CHAPTER FIFTEEN

# *Understanding Teaching and Teaching for Understanding*

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## Introduction

Until the early 1960s, teaching in higher education was a secret rite, taking place behind closed doors (Layton, 1968). It was little discussed and largely unstudied in any systematic way. Broadly speaking, that situation no longer obtains. The prospect of academics thinking as hard about their teaching as they do about their research may remain a distant and elusive one (Becher, 1978), but the closed doors which Layton saw have been gradually eased apart by empirical enquiry and open debate. The study of teaching has become accepted rather than exceptional, and there are fewer contemporary signs of the traditional reluctance of lecturers to engage in self-evaluation. Almost all colleges and universities nowadays mount staff development activities of some kind or other to help academics to reflect on and improve their teaching expertise. And from the 1970s onwards there has appeared a large and fast-growing array of books which deal generally with teaching in higher education, explore the potentials and limitations of particular methods, or articulate new approaches.[1]

Yet while teaching itself began to be more vigorously and openly examined, the teaching-learning process as it was experienced by students remained hidden from view. Instead, discussion was almost overwhelmingly centred around lecturers' perceptions of the teaching learning process. It derived from the vantage-points which they occupied and it was concerned in the main with the activities in which they – rather than their students – were engaged.

This 'teacher-centredness' had a number of consequences. The first of these is quite simply that while our knowledge of lecturers and of the part they play in teaching has grown substantially, students have remained shadowy and insubstantial figures, part of the background rather than the foreground of discussion and debate. Little has been known about how students respond to teaching, how they tackle the everyday demands of learning and studying, or what kinds of difficulties or problems they encounter. In short, the experience of students has been taken for granted rather than systematically explored.

As a corollary to this (and in spite of the value traditionally placed on coming to know one's students as individuals), an understanding of what it means to learn from the student's perspective has not generally been seen as an indispensable or even desirable component of accomplishment in teaching. Instead, the principal focus of discussion has been the transmission rather than the reception of subject-matter, and the formal or semi-public activities of teaching in higher education: the lectures where the lecturer introduces students to an aspect of his or her discipline in a lucid and organised way; the seminars and tutorials where students are given an opportunity to clarify and deepen their understanding in the cut-and-thrust of discussion; and the practicals where students are encouraged to work



through a structured set of assigned experiments or problems. Indeed, teaching expertise has been primarily associated with accomplishment in the lecture-hall or the seminar room, and staff development initiatives have tended to be directed towards improvement of this aspect of teaching performance. The problems of how or what students are expected to learn from lectures, seminars or practicals – and more particularly, of how students might be helped to maximise what they might learn in such situations – have remained largely unexplored or unaddressed.

A further and linked consequence of an emphasis on what we might call direct teaching situations has been a corresponding lack of emphasis on learning activities in which academics are only indirectly engaged. Such activities include background reading, report and essay writing, working through set problems, note-taking and revision. Lecturers' influence on these activities is often seen as confined in the main to prescribing the kinds and amounts of work to be done and, where appropriate, assessing it. But the chief responsibility for carrying out and learning from these activities is considered to rest with students. Such activities are thus widely viewed as playing an auxiliary rather than central role in the teaching-learning process, at base reinforcing and extending what students have assimilated from more formal teaching encounters. Indeed, the custom of referring to these activities under the umbrella term 'private study' underscores their separation from the mainstream of teaching as conventionally conceived.

It is therefore important to recognise not only that a knowledge of students and of learning has been substantially lacking, but also that this has meant that assumptions about what teaching entails and what the roles and responsibilities of a teacher in higher education are have sprung from a less than complete view of the teaching-learning process. In one sense, then, the present book can help to close the gap by offering an understanding of what it means to learn in higher education. But in an equally crucial respect, the unaccustomed vantage-point which it adopts also serves to challenge prevailing assumptions about teaching and learning. Hirst's argument that a definition of teaching is contingent or 'parasitic' upon a definition of learning (Hirst, 1971) applies no less forcefully to the ways in which teaching and learning are conceptualised. If our conception of learning is transformed by new knowledge, then our conception of teaching must also undergo metamorphosis. The contribution of the findings presented here is thus not merely to extend our understanding of the teaching-learning process, but to change the ways in which that process is understood.

The purpose of this chapter is to sketch out the foundations and implications of *an experiential conception* of the teaching-learning process, i.e. a conception which is steeped in the experiences and perspectives of both academics and students. The chapter aims to highlight main themes which spring from the findings discussed in earlier chapters, to suggest what these imply for our thinking about the teaching-learning process, and to illustrate the kinds of initiatives which might follow in consequence.

## Teaching for Understanding

A signal feature of higher education institutions is the great and growing diversity of undergraduate courses and of the disciplines in which these are steeped. In

each discipline, distinctive conceptual frameworks and procedures of analysis are brought to bear on a specific domain of subject-matter. No analysis of learning and teaching should fail to recognise this diversity and distinctiveness: the pedagogical problems of any one discipline are in certain respects unique. Equally importantly, nonetheless, if an analysis of learning and teaching is to have any general validity, it cannot remain landlocked in a specific subject domain. A core of mutual concerns and perspectives must be sought which arch across the disciplines and are applicable, to greater or lesser degrees, to most if not all of them. Chapter 2 provides telling illustrations of this issue in its most significant form: the search for criteria which capture qualitative differences in what we have called the outcomes of learning – in other words, what it is that students have gained from the experience of higher education. On the one hand, Chapter 2 shows how the uniqueness of course content must be recognised: the precise subject-matter of a given learning task is confronted in arriving at a full description of the learning outcomes. On the other hand, differences can be identified which have wider relevance. A distinction can be drawn, for example, between outcomes which merely describe the content of a text or mention isolated parts of it, and those which are founded upon a recognition of the relationship between the evidence presented and the conclusion which the evidence was intended to support. More generally, and most fundamentally, we can differentiate between outcomes which represent understanding and those which do not.

