CHAPTER ONE

Contrasting Perspectives on Learning

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Introduction

This book is about the experience of learning as seen from the student's point of view. But in this chapter that experience is examined first from perspectives adopted by other groups – lecturers, psychologists, and educational researchers in an attempt to explore the meaning of learning as it is understood by these different interested groups. The student's perspective will be used in subsequent chapters as a way of developing a new conceptualisation of learning, but always it will be important to recognise the continuing existence of alternative frameworks for understanding learning in higher education.

Each group and, ultimately, each individual, has an interpretation of reality which is in some sense unique. And yet effective communication depends on shared assumptions, definitions, and understanding. Out of this paradox both teachers and researchers struggle to make sense of the contrasting experiences of learning reported by those involved in the process of education. While earlier research tended to use ready-made concepts from psychology and sociology to explain differences in student attainment, the new research reported here develops a set of concepts altogether more accessible to teachers and students and firmly rooted in their common experiences. These concepts provide a radically different perspective on learning which should bring about a better, shared, understanding of learning processes which are currently interpreted very differently by these two groups.

The research focus of this book is higher education. Almost all the detailed evidence in subsequent chapters is drawn from that particular setting, and yet implications, in a general way at least, can be seen more broadly. In every educational system one of the prime considerations of administrators, teachers, and students alike, at each age level, is what we call the outcome of learning – what students can demonstrate of their increases in knowledge and changes in understanding as a result of their experiences in school or college. This book explores what students learn and how that learning takes place.

Educational research can be seen as careful, systematic attempts at achieving a better understanding of the educational process, with the aim of improving its effectiveness. Our task is thus to describe more clearly how learning takes place in higher education, and to point out how teaching and assessment affect the quality of that learning. From these descriptions, teachers should be able to draw their own conclusions about how to facilitate their students' learning.

All the evidence presented in the main body of the book comes from studies carried out either in Sweden or Britain, and yet the similarities in the forms of teaching and learning in higher education across the world suggest that our main

message should strike home to lecturers and students in every country. The message, in its simplest form, is that as educators we need to think carefully about the quality of learning in higher education. Much of our current teaching and assessment seems to induce a passive, reproductive form of learning which is contrary to the aims of the teachers themselves. That message, and its elaborations, can be followed throughout the book. It is introduced here as an assertion, but later an impressive array of research evidence, with both logical and empirical analyses will be used to justify it.

Lecturers' Perceptions of Student Learning

If we are interested in the outcome of learning, a sensible starting point is the aims of higher education. We should then examine what is actually achieved in relation to what is intended. What are students expected to learn? Clearly the answer will differ in detail from subject area to subject area, but is there any general consensus? A study at Lancaster University sought to examine educational objectives in higher education by interviewing lecturers. Rather than asking general questions which attract vague answers, the interviewer, Keith Percy, concentrated on the everyday concerns of lecturers and asked about specific course objectives – what differences they found between 'good' and 'poor' students; how they graded examination answers; and how they decided whether their own courses had been successful or not. Out of their comments (Entwistle *et al.,* 1971) came an indication of the lecturers' intentions and expectations, and an assessment of how well their students were living up to those expectations.

Most lecturers saw university as having general effects on the quality of students' learning and thinking, and their own specialism as making a distinctive contribution to this educational process. It was considered that university forces students to make

> a great attempt to get to grips with conceptual problems..., (it seeks) to make them think about explanations, ... [making] them a bit more self-conscious about their categories . . . At 'A' level (18 + examination) they learn too much detail — they've no time for thinking.

An economist argued that the study of economics involves a characteristic way of thinking;

> More recently I've come round to the view that economists have acquired a way of looking at the world which is indelible, and even though they may not find themselves in a position where they can use their analytical techniques very consciously, in fact their whole way of treating questions is affected by this kind of training.

Similarly, a philosopher outlined a 'philosophical approach'

> which should bring out and develop the ability to approach questions analytically, ... distinguishing very clearly such different questions as the empirical, the evaluative, the historical, and the psychological.

A scientific mode of thinking was described by a psychologist as being

> concerned with the nature of evidence on which you base argument, a sort of perpetual quest to set forward an argument, and then see what information will support the argument.

Of course, many lecturers stressed the importance of acquiring skills and detailed knowledge. For example, a lecturer in physics had a clear idea of what he and his colleagues were trying to achieve with their students.

> We want to develop certain skills in the laboratory ... the ability to design the apparatus necessary to carry out the particular experiments, to get the answers that you wanted to get at and not any other answers, to interpret the numbers that come out of the experiment and analyse them. Secondly, we want to develop mathematical and deductive skills, to allow them to analyse their experiments ... or any other problem. Thirdly, we want — perhaps too much — to cover the entire ground of classical and modern physics so that they have a fairly comprehensive idea of what the entire corpus of knowledge is in the subject — with a fair amount of emphasis on the latest developments so that they can get out into a job knowing what physics is like today.

Other lecturers were more critical of the value of knowledge. They saw background knowledge as an essential prerequisite for thinking critically and imaginatively about their subject, but were often apprehensive about over-emphasising factual knowledge and binding the student too firmly within currently accepted theoretical frameworks.

> Most of one's time one is enslaving (the student) to certain techniques and disciplines in order that he shall be accepted as an exponent of that sort of discipline... One must also liberate him from them, enabling him to stand back from them and see that they are a rather arbitrary historical collection of techniques which are not the end of the story... Very few students will actually do this ... (but) one would be doing an injustice to them in not making it clear to them that their path of duty lay not in accepting, but in changing, the subject.

