are to achieve these goals, and how to find out whether they have achieved them.
- (e) While safeguarding pupils against injustices which may arise from malpractice in evaluation due to the social functions of education, provides a wider range of more relevant and more valid information to assist employers in not only selecting employees but also in thinking much more clearly about how the talents of those staff are to be developed and utilized.
- (f) Strives to concentrate the attention of teachers, pupils, parents, employers and politicians on a wider range of more life-relevant competencies.
- (g) Allows schools which wish to innovate greater freedom to do so, while at the same time safeguarding the life chances of the pupils concerned.
- (h) Is much more open to continuing change in the light of developments both

in the understanding of educational objectives and in the technology of educational evaluation — developments which are only now emerging but which will be stimulated and encouraged if there is a greater opportunity to translate them into action through serious discussion and evaluation.

We concluded that, by and large, the educational system would greatly benefit from a move toward more school-based, externally moderated, evaluation backed up by much more systematic discussion of goals, methods, and evaluation techniques between teachers, more advisory personnel, more testing and statistical services, and much better research on the nature of human competence and the means to be used to assess its components.

PART IX

TOWARD APPROPRIATE ASSESSMENT PROCEDURES

Throughout this book we have emphasised the need for those concerned with educational assessment, whether those assessments are made in the course of research studies, other types of educational evaluation, or examinations, to shift from trying to assess what students know about the content covered in academic courses to trying to assess the generalisable competencies the students have acquired in the course of their studies. We have also repeatedly argued that these competencies all involve a values component as well as an efficacy component. From time to time we have mentioned both the theoretical basis of McClelland's projective measures and that of value-expectancy measures.

The purpose of the present part of this book is to spell out the theoretical basis of a number of alternative ways of assessing such qualities and to outline the practical procedures to be followed when developing measures of each type. We do this, not only because we feel that the adoption of more appropriate means of assessing these qualities is a prerequisite to any improvement of the educational system, but also because we believe, indeed we know, that the attempt to involve teachers in developing *measures* of the qualities which they themselves think it is most important for schools to foster leads to a dramatic advance in their understanding of the nature of these qualities and the means which are to be used to foster them.

This section of the book differs markedly in character from the previous sections. It is more like a mathematics text or a recipe book than anything else. All that will be gleaned from a rapid reading is a feeling that this is a difficult area which holds out a few gleams of hope. As is commonly the case with mathematics texts, the impression of difficulty is misleading. Yes: it is impossible to master this chapter if you hope to do so in an evening. And it is impossible to do so if you do not take pencil and paper and yourself work through the examples. But, no, it is *not* difficult if one takes it a bit at a time and does one's homework. The techniques to be outlined are all thoroughly straightforward in practice. Groups of ordinarily intelligent busy teachers have successfully and rewardingly worked through all of them with the author. They found them neither irrelevant nor esoteric.

Chapter XXVIII

GUIDELINES FOR THE DEVELOPMENT OF MORE APPROPRIATE ASSESSMENT INSTRUMENTS

We have already seen that, in spite of such investigations as the IEA Civics and Literature surveys, it is widely recognised that it is difficult to obtain reliable and valid assessments of pupil characteristics other than those commonly assessed in schools. So difficult it seems to be that some teachers and curriculum developers (e.g. MacIntosh and Smith, 1974) seem to despair of being able to assess progress toward these goals. But we have also seen that, if the qualities with which we have been mainly concerned in this book have any meaning — if they are anything other than mere words on paper — it must be possible to decide whether the qualities are present or absent in real people. And, if it is possible to discover whether the characteristics are present or absent, it must be possible to make the means of detection explicit, formalise it, and assess the *degree* to which the characteristics are present or absent. Although still in their infancy there are in fact a number of leads which might be followed when trying to develop better assessments in this area. These will be reviewed in this chapter.

In previous chapters we have argued that most human resource qualities can be thought of as involving a values component and a set of components of competence (which are also value based). We have, in particular, built on the model which appears to lie behind the *scoring system* reported by McClelland and his co-workers in 1958. (The words *scoring system* are italicised because there seems to be an important difference between many abstract definitions of what these scores mean and the processes used to obtain them). It is therefore useful to begin this chapter by summarizing this framework. Quite apart from its intrinsic merit it represents a very useful peg on which to hang ideas to be put forward later.

McClelland's Scoring System

McClelland's objective was to obtain indices of the strength of a number of 'motives'. From our present position the phrase 'strength of a motive' may be thought of as equivalent to 'the number of the components of competence an individual tends to engage in spontaneously in pursuit of a goal he values'. To obtain this information McClelland adopted a 'projective' methodology. In practice McClelland asks his research subjects to write stories about a number of, usually pictorially presented, situations. The subjects are asked to say what each of the characters in the pictures is thinking, feeling, and doing, and to describe what has led up to the situation, what is happening, and what the outcome will be.

In scoring the stories so obtained McClelland first asks: "What does the person telling the story *value*: what preoccupies him; what goals are so dominant in his mind that he tends to assume that other people are pre-occupied with the same things?" Having ascertained where an individual's values lie, McClelland then goes on to ask *how many* of a limited number of the components of efficacy we have discussed are present: does the individual anticipate obstacles, does he think about enlisting the help of others, does he turn his emotions into his task, does he consider his limitations? Thought about in this way, that is, as a measure of values and efficacy, McClelland's procedure seems to be much more open to further development than thought about simply as a scoring system for the Thematic Apperception Test (TAT).

The author has argued elsewhere (1972) that it is this systematic sampling of the value and efficacy components of behaviour, rather than the operant nature of the test, which is the most important characteristic of McClelland's procedure

(although the operant nature of the test is by no means unimportant since it is this which enables us to infer that the individual will engage in these activities *spontaneously*). If it is true that the systematic sampling of the value and efficacy components of human behaviour represents the key development opened up by this system of scoring pupil's stories, it would seem that the assessments could be improved by sampling the relevant domains more systematically and picking up the spontaneous tendency to engage in the behaviours we have described in other ways.

One way of doing this would be to generate pictures which would provide cues to elicit associations representing other components of efficacy — such as the tendency to think about the way the institutions of society work and how to cope with them.

Alternative Assessment Procedures

On the other hand it may be better to try to assess the tendency to think, feel, and act in the ways just outlined through alternative procedures. Specifically, it would be possible to assess, separately, firstly, the values — both valued styles of behaviour and valued end-states — to which an individual aspires, and, secondly, the strength of his tendency to engage in the behaviours which would be likely to lead him to attain those valued goals effectively. If our hypothesis that the efficacy components are generalisable across valued goals is correct, it should not be necessary to assess the extent to which the components of efficacy are displayed in relation to *each* valued goal (as is the case in the McClelland procedure): a single assessment would suffice, provided it was made in relation to the goals the individual valued *most* strongly, and provided that an individual's values could be adequately assessed by using other procedures.

Although such an approach would be inherently less flexible than the TAT in the range of values that could be picked up, it should be noted that, on the whole, the potential which the TAT possesses for assessing concern with values other than achievement, affiliation and power, has not been widely utilised. In practice the tests are rarely scored for more than those three "motives" (valued life styles) and the pictures used in the standard Test of Imagination series are all work-related and provide cues to a very limited number of associations.

Alternative Measurement Models

Although it is in principle straightforward to develop other indices of a limited number of main concerns and of the components of competence associated with them, it is necessary to clear one more potential source of misunderstanding out of the way before proceeding. This source of potential misunderstanding arises from traditional attitude scaling theory, with which the McClelland procedure conflicts, although this fact has in the past rarely been recognised.

Whereas attitude-measurement theory has characteristically been preoccupied with the search for measures of high internal consistency, McClelland has placed his emphasis on finding out whether there is *any* evidence that any of a number of the sub-components of the cognitive, affective and behavioural components of effective behaviour are present in relation to each of the goals studied, and, if some are present, how many of them are present. The model which underlies his work seems to be that the more of these relatively independent components of effective behaviour an individual tends to engage in spontaneously in relation to goals he values, the more likely he is to reach these goals. In other words, McClelland's scores index the total number of relatively independent behaviours an individual is likely to engage in in order to reach his goals. The scores are therefore unlikely to have high internal consistency, and they cannot be said to be unidimensional in the normal sense of that word. Small wonder, then, that other researchers' attempts to develop

questionnaire measures of *need achievement*, *need affiliation*, and *need power* have fared so badly: These researchers have followed traditional, largely factor-analytic, measurement theory when, as we have suggested here, and has been discussed more fully by Raven and Molloy (1972), and more generally by Levy (1973), this is not the only measurement model that could have been adopted and was not, in practice, the measurement model adopted, perhaps somewhat inexplicitly, by McClelland. The model actually adopted is more like the model commonly adopted when trying to predict a criterion by means of a multiple regression equation, the only difference is that all the weights are assumed to be unity and the criterion itself is derived from the data collected.

In developing further measures one should, therefore, be chary of relying too heavily on evidence of the internal consistency of any measures which might be developed. Rather one should seek to generate other evidence of validity — such as co-variation with other variables or in response to educational inputs or experimental instructions.

If we are right in breaking down human-resource competencies in the way we have indicated we should, when we try to assess them, first ask what a person's values are, and then whether or not he tends to engage spontaneously in the types of behaviour which it would be necessary for him to engage in if he is to achieve his valued goals.

