Understanding the Learning Process: Tutorial Teaching in the Context of Research into Learning in Higher Education

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> *It [higher education] educates the intellect to reason well in all matters, to reach out towards truth, and to grasp it". (John Henry Newman)*[1]

> *At Oxford in my youth the Senior Tutor's formula in reporting on my work to the Head of the College would never be: "Mr. Moore is being taught by Dr. X." It would be: "Mr. Moore is reading this part of his subject with Dr. X." I have come to see that two worlds lie within these expressions. (W.G. Moore)*[2]

> *A teacher affects eternity; he can never tell where his influence stops. (Henry Adams)*[3]

Good tutorial teaching is inspiring, exacting, challenging and fulfilling for tutors and students alike. Some experienced tutors teach tutorials brilliantly, and many do it very well, without ever articulating any theory of why they do what they do. Some will say that their tutorial teaching rests upon a combination of scholarly knowledge, practice, and sound common sense. Irrespective of how they themselves might describe what they do, however, all good tutors own an implicit understanding of what their students need from them in order to learn. A tutor's fitting response to his or her students" needs is what makes tutorial teaching purposeful, demanding, exhilarating, and effective. But how is the beginning tutor to develop the teacherly common-sense that good tutors take for granted and from which good tutorials derive?

The purpose of this paper is to introduce new tutors to the tutorial form, to examine some of the most significant findings about student learning in higher education, and to invite consideration of tutorial teaching in light of what we know of the intellectual challenges that face our students. I first look briefly at the genesis of tutorials in Oxford, in order to introduce the tutorial to readers who may not have experienced it and to reveal some of the concealed assumptions that underlie modern-day tutoring. I then go on to consider the aims of higher education, as a prelude to asking how students approach achieving those aims. In addressing that question, I summarise some important findings from research into higher learning, and consider how they relate to our understanding of learning and teaching in tutorials. Finally, I look at how we might approach tutorial teaching using our understanding of learning and teaching research.

Part I Higher Learning in the Oxford Context

I.i The Oxford tutorial

At its simplest, the Oxford tutorial is an approach to university tuition in which students are tutored for one hour a week, on their own or with one or two partners, by a scholar in their discipline. Writing in 1969 W.G. Moore described the typical arts tutorial thus:

> *The tutorial is a weekly meeting of the student with the teacher to whom he is specially committed…[It requires] the preparation of a weekly essay, which is presented orally, listened to by the tutor and discussed immediately…A usual feature of the method is its informality. It all happens…in the tutor's…college set of rooms…with easy chairs set near the fire…*[4]

Although some tutors do still require the oral presentation of an essay, there is now very considerable variation in how tutors approach structuring the tutorial hour. Oxford tutors are an extremely inventive group, and according to the demands of their discipline have over the years formulated a range of different ways of working with their students. A significant proportion of tutors require the weekly essay to be handed in before or after the tutorial, and it is then marked and returned to the student either with or without a grade attached. Some science tutors may no longer take their students through an entire course of tutorials, teaching only those topics in which they specialise; and many science tutorials are held in departments, not in college rooms. To think of tutorial teaching as the tutorial hour alone, however, would be to miss a great deal of how the tutorial system works and what an Oxford education means.

The system of tutorial teaching embraces both an 'institutional' and an 'instructional' aspect. The institutional aspect has its roots in the collegiate structure of the medieval university, when scholars were admitted to colleges to study under the tutelage of college fellows. These men of character, learning and religion – as they were described in early statutes – acted as the personal guardians of the young men in their charge. As W.G. Moore has observed, "their main duty was to superintend the conduct and the expenditure of the student…tutors were expected not only to inculcate the doctrines and disciplines of the church, but to see to the dress and behaviour of their pupils".[5] Although teaching fellows are now rarely called upon to superintend the expenditure of their students, the colleges' influence over the academic organisation of Oxford has endured. Students are still admitted into colleges to read for their degrees under the supervision of a fellow in their subject, to whom the college entrusts responsibility for selecting, teaching and (occasionally) disciplining his or her students. Although students are now only rarely tutored solely by the fellows of their own college – taking tutorials with fellows of other colleges or with graduate students - it remains the responsibility of individual college fellows to organise their students' programmes of study and to monitor their progress. Some college fellows, moreover, do think of their role as extending beyond the bounds of the narrowly educational. They may encourage their students to undertake new cultural, political or sporting activities, or regard it as important to introduce them to potential employers, successful alumni, or leading scholars in the students' field.

If collegiate arrangements have remained stable over several hundred years, what has changed dramatically is the conception of the tutorial itself. As the authority of the Church was weakened by rational humanism, and assumptions about the purpose of university education changed, the instructional, or didactic aspect of the tutorial relationship began to take primacy over the pastoral elements. Where the medieval don was largely the guardian of a young man's spiritual welfare, in nineteenth century Oxford he started to become the guardian of young men's intellects. W.G. Moore credits the tutors of Oriel and Balliol with leading Oxford into its new era. Tutors who believed that "the young men had a right to call their minds as well as their souls their own, and to arrive at truth by their own efforts" invested the traditional tutorial system with a new intellectual life and energy. Contemplating the education of their students, such men believed that the "tutor's task was to teach them how to use their minds, not to make up their minds for them."[6]

Turning to contemporary Oxford, the weekly tutorial meeting between a student and her tutor is a small but important component in the student's work towards mastery of her subject. Most tutors require their students to produce an essay for tutorial so the tutorial itself assumes and may structure (but emphatically does not replace) private study and instruction in lectures, laboratories or classes. The tutor is not a teacher in the sense that it is her or his role to impart information. Rather, the tutor's role is to encourage her students creatively to engage with the knowledge they have encountered, constructing and re-constructing their own understanding. By demonstrating the methods of the scholar, the best tutors enable their students to achieve their own scholarly independence.

I.ii To what do we aspire in a higher education?

Tutors' approaches to tutorial teaching may be both enlivened and enriched by an understanding of student learning needs. But before we turn to the question of how students learn in higher education we should contemplate the aspirations that we hold for them, for it is towards these aspirations that we are encouraging them to strive.