The unifying theme of lecturers' views about the main purposes of university education can be summarised by the term critical thinking – indeed, more than that – what Ashby (1973) has described as post-conventional thinking.

> The student moves from the uncritical acceptance of orthodoxy to creative dissent... (In higher education) there must be opportunities for the intellect to be stretched to its capacity, the critical faculty sharpened to the point at which it can change ideas (pp. 147-9).

The thinking and actions indicated by the comments of lecturers can be seen as implying broad, generic skills used in most disciplines and areas of study, although exemplified in rather different ways and with differing emphases in each discipline or subject area. This set of generic skills is, however, no longer considered to be fully adequate for the education of graduates. The Enterprise in Higher Education Initiative in Britain, for example, has identified additional 'personal transferable skills' which are increasingly valued by employers (see

Tate, 1993). These include problem-solving, communication skills, and working effectively with others. These additional skills are required to allow knowledge and understanding to be used appropriately and effectively at work, and in collaboration with others.

In the interviews with lecturers in the 1970s, of course, these additional skills were not mentioned. But there was substantial consensus about the importance of critical thinking, although it was far from clear how this was expected to be achieved through the predominant teaching methods of lectures, tutorials, and practical classes. It was also far from clear that methods of assessment contained the same emphasis on 'critical thinking' that ran through the lecturer's comments on their expectations. In fact, the predominant impression from the descriptions of methods of teaching and assessment was that there was a profound contradiction between lecturers' intentions and what the students achieved. It seemed that lecturers looked for critical thinking, yet taught and assessed conformity in ideas and the acquisition of detailed factual knowledge (Entwistle & Percy, 1974). There may thus be only a tenuous connection between the 'teaching objectives' (what lecturers say they want to do) and their 'teaching activity' (what they actually do) – a lack of relationship between "intention and performance" (Entwistle, Percy & Nisbet, 1971, Vol. 2, Cht. 13, p. 12).

This unrecognised contrast between intent and the effects of teaching is often expressed as a distinction between the formal and the 'hidden' curriculum. Snyder (1971) at MIT pointed out that the formal curriculum, as defined by the staff, demanded originality, problem-solving, independence of thought, and analytic skills. In contrast, the hidden curriculum – the message received implicitly but strongly by students – depended on the teaching methods and assessment procedures, and these encouraged question-spotting and rote memorisation of facts and theories considered important by the teachers. The Lancaster lecturers were, on the whole, not aware of the wide divergence between intent and teaching procedures. Although they were aware that many students showed a disappointingly low level of understanding after three years at university, they also had ready explanations for such disappointing outcomes – explanations which were based on the inadequacies of students.

> There are two kinds of (weak students) really: the downright indolent (or those who put efforts into other than academic work) and ... some who don't understand... (Again there is the student who) is not very well motivated; he takes the courses largely because he likes other courses even less. He may be doing his degree on that basis ... only attending university because there's nothing else more intelligent occurred to him to do.

Out of a depressingly uniform set of comments berating students for their inadequacies of intellect or motivation, only one lecturer pointed out a difficulty in accepting such simple explanations of poor performance:

> The main trouble is unwillingness to get down to work, but having said this, there is no doubt a paradox ... in that at some time in the past, in order for a person to have got here, presumably he had been willing, and something is going on which diminishes this willingness.

The resolution of this paradox will become clear as soon as we look at this situation from the student's viewpoint. But for the moment let us look instead at two other sets of contrasting perspectives. Both the psychologist and the educational researcher have a professional interest in learning, but they have looked at the phenomenon in quite different ways, and made use of a variety of research methodologies. The different questions raised and methods followed produce characterisations of learning which have rather little in common.

Psychological Research on Learning

Research into memory and learning

Teachers look to psychologists for explanations of fundamental principles of learning. It used to be accepted that an understanding of underlying brain mechanisms and functions would have direct implications for the teacher. Now the 'direct' links seem less clear, as we shall see. But much of the early work in experimental psychology involved attempts to uncover general principles of learning, and followed as closely as possible the well-tried research procedures in the physical sciences. To investigate memory, for example, psychologists such as Ebbinghaus tried to avoid the 'distorting' effects of previous knowledge. Scientifically, it was much sounder to see how well people remembered new material. And what better way could there be to ensure that it would be new to every experimental subject than to present nonsense syllables? Thus a whole tradition of memory research was built out of nonsense, but was only much later recognised as such.

The teacher, at least, is intent on helping pupils to build meaning. Early in the development of psychological ideas about learning, William James had argued intuitively for the importance of associations in determining what is remembered. The early experimentalists were able to confirm these introspective impressions of the effects on memory of contiguity (remembering ideas or facts closely associated with each other) and of exercise (repetition). It was also noted that we tend to repeat behaviour which leads to satisfying consequences (law of effect). It was, of course, an age-old principle that behaviour could be controlled by reward and punishment, but Skinner was able to demonstrate how complex sequences of behaviour could be built up in pigeons by systematic linking of behaviours with positive reinforcement (food pellets). Out of the behavioural 'shaping' of pigeons and rats grew a research industry, and a whole educational technology (programmed learning), which put impressive weight behind the importance of immediate reinforcement (through knowledge of results) and of the presentation of increments of knowledge arranged in small sequential steps. Knowledge could thus be efficiently assembled, like a brick wall, out of its component blocks.

Yet the extrapolation from experimental results on the behaviour of animals to general principles of learning in the classroom stretches credibility more than a little. Skinner may have felt justified in the generality of his principles of learning by noting important similarities between learning in animals and humans. But subsequent generations of students and teachers have found this view a wholly

inadequate description of teaching and learning. Many have resented the image of the teacher as a 'manipulator of learning', criticised the view of learning as solely the acquisition of information, and found the principles of programmed learning to be of limited value in the classroom.