The Assessment of Values

Values are goals — whether of end state, process, or of styles of behaving — which people may pay more or less attention to and achieve more or less effectively. Verbal statements which an individual may make to the effect that he values a particular goal are only one of the possible indicators that an end state or activity is valued. More important is evidence of the presence of cognitive, affective and behavioural activity directed toward attainment of the goal. More convincing still is evidence that the individual spontaneously tends to display many of the components of competence in pursuit of the goal. If one found that not only did an individual show a spontaneous tendency to engage in many of these activities in relation to the goal, but also that his pattern of values was highly integrated and supportive, one would expect him to be able to achieve his goals very effectively indeed. This is not always the case. One often finds that an individual is unable to attain his goals effectively because, whenever he sets out to attain one of them, he finds that he cannot devote his energies wholeheartedly to it because it conflicts with other goals. He lacks integrity.

Three types of indices of values may therefore be envisaged:

- (a) Scales made up of "general attitude" type items covering the cognitive, affective, and behavioural components of action. Not only should items for inclusion in such scales be selected to cover each of these three domains (so that one could discover whether action tendencies in all three areas are present), they should also be developed to pose value conflicts, so that one could discover whether a particular value came to dominate over all other values and considerations. In addition, the items should be selected and developed in such a way as to discover whether the individual tended to perceive many, rather than few, situations as opportunities to achieve his valued goals, and whether he engaged in relevant behaviour in many situations in which the nature of the existing environmental press would logically require him to engage in other types of behaviour.

- (b) Assessments of the number of the components of competence we have isolated which the individual tends to release in the attainment of the goal.
- (c) Assessments of whether an individual's values and competencies are mutually supportive and likely to cumulate to form a coherent and supportive structure of values and competencies in a way which would be expected to lead him to attain his goals effectively.

Each of these areas will now be discussed in more detail.

Assessments of Values by means of "General Attitude Items".

As we have seen, one way of assessing an individual's value for particular types of activity is to use general attitude items of the conventional sort and to seek to develop factor-analytic scales to index the areas with which he is most concerned. In attempting to develop such scales particular attention should be paid to neglected aspects of attitude measurement theory. First, great care should be taken to sample the cognitive, affective, and behavioural components of motivational dispositions. Second, attention should be paid to the model of measurement which lies behind factor analytic attitude scales (Raven, Ritchie, and Baxter, 1970).

In order to develop indices of the strength of an individual's tendency to engage in cognitive, affective, and behavioural activities in a particular area one may make the following assumptions:

1. The more an individual allows one set of considerations to influence his responses to a number of items, the responses to which could also be influenced by a wide variety of other considerations, the more likely he will be to be influenced by those considerations in the future and the harder it will be to change his preoccupation with those characteristics.
2. The more an individual tends to allow his behaviour to be determined by this set of considerations in a wide variety of situations which involve a wide variety of environmental pressures which would be expected to lead to a wide variety of contradictory or alternative behaviours, the more certain one can be that these considerations and preoccupations have overcome a wide variety of conflicting pressures and are therefore more likely to dominate the individuals' decision-taking, choices and preferences in the future.

If these are the assumptions which lie behind our measurement model the implications are that our items should, in addition to tapping one common dimension, simultaneously tap a wide variety of other possible values so that each item poses a potential conflict between a response determined by alternative sets of considerations: we are not merely seeking high reliability: we are seeking scales made up of items such that, if an individual's reactions or behaviour is consistent across a number of situations, we may say that he must have remained relatively indifferent to a wide range of potential cognitive and affective conflicts, and responded consistently in a wide range of situations which provided pressure to engage in a variety of very different types of behaviour.

If these conditions are satisfied we can assume that high scorers tend to be swayed by one set of considerations in many situations, that these considerations dominate over a variety of other possible considerations, that the individuals concerned are more or less preoccupied by these considerations, and that these considerations will come to their mind rapidly, as *the primary consideration*, in many situations, and that the considerations concerned will be firmly anchored in their

mental make up and strongly resistant to change. The individual will find opportunities to engage in these behaviours in many situations and will ask himself how he can use any situation which presents itself to achieve these particular goals.

We may conclude, therefore, that if we can show, through correlational techniques, that a group of items do consistently index some basic set of concerns although they can each also be shown to tap one or another of a wide variety of other possible concerns and preoccupations, we can cumulate each person's responses across items and conclude that those with high scores will be likely to engage in cognitive, affective, and overt behaviours in this area in many situations in the future,

In developing items in the affective area it would be desirable to discover the sorts of behaviours, on the part of others, that the individual concerned seeks to prevent, get annoyed about, mock and belittle.

Examples of the sorts of items which might be used are given below:

"When a new technique becomes available do you:

Like to be among the first to try it

Prefer to let someone else try it out first and watch developments or

Prefer to be quite sure that the practice is sound before adopting it?"

"When did you last go out of your way specifically to put yourself in a position in which you would find out about new ideas,

Was it:

Less than a month ago

More than a month but less than three months ago

More than three but less than 6 months ago

More than six months but less than a year ago

More than a year ago"?

"In general what do you find to be the best way of solving most of the problems you yourself encounter:

To ask a superior or an expert for his advice

To play around with some ideas which might lead to a solution, trying different ones in a somewhat haphazard way.

To look up the correct way of dealing with them in books.

To discuss them with other people like yourself"?

"Is solving problems:

One of your main sources of satisfaction in life.

One satisfaction among many others.

Not one of your main sources of satisfaction.

Something you dislike having to do"?

Although overall scores developed through such procedures will be valuable, it may also be useful to scrutinise the detailed make up of the scores: what are the individual's value conflicts in the area? Why is his behaviour less closely related to his thoughts and feelings than it might be? Why are his thoughts and feelings not more integrated and supportive? Conversely: why is he so preoccupied with one set of considerations that they overcome all other considerations? (The level at which one set of preoccupations becomes so all-pervasive as to become dysfunctional by blinding the individual to considerations which should be taken into account would also seem to merit further study).

Not only are the main components of behaviour not very closely related to each other, there may be conflicts *within* each of the cognitive, affective, and behavioural domains: thus in some ways one may want to engage in a particular activity and in other ways wish to avoid it. One may look forward to some of the consequences of achieving a particular goal whilst at the same time being horrified by others.

What we can say is that the greater the number of types of positive thoughts, feelings, and behaviours an individual displays in relation to some course of action and the more these thoughts, feelings, and behaviours are consonant with those found in related areas of the individual's psychological life-space, the more likely he is to engage in the behaviour, regardless of the environmental pressures that are brought to bear on him.

And this is what is normally meant when one says that someone has a strong "attitude" or a high level of "need" for a particular type of activity. He will display the various characteristics we have mentioned in an extreme form in many situations.

Assessment of Values through simple Semantic-Differential Type Techniques.

If one wishes to use semantic-differential techniques of the type used by Raven, Molloy and Corcoran (1972) one would assess people's self-images, their images of their ideal selves, and then their images of people who are successful in achieving a number of possibly valued goals: that is to say one might assess their image of successful innovators, successful power figures, and people who are successful in becoming popular.

By comparing people's self-images and their images of their ideal selves with their images of these various groups it is possible to make some of their values and value-conflicts explicit.

In the study referred to we found that businessmen did indeed suffer from a number of such value conflicts. While they wished to become more successful than they were, they regarded successful businessmen as less tolerant, less interested in the good of the community, and less cooperative than they themselves were at the time of the study; in contrast, they themselves wanted to be *more* concerned about each of these things than they were. Although these conflicts really belong to the efficacy domain, in that they would be likely to detract from effective goal attainment, they do indicate that it is possible to obtain useful insights into values and value-conflicts through such relatively simple techniques.

Such information can be obtained in considerably greater detail by using the techniques to be outlined below.

Assessment of Behavioural Predispositions following Value-Expectancy-Instrumentality Theory.

As is now becoming well known, Fishbein (1971) has provided a convenient formula which enables us to tie together three well established, empirically-based, theoretical viewpoints in psychology and sociology. The first of these traditions holds that an individual will be inclined to engage in an activity if he is relatively certain that the activity will lead to satisfactions which he values. The second is that he will be more likely to engage in a behaviour the more firmly he believes that the behaviour is consonant with the behaviour of the sort of person he wants to be and the more central those aspects of behaviour are to his self-image and his conception of the behaviour which is appropriate to the situation in which he finds himself. The third viewpoint is that an individual will be more likely to engage in a behaviour the more certain he is that other people expect him to do so and the more dependent he is on a favourable response from those people.

There is considerable evidence (reviewed by Raven and Dolphin, 1976) to support each of these viewpoints taken individually. The predictive validity of measures based on any *one* of them is typically of the order of ·4. The beauty of Fishbein's formula is that, for the first time, it enables us to assess each set of variables more systematically and then to tie the three *sets* of variables together in a much more elegant manner than was previously possible. The method of combining and weighting the component parts is itself supported by a considerable body of empirical research. The effect of combining the three traditions listed in the previous paragraph is that predictive validities of the order of ·8 to ·9 are not uncommon.