Many academics would share Newman's vision, encapsulated in the opening quotation, of higher education as a quest for truth. Others might endorse Barnett's more modest claim that the defining concept of the Western university is critical thinking, whilst agreeing with him that although almost everyone is in favour of critical thinking there is no definitive description of exactly what it is.[7] But what differentiates Newman and Barnett is perhaps less important than what binds them together: the conviction that a higher education enhances students" capacities truly to think, and extends to its limits the realm of their reason.

Although the underlying purposes of higher education are a matter for endless debate (is it education for employment? for individual satisfaction? for the promotion of civilisation? for the redress of social inequity?) there exists a widespread consensus about what actually comprises higher learning.

In an essay first published in 1929, A.N.Whitehead wrote:

> *The university imparts information, but it imparts it imaginatively... This atmosphere of excitement, arising from imaginative consideration, transforms knowledge. A fact is no longer a bare fact: it is invested with all its possibilities. It is no longer a burden on the memory: it is energising as the poet of our dreams, and as the architect of our purposes.*
> *Imagination is not to be divorced from the facts: it is a way of illuminating the facts. It works by eliciting the general principles which apply to the facts, as they exist, and then by an intellectual survey of alternative possibilities which are consistent with those principles...* [8]

Some fifty years later the UK Council for National Academic Awards described the aims of higher education as:

> *The development of students' intellectual and imaginative powers; their understanding and judgement; their problem-solving skills; their ability to communicate; their ability to see relationships within what they have learned and to perceive their field of study in a broader perspective. [It] must aim to stimulate an enquiring, analytical and creative approach, encouraging independent judgement and critical self-awareness.*

Adding only that we aim for excellence and pursue it through rigorous study, most Oxford academics would probably endorse the CNAA"s vision. Many would also agree with Professor Barnett:

> *A genuine higher learning is subversive in the sense of subverting the student's taken-for-granted world, including the world of endeavour, scholarship, calculation or creativity, into which he or she has been initiated. A genuine higher education is unsettling; it is not meant to be a cosy experience. It is disturbing because, ultimately, the student comes to see that things could always be other than they are. A higher education experience is not complete unless the student realizes that, no matter how much effort is put in, or how much library research, there are no final answers.*[9]

Research has demonstrated how, alongside the generalized aspirations for higher learning, academics also embrace particular visions of learning specific to the disciplines. In Entwistle

and Percy's influential study of conceptions of teaching, history lecturers spoke, for example, about students' need to acquire an attitude of social awareness and a rigorous approach towards the use of evidence; whilst physicists described the importance to the student of learning to interpret and analyse experimental data.[10]

University academics consistently articulate conceptions of learning which revolve around students' mastery of a higher order of abilities, not around their accurate reproduction of factual knowledge. Academic conceptions of learning express an expectation that students will do more than just absorb and selectively reproduce information: we require them critically to reconstitute discipline-based knowledges and actively to develop discipline-biased aptitudes.

So how may our tutorial teaching help students to achieve our aspirations for them? We have identified what it is that we think students should be learning to do. We now need to turn to the question of how they accomplish this end.

Part II: Research into learning in higher education

Good university learning must be, by definition, students' pursuit and achievement of the higher order of abilities that we have identified as being intrinsic to our conception of higher education. Good teaching is, concomitantly, the process of enabling students to accomplish this. Higher education research helps us to understand a little better how good learning proceeds and can be encouraged. It is now widely argued that, in various ways, higher learning emerges from students' deep engagement in a process of imaginative reconstruction of knowledge. The role of the university teacher is seen as being not only to lead students to information, but to stimulate, to guide, to inspire, and importantly to model the process of imaginative reconstruction so that students learn to think as scholars do. We might claim, with some justification, that with its elements of scholarly apprenticeship the Oxford tutorial has long embraced a vision of learning in which modelling the scholar's approach was at least as important as acquiring his knowledge. If this is indeed so, contemporary educational research has now caught up with us; and it supplies a rich resource for our reflections upon the practice of tutorial teaching.

II.i Deep and surface approaches to learning.

A seminal study by Marton and Säljö in 1976 identified a fundamental distinction in the way in which students approached reading an academic article.[11] The students were asked to read the article, and told that they would afterwards be required to answer questions on it. In the course of the study it was found that some students focussed largely on the surface meaning of the text, gleaning information and attempting to commit it to memory. Other students worked through the text searching for its underlying concerns, its implications, and its meaning to themselves. Those who approached the task in the second way understood more of the article, were better able to answer a range of questions about it, and were also able to remember it more effectively.

These modes of student learning have come to be known as, respectively, the surface approach and the deep approach to learning. Many studies have built upon Marton and Säljö's initial findings, and subsequent research has demonstrated that these different approaches to learning emerge across a wide range of academic tasks. The research has had significant implications for, at one end of the spectrum, the ways in which individual teachers approach their day-to-day teaching; and, at the other end of the spectrum, the ways in which whole courses of study are designed and supported.

The main features of the deep and surface approaches are summarised in the table below.[12]

Deep Approach	An intention to understand material for oneself Vigorous and critical interaction with knowledge content
Knowledge transforming	Relating ideas to one's previous knowledge and experience Discovering and using organizing principles to integrate ideas Relating evidence to conclusions Examining the logic of arguments
Surface Approach	An intention simply to reproduce parts of the content Ideas and information accepted passively
Information reproducing	Concentrating only on what is required for assessment Not reflecting on purpose or strategies Memorising facts and procedures routinely Failing to distinguish guiding principles or patterns

Although there has been some criticism of the methodology adopted in Marton and Säljö's initial study, and of some of the educational research which has followed it,[13] the central tenets have survived relatively unscathed. The notion that students will tend to adopt either a deep approach or a surface approach to a range of educational tasks is now widely accepted, not least, perhaps, because it seems to fit with academics" anecdotal experience of teaching university students.

From this research perspective, whilst students' approaches to their studies may be characterised as predominantly either deep or surface, further attitudes and approaches may intersect with the deep and surface approach. In particular, we should take account of the pragmatic study strategies students might adopt:

> *The strategic approach derives from an intention to obtain the highest possible grades and involves adopting well-organised and efficient study methods. Other students were found to have study pathologies, with negative attitudes and disorganised and dilatory study habits.*[14]

If study in higher education were an altogether pleasant but nonetheless aimless activity, the existence of surface and deep approaches to learning would be of interest but little practical significance. The two approaches are important, however, precisely because they do map on to our fears and aspirations for undergraduate scholarship. The dull transfer of data from one human machine to another could in principle be accomplished with surface approaches; the exhilarating development of human capacities countenanced by A.N. Whitehead could only ever be achieved by the embrace of a deep approach to learning.