Intelligence and individual differences

Another important thread in the psychological study of learning has grown out of the early attempts of Spearman and Pearson to investigate individual differences in the speed and efficiency of learning. In common parlance, people who learn fast and well are considered to be 'intelligent'. Intelligence is a hypothetical construct – an inferred concept which can be used as a way of explaining observed differences in intellectual performances. Spearman was able to show that there was, in school children, a general factor 'g' which described a tendency for pupils to show similar levels of performance in different school subjects. In France, Binet had been able to distinguish between normal children and those who were considered to be ineducable, by means of a set of graded intellectual tasks involving memory, knowledge, and reasoning. Allying Pearson's statistical findings to Binet's development of graded sequences of intellectual tasks produced what came to be known as intelligence tests, and from them the IQ or intelligence quotient which provided a ready sorting device to determine the educational futures of generations of children.

Again both a technology and an industry were born and, above all, out of the short-term consistency in IQ scores came beliefs both about its resistance to change and its general validity as an indicator of educational potential. The idea that a single set of tasks could provide a good indicator of 'general intelligence' has been difficult to shift. Its simplicity is appealing. But even the early work of Thurstone on students showed that up to seven 'primary abilities' could be identified – perceptual speed, memory, verbal meaning, spatial ability, numerical ability, inductive reasoning, and verbal fluency. These dimensions emerged from the statistical analysis of psychological tests, but subsequently Gardner (1984) argued for a broader definition of intelligence to include 'multiple intelligences' derived from a whole range of human competencies. He has suggested that we should recognise at least seven distinct intelligences, including linguistic, musical, logical-mathematical, spatial, and bodily-kinaesthetic. His list also includes two forms of personal intelligence, 'intrapersonal' which depends on a 'sense of self' and 'interpersonal' which involves the capacity to 'read' other people's intentions and feelings in a social setting.

Intelligence, it seems, can be viewed as a global or summary variable, containing elements of many subsidiary skills. It is also modifiable, at least within limits. It is largely stable, but importantly variable. Education and home environment can, and do, affect the levels of measured intelligence. And people exhibit more intelligent behaviour in some aspects of their life than in others.

Besides intelligence, other traits have been used to describe relatively stable characteristics of individuals which may affect the speed or efficiency with which they learn. The term motivation has been used to describe the motive power which creates the 'movement' of learning. Unfortunately this crude mechanical analogy

implies that the natural state of the human body and brain is at rest. This contradicts experience: differentiated activity and fluctuating awareness is the waking norm of human behaviour. Nevertheless it is still useful to ask about the motive or goal of a person's behaviour, and to question the causes of the particular level and direction of a person's current activities.

In the subsequent psychological literature, several distinct forms of motivation have been described (Entwistle, 1987). Competence motivation describes the positive orientation towards learning created by the repeated experience of successful learning activities. Extrinsic motivation describes the seeking after external reinforcement for learning, from school marks, grades, or qualifications. Intrinsic motivation takes two forms, one in which learning is explained by interest and perceived relevance, and another generally described as achievement motivation, relies on a striving for success which feeds on perceived success and boosted self-confidence.

These forms of motivation are describing learning in terms of traits which are the habitual forms of satisfaction derived by different people from their experiences of learning (see Kozeki, 1984). But they also have negative poles. It is salutary to consider what form of (de)motivation is built up by the repeated experience of failure and humiliation, and to ponder the educational consequence of 'incompetence demotivation' or of having no achievable or satisfying goal in learning. Of course, the occasional experiences of low marks or failure may increase determination, and some anxious people seem to go through their education driven more by a fear of failure than by a hope for success. In other research, fear of failure has been shown to influence the extent to which students are prepared to seek their own personal understanding of what they have been asked to learn (Entwistle,1988a).

Cognitive structure and processes

Research into human memory has tried to describe how information is processed, coded, and stored. A simple information processing model envisages a short-term, working memory (STM) which sorts out incoming perceptions and relates them to previous knowledge, and a long-term memory (LTM) in which experiences and conceptual knowledge are stored. Psychologists such as Lindsay and Norman (1972) have described how conceptual hierarchies are developed. Their models present the memory as involving logically ordered sets of concepts, stored in terms of increasing generality. But this emphasis on the logical properties of concepts applies mainly to everyday objects whose defining features are readily deduced. Abstract concepts, or those which have no agreed formal definitions, cannot be stored in this way. They are built up from sets of experiences which are only partially shared with others.

Learning thus becomes a matter of the individual construction meaning, and this view of learning (constructivism) has recently become widely accepted within education.

> Central to the vision of constructivism is the notion of the organism as 'active' – not just responding to stimuli, as in the behaviourist rubric, but engaging, grappling, and seeking to make sense of things. In particular,

> learners do not just take in and store up given information. They make tentative interpretations of experience and go on to elaborate and test those interpretations (Perkins, 1992, p.49).

New information has to be interpreted in terms of prior knowledge and concepts which contain shared, but also unique, shades of meaning. And the meaning may also depend on the situation and on shared social conventions. What a student learns can only be what is taught, when the content is limited to facts or formally defined concepts. Otherwise, the student will develop an interpretation of knowledge which contains personal and social 'auras' of meaning which extend beyond what the teacher had in mind. It will be that meaning which the student subsequently will try to communicate in any assessment task.

In much of the writing on educational psychology, a clear distinction is made between rote learning (memorisation) and meaningful learning (Ausubel *et al.*, 1978). Ausubel and his colleagues suggest that students develop learning 'sets' which predispose them to utilise either rote or meaningful learning in tackling academic tasks. But much learning in education takes the form of 'meaningful reception learning' which is of an intermediate form. It is not strictly memorisation, but it seems not to involve the learner in interacting with the information presented.