Before moving on, attention may be drawn to four significant ways in which the framework adopted by Fishbein parallels the framework developed by McClelland from such a different starting point and, at first sight, from such a totally different theoretical and methodological base. The first significant ingredient shared by both procedures is that attention is focussed on the individual's attitudes toward the *behaviour* in question and not on his attitudes toward the *object* of the behaviour. For example, if the study was concerned with churchgoing, it would focus on the individual's attitudes towards his own churchgoing behaviour and not, as has been the case in so much other research, on his attitudes towards churches. Second, both models systematically sample the cognitive and affective components of behaviour, and the strength of behavioural habits, and then tie these three components together systematically. This careful sampling of the cognitive, affective, and connative components of behaviour has been sadly missing in most attitude research. Thirdly, both models have as their objective the predication of specific sorts of behaviour, not the development of elaborate sets of scales of high internal consistency. Fourthly, both models incorporate assessments of the part the individual believes others will play in helping him to achieve his goals or in deterring him from so doing.

We may at last turn to Fishbein's now famous model for combining these important variables. The formula is given below in a slightly modified format and, in spite of its apparent complexity, readers are urged to take the time required to master it. It will be well worthwhile.

$$p(B) = [A_{act}] w_0 + \Sigma [NB_p](MC_p)] w_1 + \Sigma [NB_s](MC_s)] w_2$$

In this equation the symbols have the meanings detailed below: $p(B)$ is the probability of a particular pattern of behaviour being emitted. A_{act} is the (cognitive-affective) attitude of the individual concerned toward undertaking the

activity or engaging in the behaviour pattern. This component is operationalised as follows:

$$A_{act} = \sum_{i=1}^n P_i I_i, \quad \text{where } P_i \text{ is the subjective probability that the } i^{\text{th}} \text{ perceived}$$

implicate (or consequence) of engaging in the activity will follow.

An example of a possible consequence (or implicate) of engaging in a particular behaviour (such as writing an article in "Nature") might be "Doing this might make me famous". The probability of its doing do might be assessed by the individual concerned at scale point 4 in column 2 in the following table.

I_i is the importance the individual concerned attaches to having or avoiding the implicate. Even though our hypothetical respondent may think it unlikely that writing an article in "Nature" would make him famous, being famous might be very important indeed to him. If this were the case he would ring "+3" in column 3 in the table.

By multiplying these two ratings (4 and +3) one begins to get some insight into whether or not our respondent would engage in the behaviour. However, if the investigator also discovered that our respondent anticipated that writing the article would take up valuable spare time he would obtain a second figure to enter into the calculation, and this would moderate his original prediction. A final figure would be obtained when such products were summated over all possible salient anticipations.

NB stands for Normative Beliefs about the behaviour.

MC stands for Motivation to Comply with those normative beliefs.

Since normative beliefs can be personal or social, the subscripts p and s refer to these two sources of normative beliefs.

This cryptic statement may be expanded as follows: NB_p refers to one's own normative beliefs about oneself. For example, one may believe that people who seek to become famous by advertising themselves by writing for "Nature" are obnoxious, and that one does not oneself want to be such an obnoxious person. These beliefs and feelings are recorded in exactly the same way as the earlier ones. They deal basically with the strength of one's desire to live up to different aspects of one's self image.

NB_s refers to one's perceptions of one's reference groups' expectations and the strength of one's desire to live up to the expectations of those groups. They are handled in exactly the same way as the two previous components of the model. If our respondent is certain that his professor will be pleased if he writes the article, and if he is anxious to please his professor, then these expectations are incorporated into the model.

The w's in the original equation are empirically determined multiple regression weights, here assumed to be unity.

TABLE 24

Behaviour to be Predicted: *Writing an article for 'Nature'*

(1) Anticipated Consequence (or 'implicate')	(2) Probability (P).	(3) Importance (I).	PxI
	This is extremely unlikely to happen	This is certain to happen	Important to avoid
			Important to have
<i>Personal attitude to the act</i>			
Will make me famous	0 1 2 3 ④ 5	-3 -2 -1 0 +1 +2 (+3) +12	
Will take up leisure	0 1 2 3 4 ⑤	③ -2 -1 0 +1 +2 +3 -15	
.....	0 1 2 3 4 5	-3 -2 -1 0 +1 +2 +3	
<i>Personal Normative Beliefs</i> (People who do this are:)			
Obnoxious	0 1 2 3 4 ⑤	③ -2 -1 0 +1 +2 +3 -15	
.....	0 1 2 3 4 5	-3 -2 -1 0 +1 +2 +3	
<i>Social Normative Beliefs</i>			
Prof. will approve	0 1 2 3 4 ⑤	-3 -2 -1 0 +1 +2 (+3) +15	
.....	0 1 2 3 4 5	-3 -2 -1 0 +1 +2 +3	
		Σ PxI	-3

The workings of the model may now be made clearer by means of an other example taken directly from our own research.

One of the behavioural dispositions we were interested in was innovativeness. We asked our informants what they would expect the consequences to be if they undertook various types of innovative activity. Some of these implicates, or possible consequences, are recorded in column (1) below. Personal consequences (e.g. 'it would be worrying'; 'it would take up my leisure'), self-image consequences (personal normative beliefs) (e.g. 'I would have to be manipulative', 'it would be hard work') and reference groups' reactions (e.g. 'my colleagues would ostracise me') were separately elicited and recorded.

Having obtained a standard list of possible consequences, the informants were asked to ring one number in Column (2) to indicate how likely it was that each consequence would in fact follow if they undertook the behaviour.

They were then asked to indicate in Column 3 how important it was for them personally to have, or to avoid, each consequence.

TABLE 25

(1) Consequences	(2) Probability (P).	(3) Importance (I).
	This is extremely unlikely to follow	This is certain to follow
		Important to avoid
		Important to have
		PxI
<i>Personal</i>		
Worry	0 1 2 3 4 5	-3 -2 -1 0 +1 +2 +3
Happiness	0 1 2 3 4 5	-3 -2 -1 0 +1 +2 +3
Excitement	0 1 2 3 4 5	-3 -2 -1 0 +1 +2 +3
No time to do other things	0 1 2 3 4 5	-3 -2 -1 0 +1 +2 +3
<i>Self-Image</i>		
I would have to be manipulative	0 1 2 3 4 5	-3 -2 -1 0 +1 +2 +3
I would have to put my own future before that of others	0 1 2 3 4 5	-3 -2 -1 0 +1 +2 +3
<i>Reference Groups' Reactions</i>		
My colleagues would ostracise me	0 1 2 3 4 5	-3 -2 -1 0 +1 +2 +3
My colleagues would feel that I was showing them up	0 1 2 3 4 5	-3 -2 -1 0 +1 +2 +3
		Σ PxI

Summed across implicates the scores obtained by multiplying the probability of an implicate by its assessed importance (PxI) gives an indication of the extent to which the individual concerned is likely to strive to undertake the behaviour.

Attention should be drawn to the fact that the detailed cognitive-affective maps obtained by using this procedure enable a clear picture to be painted of the way people perceive various courses of action. These perceptions and expectations yield information which is important from the point of view of the focus and design of individualised learning experiences. These may be designed to help the person concerned to clarify his values and resolve value conflicts. They may be used to design learning experiences which will provide the individual with an opportunity to practice various styles of behaviour so that he can discover whether the behaviour does indeed bring the consequences that he wants or fears, and so that he can develop styles of behaviour which enable him to avoid some of the undesired consequences.

By following this methodology with adults (Raven and Dolphin, 1976), we have made explicit a large number of common value-conflicts, perceived ability deficits, and organisational barriers to effective behaviour. It became clear that both staff-development (educational) and organisational-development programmes were urgently needed in order to tackle these problems. We found that many people had not had the experience of carrying out the sorts of activities which they felt they *ought* to undertake, with the result that they were aware that

they lacked the *ability* to persuade others and the ability to initiate collective action and monitor the results. They felt that to undertake such tasks efficiently they would have to be scheming, devious, and manipulative of others. They felt that if they sought to undertake such activities it would mean that they would have less time for their wives and families and that this would have unfortunate social as well as personal implications. And they anticipated that other people, particularly those who controlled their promotion prospects, would fail to support them in their new roles and therefore fail to provide necessary assistance. There was, in short, every reason for them to avoid undertaking actions which were agreed to be very important from the point of view of the firm concerned and the overall society in which they lived. Changes in organisational structures in order to facilitate and encourage such actions without leading to the undesirable consequences which many people anticipated were therefore indicated. It was clear that changes needed to be introduced in the context of other changes designed to help the people concerned to resolve potential value conflicts, avoid undesirable consequences, and develop the abilities needed to undertake the tasks successfully.

Although out of place in this chapter, brief comments may also be made about one or two other outcomes of this research programme. We have just seen that utilisation of the research procedure described in this section did, as anticipated, draw attention to a large number of badly needed educational developments. Two other outcomes of the research were less expected. Firstly, it became abundantly clear that the personnel managers and others concerned with staff-development and staff placement had virtually no constructs which they could use to think about and describe the nature of the competencies they wished to foster, the way in which these competencies were to be fostered, the psychological problems which prevented people behaving in desired ways, or the organisational barriers which would have to be rectified if these competencies, once developed, were to be utilised by the organisation concerned. Not only had they no constructs in terms of which to think effectively about these issues, they had no means of assessing the personal and organisational changes which were needed. They badly needed instruments of the sort we were developing.