This concern with understanding, allied to a sensitivity to subject matter, has been a thread which unites the various contributions to the present book. In different ways, each chapter has sought an overarching criterion of what students have learnt in the distinction between learning which represents the memorisation or reproduction of discrete pieces of information, and learning in which meaning has been grasped in a complete and holistic way. Equally, each chapter has shown that understanding cannot be taken for granted; it is a difficult and often elusive quarry. We saw in Chapter 10, for example, that some students may experience the relevance of the content of a lecture intrinsically, so that what they have learnt has become bound up with their own understanding of a particular subject or discipline. Others, however, may perceive the lecture content in a predominantly unreflective and extrinsic way, as something which has to be retained for assessment purposes. Similarly in Chapter 6, we saw how the meaning of a text may not be grasped because of a failure to perceive the interconnections between the specific content of the text and the overall message which its author was attempting to convey.

A concern with meaning and understanding is thus central to an experiential conception of the teaching-learning process, for the gap between reproduction and understanding represents a quantum leap in the quality of what has been learned. When the mastery of factual or procedural details – in many disciplines a vital cornerstone of understanding – becomes an end in itself, dislocated from meaning, then to have learnt is not to have partially understood but to have not understood at all. Moreover, as we have also seen, when something has been genuinely understood, it has been related by students to their prior knowledge and experience and it is perceived as helping them to make sense of the world around them. In its fullest sense, therefore, learning involves a change in the students' conception of some aspect of reality. It is an activity "through which the environment – or man himself – appears with a higher degree of meaningfulness than before" (p. 37).



This last point underlines the essentially inter-subjective and constructive character of learning and teaching. Teaching is not a hermetic problem of 'transmission', nor is it merely a 'delivery system', packaging and conveying the commodity of knowledge to those who will merely consume it. In the opening chapter of his study of college students' intellectual development, William Perry (see Chapter 1) succinctly illustrates the problem in its most general form. Let us suppose, Perry says, that a lecturer begins his lecture by stating that he will consider three theories which have been advanced to account for a specific problem or phenomenon:

> *Student A* has always taken it for granted that knowledge consists of correct answers, that there is one right answer per problem, and that teachers explain these answers for students to learn. He therefore listens for the lecturer to state which theory he is to learn.
>
> *Student B* makes the same general assumptions but with an elaboration to the effect that teachers sometimes present problems and procedure rather than answers, 'so that we can learn to find the right answer on our own'. He therefore perceives the lecture as a kind of guessing game in which he is to 'figure out' which theory is correct, a game that is fair enough if the lecturer does not carry it so far as to hide things too obscurely.
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> *Student C* assumes that an answer can be called 'right' only in the light of its context, and that contexts or 'frames of reference' differ. He assumes that several interpretations of a poem, explanations of a historical development, or even theories of a class of events in physics may be legitimate 'depending on how you look at it'. Though he feels a little uneasy in such a kaleidoscopic world, he nonetheless supposes that the lecturer may be about to present three legitimate theories which can be examined for their internal coherence, their scope, their fit with various data, their predictive power, etc. (Perry, 1970, pp. 1-2)

These three hypothetical students, as Perry later makes clear, represent different positions in his scheme of intellectual development. The illustration thus highlights the interpenetration of learning and teaching, for whatever the lecturer then proceeds to do, Perry suggests, these three students will make meaning of the experience in quite different ways.

The teaching-learning process can thus be considered not as a matter of transmission, but rather as a meeting of minds where world-views confront and collide with one another. The success with which students are able to achieve understanding may therefore depend critically on the capacity of the higher education teacher to recognise and build from students' existing conceptions and to anchor new knowledge in a meaningful framework.

### *Building from existing conceptions*

The challenge of orienting teaching towards the conceptions of phenomena which

students bring to a course is a formidable one. Indeed, the difficulties posed are more general ones which are also confronted by, for example, historians of science. As Hans Kalmus puts it in an article on the geneticist Gregor Mendel, it is:

> the necessity to put themselves in the frame of mind of the scientist with whose achievements and ideas they are concerned. Perhaps the biggest obstacle for those entering into the thought system of a historical figure is the difficulty of "unthinking" an idea or concept which since the time of its discovery has become commonplace. (Kalmus, 1984)

For lecturers too, the central task may be to "unthink" an idea or concept and put themselves in the frame of mind of students who are encountering it for the very first time. In part, this may require the kind of empathetic understanding advocated by Carl Rogers (see Chapter 1). Yet the lecturer is not entirely in the same predicament as the historian of science. While the historian must rely upon informed and imaginative reconstruction, the lecturer has the possibility of trying to elicit and thus build from students' existing conceptions directly.

Two courses at the Open University have indicated ways in which a knowledge of students' conceptions can guide teaching strategies. One is a course in Third World Studies (U204). Members of the course team designing the unit interviewed prospective students about how they understood such terms as 'developing' and 'underdeveloped' country and what countries they would categorise as part of the 'Third World'. What the course team gleaned was therefore a more informed 'sense of audience' (Britton *et al*., 1975) which could underpin the design and drafting of the course unit. But there were two other consequences, reflecting the degree to which the course team was impressed by the task of examining students' conceptions directly. First, exercises were built into the start of the course which required students to articulate and analyse their own understanding of and attitudes towards the Third World. Only then were students asked to relate their own conceptions to the theoretical perspectives set out in the course materials. Second, one of the project options offered in the course unit was to carry out an interview study of the attitudes of a small social group towards the Third World. In effect, students could undertake the same task which the course team had undertaken, and so broaden their own understanding of the varying ways in which the Third World was conceptualised.

The second of the two examples stems from an Open University foundation course in the social sciences.[2] The study referred to in Chapters 5 and 14 had provided detailed evidence of how twenty key concepts were understood by mature students new to social science. Capitalism was one of the key concepts, and the students' answers in research interviews to the question "Is Britain capitalist?" were subsequently written into the course materials. In a section of the materials entitled 'Is Britain Capitalist Today?', a wide range of quotes from the interviews were followed by 'expert' comment. Students following the course unit were therefore encouraged to pursue understanding by relating their own ideas to those of the author.