Learning as personal development

The more recent ideas about constructing personal understanding can be seen to link with earlier ideas described by Carl Rogers (1969). He described human learning out of his own experiences of working with people as both a psychotherapist and a university teacher. He came to believe that significant learning is possible only when the individual has self-confidence in his ability to learn and feels that the experience of learning will be personally rewarding and meaningful. Freedom of self-expression and the teacher's unqualified regard for the student were the linchpins of Rogers' views on education. In his influential book *Freedom to Learn*, he was strongly critical of traditional approaches to teaching which foster competition and provide experiences of failure for many students. He condemned didactic or expository methods, unless they formed part of an entirely different approach to education. Rogers wanted knowledge to be made subsidiary to the process of learning how to learn, because to-day's new ideas become to-morrow's outdated information. And above all he wanted to set the learner free from the type of experiences which crush both curiosity and self-confidence. He also believed that students and teachers should recognise that emotions are an essential part of learning – that is of 'significant, existential' learning, learning which develops personality as well as the intellect.

> Not the lifeless, sterile, futile, quickly forgotten stuff which is crammed into the minds of the poor helpless individual tied into his seat by ironclad bonds of conformity. I am talking about LEARNING — the insatiable curiosity which drives the adolescent boy to absorb everything he can see or read about gasoline engines in order to improve the efficiency and speed of his 'hot-rod'... We frequently fail to recognise that much of the material presented to students in the classroom has, for the student, the same perplexing, meaningless quality that the list of nonsense syllables has for us... Thus education becomes the futile attempt to learn material which has no personal meaning. (pp. 3-4).

In contrast Rogers wanted to establish a 'community of learners', free to pursue those ideas which excite them, ideas which have intense personal meaning. He wants, above all,

> to free curiosity; to permit individuals to go charging off in new directions dictated by their own interests; to unleash a sense of inquiry; to open everything to questioning and exploration; to recognise that everything is in process of change... [And] the facilitation of (such) significant learning rests upon certain attitudinal qualities which exist in the personal relationship between the facilitator and the learner (pp.105-6).

For Rogers these qualities are 'realness' (the teacher shows authentic feelings such as boredom, interest, anger, or sympathy), 'prizing, acceptance, trust' (of the student's personal and intellectual qualities), and 'empathetic understanding' (the ability to feel how learning seems to the student).

This view of learning has a richness, and immediacy of impact, which is lacking from the mainstream psychological research in learning. It also seems to be more closely related to the aims of higher education as indicated by the lecturers' comments on what types of learning they expected of students. But the distinction between learning as the acquisition of discrete packages of information, and as a change in the student's conceptions of himself and the world around him, recurs in the research literature and throughout this book. Both views of learning are strongly felt and vigorously defended.

Educational research on student learning

With the exception of the work reported in the last section, psychological research on learning has been carried out in a laboratory setting or has made use of artificial or over-simple learning materials. Even Rogers' ideas derive mainly from a clinical setting. Attempts at applying the theories derived from this research directly to classroom situations have not been particularly successful. It is now recognised that psychological theories must have 'ecological validity' - that is, the theories must be derived from the settings to which they are to be applied. Otherwise there can be little confidence placed in the utility of the theory. Educational research workers have also approached student learning using contrasting perspectives and methodologies. Here, the clearest distinction is between studies which have sought to predict subsequent academic performance and those which have attempted to describe students' experiences of higher education. In moving from one focus to the other there is also an important shift in research paradigm which is of particular significance in understanding the studies reported in subsequent chapters. This paradigm shift is thus presented as a separate section.

Selection and prediction studies

Educational research has provided a great deal of evidence about the factors associated with student learning. In the 1960s and early 1970s the main research interest was in selection and prediction. Was it possible to improve the accuracy of selection for higher education by using head-teachers' ratings or tests of academic aptitude? To what extent could degree class be predicted from measurements made during the first year of studying? In the United States the Scholastic Aptitude Test had proved effective as a way of selecting students for universities and colleges. Substantial correlations between test scores and college marks have regularly been reported (e.g. Scannell, 1960). However, attempts to use a similar test in Britain proved unsuccessful, with scores on aptitude tests adding little to the accuracy of selection based on entry qualifications alone (Choppin *et al.*, 1973). Head-teachers' ratings of pupils showed somewhat higher correlations with degree class, but Nisbet and Welsh (1966) found that teachers' ratings failed to discriminate among the crucial group of students with minimum entry qualifications where they might have been most useful.

The search for other determinants of academic performance led other researchers to look towards the different forms of motivation described earlier. Entwistle and Wilson (1977) reported the use of cluster analysis to demonstrate the existence of groups of students with contrasting forms of motivation. Two main clusters were described as having 'fear of failure', and 'self-confident, hope for success'; other types of students were described as 'radical and extraverted', and 'idle and unmotivated'. The first three groups all achieved above average degree results, while the last group did very badly indeed.

Wankowski (Raaheim & Wankowski, 1981) has argued that students who come to university for clearly defined reasons and with distinct vocational goals, are more likely to be successful than students with diffuse, unarticulated goals. Wankowski is describing a form of extrinsic motivation, while attempts at measuring students' motivation have more commonly concentrated on the competitive form of motivation described as academic achievement motivation. Although correlations with degree success have still been quite low, motivation scales do seem to supplement prediction from academic aptitude tests (Entwistle & Wilson,1977).