Secondly, study of the way in which those who had developed more positive abilities, perceptions, and expectations in these areas drew attention to a large number of desirable ingredients of learning experiences designed to foster them. But, above all, it highlighted the possibility that work experiences could be explicitly designed to be educational and developmental and that these might be much more effective ways of fostering these qualities than attempting to foster them in specialised educational settings.

Assessment of Efficacy

We have already seen how value-expectancy theory can be used to obtain an index of the probability that an individual will strive to behave in a particular way. It is obvious, therefore, that the procedure can be used to develop an index of the probability that an individual will engage in *each* of the components of competence in pursuit of goals he values. In the process of collecting the necessary information we will also obtain a great deal of data which is of the utmost importance — both educationally and from the point of view of improving the organizational structure of the organization in which the individual works.

Given that it is possible to obtain a single index of the probability that an individual will engage in *each* of the components of competence it follows that it is possible to sum these indices *across components*, in exactly the same way as is done by McClelland, in order to provide an *overall* index of the likelihood that the indi-

vidual will engage in the behaviours in which it is necessary for him to engage if he is to reach his valued goals effectively.

Yet it is also obvious that this procedure is extremely cumbersome. We have improved on the reliability of McClelland's projective measures at the cost of applying a procedure which is a great deal more cumbersome — whatever the value of the information it yields as a by-product. There are other problems, too. As is also the case with the McClelland scoring system, one would have given each of the components equal weight. Yet it is easy to envisage situations in which, because one had devoted more attention to a particular area of competence, one may well have included measures of several closely related competencies whilst having only one measure of a critical area of competence. As a result this critical area would receive a great deal less weight in one's final assessment than it deserved.

The problems we have mentioned are not insurmountable. Indeed it is clear from the research which has already been carried out just what steps need to be taken in order to make the procedure both more manageable and more balanced.

Projective Measures

Theory of the TAT measure.

Although we have several times discussed McClelland's scoring framework for stories written in response to his *Test of Imagination*, we have nowhere outlined the particular theory of projection on which it is based. McClelland's claim is that a person's responses to the TAT provide an index of his pre-occupations, of the sort of thing he will think about in the type of situation he sees in the pictures, and the direction in which he will move in similar situations. The theory behind this is as follows. The people in the TAT pictures are relatively ambiguous and are completely unknown. Hence, when one is asked to make up stories describing what they are thinking, feeling, and doing, there is a strong tendency to believe (as one tends to do anyway) that they are thinking about, and concerned with, the same things as one is oneself. This tendency is in fact very common because people cannot easily discover what others are thinking; what their pre-occupations are.

In the test situation this tendency has even more scope than in the everyday world. McClelland argues too, that it is this difficulty in discovering what other people think that leads to the inadequacy of questionnaire methods of discovering people's pre-occupations; people cannot tell us whether they spend more or less time than other people thinking about certain things — because they do not know how much time other people spend on these things! When they make statements indicating that they spend 'a great deal' or 'very little' time thinking about these things, they do so within a very biased frame of reference. (For the sake of completeness we may add that people vary in the extent to which they realize that others do not share their pre-occupations, but to the extent that they do realize it and plan devious methods of using others to help them achieve their own goals, they are thinking in what McClelland would describe as power-oriented terms).

Value of Projective Techniques.

Although insufficiently reliable to be of value as an individual assessment device, TAT procedures are useful as a means of detecting group differences and general progress toward, or away from, goals. They are especially useful as a means of helping teachers, educationalists and others concerned with staff assessment and development, to think about what they mean by the terms they use, to think how they would detect the presence or absence of these characteristics, to think about

the situations in which they would expect the thoughts, feelings and behaviours they are concerned with to be displayed, and to think about the learning situations they might provide to assist their pupils or subordinates to engage in these patterns of thought, feeling and behaviour and evolve more effective behaviour patterns.

The technique lends itself to the measurement of almost any conceivable affective educational outcome or human resource characteristic. These may range from very broad personality characteristics like n. achievement, to more specific qualities like consideration for others. Furthermore the attempt to use thematic apperception test procedures to try to detect such characteristics, forces educationists who wish to foster such qualities to be specific about what they mean by the terms, thereby directing their attention to the critical components of these competencies which they will later have to devise appropriate educational exercises to foster.

Thus, supposing one takes "consideration for others" as an example, the first question that comes to mind is "what specific pictures should be used"? This question is very important educationally since it forces the teachers or researchers concerned to think about the sorts of situation in which the pattern of thoughts, feelings and behaviours which they describe as "considerateness" may or may not be elicited. There are many situations in which the tendency to engage in "considerate behaviour" would be highly inappropriate. On the other hand there are situations in which everyone would be expected to display this characteristic. Although pictures falling at these extremes are of little use in assessment, they tell one a great deal about the environmental press characteristics which lead people to engage in the cognitive, affective and behavioural pattern with which one is concerned. This information provides a stimulus to thinking about situations in which the patterns of thought, feeling and behaviour in which one is interested can be elicited, and these, in turn, can be used as a starting point for experience-based learning programmes designed to generate these behaviour patterns and help those involved analyse the components of their behaviour.

Once suitable photographs have been obtained, suitable in the sense of depicting situations in which one would like the characteristic (considerateness) to be displayed, but in which it may not be displayed, one has to devise a scoring system.

Essentially such a scoring system, designed to measure the spontaneous tendency to engage in these ways of behaving, should encourage those who are using it look for the following characteristics.

(i) It should encourage scorers to look for *explicit statements of concern with the characteristic*: statements that the characters in the stories want to display it, positive statements that the characters did *not* display it when they should have done, etc.

(ii) It should encourage scorers to look for *references to relevant behaviour*: the characters in the stories were engaging in this behaviour, they had done it before, they were giving or receiving help in performing relevant tasks.

(iii) It should encourage scorers to look for *cognitive elements*: the characters may have made contingency *plans* to deal with the situation, they may anticipate obstacles to the effective execution of the course of action they wish to undertake, they may not know how to go about it etc.

(iv) It should encourage scorers to look for expressions which reveal a tendency on the part of the subject to turn his emotions into the behavioural pattern; does he see the characters in his stories feeling good or bad about their

behaviour, anticipating the outcomes of their activity (or inactivity) with feeling etc.

Having once devised such a scoring system it will be necessary for the investigators to check the statistical reliability of their scoring procedure. This will probably serve to give them a salutary shock and cause them to go over their scoring system — the characteristics they are looking for in the stories (and seeking to foster in their students) — in more detail. If it turns out to be impossible to obtain reliable measures it follows that the words we are using either lack all meaning or describe behaviours which are characteristic of people in certain situations rather than characteristic of certain people in many situations. If the latter turns out to be the case, and if our group has gone about its task seriously, its efforts will not have been in vain since it will have learned a great deal about the sorts of situations which encourage and release the sorts of behaviour in which they are interested. If the behaviours in which they are interested are indeed important in educational and organizational situations the group will therefore have learned something of the greatest importance. All that will have happened is that the exercise will have contributed to the group's understanding of the educational or organizational *press* (or climate) variables which were discussed in chapter XXIII instead of to their understanding of personal characteristics. As was previously indicated the two are conceptually separable but, in spite of what many research studies would lead one to believe, inextricably interconnected in practice. But note the catch: to test one's hypothesis that such qualities *are* situationally specific one needs measures of whether individuals display these qualities more in some situations than others. Thus, whatever the outcome of such an exercise, one turns up little to sustain the views of the anti-measurement brigade!

It will be clear that thinking about the characteristics they wish to develop and the situations in which it is appropriate that such characteristics be displayed, is an invaluable aid to people who wish to foster such characteristics. It suggests, in detail, the sort of inputs that should be made — the sort of learning situations (role-plays, psychological games, real-life situations) that should be created for experience-based learning and the sort of information that should be provided through modelling.

It should also lead to the development of better assessment systems of the sort discussed earlier in this chapter. Having clarified a concept by seeking to develop an appropriate scoring system for a projective test, it becomes much easier to generate relevant questionnaire and semantic-differential type measures. Once the ideas have been clarified it is also much easier to structure standardised situations in which the behaviour may or may not be displayed and to use these, in conjunction with fairly detailed rating systems, to detect whether the range of thoughts, feelings and behaviour in which one is interested is in fact being released or developed. In the next section of this chapter we focus on ways of improving such rating systems.

Ratings by Superiors, Peers, and Subordinates.

Before we outline the procedures (developed by Smith and Kendall, 1963) which should be followed to develop rating schemes we may once again stress that, although use of these techniques will lead to the development of good assessment scales, this is not the only benefit to be derived from attempting to use them. As before, their potential to encourage those involved to think about the objectives of their educational or staff-development programmes, clarify the concepts they use, pay attention to relevant behaviour on the part of those they are assessing (e.g. its spontaneous, self-motivated, nature), structure situations in which such behaviour can be emitted, and to develop explicit sequences of learning experiences designed

to lead to the development of higher and higher levels of these competencies is of great importance.

In the construction of such rating scales a group of teachers, managers or supervisors, first tries to make the objectives they are seeking to pursue more explicit. The group then makes a conceptual analysis of these objectives in order to reduce the number. Some of the more crucial are then selected for further study. For each of these each member of the group next writes "critical incidents" describing behaviours they have seen real people display in the past and which they themselves think illustrate a particularly high or a particularly low level of the characteristic. Instances of intermediate levels of the characteristic are also obtained. In all cases the actual behaviour of the individual must be recorded, together with a description of what led the individual to engage in it, and what happened afterwards. The situational determinants of the behaviour — which are so useful in structuring learning situations in which the behaviour will be engaged in and practiced — are again thereby emphasised.