So what predisposes students to adopt deep or surface approaches to learning? Researchers within this field emphasise that the deep and surface approaches are not fixed personality traits, but choices that derive from a combination of students" conceptions of learning and their responses to their learning environment.

Marton and Säljö's first report on their research was followed rapidly by a second, in which they discussed the relationship between students" conceptions of the academic task that they had been asked to perform, and the eventual outcome.[15] Säljö has identified five qualitatively different conceptions of learning held by adults:

i) a quantitative increase in knowledge;

ii) memorising;
iii) the acquisition of facts, methods, etc., which can be retained and used when necessary;
iv) the abstraction of meaning;
v) an interpretative process aimed at understanding reality.[16]

Marton and Säljö argued that the approach to study that students adopt correlates with their conception of learning: students who believe that learning is the absorption of facts will tend to adopt a surface approach to study, whereas students who believe that learning is about the creation of new structures of meaning will more likely adopt a deep approach. Following this, a significant early study of university mathematics students by Diana Laurillard confirmed that learners switch between deep and surface approaches according to their perception of the learning circumstances in which they find themselves.[17] In similar vein, other studies of tasks as varied as essay writing and student medical diagnosis have suggested that student perceptions of the academic tasks they have been set affect both how they approach them, and the measure of success that they achieve.[18] Taken together, what all of these studies have suggested is that there are two significant elements affecting the approach to learning that students adopt: the students' own *conception* of the task in which they are engaged; and the *nature* of the task that they have been asked to undertake.

Students' conceptions of learning can and do change during higher education, through the teaching they receive and possibly as a consequence of intellectual maturation (on the latter, see W.G. Perry's research summarised below). As student conceptions of learning alter, so, therefore, may their approaches to study. But as we have seen, the student's own conception of a learning task is only one of the factors that may determine his or her approach to studying: a second is the nature of the task itself. By taking into account matters such as the choice and description of task and the style of feedback, therefore, university teachers can, and do, exert real influence over students‟ decisions whether and when to adopt deep or surface approaches.

Tutorial essays are so central to our students' work that they provide a compelling example of the implications of this research. Many Oxford students will write more than one essay every week during term. But what do students think they are supposed to be doing in these essays? A student who believes that a tutorial essay should prove he has worked hard and read everything on the reading list will most likely focus on covering information, summarising different arguments, and padding the text with un-integrated references to a plethora of authors. The student who believes (and to whom it matters) that essays should prove her capacity to understand her discipline and create original arguments or elegant solutions, will most likely focus her imagination on the reconstruction of disciplinary knowledge. The first student may well adopt a surface approach; the second must adopt a deep one.

In general terms, it is an apparently simple matter to explain to students what a tutorial essay is supposed to be. Most tutors would probably define it as an argument supported by appropriate evidence. But we have seen that a student caught in the grip of a naïve conception of learning is more likely to assemble some broadly associated chunks from a few key texts than write a well-thought through argument with carefully selected data that counts as compelling evidence. The challenge that thus confronts the tutor is to avoid giving the wrong sort of message when we provide feedback – the 'wrong sort' being a message that inadvertently sustains the student's misconception of the task. If most of our comments on that students' essays can be read as being about the material they missed or the authors they did not cite, he or she will simply assume that they need to do more of what they are already doing. They can only conclude that what is important to us is even more comprehensive reproduction. If, on the other hand, our comments address the students' approach to solving the intellectual problems we have invented for them, draw together disparate themes, or point to the creative implications of ideas, we model by example the discipline-specific approach to scholarship we are attempting to teach them. To put it another way, if we are to encourage students to adopt deep

approaches to their study, we must assiduously and consistently model them in our teaching. Many clever students are intensely cue-conscious[19], ever-alert to signals that provide further information about our expectations of them. It is therefore critically important that our explicit messages about what is valued in a tutorial essay, for example, are reinforced by the implicit ones which emerge from feedback.

In Part III we will look further at how the understandings we derive from research into student learning might affect how we go about tutoring; in the next sections I move on to consider other useful strands in the research literature.

II.ii Constructing new knowledge on the foundations of the known

Surveying a vast field of research endeavour into learning processes, the influential educational psychologist David Ausubel has argued:

> *The most important single factor influencing learning is what the learner already knows. Ascertain that and teach accordingly ... Subject matter content ... is always, and can only be, learned in relation to a previously learned background of relevant concepts and principles [held by] a particular learner ...* [20]

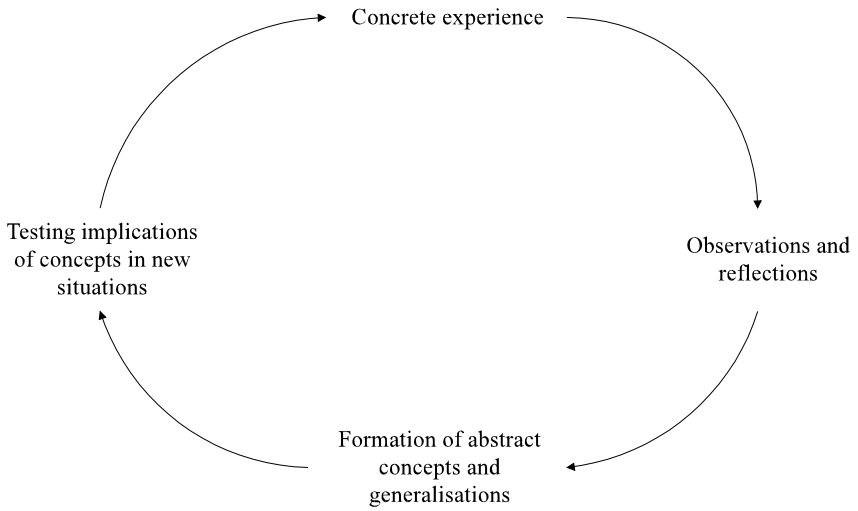
In similar vein, McKeachie has described the tutor's task as being "to help bridge the gap between the structures of [knowledge within] the discipline and the structures [of knowledge] in the students' minds".[21] The importance of starting with the known – long part of the 'teacherly common-sense' of the experienced tutor - has been discussed in diverse strands of educational research, chief amongst which is a broad tradition known as 'constructivism'. To draw an illustrative contrast, Marton and Säljö uncovered approaches to learning that subsist (in some respects) independently of the specific subject matter that the student is attempting to master. The question that the constructivists ask, however, is how a student is able to make sense of, to incorporate, and to embrace, the subject matter itself. How does the student's intellect reach out to grasp new knowledge? Knowledge, in the constructivist view, requires mental construction. New knowledge must be situated within the intellect's grasp of the old, and this requires the reorganisation and recombination of existing understandings. In the same way that a particular cake is the outcome of combining in a particular way a collection of discrete ingredients, so is one individual's knowledge the unique outcome of combining in a particular way the data and experience that she encounters. Significantly, constructivists argue that human social interaction plays a key role in the construction of an individual's new knowledge. As one group of American university teachers summarised constructivist views:

> *The construction of knowledge is viewed to be the result of a learner's attempts to use his/her existing knowledge to make sense of new experiences. This entails both the modification of concepts and the reorganization of knowledge structures. Although the construction of knowledge can be facilitated by instruction, it is not the direct consequence of instruction. Since knowledge construction depends on the extant knowledge of the learner, different individuals will come away from an instructional experience with their own unique understanding, no matter how well the instruction is designed, and no matter how much effort the individuals devote to making sense of what they have seen and heard ... Although learners must construct their own knowledge, a significant portion of an individual's knowledge is constructed in response to interactions with other human beings.*[22]

Changing the structure of knowledge in students' minds requires their active participation in the process of re-ordering currently perceived realities. Marton and Säljö's research has shown the importance of encouraging deep learning approaches in our teaching; constructivism urges us to be attentive to the different range of experience and knowledge students will bring to their tasks.

David Kolb's research on adult learning supplies a simple but suggestive model of the learning cycle.[23] Kolb argues that when adults undertake to learn something for themselves, they start off with concrete experiences upon which they reflect and make observations. From these observations and reflections they derive abstract concepts, generalisations, and models which are then tested in new situations. Finally, the new experiences gained from the experimental phase are linked back to the original concrete experience.

Higher learning, it can be argued, operates as a variant of this model. The student's prior knowledge is as significant as prior experience; and this knowledge is reconstructed not only by observation and reflection but also by a range of other learning activities. What Kolb's research and this simple model make clear is the importance of prior experience or prior knowledge as a starting point.



The principle to be derived from this section of the paper is apparent: our teaching must start (as good tutors have often assumed without stating) from where the student currently stands.

II.iii *Intellectual and Ethical Development in the College Years*

Almost half a century ago, William Perry conducted a seminal study on the way in which students' general intellectual maturity affected how they made sense of academic life and scholarly tasks. His description of student intellectual development in the university years correlates both with Marton and Säljö's account of student conceptions of and approaches to learning, and with constructivist claims; so it is to Perry's study that we now turn.

Based at Harvard, Perry spent a number of years supporting the studies of some of America's most carefully selected undergraduates. Among them, he was concerned to observe, were those who seemed mystified by:

> *the relativism which permeates the intellectual and social atmosphere of a pluralistic university ... [A] few seemed to find the notion of multiple frames of reference wholly unintelligible. For example, in response to such an assignment as 'Compare the concepts of the tragic heroine exemplified by Antigone and Cordelia' these students would fail to perceive the direct object of the verb 'compare' and would write comparisons of Antigone and Cordelia, as persons, against the background of a single, implicit frame of reference. We came to feel that persistent misperception of the form of such intellectual tasks, even after repeated explanation of them, could not be ascribed to intellective factors alone.*[24]

Perry supposed that the most highly developed students were those who were at ease in the pluralistic world of higher learning, and he set out to discover how they managed to achieve that state. Perry eventually produced a nine-point scheme of student intellectual development which he argued operated in cyclical fashion. Students progress from position one, in which everything may be explained and all knowledge is either right and good or wrong and bad; to position nine, in which the student regards all knowledge as contingent, but still makes commitments to principled positions. This cycle of development rotates throughout a lifetime, Perry argued, as we move into new domains and encounter new experiences.

Students in the earliest stages understand knowledge and values to be essentially dualistic in nature. In position 1, students believe that authorities – teachers - know the right answers, and that these may be learned by hard work. This belief faces an intense challenge in the context of a pluralistic liberal education, but students may continue to cling to their original conviction. If teachers appear not to be in possession of absolute right/wrong answers, this is explained away (position 2) as the teacher's choice not to divulge them for educational purposes, or as particular teachers being poorly qualified. Another alternative explanation is supplied at position 3, where the single right answer is thought not to exist *yet*, only because academic authorities have still to discover it. As students continue to grapple with the onslaught of academic pluralism, their epistemology is gradually remade. Eventually students abandon their determined dualism. At position 4, some now adopt an unrestrained relativism where everybody has a right to their own opinion, and only authority has any concern for right and wrong. Others decide that it is a peculiarity of academic authorities that they embrace pluralism, and thus the wisest strategy is to give them what they want. As pluralism becomes the more familiar stance, students explore its implications further (positions 5&6). In the later stages of maturation (positions 7-9) Perry argues that students start to re-orientate themselves in a world they frankly accept as pluralist. They have perceived, he suggests, that to live in the world as they now know and understand it requires some form of personal and intellectual commitment to views which cannot be regarded as right or wrong, but which can be judged to be better or worse. The life-long project of working through those commitments for themselves begins, continuing throughout adulthood as they try to make sense of new knowledge and experience.

Interestingly, Perry also argued that some students will find ways of delaying, and, indeed, denying, a pluralistic world that they may find threatening or unattractive. Some undergraduates will temporize, holding themselves in one of the earlier positions as they explore its implications or explicitly hesitate to take the next step. Other students 'escape' at positions 4 and 5, denying their own responsibility for exploring knowledge. Finally some students are tempted to retreat, entrenching themselves in the dualistic, absolutistic knowledge structures of positions 2 or 3.