Perhaps the best-known early inventory of study habits and attitudes was devised by Brown and Holtzman (1966) who reported encouraging correlations with grade-point average. Work on study habits indicates, above all, that organised study methods and promptness in completing assigned work are associated with high grades. More recent research has associated organised study with both a strategic approach to studying and to achievement motivation, and it is again found to correlate with academic achievement (Entwistle,1988a).

In an Australian study, Pond (1964) compared the comments made by contrasting groups of students. The 'high-achievers' reported that they organised their studying and time allocations, worked during free periods, decided on priorities and tried to improve their study techniques. The 'low-achievers' did not consider organised study to be important. Their comments suggested a transfer of

blame for their poor performance. They tended to be critical of facilities, mentioning too much chatter, over-crowding, or scarcity of books. Presumably better-organised students modify their study strategies to overcome any defects in the academic environment and so maintain a more positive attitude to their studies.

Although such studies have demonstrated relationships with academic achievement, this whole line of research has been criticised for failing to suggest how the underlying traits lead to the learning outcomes described. As a result, there is little indication of what might be done to improve the situation. There is also a tendency to use a deficiency model of student behaviour, in which the blame for inadequate academic performance is attributed wholly to the student. It has taken an entirely different research paradigm to present the situation more fairly, as an interaction between the characteristics of the student and the experiences provided by the institution. The changed methodology involves looking at the situation from the student's perspective using interviews and observations and qualitative, interpretative analysis.

An alternative research paradigm

The research which has grown out of prediction studies and that derived from students' experiences differ not just in the methodology used: there is a more fundamental philosophical division (Entwistle, 1974). Quantitative methods imply reductionism and tend to produce formal or mechanical models which embody assumptions about fixed paths of causality. In contrast, the alternative qualitative paradigm involves approaches to research rooted in phenomenology which derive from a direct exploration of students' experiences of learning. The traditional research paradigm involves explaining student behaviour from the outside, as a detached, objective observer. The alternative approach seeks an empathetic understanding of what is involved in student learning derived from students' descriptions of what learning means to them. It involves a shift not just of methodology, but of perspective.

Returning to one of the comments made by lecturers about students' lack of achievement, this switch of perspective can be illustrated quite dramatically. Remember, the lecturer had seemed puzzled by the apparent lack of motivation.

> The main trouble is unwillingness to get down to work, but having said this, there is no doubt a paradox . . . in that at some time in the past, in order for a person to have got here, presumably he had been willing, and something is going on which diminishes this willingness.

When students were interviewed (Entwistle, 1975), they saw no paradox. A reversal of perspective provides an immediate, if uncomfortable, insight for the lecturer.

> So often are students bored by uninspired teaching or disenchanted by badly taught material. While university lecturers are undoubtedly knowledgeable, they are totally untrained and unexamined in the art of communication... The completely incorrect assumption is that anyone with a good degree will automatically be able to impart this knowledge to others.

As already suggested, the quantitative tradition involves an attribution of responsibility, at least by implication. It assigns blame for a poor academic performance solely to the student without asking how the student came to lose motivation or interest. Finally, it ignores the responsibilities of the institution and the teacher for the outcomes of learning. The new research paradigm switches perspective and so provides insights for the teacher which are not only firmly rooted in real-life situations in higher education, but are also more illuminating. They present a description of student learning from an unusual perspective – that of the student – and yet lead to important implications for teaching as well as for studying.

This new approach to educational research was introduced into the British literature in an influential paper by Parlett and Hamilton (1972). Educational research was criticised for following too slavishly a paradigm which had proved successful in the physical sciences – the hypothetico-deductive method. It was argued that the success of this paradigm with inanimate matter, or with plants and animals, was not a good reason to believe it would be equally applicable to human behaviour – which is essentially purposeful. Parlett and Hamilton criticised what they termed the 'agricultural-botanical' experimental paradigm in educational research, in which research designs incorporated a belief that students react to contrasting educational treatments as consistently as plants react to fertilisers. They contrasted the traditional research paradigm with the procedures used by social anthropologists, who observe and question people in different cultures in an attempt empathetically to understand their customs and beliefs. They subsequently used the term 'illuminative evaluation' to apply to research designs which sought to evaluate educational innovations from within. The more general approach – investigating a variety of educational situations from within – is the alternative paradigm which is used almost exclusively in the studies reported in the following chapters.

Research into students' experiences of higher education

The specific research methodologies adopted in our studies vary to some extent, depending on the different problems tackled. But they have important similarities which will be introduced in the next section. They also have an affinity to two well-known studies carried out in the United States by Howard Becker and his colleagues (1968) and by William Perry (1970). In *Making the Grade*, Becker entered as fully as possible into the students' experiences of learning through participant observation, attending classes and becoming involved in the students' social life. Their approach was very much that of the social anthropologist who takes detailed field-notes of the information provided and observations made. Their main finding, as the title of the book suggests, was that students' academic life was dominated by assessment demands. Students' activities could be seen largely as coping ploys designed to achieve the grades necessary to make progress through the university system.

One problem with Becker's study was that its focus was broad – on the totality of students' social and academic life, with little concern for the content of what was being studied. William Perry, working as a student counsellor at Harvard,

had a different focus of concern. He was interested specifically in students' intellectual and ethical development. In particular, he was struck by a qualitative change in students' thinking during their years at college - a change from dualistic thinking to contextual relativistic reasoning. Students seemed to move from a belief that all questions have simple answers which are either right or wrong, to a gradual recognition that few problems, particularly in real life, have simple solutions. Even where facts are agreed, personal interpretations lead to differing conclusions, making relativism the rule rather than the exception. And the strength to make a commitment to a personal interpretation derived from relevant evidence became the final stage of the development scheme (Perry, 1970, 1981).