The group then divides into two. Each sub-group looks at the incidents they have written and discusses whether or not they relate to the dimensions to which they are supposed to relate. In the process it is discovered, firstly, that it is impossible to produce examples of behaviour which illustrate some of the dimensions (with the implication that either nothing is being done by the schools or organisations concerned to encourage the pupils or staff to engage in practice, and develop the patterns of thinking, feeling, and behaving described by the term, or that the term itself has no real meaning [if we cannot tell whether a characteristic is present or absent how can it be a useful means of describing individual differences in behaviour?]). Secondly, it is discovered that some of the incidents do not fit into the conceptual framework which has been evolved.

Discussion of these problems leads to refinement of the conceptual framework. Some dimensions are abandoned. Others are replaced. Others are clarified. And others are added.

Eventually a set of dimensions is agreed upon by each group. Each dimension is indexed by a set of incidents which are agreed to be unambiguously related to the dimension. The incidents are now ranked in order from say +5 through 0 to -5, according to whether the individual who engaged in the behaviour is thought to display a high level of the characteristic or its opposite. Again, items about which there is disagreement are abandoned. Now some scale points turn out to be represented by many items whilst others are blank. For the latter an attempt is made to think of real incidents to fill the gaps. Eventually each team has an agreed set of dimensions each indexed by an orderly set of incidents.

Now comes a crucial stage in the procedure. The groups remove all markings indicating either the dimension or scale point from the items and hand the items to the other group. The task of each member of the other group is to now assign each item to the dimensional framework and to assess its appropriate scale point. Any item about which there is disagreement between the two groups concerning either the characteristic displayed or the degree of the characteristic has to be abandoned. The average of the ratings finally gives the scale position of the behaviour depicted in the critical incident. Ideally each dimension is now operationally defined in terms of real behaviour ranging from +5 to -5. The final stage, intended to enable raters to make use of their *general* knowledge of their ratee's behaviour tendencies, and thus enable them to make reasonable assessments of behaviour tendencies which they may not actually have observed in practice, is to prefix each item

with "would be expected to . . . ". The final instrument, which can be used to rate anybody, consists of rating scales for a number of dimensions, the scale points on each scale being quite specific in behavioural terms.

To obtain the maximum benefit from such an exercise the participants should subsequently focus on what led them to abandon certain items and concepts. Discussion of this material will lead them to become much clearer about the situational pressures which lead people to behave in one way on one occasion and in another way on another occasion. As was particularly clear when we discussed value-expectancy theory, the willingness to engage in many socially important behaviours may derive more from the situation in which the individual is placed than from his previous experience or personal characteristics. Knowledge of the variables which release these behaviours may be of the utmost importance both socially and educationally.

Some Worries about Evaluating Value-Efficacy Characteristics.

The contemplation of assessments like those discussed in this chapter need not fill us with horror. School based assessments are intended, in addition to permitting a much wider variety of objectives to be pursued, to lead teachers to think much more carefully about educational objectives, and to structure both learning situations in which new characteristics can be developed and tasks through which the tendency to display the behaviours can be monitored and assessed. So, too, involvement of teachers in making assessments of the type we are now discussing should sensitize them to previously overlooked behaviour tendencies on the part of their pupils, and lead them to generate classroom situations of a type which allows the behaviour tendencies in which they are interested to be emitted, observed and recorded. From there it is but a short step for teachers to become involved in structuring a series of graded situations to be used as learning experiences through which pupils can haltingly progress as they develop new ways of thinking, feeling and behaving.

Such a thought brings unpleasant qualms to the minds of many — for how are we to know that these experiences are not going to damage our children rather than help them? But this is to beg the very question we are most concerned with — for how are we to know whether our innovations have these negative effects (and what do we know about the cramping and damaging effects of our *current* educational practices and procedures) unless we carefully evaluate what we are doing? And how can people rationally choose between alternatives unless they know what the consequences are and are prepared to argue the toss in public? If they are to be able to do this we must have the results of studies which have made use of sensitive, carefully developed, and relevant measures of outcomes.

Evaluation of Classroom Processes.

As we have already indicated, pupil outcomes are not the only things that can or should be assessed. In particular we may note that, just as evaluation of pupil outcomes is needed to guide teacher behaviour, so, too, is evaluation of classroom environmental press, or "classroom climate", and of the educational processes going on in the classroom: How effectively has the teacher been able to implement the educational processes he set out to implement? What are the barriers to implementing those practices and procedures more effectively? How closely is the classroom climate geared to the expectations, felt needs and motivational predispositions of the students?

In Chapter XXIII we outlined a number of the dimensions which it is important to assess and argued that the great need in education today is to make

these dimensions more explicit, specific, and quantifiable. Ideally, of course, we would already have the results of research which told us what the consequences of different types of environmental press were; But even without that data there is a great need to involve teachers in developing such measures and to use such measures as exist to help them to better understand the relevant variables, to think about the processes which go on in their classrooms, to monitor the extent to which they have been able to create the sort of learning environment they set out to create, to discover obstacles to achievement of their own goals, and to understand those aspects of the situation — expectations, pressures from peers, home, and community — which pupils bring with them to their task.

We also argued that there is a great need to study the environmental presses which operate on teachers and the situation in which *they* find themselves.

The methodology for assessing most of these variables is well developed and the need is to go through the demanding and inventive, but tedious and time consuming, process of refining the concepts discussed earlier in this book and developing appropriate items and instruments. It cannot be too strongly emphasised that these instruments are urgently needed, not only to enable teachers to obtain more short term feedback about how effectively they are attaining their goals, but also to advance educational theory and practice in the areas in which it is most badly needed.

Summary

A great deal of research is needed to develop better measures of value-attitudinal, efficacy, human-resource characteristics, and to validate them in long term studies. Nevertheless there appear to be some leads which could profitably be followed. It would seem that these have the added advantage (shared by other systems of school-based, externally-moderated, evaluation) of forcing teachers to clarify their objectives and helping them to think out more effective ways of attaining their goals. Use of Fisbein procedures to investigate pupils' cognitive-affective maps of important competencies and their implications for themselves, of Thematic Apperception Measures scored according to the McClelland framework, and of teacher ratings developed through the Smith and Kendal procedure is particularly recommended.

Although assessment of important pupil outcomes is a component sadly lacking in current educational research (which often seeks, strangely enough, to evaluate educational systems and procedures, and to mount cost-effectiveness studies), this is not the only area of education which would benefit from more systematic evaluation. Classroom practices and procedures, and the constraints that the system places on teachers and administrators, would benefit equally. Properly conducted, the results of such evaluation exercises would seem likely to lead directly to a marked improvement in the services rendered.

Chapter XXIX

CONCLUSION

There is a crisis in funding education. As Coombs (1969) has shown in global terms and Tussing (1976) has demonstrated for Ireland, both the numbers of students in full time education and the costs of each place will increase in an unprecedented manner over the next decade.

Yet the material reviewed in this book shows that:

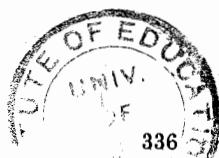
- (a) The clamour for educational places is due more to social than educational needs. Changes in those aspects of our social structure which deal with the development, utilization and reward of talent could result in a dramatic decline in the numbers enrolled in formal educational institutions.
- (b) Little of the knowledge which pupils acquire at school is of use to them: it is often irrelevant to their needs, and, if relevant, generally obsolete or forgotten. If educational institutions were to drop their emphasis on attempting to communicate the accumulated wisdom of the past to all students there would therefore be ample time and resources available for educational programmes designed to reach more important goals.
- (c) There is widespread frustration and misery among both pupils and adults in our society which is attributable to inadequate guidance, insufficiently individualised instruction, and the barriers which our society, through the educational system, places in the way of occupational mobility and acquiring knowledge relevant to one's needs. There is therefore an urgent need for educational institutions to adapt in order to enable people at any time in their lives to acquire the specific knowledge, skills, and attitudes which they, at that time, require, and to re-package knowledge into a much more differentiated and systematic array of short modules.
- (d) There is ample theory and experience available as a basis on which to build a wider range of experimental programmes designed to foster the competencies which most people connected with education have from time immemorial believed to be the most important, but which have become obscured over the last half century owing to our society's concern to avoid nepotism and patronage. A change in the constraints under which teachers and students work — and, in particular, in the examination system — would therefore be expected to have a dramatic impact on the activities which go on in educational institutions.
- (e) Many of the most important competencies we have discussed would best be fostered through work experiences which were explicitly designed to be developmental as well as executive. If workplaces are to be organised in this way it is necessary to do much more to facilitate mobility between employments and to provide all concerned with human development and the utilization of talent with better constructs and procedures to think about and assess talents and interests and the ways in which these are to be fostered and utilized.

There are therefore a large number of ways in which the doomsday situation envisaged by Coombs, Tussing, Illich and others can be averted. However, if it is to be averted, there is an urgent need for wider diffusion through the teaching profession of a more thorough understanding of the nature of the goals that are to be

attained, the educational processes that are to be used to reach them, and the means that are to be used to find out whether they have been reached. In addition, if the necessary changes in a whole range of social policies are to be introduced, the understanding which is needed will have to be diffused far outside the teaching profession and social policy will itself have to be evaluated by very different criteria.