Perry's study was based around open-ended interviews with students following a liberal arts curriculum at Harvard and at Radcliffe during the late 1950s and early 1960s. The particularity of his study thus raises some interesting questions. Do men and women students in fact experience the same cycle of development?[25] Given their differing intellectual projects, do science undergraduates follow the same trajectory of development as those in the arts? Do twenty-first century undergraduates more comfortably occupy a relativistic world well before they arrive at university? These are important questions; but whether or not Perry's conclusions stand entirely unchallenged, many tutors have recognized in both their own and their students' behaviour the strategic positions that he outlines.

I have chosen to discuss Perry's work here because it struck me with such force when I first started my own teaching career. It seemed to me to offer an exceptionally insightful account of both my own, and my students', intellectual journeys. But do Perry's insights affect the way that we might approach our work as tutors? Perry did not, and could not, supply a blueprint for teaching according to the needs of students situated at different points on his scale. What I believe his work offers, however, perhaps more than any other paradigm of educational research, is a basis for working with students with empathy and compassion. What may appear

to tutors to be an almost obdurate desire for black and white answers, a refusal to engage in serious thought, or disregard for the intellectual values of the academy, may be the outward expression of very threatening internal struggle. Perry's study reminds us of how profoundly undergraduates are affected by the intellectual challenges that they face on the path of scholarship, and the turmoil that many encounter in the process of maturing towards adulthood.

Beyond this, in the realm of the immediately practical, tutors who are able to recognise key stages in intellectual development may better understand why their students produce the sort of work that they do, and may then create their own teaching strategies to respond to it. Perry suggests that where a student is confronted by tasks requiring an understanding of the nature of knowledge beyond that of their current stage of intellectual development, they will simply not know what they are being asked to do. It is as if tutor and student simply talk past each other, neither able to comprehend the nature of the other's understanding. Perry argues that it is of profound importance to students' continuing development that the criteria for judging the quality of work are made clear, and constantly reiterated. Without repeated stipulation, he implies, students will remain disorientated and confused by apparently unintelligible expectations. Perry's account tells us, as does Roger Säljö's outline of conceptions of learning, something of how students perceive and are predisposed to approach study tasks. Using either, or both, of Perry's and Säljö's accounts can help to explain what sometimes appear to be rather perverse misunderstandings of tasks such as essay writing, and students' sometimes seeming inability to make use of what we think is helpful feedback and good advice.

II.iv Understanding motivation and social context

Not all inquiry into the processes of university student learning has dealt with directly intellectual factors. There have also been useful studies of the nature of student motivation, and of the impact of social context on student learning.

As researchers have developed new understandings of the nature of student approaches to learning, assumptions about student motivation have also undergone a shift of emphasis. Student motivation is no longer viewed either as an unalterable aspect of student pathology ('he's lazy, she's unambitious'), or as a straightforward behavioural response to environmental stimuli in the form, for example, of good marks. Instead, student motivation is believed to be constructed by the student 'in a dynamic way based on a process of self-appraisal of situations'.[26] Students act upon their own judgement of what is important in light of their personal needs and values; and upon their own appraisal of their chances of success or failure.

As tutors we may not enjoy dominion over our students' perceptions of their personal needs and values; but we do possess the power to influence the choices they make in significant ways. The highly individualised nature of tutorial teaching offers us the opportunity to tailor for particular purposes the nature and scope of tasks we design for students. A student working on tasks which she believes to be both worthwhile and, with a reasonable degree of effort, achievable, will be more highly motivated than one labouring over tasks believed to be meaningless, overwhelming, and doomed to failure. There is also an attitudinal dimension to tutors' influence on their students' motivation: tutors' own enthusiasm for their subject has been known to inspire in students an intrinsic interest in topics they have previously approached with a wholly examination-oriented motivation[27].

Research on the social context of learning has emphasised that learning takes place through interaction with other people and with the culture of faculties, departments, and, by implication, colleges. As Nicol has summarized it:

> *Learning is now understood to be situated in academic and disciplinary contexts that influence...how [students] construct interpretations of how they are supposed to learn, what is worth learning and what it means to be a student.*[28]

Again, contemporary educational research is broadly supportive of the apprenticeship model of the Oxford tutorial. In a paper published in 1989, Chickering and Gamson summarised the implications of some fifty years of American research into higher learning. Among the seven fundamental principles of good undergraduate teaching that they identified were four strongly interpersonal factors: personal contact between students and tutors; the communication of high expectations; respect for diverse talents and approaches to learning; and developing co-operation between students.[29] The first three of these have long been assumed to be an integral part of the Oxford tutorial system; the fourth principle lies well within its bounds.

Part III Stimulating good learning through tutorial teaching

III.i Tutorial teaching in context

The central place of tutorial teaching in the vision of undergraduate learning at Oxford is compatible with a broad base of educational research, as well as with tradition. Research has established that the university academic's most significant contribution to undergraduate learning comes not from the transmission of information but through encouraging students' active engagement in the process of cognitive change. He or she models disciplinary modes of thought; harnesses student motivation; and builds relationships based upon mutual respect and high expectations. The form of the Oxford tutorial is thus of great interest, for it has the potential to orientate both tutors and students away from the transmission and passive reception of information. Instead, it emphasises the importance of student learning through dialogue with an empathetic expert, self-directed study, and interaction with each other.

In 1969, W.G. Moore wrote that he believed three cardinal principles underpinned tutorial teaching: that it caters to the individual; that it depends upon co-operation between the parties; and that it implies a distinctive attitude to knowledge. In the terms in which he expressed it, Moore's final theme exemplifies the apprenticeship model of tutorial instruction. He envisaged tutor and student jointly engaged in a process of critical inquiry, the tutor-as-guide constantly revisiting cherished assumptions in the company of his novice. Moore's notion of a tutorial assumed an approach to undergraduate education that exists in stark opposition to the job of teaching students enough to get by and earn a degree:

> *What both tutor and pupil are working at in a tutorial is in fact something other than specific problems: they are learning to use evidence…I must accept, not what I like, not what appeals to me, but what I find reason for accepting. I must learn to strike some sort of balance between my instincts and my intelligence, to give a reason for what I like, to work at the evidence until I see which way it is taking me…[This implies] an approach to knowledge which is the reverse of dictated or memorized data…It is an attitude which sees the human condition as an endless process of discovery, of re-evaluation, re-examination, revision of what we think we have acquired… Here, I suggest, are the roots of the tutorial method. It is a sceptical method, a method that inquires, probes, scrutinizes. It is not at its best in ex cathedra authoritative statement, but in criticism, theory, analysis, comparison. It prefers the relative to the absolute, the tentative to the dogmatic...and does not offer that certainty which the young so often and so naturally seek.*[30]

For Moore, tutorial teaching at its best drew upon a Socratic approach to knowledge. Against the background of the research I have discussed in this paper, the tutorial appears as a tool of enormous potential through which we might encourage students to adopt approaches to learning productive of profound conceptual change. In tutorial, students can be challenged to think in ways that cannot be achieved by a surface approach: by interacting critically with disciplinary knowledge; relating ideas; organising principles; turning over evidence; and scrutinising logic.