Although Perry's students did discuss their experiences on specific courses, the general tenor of the discussions and the interest of the researcher led to categories being identified which described general intellectual development. A study in Edinburgh came closer to the focus of the research reported in this monograph. Miller and Parlett (1974) applied the principles of illuminative evaluation to an investigation of students' reactions to the assessment procedures in a small number of departments, carefully chosen to cover the range of different practices then in use. These researchers followed Becker's procedures in part, using participant observation, but also made use of semi-structured interviews and questionnaires. Analysis of the interviews involved coding their transcripts into themes or content areas which were analysed separately. The researchers' interpretations of the emerging themes were cross checked against the impressions of a small panel of independent judges, but even so Miller and Parlett were conscious of criticisms which might be made by researchers unfamiliar with this paradigm.

> Some will argue — even with this degree of methodological circumspection — that what we did falls short of the highest standards of rigour in social science, being dependent — as it certainly is — on personal interpretation of data, much of which cannot be made public. Our answer is two-fold. First, one must recognise that many of the supposed ills of 'subjectivity' are not confined to research of the type described here: even the most rigorous statistical survey study requires constant exercise of human judgement — e.g. in what questionnaire items to include; in what statistical comparisons will be made and how; and, most of all, in what light the findings are presented or summarised for others. This is not always acknowledged... Finally, there is, of course, one powerful check on the study's validity— arguably the most powerful of all. Does the study present a 'recognisable reality' to those who read it?" (Parlett and Hamilton, 1972, p. 12).

Miller and Parlett focused their analysis mainly on students' experiences of the assessment procedures, and differentiated students' comments on the basis of 'cue-consciousness'—the extent to which students recognised or actively sought out 'cues' from staff to help them guide their attempts to play the assessment game. Cue-seekers

> button-holed staff about the exam questions; sought them out over coffee; made a point of discovering who their oral examiner was, what his interests

were and, most of all, deliberately tried to make a good impression on staff (p. 52).

Cue-conscious students were aware that there were cues and that these were important, but made no attempt to approach staff directly. The final category was 'cue-deaf' – a group of students who did not believe that marks were affected by the impressions made on staff. They saw the assessment system as essentially objective and not open, in any way, to being influenced by extraneous factors.

Miller and Parlett's approach to research comes close, in methodology and 'spirit', to the research to be discussed in this book. Our data have been derived mainly from fairly open interviews with students discussing their experiences of learning. Some of the learning has been in experimental settings, but using realistically complex learning materials. These are termed 'naturalistic' settings – they resemble normal studying in important respects, but retain elements of experimental control and manipulation. Other studies have been carried out in 'natural settings' in which students have been asked questions about their everyday experiences in general or about particular pieces of academic work they are tackling at that time. This latter set of studies follows closely the procedure outlined by Miller and Parlett, and shows a similar concern with the context of learning.

It is important, in this alternative approach to research, to keep in mind the implications of the change in perspective which shifts attention from the teacher's or the researcher's view to that of the student. This shift is crucial in ensuring that the explanations of student learning not only have ecological validity within the real university or college context, but also to enable the researcher to make an interpretation of the findings which does justice to the totality of the students' own experiences. To reach this empathetic understanding, the alternative research paradigm has become essential. Its advantages should become clear from the 'recognisable reality' which is portrayed in each of the subsequent chapters.

Concepts and Categories Describing Learning and Studying

The chapters which follow report a series of research studies on differing aspects of learning and studying in higher education which together help to portray *The Experience of Learning* from the student's perspective. Although all academic staff have experienced this type of learning, it is surprising how rapidly that experience seems to fade once the role of teacher is taken on. There are thus substantial advantages in reminding staff about this perspective, which leads to the important implications for teaching discussed in the final chapter. In seeking to describe the differing aspects of learning and studying, the previous chapters all introduce categories and concepts. Although there are a substantial number of these, they can be seen together as a coherent set. They are therefore introduced here as a way of suggesting connections between the various chapters.

The concepts can be seen as varying in their breadth. Some of them are of considerable generality, while others refer more specifically to one or other study task or teaching method. The two most general concepts have been labelled

learning orientations and *conceptions of learning.* Students coming into higher education differ in their reasons for doing so – their learning orientation (Chapter 5). Some have a mainly *vocational* orientation; for others the orientation may be more *academic, personal,* or *social*. Although all students have mixed motives, it has proved helpful to describe the balance between these motives, and the extent to which students have an extrinsic or intrinsic interest in the content of the courses they are taking. These different types of interest in the course affect ways of studying.

Students also come into higher education with differing conceptions of learning (Chapter 3). From their previous educational experiences, students may see learning as mainly a matter of acquiring information and *reproducing* it accurately as required by the teacher. Alternatively they may believe that learning depends on *transforming* information in the process of reaching personal understanding. With this conception of learning, assessment involves the necessity of thorough explanation.

The conception of learning seems to have a strong developmental component. Students fresh from school often see learning in narrow reproductive terms, but going through higher education their conception broadens as they recognise the importance of developing their own understanding of course material. This developmental aspect is brought out clearly in the case studies reported in Chapter 14, where it is seen also in terms of growing self-confidence. Such self-confidence often seems to depend on the quality of the relationship with a tutor (Chapter 12) and so draws attention to crucial emotional and social components of learning.