In addition to attempting to provide a much broader evaluation of the educational system than has ever been attempted in the past — and with very disturbing results — a great deal of this book has been devoted to an analysis of the varieties of competence, the way in which such competencies are to be conceptualized and assessed, the way in which such talents could be fostered, and the organizational changes which are needed if students and educators are to be able to devote their energies wholeheartedly to work in this area. It is hoped that this discussion will stimulate a wide range of research programmes, a wide range of curriculum development programmes, and, in particular, a wide range of action-research programmes in which the research component is considered to be as important as the action component and in which many of the problems which have bedevilled such research in the past (See Raven, 1975) are anticipated and avoided. Although the necessary R&D programmes have been outlined in the relevant chapters, readers who would like a compact summary of these will find it in Appendix P to the *ICE* report (Stationery Office, Dublin, 1975) and in *Administration* for the same year.

At this point we are in a position to draw attention to one final implication of our work. This is that the monopoly position of the state as a purveyor of "education", the conscript nature of the "benefactors", and the unwillingness of the state to devote at least 5% of the educational budget to research and development have combined together to produce precisely the effects which would have been expected. The educational system is inefficient, outmoded, and disastrously expensive. Worst of all it is almost unaware of, let alone responsive to, the variation in the needs of its clients. Yet the educational system is not the only aspect of our society which is in this condition. 75% of the economy is under government control (Raven, 1975). It has become fashionable to talk of "accountability". But what is envisaged when this term is used falls far short of what is required. What is needed is the diversion of a considerable proportion of the available funds from 'action' to evaluation. Such a thought will alarm many. But we have repeatedly emphasised that effective action involves stepping back from action and allocating time to reflection. And time becomes money when it is allocated on an institutional basis. But let there be no mistake about it: the efficient operation of a social and educational system demands that we divert time and resources to evaluation and development activity. The amount of time and money which needs to be diverted is enormous if judged against the funds traditionally allocated to social research and development. It remains significant if judged against the costs of the policies to be evaluated. But its costs pall into insignificance when set against the social costs of mistaken policies and the benefits to be reaped by making better use of the funds available. But let there equally be no mistake that the benefits of pouring funds into R&D will not be reaped unless the social R&D units are appropriately organized, staffed and managed. It would be inappropriate to discuss these issues here. An appropriate reference will be found among the author's publications.



REFERENCES

- Almond, G A & Verba, S. (1963), *The Civic Culture*, Princeton University Press.
- Alschuler, A S (1968), *How to Increase Motivation Through Climate & Structure. Achievement Motivation Development Project*, Working Paper No. 8.
- Alschuler, A S (1968), *Teaching Achievement Motivation*, Educational Ventures Inc, Connecticut.
- Alschuler, A S (1973), *Developing Achievement Motivation in Adolescents*, Educational Technology Publication, Englewood Cliffs, N.J.
- American Council of Education, Report on General Education. See Dressell & Mayhew.
- Anderson, C A (1961), A Sceptical Note on the Relation of Vertical Mobility to Education. *Amer. J. Sociol.* 1961 **66**, pp. 560-570.
- Anderson, R C (1959), Learning in Discussions. *Harvard Educational Review*, 29, 201-15.
- Argyle, M (1957), *The Scientific Study of Social Behaviour*, Methuen, London.
- Astin, A W (1968), *The College Environment*, American Council on Ed. Washington DC.
- Baird, L J (1969), Big School, Small School. *J. Ed. Psychol.* Aug. 69, 60 253-260.
- Bandura, A & Walters, P H (1963), *Social Learning & Personality Development*. N.Y.: Holt, Rhinehart & Winston.
- Bandura, A (1970), *Principles of Behavioural Modification*. Holt, Rhinehart & Winston.
- Barker-Lunn, J C (1966), Appendix to the Plowden Report.
- Barker-Lunn, J C (1970), *Streaming in Primary Schools*. NFER, London.
- Barker, R G & Gump, P V (1948), *Big School, Small School*, California, Stanford University Press.
- Baron, F & Egan, D (1968), *Leaders & Innovators in Irish Management*, Human Sciences Sub-Committee, INPC.
- Berg, I (1970) *Education and Jobs: The Great Training Robbery*, Penguin Books, London.
- Bernstein, B (1971), On the Classification & Framing of Educational Knowledge in M F D Young (ed) *Knowledge & Control*, Collier Macmillan, London.
- Bill, J M et al (1974), *Early Leaving in Northern Ireland*, Belfast: Northern Ireland Council for Educational Research.
- Bloom, B S (Ed.) (1956), *Taxonomy of Educational Objectives: I: Cognitive Domain*, McKay, New York.
- Boalt, G, See Husen, T & Boalt, G (1967).
- Bray, D W & Grant, D C (1966), The Assessment of Potential for Business and Management. *Psychol. Monogr.* 80, 17, whole no 625.
- Bromsjo, (1965), See Husen, T & Boalt, G (1967), p. 73.
- Bronfenbrenner, U (1974), *Two Worlds of Childhood*, Penguin Books.
- Bruner, J S (1960), *The Process of Education*, Harvard University Press.
- Bruner, J S (1976), *Contemporary Psychology*, 21, p. 226.
- Bullock, A (1975), *A Language for Life*, HMSO.
- Carter, M P (1962), *Home, School & Work*, Oxford University Press.
- Carroll, J B (1975), *The Teaching of French as a Foreign Language in Eight Countries*. IEA — Almqvist & Wiksell, Stockholm; Halsted Press, John Wiley, N.Y.
- Cattell, R B (1963), *The Personality & Motivation of the Researcher from Measurements of Contemporaries* in Taylor C W & Barron F (eds) *Scientific Creativity*, Wiley, N.Y.
- Centers, R (1949), *The Psychology of Social Class*, Russell Sage Foundation.
- Chester, M & Fox, R, *Role Playing Methods in the Classroom*. Chicago: Science Research Associates.
- Chown, S M (1958), The Foundation of Occupational Choice among Grammar School Pupils. *Occ. Psychol.* 32, p. 171.
- Coleman, J S (1959), Academic Achievement & the Structure of Competition. *Harvard Educ. Review*, 29, pp. 330-351.
- Coleman, J S et al (1966), *Equality of Educational Opportunity*, Government Printing Office, Washington DC.
- Collier, K A (1963), *The Social Purpose of Education*.
- Coombs, P H (1968), *The World Educational Crisis*, London: Oxford University Press.
- Crockett, H (1966), Psychological Origins of Mobility in Smelser N. J. Lipset S. M., *Social Structure & Mobility in Economic Development*, Routledge & Kegan Paul.
- Cronbach, L J (1970), *Essentials of Psychological Testing*, New York: Harper and Row.
- "Crowther" Report, (Adv. Council on Secondary Education), 1959, *Fifteen to Eighteen*, HMSO.
- Cullen, K (1969), *School & Family*, Gill & Macmillan, Dublin.
- de Charms, R (1968), *Personal Causation*, Academic Press.
- de Charms, R (1971), From Pawns to Origins: Toward Self Motivation in Lesser, G S (ed.), *Psychology & Educational Practice*. Scott, Foresman & Co.
- Dave, R H (1963), The Identification & Measurement of Environmental Process Variables that are Related to Educational Achievement. Phd Dissertation, University of Chicago.
- Deci, E L (1971), Effects of Externally Medicated Rewards on Intrinsic Motivation. *J Pers. Soc. Psychol.* 18, 105-115.
- Donnison, D (1972), Research for Policy. *Minerva Oct. 1972* p. 520-536.
- Douglas, J W B (1964), *The Home & The School*, Methuen, London.
- Douglas, J W B (1968), *All Our Future*, Methuen, London.
- Dressel, P L and Mayhew, L B (1954), *General Education*, American Council on Education; Washington.
- Ebel, R L (1969), *Encyclopaedia of Educational Research*, MacMillan, London.
- Eddy, E D (1959), *The College Influence on Student Character*. Amer. Council on Education, Washington, DC.
- Emrick, J H et al (1973), *Interim Evaluation of the National Follow Through Programme 1969-71*. Stanford Research Inst.
- Fagerlind, I (1975), *Formal Education and Adult Earnings*. Stockholm Studies in Educational Psychology, Paper No 21. Almqvist & Wiksell, Stockholm.
- Faure, E (1972), *Learning to Be: The World of Education Today & Tomorrow*. London: Harrap, Paris: Unesco.
- Finger, J A (1966), *Academic Motivation & Youth Culture Involvement: Their relationships to School Performance and Career Success*. *School Review* 74 177-195.
- Fishbein, M (1971), *Attitudes and the Prediction of Behaviour* in Thomas, K (ed.), *Attitudes and Behaviour*. Pelican Books, London.
- Fishbein, M & Ajzen, I (1975), *Belief, Attitude, Intention & Behaviour*. Addison-Wesley, Reading, Mass.