III.ii Principles to underpin practice

Whilst we cannot reduce good teaching to simple formulae, we can discern some important principles. University teaching has always drawn upon the disciplinary and subject knowledge possessed by the academic; but the best teaching also draws upon the academic's knowledge of students and how they can be helped to learn. Good teaching, in whatever form it takes, is ultimately derived from an academic's own thinking and creative response in relation to three key areas of consideration. These bind together an academic's own ability to manipulate disciplinary knowledge for teaching purposes; his or her understanding of student learning and the potentialities of different methods of teaching; and his or her understanding of individual students' particular needs:

Questions about disciplinary knowledge:

- How can the subject that my students are reading with me, and the specific topics within it, help students to understand my discipline as a whole?
- What are the principles of fundamental importance that I am asking students to come to understand, and what are the best examples or illustrations of these principles?
- How can this subject and these topics help students to understand what, in my discipline, counts as knowledge and evidence?

Questions about learning and teaching opportunities:

- What preconceptions and prior experiences do students typically bring to this material?
- What opportunities are offered by the form of a tutorial (or seminar or lecture)?
- In tutorial teaching in particular - given that it is both impossible and undesirable to 'cover the ground' of a whole week's reading - what aspects of the subject warrant attention in this context? For example: which elements of this topic are so illuminating of disciplinary methods, so fundamental to overall understanding, or so difficult to grasp, that they might best be discussed with students in tutorial?
- How will I help students to understand why we are doing what we are doing in tutorial?

Questions about individual students' needs:

- At this stage of their development what do my students most need to learn to be able to do?
- What will help my students to learn how to do it?
- What barriers or impediments to learning what I want them to learn might my students be facing?
- What priorities or values do my students hold that are relevant to what I want them to learn?

If we address these questions thoughtfully, we are well on the way to developing approaches to tutorial teaching that will encourage deep approaches to learning in our students. In the appendix, we include a description of the way in which three tutors have formulated their own unique response to these questions.

What are the practical considerations we should bear in mind when we make choices about how we organise and approach our teaching? Ramsden has provided a useful overview of the way in which different conditions can lead to deep and surface approaches to learning.[31]

Deep approaches are encouraged by:

- Teaching and assessment methods that foster active and long term engagement with learning tasks

- Stimulating and considerate teaching, especially teaching which demonstrates the tutor's personal commitment to the subject matter, and stresses its meaning and relevance to students
- Clearly stated academic expectations
- Opportunities to exercise responsible choice in the method and content of study
- Interest in and background knowledge of the subject matter
- Previous experience of educational settings which encourage these approaches

Surface approaches are encouraged by:

- Assessment methods emphasising recall or the application of trivial procedural knowledge
- Assessment methods that create anxiety
- Cynical or conflicting messages about rewards
- An excessive amount of material in the curriculum
- Poor or absent feedback on progress
- Lack of independence in studying
- Lack of interest in and background knowledge of the subject matter
- Previous experiences of educational settings which encourage these approaches

Notwithstanding the best of intentions it is remarkably easy to adopt practices that unintentionally divert student energies into surface approaches. In the modern university world, the exponential increase in the size of the knowledge base of the disciplines poses difficult questions about what can and should be covered by undergraduate curricula. Academics' awareness of the ever-expanding boundaries of their discipline presents what is perhaps the most common hazard in university teaching, curricula and practices dedicated to 'covering the ground'.

Individual tutors may have limited scope, in the short term, to modify existing curricula that they believe to be overloaded. We can, however, take steps to ensure that our own approaches to teaching them are sound. In the context of tutorial teaching, the problem of 'covering the ground' surfaces as a perception that tutorials are somehow supposed to deal with every point of importance that the student has encountered in his weekly reading. Aside from the problem of curriculum overload, various other causes may underlie such a perception. Tutors dealing with under-motivated students may be tempted to use tutorials to quiz them on their coverage of the reading. Where tutors are not involved in the examining process, they may lack knowledge of the examiners" priorities and feel they owe it to the students to attempt to cover everything. Reasons of special significance for first time tutors may be a lack of familiarity with the subject matter so they are not clear what to prioritise, or an absence of opportunity to discuss the course and its objectives with other more experienced tutors.

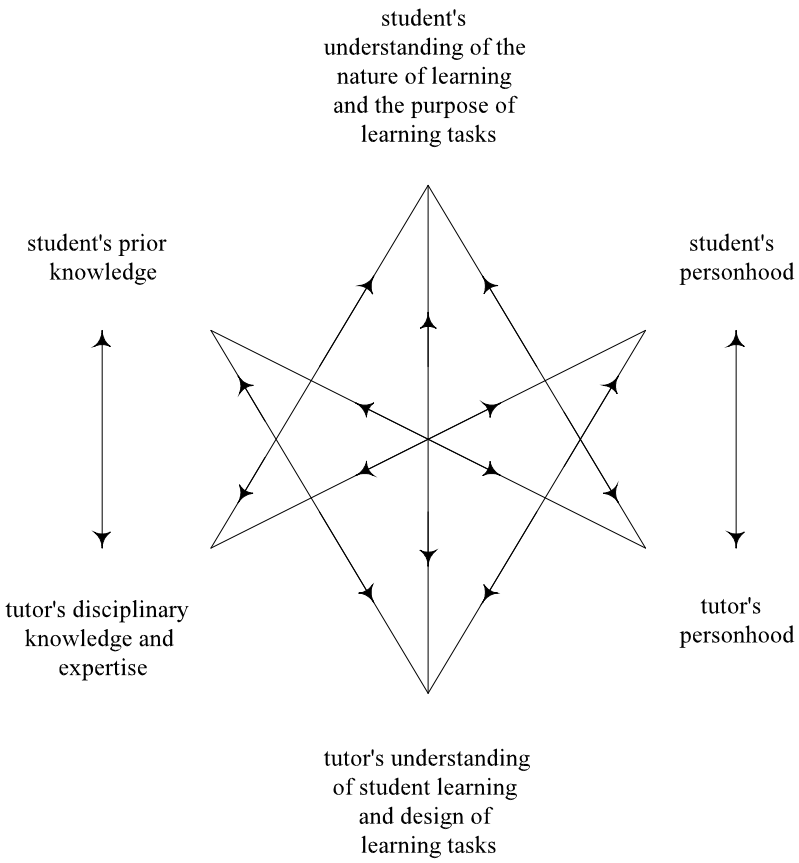
Whatever lies behind a tutor's approach to teaching, however, students' responses will likely correspond. Faced with a tutor determined to traverse as much material as possible in a tutorial, students may well conclude that comprehensive coverage of factual matters is the single most important aim for this course and adopt the necessary surface approaches to cope. A similar and equally rational response will meet the tutor who supplies an overloaded reading list in the conviction that this represents a rigorous approach to scholarship; in the face of unrealistic demands, a realistic student strategy is to revert to superficial learning.