The term 'conception' also has been used to describe a general understanding of the discipline or subject area – acquiring, for example, a conception of history – and as general way of thinking about how to write essays by showing differences in the ways in which students organise them as, for example, *argument, viewpoint*, or *arrangement* (Chapter 7). The importance of the way in which students organise their ways of thinking about academic material is also seen in relation to the nature of study skill (Chapter 4), and revision (Chapter 9). Finally, the term 'conception' has been used even more narrowly to describe the way in which a student comes to understand a particular topic within the syllabus – for example, a conception of force in Newtonian mechanics.

The broad distinction between conceptions of learning as involving reproducing as opposed to transforming can also be seen clearly when it comes to looking at specific tasks. The original work which inspired most of the work described in this book was carried out by a research group in Gothenburg led by Ference Marton. He decided to investigate one of the commonest academic tasks – reading academic articles – using a naturalistic experiment in which students were asked to read an article in their own time and to be ready to answer questions on it afterwards. The analysis looked, first, at the levels of understanding that students had reached after reading the article, and then sought to account for the qualitative differences in understanding that they found in terms of the way in which the task had been tackled.

The researchers also described different categories of learning outcome (understandings of the article) which had distinct relationships among each other. This apparent structure in the variety of individual learning outcomes was called the *outcome space* (Chapter 2). These qualitative variations in understanding were subsequently explained in terms of a combination of the intention that the student had in starting the task and the process used to carry it out. Some students read the text by concentrating on trying to learn discrete bits of information in an *atomistic* fashion, while others were more concerned in a *holistic* manner to make sense of the article as whole (Chapter 4). What proved crucial, however, was the intention. As Marton and Säljö concluded from analysing the transcripts of interviews (Chapter 3),

> all our readings and rereadings, our iterations and reiterations, our comparisons and groupings, finally turned into an astonishingly simple picture. We had been looking for the answer to the question of why the students had arrived at those qualitatively different ways of understanding the text as a whole. What we found was that *the students who did not get 'the point' failed to do so simply because they were not looking for it.* The main difference we found in the process of learning concerned whether the students *focused on the text itself or on what the text was about: the author's intention, the main point, the conclusion to be drawn* (original emphasis).

Originally, this distinction was described in terms of differing 'levels of processing', but recognising that it was the distinctive intention which led to these differing processes, the term *approach to learning* was subsequently adopted. The crucial distinction in the ways students tackled the reading task was captured in the terms *deep* and *surface* approaches to learning. And later research showed how the approach depended on the student's purpose in reading and on conceptions of everyday knowledge (Chapter 6).

In these experiments, students had expected questions on the article after reading it, but they had no idea what kinds of question they would be. In that situation, some students concentrated on surface 'question spotting', while others looked below the surface for the author's meaning. In another series of naturalistic experiments, Gordon Pask and his colleagues investigated how students went about learning when they were required to understand. In that situation, a deep approach was obligatory, and yet Pask found that students still differed in the ways they tackled the task. Some students, right from the start, tried to see how the task fitted into a more global, overall picture, while others preferred to build up their understanding step by step through concentrating, first, on procedures and details. Pask saw these as contrasting *styles of learning – comprehension learning* which involved the broad overview and using a 'holist' learning strategy, and *operation learning* which depended on a narrower focus and a 'serialist' strategy. Full understanding, or the effective solution of problems, would often depend on an alternation between comprehension and operation learning (Chapter 8), and where that alternation was carried out flexibly and appropriately, students were said to have a *versatile* learning style, which is essentially equivalent to a fully deep process of learning.

TABLE 1.1
Defining features of approaches to learning

Deep Approach *Intention* – to understand ideas for yourself	*Transforming* **by**
Relating ideas to previous knowledge and experience Looking for patterns and underlying principles	
Checking evidence and relating it to conclusions Examining logic and argument cautiously and critically	
Becoming actively interested in the course content	
Surface Approach *Intention* – to cope with course requirements	*Reproducing* **by**
Studying without reflecting on either purpose or strategy Treating the course as unrelated bits of knowledge Memorising facts and procedures routinely	
Finding difficulty in making sense of new ideas presented Feeling undue pressure and worry about work	
Strategic Approach *Intention* – to achieve the highest possible grades	*Organising* **by**
Putting consistent effort into studying	
Finding the right conditions and materials for studying Managing time and effort effectively	
Being alert to assessment requirements and criteria Gearing work to the perceived preferences of lecturers	

The distinction between deep and surface approaches to learning was found in a naturalistic experiment in which the outcome of learning did not 'count' in assessment. Subsequent research looked at learning within its natural setting, and there the quality of studying depended crucially on both teaching and assessment. Students have their own *study contract* (Chapter 5) which decides how much effort they will put into different aspects of their studying, and the influence of assessment led to a third category of approach – *strategic* – in which the intention was to achieve the highest possible grades, while the process depended on cue seeking, well organised study methods, and effective time management (Chapter 13). Table 1.1, above, lists the defining features of the three approaches to learning and studying that have emerged from the studies making up this book,

and from other research. These approaches have become central to subsequent research on studying and the development of more effective teaching (see Gibbs, 1992, 1994a).

Different types of assessment seem also to encourage either deep or surface approaches, with essay questions or problems encouraging a deep approach, but only if the questions set demand the demonstration of personal understanding. Some students seem satisfied with a *form of understanding* which is heavily dependent on structures provided in lectures, while other students concentrate on constructing their own individual, tightly organised *knowledge objects* or understandings experienced in a quasi-sensory way (Chapter 9).