A third example also grows out of research described in the present book. Chapters 2 and 4 discussed students' understanding of a physical phenomenon: what forces act on a car which is driven along a motorway in a straight line at a high constant speed? As the analysis showed, some of the answers the students gave represented an Aristotelian conception (of movement as effect) rather than a Newtonian conception (of acceleration as effect).



This question formed part of an investigation at Gothenburg University into engineering students' thinking and problem-solving in the field of mechanics. The main focus of the project was not on the development of teaching methods as such but on establishing the foundations upon which the content and method of teaching might be more closely geared to the needs of students. While the project was still in progress, however, some of its preliminary findings on differences in students' conceptions of a range of physical phenomena were having an influence on teaching.

One of the two lecturers responsible for the courses followed by students taking part in the project used the preliminary interview findings to construct a test. The test made use of the questions asked in the interview study and concentrated on those physical phenomena where crucial differences in students' conceptions had been revealed. The purpose of the test was not to achieve a more standardised or objective way of 'measuring' the knowledge of the students, but instead to obtain an overview, however sketchy, of the conceptions held by students embarking on the courses. On the one hand, the test had a diagnostic function, alerting and sensitising the lecturer to students' conceptions. On the other, the questions it posed and the answers which the students gave could be directly incorporated into day-to-day teaching and openly discussed. The results of the test therefore became a part of the content of the courses.

The second of the two lecturers involved in the project made use of the results in a somewhat different way, by mounting group discussions which provided an introduction to central components of the course. Students were presented with the kinds of problems used in the interview study and were asked to discuss these in pairs. The students were then combined into large groups in which they presented their partner's response to a problem as they had understood it, and there was then a general discussion. In the general discussion, the teacher drew upon his awareness of differences in the students' thinking about the phenomena to identify, describe and review differences in conception.

These examples, as the discussion has indicated, have tended to rely upon a knowledge of students' conceptions already highlighted by empirical enquiries. Taken as a whole, therefore, they provide richer illustrations of ways in which courses may build upon existing conceptions than of how these conceptions might be elicited. Without this empirical starting-point, lecturers must seek pathways of their own towards a knowledge of students' conceptions. This will inevitably be a gradual process, but it need not be considered as a self-contained task. As the final example showed, structured group discussion offers a means of encouraging students to articulate and share their ways of thinking with one another and with the lecturer. Similarly, in the opening example students were given exercises which required them to make explicit and analyse their own attitudes and understandings. Eliciting and exploring students' conceptions can therefore become an integral part of the teaching-learning process. Seen from this particular perspective, to teach is to engage with students in a collaborative quest for commonality of meaning.

### *Anchoring knowledge in a framework of meaning*

The second challenge of an intersubjective curriculum is to set what is to be learned in a framework of meaning. This is what Marris (1964) has called placing knowledge "in a meaningful context", which he saw as the essential function of lectures. Its importance as an avenue to understanding was exemplified in Chapter 10. By means of vivid illustrations which anchored new subject-matter in a recognisable reality, or through their infectious enthusiasm and commitment to their subject, some lecturers were able to help students to experience vicariously an excitement about the content of their lectures. Such lecturing provided a bridge between extrinsic experiences and the intrinsic experiences of relevance which were associated with personal understanding. Similarly, chapter 11 suggested how, with the aid of multi-media, carefully crafted learning tasks can provide the 'affordances' to link students' everyday understandings with the less tractable formal representations of phenomena characteristic of academic enquiry.

This kind of anchoring can equally fruitfully be attempted in a variety of teaching-learning situations, as shown in an account of efforts by a group of tutors and curriculum development specialists at Sussex University to redesign part of an introductory economics course (Eraut, MacKenzie and Papps, 1975). Their initial response to the perceived shortcomings of the existing course had been to devise self-instructional packages linked to lectures, tutorials and group discussions. But students' manifest lack of enthusiasm for the packages led to reappraisal, and so to a quite different way forward. The turning-point was the 'Demand Theory' package, an analysis of the Brighton housing market. This had been seen as a complex problem to which students could relate the basic economic concepts of supply and demand.

> Whilst students appeared to get very little out of the Demand Theory Package the members of faculty who prepared it felt that they had learnt a lot from having to sort out their ideas: and it occurred to them that the 'sorting out' process might be more important than the subsequent learning. Perhaps the students could also be involved in formulating the problems, clarifying the assumptions about the situation to be studied, choosing the analytic techniques and disentangling value judgements and empirical judgements. (Eraut *et al.*, 1975, p. 24).

The result was a series of two-hour discussions, on topical issues such as 'Should British Leyland give their workers £10 a week more?'. The discussions were deliberately open-ended and free ranging, with the tutor taking the role of chairperson rather than chief discussant. Students' reactions to the discussions were strongly enthusiastic:

> For the first time it was they who were being asked to 'sort the problem out': and the relationship between empirical judgements and value judgements could be talked out and made explicit. Moreover, they were being treated as economists rather than as novices, so it became possible for them to acquire some confidence in the value of their own personal judgement. Previously it had been assumed that the most difficult aspects of learning economics were the concepts and techniques, and that their application would arise naturally. Now it seemed that the reverse might be true. The process of analysing economic problems and deciding which techniques were relevant was the most difficult thing to acquire. Once that had begun to take root the learning of concepts and techniques became less difficult. (Eraut *et al.*, 1975,p. 25)



As the authors themselves recognise, the change of strategy had far-reaching consequences. One was to see the 'systems approach' which had been their initial guide as only spuriously student-centred. This approach, they conclude, seldom involves trying to discover what students' main concerns and problems actually are, since testing and consultation takes place only within a tightly predetermined framework. The second consequence was a recognition of the implications of inter-subjectivity. As the student pursues learning, taking part in tutorials and writing essays:

> Somehow it is always the subject-matter being fed to him rather than him feeding on the subject-matter. If any real competence is to be attained it is essential for the student to construct his own personal version of the discipline. (Eraut *et al.*, 1975, p. 33)

A striking illustration of how this might be achieved through the use of multimedia was explored in Chapter 11. Students were encouraged to generate their own categories for comparing and differentiating a corpus of twenty paintings before testing their own constructs against those of recognised experts in the History of Art. In consequence, as Diana Laurillard explained:

> When the students now confront precepts concerning the evidence of 'tonality' or 'texture' of a painting, they have some experiences and formal descriptions of their own against which to test these new ideas. They have some ground on which to build. And [. . . ] the nature of the task set is the key to providing the affordances they need.