- Fishbein, M (1967), *Readings in Attitude Theory & Measurement*. New York: Wiley.
- Fitzgerald, Sister M Agnes (1975), A study of the Relationship between Educational Achievement & Certain Home Process Variables. Unpublished Thesis, Dept. of Education, St Patricks College, Maynooth.
- Flacks, R (1967), The Liberated Generation. *J. Soc. Issues*, 23 p. 67.
- Flanagan, J C & Russ-Eft, D (1975), An Empirical Study to Aid in Formulating Educational Goals. California: American Institutes for Research.
- Fraser, E D (1959), *Home Environment and the School*. London: University of London Press.
- Frieden, B J and Morris, R (1968), *Urban Planning and Social Policy*.
- Folger, J K & Nam, C (1964), Trends in Education in relation to the Occupational Structure. *Sociol. Ed.* 38. p. 29.
- Gans, H J (1967), *The Levittowners*. Allen Lane, Penguin Press.
- Gaskell, J A A (1960), Children and Punishment: A Scottish Attitude Survey. *Durham Research Review*, 11, p. 12-26.
- Getzels, J W (1969), The Social Psychology of Education in Lindsey & Aronson: *Handbook of Social Psychology*, Ind. Ed. Vol. 5.
- Goldsmiths College Curriculum Laboratory, I The Role of the School in a Changing Society.
II The Raising of the School Leaving Age.
III Mason, E (Ed.) The Education of the Socially Handicapped.
IV Rudge, K. (Ed.) The Education of the Young School Leaver.
V Mason, E (Ed.) New Role for the Learner.
- VI & VII Hoffman, D (Ed.) Curricular & Resources in the Secondary School.
- Guilford, J P (1956), The Structure of the Intellect. *Psychological Bulletin* 49 p267-293.
- Havighurst, R J & Taba, H (1949), *Adolescent Character & Personality*. Wiley N.Y.
- Heckhausen, H (1974), How to Improve Poor Motivation in Students. Paper for symposium on "Motivational Psychology and its Applications in Education and Management". International Congress of Applied Psychol. Montreal.
- Heckhausen, H (1973), Intervening Cognitions in Motivation in Pleasure, Reward, Preference. Academic Press, New York.
- Hergberg, F. et al (1959) *The Motivation to Work*. Wiley, New York.
- Hess, R D and Torney, J V (1967), *The Development of Political Attitudes in Children*. Chicago: Aldine Publishing Co.
- Highfield, M E and Pinset, A (1952), A Survey of Rewards and Punishments in Schools. NFER, London.
- Holland, J L & Richards, J M (1965), Academic & Non-Academic Accomplishment. *J. Ed. psychol.* 1965 56 pp. 165-174.
- Hoyt, D P (1965), The Relationship Between College Grades & Adult Achievement. Amer. College Testing Programme, Research Report No 7, Iowa.
- Hudson, L (1966), *Contrary Imaginations*, Methuen.
- Husen, T & Boalt, G (1968), *Educational Research & Educational Change in Sweden*. Almqvist & Wiksell, Stockholm.
- Hutchins, D W (1963), *Technology and the Sixth Form Boy*. Oxford University Department of Education.
- Hutchinson, B (1969), *Social Status and Inter-Generational Social Mobility in Dublin*. Economic & Social Research Institute, Dublin. Paper No. 48.
- Illich, T D (1971), *Deschooling Society*. Calder-Boyars, London.
- Inkeles, A (1969), Participant Citizenship in Six Developing Countries. *Amer. Pol. Sci. Rev.* 63 p. 1120-1141.
- Inkeles, A & Smith, D H (1974), *Becoming Modern*. Harvard University Press.
- Jackson, B & Marsden, D (1962), *Education & The Working Class*. Routledge & Kegan Paul.
- Jackson, B (1964), *Streaming: An Educational System in Miniature*. Routledge, London.
- Jacob, P E (1956), *Changing Values in College*. Harper Bros; New York.
- Jepson, V L (1951), Scholastic Proficiency & Vocational Success. *Educ. Psychol. Measmt.* 11 pp. 616-628.
- Jencks, C et al (1973), *Inequality*. Allen Lane, The Penguin Press, London.
- Jensen, A R (1969), How much can we boost IQ & Scholastic Achievement. *Harvard Educ. Rev.* 39.
- Kahn, S B (1969), Affective Correlates of Academic Achievement. *J. Ed. Psychol.*, 60 p. 216-222.
- Kaltenbach, J E and McClelland, D C (1958), Achievement and Social Status in three small communities in McClelland D.C. (Ed.) *Talent & Society*. Van Nostrand.
- Katona, G A (1966), *Mass Consumption Society*.
- Kelly, P J (1961), Pupils Preferences for Science Subjects. *B. J. Ed. Psychol.* 31 p. 44.
- Kelly, S A (1970), *Teaching in the City*. Gill & Macmillan, Dublin.
- Key, W O (1963), *Public Opinion and American Democracy*. Alfred A Knopf, New York.
- King, R (1969), *Values and Involvement in a Grammar School*. London: Routledge and Kegan Paul.
- Kipnis, D (1972), Does Power Corrupt? *J. Abn. Soc. Psychol.* 24.
- Kohlberg, L et al (1971), Moral Development and Moral Education in Lesser, G (ed) *Psychology and Educational Practice*. Scott, Foreman & Co. Chicago.
- Kohn, M L (1959), *Social Class & Parental Values*. Amer. J. Sociol. 1959 64 p. 339.
- Kohn, M L (1969), *Class and Conformity: A Study in Values*. Dorsey Press, Illinois.
- Kounin, J (1970), *Classroom Discipline & Management*. Holt Rhinehart & Winston, New York.
- Krathwohl, D R, Bloom, B S et al (1964), *Taxonomy of Educational Objectives: Affective Domain*. Longmans Green & Co., London.
- Lavin, D E (1965), *The Prediction of Academic Performance*.
- Lehman, H C (1953), *Age and Achievement*, Princeton University Press.
- Lepper, M R & Greene, D (1974), Turning Play into Work. *J. Pers. Soc. Psychol.*
- Lepper, M R et al (1973), Undermining Children's Intrinsic Interest with Extrinsic Reward. *J. Pers. Soc. Psychol.* 28 p. 129-137.
- Levy, P (1973), in Kline, P (ed) *New Approaches in Psychological Measurement*. Wiley, London.
- Likert, R (1967), *The Human Organisation*. McGraw-Hill.
- Litt, E (1954), *Civic Education, Community Norms, and Political Indoctrination*. Amer. Sociol. Rev. 28 p. 23-29.
- Litton, F (1977), *Irish Pupils' Civic Attitudes*. IPA, Dublin.
- Litwin, A H & Stringer, R A (1968), *Motivation and Organizational Climate*. Division of Research, Harvard Graduate School of Business Administration.
- McClelland, D C (1958), in Atkinson, G & McClelland, D C *Motives in Fantasy, Action and Society*. Van Nostrand, New York.