The quality of teaching also influences the approach to learning. Some lecturers seem to be able to provide students with a *vicarious experience of relevance*, which evokes a deeper approach to the course (Chapter 10). Recently, there has been considerable discussion of the ways in which the new information technology can be used to support a deep approach to learning (Chapter 11). And, similarly, tutors can provide through tutorial discussion groups the right balance between *encouragement* and *challenge* which both socialises the student into the ways of thinking characteristic of the discipline and also encourages the development of personal understanding (Chapter 12). The context of learning (Chapter 13) describes the effects of certain aspects of teaching and assessment on the approaches to learning adopted by students in a particular course or department. These contrasting approaches then affect the level of understanding which students reach and also the extent to which they develop the personal transferable skills increasingly demanded by employers. Overall, the research findings provide a holistic view of how skill in learning and conceptions of learning develop (Chapters 4 and 14). They also show how the learning environment can be managed so as to encourage the deep approach which is an essential prerequisite for high quality learning (Chapter 15).

The Research Methods

As there is considerable similarity in the methods of collecting and analysing data used in the following chapters, a general description of the approach is given here. Almost all the studies have used interviews with students to explore particular aspects of learning and studying. These interviews are based on what might loosely be called a semi-structured interview schedule. But that description would imply a greater degree of researcher control than was typically involved. A list of issues to cover the main areas of interest was always prepared in advance, but the studies differed in the extent to which a fairly strict order and form of questions was used. In interviews with students, it is often better to follow the line the interview is taking and bring in questions as they become appropriate, rather than following a predetermined sequence. The style of interviewing may also be rather different from the research interview as usually recommended. There is great advantage to be gained in interviewing students by allowing the interview to develop as a natural conversation and a discussion, although guided by a pre-determined framework. Introducing set questions often inhibits the development of ideas, and seems to encourage short, unelaborated answers. Where the interviewer

contributes to the effort to explore the student's interpretation of experiences, much fuller descriptions are provided. Of course, the interviewer has to act as a neutral foil to the developing explanations and not present ideas or opinions, but within that constraint a more interactive style does seem to work best for the purposes of this particular type of interview.

With the permission of the students, the interviews are tape recorded and the tapes transcribed in full. Analysis involves repeated reading of both the overall transcripts of individual students and comparable sections from all the students. The structure of the interview schedule will to some extent determine the themes which are found in the transcripts, but with this style of interviewing there are also additional themes brought up by the students themselves. Once the main themes are decided, extracts from individual interviews can be allocated to those themes. Analysis of the extracts leads to the identification of concepts and categories, which are then exemplified and delimited through extracts carefully chosen to bring out the full range and meaning of each category. The categories usually go through substantial modification in an attempt to find the clearest and most parsimonious way of describing the main aspects of the experiences reported by the students. So, the analyses are necessarily iterative, and concepts and categories evolve gradually, as their meanings become clearer. The categories are analytic. They are not used to label individual students; rather they allow similarities and differences between students to be more precisely and uniformly described. Several of the studies have concentrated on both the content of what is learned and the process by which it is learned. The emphasis on content is important, and subsequently became the main focus of a style of research which built on the methodology developed by the Gothenburg research group. Marton has described this approach as *phenomenography* (Marton, 1994) and a wide range of studies has been reported which indicates how different individuals conceptualise academic topics and their experiences of more general phenomena.

It is exceptionally difficult to report findings from this type of research in a fully convincing manner. To provide a full description of the categories identified necessitates the presentation of the whole range of quotations covering the delimiting instances. Only in extensive research reports is this possible (e.g. Svensson, 1976; Laurillard, 1978; Taylor, 1983; Säljö,1982; Entwistle and Ramsden, 1983; Hounsell, 1984). In the chapters that follow, readers are generally referred to reports which contain the full range of extracts from the interviews. All that can be provided here are illustrations of typical comments. It should, however, be recognised that these extracts are only selections from the full body of evidence on which the descriptive categories rest.

In Chapter 13, an additional methodology is reported. The description of the three approaches to learning and studying led to the development of an *Approaches to Studying Inventory* – a questionnaire with groupings of similar items which produces scores on a series of scales. These dimensions describing studying were chosen to measure generalised forms of the concepts emerging from the interview studies. Statistical analysis of the students' responses later suggested that several concepts could be linked together into broader groupings described as *study orientations*. A *meaning orientation* brought together deep approach,

comprehension learning and intrinsic motivation. *Reproducing orientation* included surface approach, syllabus-boundness and fear of failure, while *achieving orientation* linked strategic approach, organised studying and achievement motivation. This inventory, in one of several forms which have been used (Entwistle & Tait, 1990; Meyer, 1991; Tait and Entwistle, 1996), has been used in a wide range of studies and provides a good indicator at least of the dominant approaches to studying used by individual students within a particular course. Several other inventories have also been developed for this purpose; their effectiveness has recently been critically assessed by Biggs (1993).

The Structure of the Book

This introductory chapter of Part I was intended to provide a historical review of studies on student learning, and to indicate the range of concepts which are to be introduced in subsequent chapters. The remainder of this section focuses on these basic concepts in more detail, with three chapters written by members of the original research team from Gothenburg and a further chapter introducing the concept of learning orientations. Part II looks at four different types of academic task – reading, essay-writing, problem solving, and revising for examinations, although each chapter also relates these tasks to more general aspects of student learning. Part III looks at different forms of teaching and how these affect the quality of student learning. Starting with specific methods – lectures, multimedia, and discussion groups or tutorials, it moves on to consider the whole context in which teaching, learning and assessment takes place, and students' experiences of this context. The final chapter in this section brings together ideas from the earlier chapters to suggest how staff can reconceptualise teaching in ways which recognise the importance of the whole range of student activities contributing to the quality of understanding students reach. The emphasis is not on innovative *methods*, but on a new way of thinking about how teaching influences learning. Ultimately, teaching methods matter less than how students come to learn, and that theme recurs throughout the chapters.