This too finds an echo elsewhere, for Chapter 12 draws attention to the pedagogical 'scaffolding' which tutors can provide to help students in thinking for themselves. Accomplished tutoring was seen as turning on the interplay between *taking out* an expert's view of a subject to students in forms that were accessible to them as novices, while also *drawing in* their more common-sense understandings towards expert positions within the discipline. Chapter 9, moreover, suggested that, in the process of revision, final-year students can forge highly distinctive 'knowledge objects' which encapsulate for them the array of complex interconnections within and across a particular body of knowledge.

Thus far we have been concerned with how tutors can foster the pursuit of understanding. Our focus of attention has been chiefly upon the content of learning and teaching, and we have stressed the importance of acknowledging its inter-subjective and interpersonal character. Yet as Bruner (1966) reminds us, a curriculum reflects the nature not only of knowledge and of the knower but also of the "knowledge-getting process":

> A body of knowledge, enshrined in a university faculty and embodied in a series of authoritative volumes, is the result of much prior intellectual activity.

> To instruct someone in these disciplines is not a matter of getting him to commit results to mind. Rather, it is to teach him to participate in the process that makes possible the establishment of knowledge. We teach a subject not to produce little living libraries on that subject, but rather to get a student to think mathematically for himself, to consider matters as an historian does, to take part in the process of knowledge-getting. Knowing is a process, not a product. (Bruner, 1966, p. 72)

In the next section of the chapter, we turn from content to process, from the 'what' to the 'how' of learning. This is a shift of emphasis rather than a substantive change. Content and process are complementary and interrelated aspects of the experience of learning and teaching.

## Teaching Students How to Learn

If one thread common to the preceding chapters has been a concern with learning as understanding, a second and no less important thread has been a concern with the pathways along which understanding is pursued. In Chapter 3, a fundamental difference was described in students' approaches to learning. The distinction drawn was between a surface approach, which involved a passive and unreflective attempt to memorise and reproduce a text, and a deep approach, where there was an active effort to grasp the main point or message which the content of the text was intended to convey. In a surface approach, what was to be learned was interpreted as the text itself. In a deep approach, the text was seen as a means through which to grapple with the meaning which underlay it. These differences in approach, Chapter 3 further demonstrated, were functionally related to learning outcomes.

Although derived from studies of learning from reading, this basic distinction has been shown to have a much wider relevance as a means of identifying and describing differences in students' approaches to learning and studying. The distinction underpins the meaning and reproducing orientations to studying discussed in Chapter 13, and it is closely complemented by Svensson's parallel distinction between holistic and atomistic approaches (see Chapters 3 and 4), which places relatively greater weight on the organisational as opposed to the referential aspects of students' experiences. The deep/surface distinction is also mirrored in the intrinsic and extrinsic experiences of relevance examined in Chapter 10, and it has been a strong influence on the derivation of the conceptions of essay-writing explored in Chapter 7. And as Chapter 5 makes clear, there are evident links between students' orientations, their conceptions of learning, and their approaches to learning and studying. Yet despite the striking conceptual affinity between these various descriptions of how students go about learning, it should be stressed that the differences between them are not fortuitous but reflect the many-sided complexity of learning itself. One aspect of this complexity stems from the idiosyncrasy of the discipline and the course. For example, Chapter 13, "The Context of Learning in Academic Departments", shows that the distinction between deep and surface approaches is not invariant but takes on different meanings in different disciplines. A deep approach in the humanities, for instance, is typified by an intention from the outset to re-interpret the learning material in a



personal way, while in the sciences, an initial concentration on details is often indispensable to a deep approach. In a similar vein, Chapter 7 presents an analytical framework through which critical differences in students' conceptions of essay-writing can be described and analysed, but the distinctive pattern and substance of the conceptions identified in this particular instance are of course functions of the discipline and course examined. In other words, these distinctions can be powerful tools in developing and supporting tutors' understandings of the learning of their own students, but they do not amount to rigid blueprints.

A second aspect of the complexity of learning is the particularity of the demands of specific tasks and activities. We have already reviewed, for example, the way in which learning from lectures can be fruitfully examined in relation to students' experiences of the relevance of lecture content, and other chapters have carried further the investigation of specific tasks. Thus Chapter 6 adopted a communication perspective to demonstrate that if the meaning of a text is to be apprehended, the learner must provisionally accept the premises of the text's author and try to reconstruct the message intended. Chapter 7 drew attention to the interplay in essay-writing procedures between a student's emergent interpretative stance and the organisation and selection of essay material. The procedures of essay-writing were thus shown to echo students' conceptions of the nature of an essay in History. And in Chapter 8, we saw how an alliance of the constructs of approach and learning style disclosed the global and localised forms of procedures and descriptions characteristic of problem-solving as a learning activity. No less tellingly, Chapter 12 revealed that entering fully into the realm of academic discussion which typifies undergraduate tutorials entailed considerably more than an initial adjustment to a novel setting. It called for "a much longer, slower process of acquiring knowledge in a discipline and of fuller acculturation to the ways of academic work and the forms of academic discourse".