Ramsden has cautioned that although it has been shown to be remarkably easy to teach in ways that encourage surface approaches, there is no guarantee of success for the tutor who seeks to encourage the emergence of deep approaches. Deep approaches, he argues, 'are

fragile things; while we can create favourable conditions for them, students' previous experiences and other unmeasured factors may mean that they remain unexercised'.[32] But tutorial teaching, perhaps, gives us greater opportunity to encourage favourable approaches than is enjoyed by university academics elsewhere. Where tutors give consideration to tailoring tutorials to students' needs, and where they are careful to ensure that tutorials are conducive to deep approaches to learning, a tremendous diversity of practice results.

III.iii A model for tutorial teaching

Whilst good tutorial teaching has many elements in common with other forms of university teaching, what makes it unique is its element of personal interaction. Every tutorial is a unique series of complex transactions, deriving their particularity from students' and tutors' own knowledge and experience, their capacities to learn from and to inform the other, and the nature and quality of the relationship that they enjoy. We can represent the dynamic interaction of tutorial teaching with the following model:



At the centre of the tutorial teaching process lies the critical interplay between the student's and the tutor's conceptions of learning. For current purposes I have placed conceptions of learning, rather than disciplinary knowledge, at the centre of the diagram. This is because students' conceptions of learning will affect how they approach, and therefore understand, the disciplinary knowledge that is the underlying focus of attention. Where my diagrammatic model identifies as separate components students" and tutors' prior knowledge, their approach to learning, and their person-hood, in real life of course these elements are all closely integrated in a multitude of different ways.

What makes the Oxford tutorial such an exhilarating – and demanding – forum for teaching is the personal relationship upon which it rests. In a simple sense, students' and tutors' personalities may combine in a multitude of ways to make the tutorial relationship mutually

pleasurable or something quite else. But far more than the vagaries of personality and personal preference, it is individual needs and how they are expressed that demand the tutor's attention. Chickering and Gamson's findings emphasised the importance to students of personal contact, of the communication of high expectations, and of respect for diversity. Perry's and others' research has also revealed that students who encounter real intellectual challenge often find it an unsettling experience and may, on occasion, resist it. In the interpersonal, intellectual interaction of the tutorial, the compassionate tutor will strive to maintain the integrity of the challenge whilst also acknowledging, in words or action, the difficulty the student may have in facing it. As Meyers has written in the context of critical thinking:

> *'Teaching students new thinking processes involves gauging very sensitively the amount of disequilibrium that will do the most good. Too much can overload students and be dysfunctional, while too little can result in warm, wonderful classes where no learning takes place ...'* [33]

Skilful tutorial teaching is therefore a constant and fascinating challenge. It is also one from which, as Henry Adams recognised, committed tutors may reap exceptional and enduring rewards.

Suzanne Shale
September 2000

Appendix - Approaches to tutorial teaching

This is the text of an article which appeared in the IAUL [Learning Institute] newsletter, Illuminatio, during 2000/01.

Every day in tutors' rooms in Oxford, students experience tutorials that are inspiring, intellectually challenging and fulfilling of their potential. Week by week in libraries, laboratories and tutorials students are developing their critical faculties and powers of expression and building their capacity to learn how to learn. Tutors are themselves learning from their students as they respond to their needs, working towards a shared understanding of the complexities of their discipline. The significance of these learning achievements is only fleetingly conveyed in personal anecdotes, is not (unlike vilification of teaching) newsworthy1 and is inadequately encapsulated in measurable learning outcomes. But this article is not a defence of the Oxford tutorial, nor a comment on the drive towards measurable outcomes. It is a discussion of the type of expertise that is evidenced in tutors' every day teaching practice, based upon interviews with three tutors chosen because we knew them. The tutors who discussed their work with us would be the first to point out that their practice is not unique, and that the aims they have and the strategies they employ to fulfil them are not offered as recipes for others to follow. They are of interest to us as examples of how tutors generate approaches to tutoring that work for them and their disciplines, and we are grateful to our interviewees for sharing their insight with us.

According to educational research [1] – and indeed common sense - what distinguishes expert teaching in higher education is not simply the breadth of disciplinary knowledge displayed by academics. Rather, expert teaching derives from academics' ability to combine their own knowledge with an understanding of how students, approaching a topic as novices, engage with new subject matter and integrate it into their existing understanding. On this account of expertise, the tutors we spoke to, like many of their colleagues, are not simply experienced tutors (although experience has no doubt been a powerful and essential means to an end). They are also *expert* tutors.