- McClelland, D C et al (1963), The Classic Personal Style. *J. Abn. Soc. Psychol.* 67 p. 254-265.
- McClelland, D C (1965), Toward a Theory of Motive Acquisition. *Amer. Psychologist*, 20, p. 321f.
- McClelland, D C (1966), Does Education Accelerate Economic Growth, Economic Development & Cultural Change, 14 p. 257-278.
- McClelland, D C (1968), Measuring Behavioural Objectives in the 1970's. Harvard University Grad. School of Ed. Achievement Motivation, Working Paper No. 5.
- McClelland, D C (1969), Motivating Economic Achievement. Free Press, Glencoe.
- McDill, et al (1969), Educational Climates of High Schools. *A. J. Sociol.* 74, p. 567-587.
- Mackinnon, D W (1962), The Nature & Nurture of Creative Talent. *American Psychologist* 17, 9. 491f.
- McGregor, D (1960), The Human Side of Enterprise. McGraw Hill, New York.
- MacIntosh, V & Smith, L (1974), Towards a Freer Curriculum? University of London Press.
- Madaus, G F (1967), Educational Objectives. *Irish J. Ed.* 1, 37-46.
- Mager, R F (1962), Preparing Instructional Objectives. Fearon.
- Marris, P (1964), The Experience of Higher Education. Routledge & Kegan Paul.
- Mason, E (1970), Collaborative Learning. Edinburgh: Oliver & Boyd.
- Merriam, C E (1931), The Making of Citizens. University of Chicago Press.
- Meyer, G R & Penfold, D M E (1961), Factors Associated with interest in Science. *B. J. Ed. Psychol.* 31 p. 35.
- Montague, E J (1968), Behavioural Objectives. *Science Teacher.* March 1968, p. 33-35.
- Morton-Williams, R et al (1968), Young School Leavers. HMSO.
- Morton-Williams, et al (1970), Sixth Form Teachers and Pupils. Schools Council Publications Co.
- Musgrave, F and Taylor, P H (1969), Society and the Teacher's role. Routledge, London.
- Myers, A E (1965), Risk taking & Academic Success and their relation to an objective measure of achievement motivation. *Educ. Psych. Measurement.* XXV p. 355.
- Nash, R (1973), Classroom Observed. London: Routledge and Kegan Paul.
- "Newsom" Report. Half our Future. HMSO.
- OECD/Ceri (1973), Case Studies of Educational Innovation 111. At the School Level.
- Pace, C R and Stern, G C (1958), An approach to the Measurement of the Psychological Characteristics of the College Environment. *J. Ed. Psychol.* 49 p. 269-277.
- Pace, C R (1969), College and University Environment Scales. Educational Testing Service, Princeton, N.J.
- Peaker, G F (1971), The Plowden Children Four Years Later. NFER.
- Peaker, G F (1975), An Empirical Study of Education in Twenty One Countries: A Technical Report. Almqvist & Wiksell, Stockholm, Halstead Press, John Wiley, N.Y.
- Pedley, R (1969), The Comprehensive School. Pelican Books.
- Pelz, D C & Andrews, F M (1966), Scientists in Organizations. Wiley.
- Pennsylvania Advancement School. Series of Reports.
- Peterson, A D C (1960), Arts & Science Sides in the Sixth Form. Oxford University Department of Education.
- Peterson, R E et al, (1970), Institutional Functioning Inventory. Educational Testing Service, Princeton, N.J.
- Peters, R S (1966), Ethics and Education, Allen & Unwin, London.
- Piaget, J (1932), The Moral Judgement of the Child. Kegan Paul, Trench, Trubner & Co.
- Piaget, J (1950), The Psychology of Intelligence. Routledge & Kegan Paul.
- "Plowden" report: Central Advisory Council on Education (196). Children and their Primary Schools, Vols. I & II. HMSO.
- Popham, W J & Baker, E L (1970), Establishing Educational Goals. Prentice Hall.
- Purves, A C (1973), Literature Education in Ten Countries: An Empirical Study. Almqvist & Wiksell, Stockholm. John Wiley, N.Y.
- Raven, J Ritchie, J & Baxter, D (1971), Factor Analysis & Cluster Analysis: Their Value & Stability in Social Survey Research. *Economic & Social Review* (Dublin) pp. 367-391.
- Raven, J, Molloy, E & Corcoran, R (1972), Toward a Questionnaire Measure of Achievement Motivation. *Human Relations* 25 p.469-492.
- Raven, J (1973), The Attainment of Non Academic Objectives in Education. *Internat. Rev. Education* 19 p.305-344.
- Raven, J (1975), Research Required in relation to Examinations. Appendix P to the Report to the Minister on the Form and Function of the Intermediate Examination. Stationery Office, Dublin.
- Raven, J, Hannan, B, Handy, R, Benson, C and Henry, E (1975), Teachers' Perceptions of Educational Objectives and Examination, with an Appendix of basic Data on the Schools, Teachers and Pupils of Ireland. Dublin: Irish Association for Curriculum Development.
- Raven, J, Hannan, B, Handy, R, Benson, C and Henry, E (1975), Pupils' Perceptions of Educational Objectives and their reactions to School and School Subjects. Dublin, Irish Assoc. for Curriculum Development.
- Raven, J (1975), The Role of Social Research in Modern Society. *Administration* 23 p. 225-250.
- Raven, J (1975), The Institutional Structures and Management Styles Required for Policy-Relevant Social Research. *Administration* 23 p.251-268.
- Raven, J (1975), Human Resources: Their Assessment and Development in The Evaluation of Vocational Training. EEC: Office for Official Publications.
- Raven, J and Litton, F (1976), Irish Pupils' Civic Attitudes in an International Context. Oideas. February 1976.
- Raven, J (1976), Pupil Motivation and Values. Dublin: The Irish Association for Curriculum Development.
- Raven, J and Dolphin, T (1976), The Consequences of Behaving, report submitted to the Irish Productivity Committee, Dublin. (Also available as Competency Motivation Project Paper no. 30).
- Raven, J, Whelan, C T, Pfrereschner, P A and Borock, D M (1976), Political Culture in Ireland. The Views of Two Generations. IPA, Dublin.
- Raven, J (1977), Human Resources: Their Assessment, Development and Consequences. Personnel Review, May 1977.
- Raven, J (1977), The Components of Competence and their Development through Education. Teachers College Record, May 1977.
- Reimer, E (1971), School is Dead. Penguin, London.
- Revans, R W (1975), Management Action and Management Learning. Mimeo graphed.

- Roberts, E B (1969), *Entrepreneurship and Technology* in Gruber, W H & Marquis, D G (ed) *The Human Factor in the transfer of Technology*. MIT Press, Cambridge, Mass.
- "Robbins", Report (1963), Committee on Higher Education. HMSO.
- Rowlands, R G (1961), Scientists, Non-Scientists & Early Leavers. *B.J. Ed. Psychol.* 31, 23.
- Ryrie, A C (1975), Socialization into a Trade. M.Litt. thesis, Univ. of Glasgow.
- Salek, A M & Julius, W P (1965), Problems of the Young Graduate. *Chartered Mechanical Engineer* 1965 12, p.271.
- Sandven, J (1968), Students in General and School Rejecting Students Compared. *Scand. J. Ed. Res.* 12 91-140.
- Schmuck, R et al (1972), *Problem Solving to Improve Classroom Learning*. Chicago: Science Research Associates.
- Schriven, M (1967), *The Methodology of Evaluation*. AERA Monograph Series on Curriculum Evaluation No. 1. Rand McNally, London 1967.
- Sharp, P (1971), *Sixth Form Survey: Phase II: Students at Colleges of Further Education*. Councils and Education Press, London.
- Shumsky, A (1968), In search of a Teaching Style. Appleton-Century-Crofts.
- Soldomon, D et al (1963), *Teaching Styles and Learning*. Chicago: Centre for Liberal Education of Adults.
- Smith, P C & Kendall, L M (1963), Retranslation of Expectations. *J. App. Psychol.* 47, 149-155.
- Stern, G G (1962), Environments for Learning in Sanford W. (ed.), *The American College* p.690f.
- Stenhouse, L, The Discussion of Controversial Issues in the Classroom. Proc. Fourth International Curriculum Conference.
- Stevens, F (1960), *The Living Tradition*. Hutchinson.
- Summer, R & Warburton, F W (1972), Achievement in Secondary School. NFER.
- Svensson (1962) See Husen, T & Boalt, G (1967), *Educational Research & Educational Change in Sweden*, Almqvist & Wiksell p99.
- Tannenbaum, A (1968), *Control in Organizations*. McGraw Hill.
- Taylor, C W (1971), *All Students are Educationally Deprived*. University of Utah Press.
- Taylor, C W, Smith, W R & Ghiselin, B (1963), "The Creative and other Contributions of one sample of research scientists", in Taylor & Barron. *Scientific Creativity*. Wiley, N.Y.
- Taylor, C & Barron, F (Ed.), (1963), *Scientific Creativity*. Wiley, N.Y.
- Thelen, H A (1974), *The Educational Ethics of the Mid Western High School*. University of Chicago.
- Thoreau, M D (1927), *Walden or, Life in the Woods*. Chapman Hall.
- Thorndike, R L et al (1934), *Prediction of Vocational Success*. Commonwealth Fund, New York.
- Torney, J V, Oppenheim, A N & Farnen, R F (1976), *Civic Education in Ten Nations*: Almqvist & Wiksell, Stockholm, Wiley, N.Y.
- Torrance, E R (1965), Current Research on the Nature of Creative Talent, in Anastasi, A (Ed.) *Individual Differences*. Wiley, N.Y.
- Trent, J W & Craise, J L (1967), Commitment & Conformity in the American College. *J. Soc. Issues* XXIII 1967 p.35.
- Tuel, J K & Shaw, M C (1966), The Development of a Scale to Measure Additional Dimension of the Educational Environment. *Educ. Psychol Measurement*, 26 p.957.
- Tussing, D L (1976), The Coming Explosion in School Enrolments and Expenditures. *Secondary Teacher Winter*, 1976 p12-14.
- Tyler, L E (1965), *The Psychology of Human Differences*. New York: Appleton-Century-Crofts.
- Tyler, R W (1950), *Basic Principles of Curriculum & Instruction*. University of Chicago Press.
- Tyler, R W (Ed) (1969), *Educational Evaluation: New Roles: New Means*. University of Chicago Press.
- UNESCO (1973), Seminar on the External Efficiency of Post-Secondary Education.
- Vernon, P E (1972), Intelligence and Cultural Environment. Methuen.
- Ward, C K (1968), Living in a New Community. *Journal of the Statistical & Social Inquiry Society of Ireland*. Vol. XXII Part I pp. 30-55.
- Walker, D A (1976), *The IEA Six Subject Survey: An Empirical Study of Education in Twenty One Countries*. Almqvist & Wiksell, Stockholm. Halstead Press, John Wiley, N.Y.
- Whitehead, A N (1950), *The Aims of Education*. Ernest Benn, London.
- White, W F (1970), *Psychosocial Principles Applied to Classroom Teaching*. McGraw-Hill, New York.
- Wilson, J, Williams, N, Sugarman, B (1967), *Introduction to Moral Education*. Pelican Books.
- Wing, C W & Wallach, M A (1971), *College Admissions and the Psychology of Talent*. New York: Holt, Rinehart & Winston.
- Witty, P (ed) (1951), *The Gifted Child*. D C Heath.
- Wolf, R M (1976), *The Two Cultures in Walker, D A The IEA Six Subject Survey*. New York: J Wiley, The Halstead Press.
- Wrigley, J (1970), *The Schools Council in Butcher, H J and Pont, H B. Educational Research in Britain*, University of London Press.
- Young, M & McGreeney, P (1968), *Learning begins at Home*. Routledge, London.

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