These descriptions of students' experiences compel recognition of the heterogeneous and exacting requirements of learning activities. They indicate that any teaching-learning situation is as demanding of students as it is of tutors, and they serve to challenge the conventional relegation of private study to an auxiliary and reinforcing role. An experiential conception therefore in part inverts the traditionalist focus upon formal teaching situations. Instead it invites us to consider the teaching-learning process as a constellation of learning tasks, some of which take place in a classroom setting in the presence of a university teacher while others are pursued alone or in the company of peers in the university library, the study-bedroom, or even in the course of travelling to and from campus. This inversion of focus has an important consequence: the change of vantage-point prompts us to see as problematic what might formally have been taken for granted. As a research perspective, it has provided abundant evidence that many students adopt approaches which are inappropriate to the achievement of understanding. As a perspective upon teaching, it suggests strongly that lecturers should take a more active part in helping their students to learn how to learn. Before exploring possible initiatives, however, learning must also be considered in relation to the individual student or learner.

### *Learning and the learner*

A fuller understanding of the approaches students adopt can be sought by means of a frame of reference wider than the learning task or activity: the institutional setting (which will be discussed later), or the student as an individual learner. In Chapter 3, to take one example, it was shown that five distinct conceptions of learning could be identified, ranging from a conception of learning as a quantitative increase in knowledge to one of learning as an interpretive process aimed at understanding reality. These differences in the meanings which individuals gave to learning were also found to be associated with their approaches to an experimental reading task. A second construct which focused upon the individual student was that of orientation to learning, delineated in Chapter 5. Four orientations – academic, personal, vocational and social – were distinguished. The four orientations could each take either an intrinsic or an extrinsic form, and were also an influential factor in the personal 'study contracts' which shaped how students went about their undergraduate studies. Moreover, alongside approaches and conceptions of learning, these orientations to learning provided an analytical framework through which to consider the individual student in the round, as well as the interconnections between the three sets of constructs.

These qualitative differences in conception and orientation clearly also have significant implications for attempts to help students to learn. Chapter 3 provided evidence of the difficulties of fostering a deep approach within the confines of a single experiment. Even within an everyday course setting, to restrict guidance solely to one kind of learning task or activity may be to fail to tackle the more general and perhaps more deep-seated conceptions and orientations which colour students' approaches; yet these conceptions and orientations are amenable to change, as Chapter 14 suggests. It would be erroneous to regard them as fixed traits or unyielding attributes of individual students.

### *Learning-to-learn*

To recognize that students might need and can benefit from help with the demands of studying is not necessarily to know how one might set about helping them. There are probably many tutors who would echo the sentiments of a lecturer cited in an Australian study:

> I do have this feeling that many (students) would blossom with a bit of attention but they can't get it from me. Even my graduate students still ask me how to study – I can't tell them, but sometimes I think I should be able to. I can only pass on what worked for me and that was 30 years ago.
> (Frederick *et al.*, 1981, p. 85)

Where a knowledge of how students might be assisted is lacking, the natural recourse is to rely upon the many study skills guides and manuals which college and university bookshops routinely stock. Typically, such guides have tended to recommend specific techniques or methods of studying which students should master and adhere to. Yet the study techniques advocated are often of limited value and may sometimes be misleading or even harmful (see Gibbs, 1981, for a fuller discussion). Only seldom do such guides respond to the issues which have just been raised above: the demanding particularities of individual learning tasks, the critical and distinctive influence of the specific discipline and course setting, and the wider perspectives which individual students bring to their everyday learning. A strategy for reading, for example, may be recommended without consideration of whether to read in search of essay material is equivalent to reading an article which will be the focus of an extended seminar discussion; or whether a metallurgy textbook, a research monograph on social psychology, or the collected poems of Goethe might vary in the demands they place on the reader, or whether the inner logic of the strategy suggested might be at odds with students' notions of what learning means as an activity. No less importantly, and almost without exception, study manuals are not grounded in an informed understanding of students' experience of learning. Their advice is idealised and often unrealistic (Gibbs, 1981).



Nonetheless, side by side with a growing questioning of conventional guidance in 'study skills', there has been an increasing number of attempts to develop more appropriate 'learning-to-learn' strategies (Hounsell, 1979). The change in terminology is deliberate. While the former tends to stress the acquisition of skills and is concerned with means or techniques, the latter emphasises an awareness of purpose and is concerned with ends and the individual's relationship to those ends.

Consider, for example, the following extract from one of the newer generation of guides to studying :

> This book focuses on you – who you are and what you bring to your learning. Throughout the book you are encouraged to examine your purposes and what you want to learn. You are also encouraged to look at how you learn informally, and to build on this self-knowledge in your formal learning. Implicit in this approach are the beliefs that there is no one way of learning which suits everyone and that it is your right and responsibility to shape your own learning . . . Within each chapter you'll find questions and ideas about you as a learner. These are intended to centre the book on you and to help you discover your own purposes and methods for learning. Because the questions are based on the premise that only you can answer them, we don't prescribe one 'best' way of learning, but instead suggest alternative study techniques. We give reasons for these techniques so you can decide how useful they are for your purposes, and we encourage you to try them as you actually learn and study to find those which suit you . . .
> (Marshall and Rowland, 1983, pp. x–xi)

The tenor of this passage contrasts sharply with the directiveness and rigidity of traditional study skills manuals. Indeed what the book as a whole evinces is a concern with students as individuals, a recognition of diversity in purposes and strategies, and a sensitivity to subject differences. Advice on reading, for example, is focused around the very different purposes which students may bring to reading a book: for entertainment; to gain an overall impression of its contents; to locate a specific idea or discussion; to familiarise oneself with its central concept or theme; and to understand the whole book in detail.