Tutors' often tacit knowledge of what students can find difficult to grasp, and their sense of what students find most interesting to explore, guide the ways in which they draw upon their own disciplinary knowledge and the resources in their environment. Dr Ngaire Woods (Lecturer in Politics and Fellow of University College) told us about her strategy for teaching first year students. She has several aims for the tutorials that she organises for them: to encourage them to move away from the assumption that everything that is printed in a book is unquestionably true; to help them to gain a detailed understanding of a particular argument; and to develop their confidence in generating their own critique of even authoritative academic writing. Her students work in teams of three or four, together preparing a critique on an aspect of a key text. Each group then presents its prepared critique to the author of the text whom Dr Woods invites to a group session to respond to the students. In the process of preparing their argument, her students learn about more than the subject matter under discussion: they also learn something about teamwork and the value of collaboration. In her view, working collaboratively is an important skill in itself, but Dr Woods also sees it as a vital resource in the short term when the students come to prepare for examinations. Debating with each other, she believes, helps students to internalise material and generate their own understandings of it. At the end of this exercise, she discusses it with them to see how they have experienced it, and sometimes adjusts how she uses it. As Dr Woods' work demonstrates, expertise is not just about what tutors do with students when they are present. It's also how tutors think about, plan, monitor and evaluate what they do, and the insight they bring to bear on these processes.

The relationship between research and teaching is both long-assumed and increasingly called into question, so it was interesting that our tutors used perspectives gained from their research to formulate strategies for helping students to consolidate their understanding. For example, from the perspective gained from his research in non-metallic materials, Dr Paul Buckley (Lecturer in Engineering and Fellow of Balliol) recognises that mechanical engineering

textbooks tend to present arguments in a way that assumes that everything is made out of steel. In his view, students need help to separate out concepts that are, as he puts it, usually jumbled up in their core texts. He therefore challenges his students to explore these concepts from a range of different angles. So he might ask, '*Supposing it was made out of chewing gum, would you get the same answer?'* As well as enabling his students to see the in-built bias in the text book explanations, Dr. Buckley's use of this apparently simple questioning strategy discourages his students from reliance on rote-learning, and encourages them to understand in greater depth the principles under consideration.

After some decades of discussion about the nature of the 'study skills' that underpin academic writing, recent research has emphasised the importance to students of learning to appreciate the conventions of discussion within their discipline[1]. This requires much more than just knowing the bibliographic protocols. Appreciating the conventions of discussion means, for instance, knowing what counts as evidence and why; how examples are used; and how arguments are framed. It means gaining a level of fluency in discipline-specific discourse: the way physicists talk to physicists or linguists talk to linguists. Much expert teaching demonstrates these conventions to students, helping students to identify them, to employ them in their own work, and, by making appropriate comparisons, to develop their own capacity to judge the quality of the work that they produce. Dr Heather Viles (Lecturer in Geography and Fellow of Worcester) promotes this sort of awareness in her students from the beginning of their first year course. She sets them a deliberately wide variety of reading: a chapter each from a range of textbooks, a variety of articles and an extract from a web site, perhaps. She asks them to discuss not only the content of the reading they undertake but also its structure, approach and purposes. Her students are expected to make an assessment of its style, to examine its use of graphs, diagrams and photographs, and to consider how the literature is or might be used for differing purposes.

As we talked to these tutors and others it became apparent that, for some, singling out tutors for attention is a project inclined to set collective teeth on edge. There seem to be several reasons for this. One argument is that teaching is contextual: what works for one tutor and in one situation may not work for or in another. It is clear that our interviewees' approach to teaching is indeed a unique response to their own discipline, circumstances, and preferences. But while slavish imitation would be unwise (probably impossible) there is still much that might be extrapolated from these examples. A second issue identified by many tutors was that talking of good 'teaching' in isolation of student learning is meaningless. This was made clear by the tutors we interviewed, who approached student feedback extremely seriously. It was not so much feedback in the form of 'tick-box' student questionnaires to which they gave their attention (although such questionnaires are used and do have their uses). Rather, what was seen as important was informal feedback - time spent eliciting students' views about their learning needs and thought given to adjusting teaching in response to them. A further issue is that some academics feel that singling out exemplars will promote the development of a stifling conformity, in which academics will eventually be required to teach according to predetermined principles of best practice. On the contrary, as we have noted, there is much that distinguishes our three tutors from one another. All three of our tutors described ways of finding solutions to learning problems in which they necessarily transcended whatever might pass for convention: their expertise expresses itself not in conformity but in creativity and ingenuity. Finally, some may feel that identifying certain tutors as experts introduces an unwelcome individualism into what is a collective enterprise, and, moreover, that it implies that others in the collective are not experts. But a distinguishing feature of expertise in teaching is that it thrives in co-operative situations – and the collaborators are colleagues as well as students. Talking about teaching (including expert teaching) is a way of nourishing, renewing, and invigorating it.

If tutors *are* expert teachers, does it matter that they do not have public recognition of their expertise? Being labelled an expert in a particular field of research is crucial: it is the basis on which entry into an academic career is gained. Once labelled, a researcher can go on to

receive support from colleagues, access to funding, reputation, and status. Being labelled an expert teacher in an environment in which we talk about having teaching 'loads' and research 'opportunities', however, seems to offer few advantages. So should we set out to reward our most expert teachers in the way we reward our top researchers? Or would extra reward for expert teaching destroy the collaborative, collective spirit in which good teaching thrives?

Elsewhere in this issue of *Illuminatio*, Ernest Boyer refers to the need to move beyond the tired opposition between research and pedagogy, embracing the scholarship of teaching. Our tutors also talked about the deep connections between research and teaching. Tutors are daily engaged in learning and scholarship within their own research, and in the nurturing of the learning of their students. For Dr Viles, the processes of teaching and research are all of a piece: *„I hope my teaching is totally bound up in my research and my whole life - I don't regard it as something separate."* Dr Woods' first objective is to help students to think about her subject in a way that will engage them, have them *'invest themselves in it [so that] they have a will to know about it and understand it, analyse it.'* Dr Buckley too, finds that the particular perspectives that come from his own research interests filter into the way he guides students towards an understanding of certain concepts. It is the cross-fertilisation between the content and process of research, and the content and process of learning, that seems to hold the promise of fulfilment for both tutors and students.

Duna Sabri
June 2000

Notes

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12. N.J. Entwistle and A.C. Entwistle *Developing, Revising, and Examining Conceptual Understanding: The Student Experience and its Implications* (University of Edinburgh: Centre for Research on Learning and Instruction, 1991)
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31. P. Ramsden *Learning to Teach in Higher Education* (London: Routledge, 1992) p.81
32. *ibid*., p.80
33. C. Meyers *Teaching Students to Think Critically: A Guide for Faculty in All Disciplines* (San Francisco: Jossey-Bass, 1986)