This pronounced shift in the nature and direction of guidance on learning and studying has increasingly been echoed in other publications. A guide to essay-writing by Clanchy and Ballard (1983) is explicitly geared to the social sciences student and starts from a discussion of what lecturers generally expect from essays. Pirie (1985) represents a similar example for students of literature. Similarly, Marland and others (1981) have shown how a framework of 'question-steps' can help raise pupils' and teachers' awareness of what is entailed in assignments involving information-handling, while for Northedge (1990), advice on how an academic task might be tackled is set firmly in the context not only of a range of credible subject-specific examples, but also of explanations of what particular tasks are seeking to achieve .

One of the most tangible aspects of this shift, however, has been in terms of approaches to group-based activities (see for example Hills, 1979). A thoroughgoing and pioneering example is provided by Gibbs (1981) who maps out procedures for a series of workshop exercises and articulates the rationale from which they stem. Rather than inculcating rigid techniques, Gibbs' aim is to promote in students a questioning, self-analytic attitude to studying. Students are encouraged to articulate their own perceptions of study demands and to pool knowledge of the strategies they have developed in their everyday studying. Above all, the emphasis is on clarifying and exploring intentions and purposes – key determinants of students' approaches to learning, as the present book clearly shows.

Learning-to-learn activities of the kind Gibbs has developed are of course adaptable to different subject and course settings – indeed, they are most likely to have a real impact on students when they are focused in this way. Their impact is also likely to be stronger when they form part of a wider series of measures to embed learning-to-learn within everyday curricula. One outstanding example of such an initiative is represented by the work of Eizenberg (1986, 1988), who has discussed what he calls 'an orchestrated set of interventions in teaching and assessment', explicitly rooted in recent research findings on student learning. The context for these interventions was the development of a new programme of anatomy for first- and second-year medical students at the University of Melbourne. Since students studying anatomy and similar pre-clinical programmes encounter a large volume of factual information, such programmes, Eizenberg suggests, are particularly prone to inducing surface or atomistic approaches to learning.

Eizenberg's intervention strategy was therefore a two-fold one which took into account both the referential ('what') and the structural ('how') aspects of learning. The referential component, summarised below in Figure 15.1, sought to convey to students the importance of quality of understanding rather than quantity of information. Departmental handbooks which each set out a syllabus and the detailed set of objectives which underpinned it played a key role in this component of the strategy. As far as the structural component was concerned, on the other hand, a fundamental reorganisation of the teaching programme was called for:

> A conventional and sequential course of instruction (which had by its very structure inadvertently promoted the accumulation of isolated facts) was converted to a programme that enabled the body to be viewed as an integrated whole. Patterns were revealed where the specifics could be seen in relation to the general principles, with multiple opportunities for overview and review. (Eizenberg, 1988, p. 186)



TABLE 15.1
*Interventions in Curriculum, Teaching and Assessment (from Eizenberg, 1986, p.186)*

| Action taken | Rationale from research findings |
|---|---|
| ***Curriculum*** | |
| • linking curriculum to faculty goals | *displaying to students and teachers* |
| • matching curriculum, teaching and assessment | *to clarify goals and standards* |
| • incorporating professional applications | *to increase vocational relevance* |
| • defining 'essential' information | *to rationalise workload* |
| • selecting appropriate textbooks | *which encourage understanding* |
| ***Teaching*** | |
| • analysing the derivation of new terms | *rather than encouraging memorisation* |
| • emphasising principles and concepts | *rather than accumulation of details* |
| • creating opportunities for 'good' teaching | *rather than 'covering the syllabus'* |
| • actively engaging students | *by learning from problem solving* |
| ***Assessment*** | |
| • providing adequate feedback | *to monitor progress and minimise anxiety* |
| • constructing assessments | *which encourage understanding* |
| • marking strategies | *to recognise and reward understanding* |

Encouraging though such initiatives are, this still leaves untouched the issue of individual guidance. Our research findings have prompted questions – about the quality of current procedures for monitoring student learning and providing individually directed guidance – which can only be briefly raised rather than treated thoroughly here. Essays, reports and other forms of coursework assignment represent an arena of learning where feedback is likely to be at its fullest and most penetrating, yet as Chapter 7 indicated, some students may fail to grasp the import of their tutor's comments, even in a course setting where such comments are more than usually attentive. Indeed, it appears as though tutors' comments often amount to summary judgements rather than specific diagnoses, alluding to an academic form of discourse which is largely tacit and thus invisible to students who have not already perceived its distinctive features (Hounsell, 1987). Thus a

student may be informed that an essay is "poorly structured", or that "you fail to make your points as clearly and as tellingly as you ought", but not be shown in what respects the essay content lacks structure or cogency, nor understand why careful attention to these aspects might be thought essential in an academic essay. Similarly, a student may be urged to "make a plan before you commit your thoughts to paper", but the more fundamental issue, of precisely what it is the student should be planning (Hounsell, 1984a) is not addressed. At the core of the problem is what Bruner (1966, p. 151) has described elsewhere as *telling* out of context rather than *showing* in context. Yet even where well-documented comments have made the diagnosis readily comprehensible, the gulf which lies between diagnosis and remedy may remain unbridged and, for some students, unbridgeable without sustained support.

To conclude this section of the chapter, a major challenge for lecturers is to seek ways of more firmly integrating guidance on learning into everyday teaching. That is not to argue that study counsellors and specialist advisers have no role to play. But the chief responsibility for teaching students to learn the fundamentals of what Raaheim (1981) has called academic discourse should lie with tutors themselves. For they are the subject specialists, who know best the complexities of their discipline, its characteristic modes of analysis and discourse, and the special demands it makes of its practitioners. Learning-to-learn is not merely redemptive (Roueche and Snow, 1977), an optional adjunct for the weaker student, but something from which all students can benefit. As Chapter 13 showed, perceived good teaching – and particularly, help with studying – is strongly associated with an orientation by students towards meaning and understanding. As a fully integrated part of an undergraduate course, learning-to-learn can contribute to the quality of student learning.

## Creating a Context for Learning

Skill in learning, as Lennart Svensson reminded us in Chapter 4, is not equivalent to skill in studying. In coming to a full understanding of the experience of learning, it is also necessary to consider the course and institutional contexts in which learning takes place.

The contextual dimension of learning has been the third of the threads which weave together the fabric of this book. A knowledge of students' perceptions of course setting was an important backcloth to understanding learning in lectures and in essay-writing, while in problem-solving, as we saw in Chapter 8, students' approaches were almost wholly governed by their responses to the task in its educational setting. But it was Chapter 13 which dealt directly with the theme of context, disclosing its pervasive influences upon students' experience of learning. The chapter drew attention to critical differences between subject areas in the weight given to contrasting learning styles and in the varying guises which deep and surface approaches typically assumed. It provided evidence of strong associations, across a spectrum of disciplines, between students' orientations to studying and their perceptions of assessment, of workload, of the quality of teaching



and of the degree of choice over content and method of study. It also demonstrated how students' approaches to a specific task could be frustrated or facilitated by interest and prior knowledge, and how overloaded syllabuses and inappropriate forms of assessment could push students towards rote-learning and reproduction.

This searching analysis of the context of learning has several important implications for an experiential conception of the teaching-learning process. In the first instance, as is noted in Chapter 13 itself, it indicates that the strength of students' commitment to pursuing understanding may be just as much a function of their experiences in a particular course setting as of any individual qualities which they bring to their academic studies. It is therefore misleading and unjust to attribute poor academic achievement to inherently 'weak' or 'unmotivated' students. Interest, commitment and approach are products of the interaction between student and situation. Second, to view the 'impact' or 'effectiveness' of teaching solely in terms of teaching methods or the quality of their execution by lecturers, as countless studies of undergraduate teaching have tried to do, is narrow and inadequate. Student learning is subject to a dynamic and richly complex array of influences which are both direct and indirect, intentional and unintended. This web of influences spans assessment procedures and course content and structure as well as teaching, and it takes in lecturers' perceived commitment to teaching and their readiness to help with study difficulties as well as their degree of mastery of teaching methods.

It follows too, as Paul Ramsden made clear in Chapter 13, that initiatives which flow from an understanding of context must proceed along a combination of paths and recognise that lecturers' perceptions are not necessarily the perceptions of students:

> It is useless, for example, simply to tell students that verbatim reproduction of information in an examination is wrong, to expect this warning to discourage surface approaches, and to blame the students when it does not. If students feel that there is insufficient time to study the examined topics properly (perhaps because of the demands of other courses), or if they have experienced inadequate teaching, or if they are given high marks for reproducing lecture notes, or if their previous knowledge within the area is insufficiently developed, then they will feel constrained to use surface approaches.

Lecturers can try to provide greater freedom in learning, exercised within a defined and supportive framework that does not grant the anxious student too much autonomy too suddenly. When they plan their courses, devise assignments or set examination questions, lecturers can make strenuous efforts to avoid seeming to demand surface approaches or to reward students who adopt them. And lecturers can do more to help students improve their approaches to learning, in ways indicated earlier in the present chapter.

Nonetheless, if it is students' contextual perceptions which are paramount, how are lecturers to determine what these are? In part at least, like student-centred teaching (Bligh, 1982, p. 19), a sensitivity to context springs from an attitude of mind, but a student perspective cannot simply be guessed at or predicted. Positive

efforts need to be made to engage in dialogue with students. We noted earlier that coming to know students as individuals is widely valued in contemporary higher education, and there are no necessary barriers to an equivalent emphasis on open discussion of course perceptions and learning experiences, or to course feedback questionnaires which invite students to share their perceptions rather than simply rating their 'satisfaction' on predetermined items. Course demands and assessment expectations have often been tacit for fear of 'spoon-feeding' students or leading them to devote too much of their time to assessed work. Yet paradoxically, a lack of openness and a reluctance to clarify or patiently explain may have precisely the opposite effect to that intended: mechanical or reproductive strategies, born of student uncertainty, anxiety or disenchantment.

## Teaching as a Holistic Strategy

Thus far we have considered teaching-learning process under three broad headings: teaching for understanding; teaching students how to learn; and creating a context for learning. But though convenient for the purposes of discussion, this risks fragmenting what should be seen interconnectedly. The three headings are representative less of distinct areas than of complementary and interrelated aspects of teaching in higher education. Indeed, to seek to view teaching in the round, conjunctively and holistically, is perhaps the most important element in an experiential conception. This might seem a very obvious point to make, but obvious or not, it has been at odds with many aspects of contemporary practice. Just as it has been commonplace to consider lecturers and teaching in isolation from students and learning, so have there been long-established but unwarranted boundaries which separate discussion of curriculum from discussion of assessment and discussion of teaching. This compartmentalisation is apparent not only in the literature of education, but also in the procedures which many colleges and universities have followed in designing and administering courses.

Marking and assessment schemes may be devised or modified without reference to the possible consequences for what or how students learn, or without regard to any ensuing tensions between assessment as feedback and assessment as evaluation of student achievement – or indeed without an alertness to what is called in Chapter 9 the 'bifurcation of attention' during revision between understanding the content and preparing to answer exam questions on it. How many academics, it might reasonably be asked, genuinely share Lewis Elton's view that "the overriding purpose of assessment is that it should encourage learning in consonance with my declared student learning aims" Elton (1982, p. 107)? Where conflicts do arise between assessment and teaching strategies, a holistic view can help to resolve them, as an Australian study suggests (Newble and Jaeger, 1983). In the School of Medicine at Adelaide University, final-year assessment was revised so as to give greater weight to clinical competence. But the effect of the reform was in precisely the opposite direction. Once it became apparent to students that the risk of failing the new ward-based clinical assessment was low, they began to spend little time in the wards and made studying for the much more hazardous theoretical



component of final assessment a priority. Only when the faculty responded to this "selective negligence" (Snyder, 1971) by introducing a more demanding and innovative form of clinical assessment did a more balanced set of priorities emerge. A consideration of the situation in the round therefore made it possible to restore equilibrium without abandoning the desire to innovate which had prompted the earlier reforms.

Another form of compartmentalisation occurs when institutional norms are established for 'course contact hours' or 'appropriate' ratios of large-group lectures to small-group discussions, but in isolation from consideration of specific course content, students' workloads or the level and incidence of one-to-one guidance which may be essential if students are to achieve genuine understanding. When students then press for more individual help, tutors may be driven to plead, and with justification, that their formal teaching load and their marking commitments make this impractical. A more unified view, weighing the respective needs and perspectives of lecturers and students, could provide the basis for a more balanced strategy. A parallel problem may arise because, especially following the widespread introduction of modular schemes of study, only students themselves may fully perceive what a particular selection of course units implies for their workload. In fact, few academics are probably well-informed about the basics of students' working life. One small-scale study (Hounsell and Ramsden, 1978) has suggested that lecturers not only lack , as we might expect, knowledge of ways in which students tackle the learning tasks assigned them, but that they are uncertain even of how much time students spend on such tasks. A survey of coursework assignments in a range of disciplines (Roe, 1974) revealed similar shortcomings. Students' advance estimates of the percentage of their study time an assignment would take to complete were double the figures suggested by their tutors, while the proportion of their time the students actually spent on those assignments turned out to be nearly three times the tutors' original estimates. Such disparities suggest that tutors' expectations of what students might reasonably accomplish have little grounding in reality. Yet such expectations, based on largely unquestioned yardsticks, critically determine the decisions taken on teaching methods, study activities, syllabus content and assessment.

It is also desirable that in a holistic view, learning and teaching are seen developmentally. Courses in higher education already reflect this in some respects. Many curricula, for example, are designed to offer steadily greater opportunity for choice and specialisation, building from a broad and secure foundation of subject-matter in the first or second years of the course. The curriculum of the Medical School of the University of Newcastle, New South Wales, shows how that same structured and gradualist approach can be taken to how students learn. In setting out its overall objectives,

> The Faculty wished to place emphasis not only on the content to be mastered by its students, but also on the process by which students should be assisted towards the stipulated goals. (Engel and Clarke, 1979, p. 17)

TABLE 15.2
*Skills required for independent learning*
*(from the School of Medicine, University of Newcastle, NSW)*

Students will be able and willing to:
- recognise their assets and limitations
- identify what aspects of knowledge, understanding, skills and attitudes they need to acquire
- locate the information and experiences they require for this learning
- examine critically the evidence on which scientific information is based
- organise their learning activities in a pattern that will be both effective and efficient for them
- monitor their progress in the acquisition of new competence
- monitor their performance as future physicians
- evaluate their educational experiences

An aim which the school was particularly keen to stress was that students should become self-reliant in their learning. One step which was therefore taken was to identify the skills required for independent learning (see Figure 15.2), while another was to abandon lectures as a method of teaching. But it was also seen as crucial to plan a curricular and teaching strategy which systematically fostered the growth of independent learning:

> From the first day of the first term students are encouraged to identify what they need to learn in order to solve and manage problems. The main thrust of this approach is centred, but by no means exclusively, on problem-based learning. Here the students are helped to ask themselves questions in a logical order, so that the resultant sequence of learning will lead to the answers that can be applied to the problem in hand. This approach is reflected in the way in which each first problem-solving group meeting is organised and the way in which the related learning material is planned. (Engel and Clarke, 1979, p. 24).

Initially students are helped to plan their learning and locate the necessary information through the provision of course materials which include detailed lists of objectives, resource sheets and 'learning units'. The materials are very specific during the early part of the undergraduate course to enable students to become accustomed to the new way of organising their studies, and there is close monitoring of achievement and strong tutorial support. As the student's studies progress, however,

> Such guidance will become less and less detailed until the mere presentation of a patient-centred problem will enable students to define their own objectives, seek out the necessary information and apply it to the solution or management of the problem. (Engel and Clarke, p. 24)



## Teaching Reflectively

One of the conclusions of a project on small-group teaching in universities is as follows:

> It did not seem common for teachers to combine in tutorials, or to visit each other's, or to have much discussion about the rationale of the various administrative arrangements . . . Often participants in our discussions had not had other opportunities of discussing their teaching with colleagues, and only in a very few cases had teachers discussed their intentions or methods with their students. (Abercrombie and Terry, 1978, p. 148)

Similar observations could be made about all forms of teaching in higher education, and an underlying aim of this chapter has been to show the need for more considered and systematic reflection about the teaching-learning process. More specifically, we have tried to demonstrate how academics can ally their own experiences and perspectives to an understanding of those of their students, and thus learn from an experiential conception of teaching. We have indicated directions which fresh initiatives might follow, but without prescribing fixed routes forward, for every teaching-learning situation is in its own way unique and calls for strategies which are sensitively tailored to the particularities of curriculum purposes, to the nature of the discipline concerned and to characteristics of the course, departmental and institutional setting. Reflective teaching and the quality of learning go hand in hand.

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## Notes

1. Of the many examples now to be found of books focusing on teaching in higher education generally, those which might be singled out include the seminal work of Beard (1972), later revised by Beard and Hartley (1984) and the handbooks of Hall and Cannon (1975), McKeachie (1978), Brown and Atkins (1988) and Gibbs and Habeshaw(1989). Discussions of specific teaching-learning methods are now legion, but those which can justly claim a ground-breaking role include Bligh (1972) and Brown (1978) on the lecture and Abercrombie (Abercrombie, 1980; Abercrombie and Terry, 1978) and Rudduck (1978) on small-group teaching. An early illustration of the advocacy of a fresh approach is the work of Keller and Sherman (1974) on individualised instruction, while more contemporary examples would be represented by, *inter alia*, Denicolo, Entwistle and Hounsell (1992) and Gibbs (1994b).

2. Unit 5. Modern Britain: The Economic Base. In: *Understanding Society* (D102). Milton Keynes: The Open University. p. 46.