

# Centre for Teaching and Learning

Good Practice in Teaching and Learning

## Deep, surface and strategic approaches to learning

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## Introduction to deep, surface and strategic approaches to learning

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*The material in the boxes is not an intrinsic part of the text, but it invites you to reflect on the content of the text in terms of your own experience, and to interact with the text to the extent that you may wish.*

You are a subject specialist in some area. You may indeed be a world authority on something. You have chosen to work in a university, so even if your first love is research you are nevertheless also a university teacher. If you are lucky enough to teach your own specialty to undergraduate students, consider how you would answer this question: How do you want students to approach learning in this subject of yours?

Do think carefully about this. It is quite likely that the way you answer this has a direct bearing on how you teach the subject and what your expectations are of students. Have you formulated a response?

When asked this question, staff almost invariably say that they want students to become enthusiastic about the subject, to be engaged and involved, to understand and appreciate it, to put effort into it, to value it and be able to operate in it - in short, most staff would like students to get to understand and love the subject as they themselves do. What they are asking students to do is to take a deep approach to learning in the subject. Why is it useful to look at how students approach their learning? Can teachers take steps to encourage deep approaches? Are there other approaches? This unit will look closely at deep and surface approaches to learning and will also look briefly at a strategic approach.

The research of the past 25 years (Marton and Saljo, 1976; Marton, Hounsell and Entwistle, 1997; Prosser and Trigwell, 1998; Biggs, 1999) has seen learning and the learner become of central importance in the teaching/learning interaction - i.e. what the learner does has become more important for student learning than what the teacher

does. This has led to the redefinition of teaching as the facilitation of student learning. One of the outcomes of this shift has also been the redefinition of course objectives in terms of learning outcomes rather than of teaching inputs.

One of the major concepts to emerge from this research was the idea that students can take different approaches to learning. These approaches are not stable traits in individuals, although some students will tend towards taking a deep approach while others will tend towards taking a surface approach (Biggs, 1999). Rather, it is suggested that good teaching can influence students to take a deep approach, while poor teaching in the widest sense can pressure students to take a surface approach. Biggs defines good teaching as the encouragement of a deep approach to learning.

Take the undergraduate subject you most enjoy teaching, and read again the paragraph second from the top which describes a deep approach to learning. What steps do you take to encourage your students to engage with the subject in the ways described there?

### **The characteristics of a deep approach to learning**

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Students who take a deep approach have the intention of understanding, engaging with, operating in and valuing the subject. Such students:

- Actively seek to understand the material / the subject
- Interact vigorously with the content
- Make use of evidence, inquiry and evaluation
- Take a broad view and relate ideas to one another
- Are motivated by interest
- Relate new ideas to previous knowledge
- Relate concepts to everyday experience
- Tend to read and; study beyond the course requirements

## What are the characteristics of a surface approach to learning?

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Students who take a surface approach tend not to have the primary intention of becoming interested in and of understanding the subject, but rather their motivation tends to be that of jumping through the necessary hoops in order to acquire the mark, or the grade, or the qualification. When asked, staff deplore this approach but they frequently acknowledge that the majority of their students tend to take this approach.

Students who take a surface approach:

- Try to learn in order to repeat what they have learned
- Memorise information needed for assessments
- Make use of rote learning
- Take a narrow view and concentrate on detail
- Fail to distinguish principles from examples
- Tend to stick closely to the course requirements
- Are motivated by fear of failure

Take another subject you teach, not your favourite. Would you say that a majority of your students tend to take a deep or a surface approach to learning in this subject? What evidence could you bring in order to support your answer?

## The characteristics of a strategic approach to learning?

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The strategic or achieving approach is that approach which students are said to take when they wish to achieve positive outcomes in terms of obtaining a pass or better in the subject. Students taking this approach:

- Intend to obtain high grades
- Organise their time and distribute their effort to greatest effect
- Ensure that the conditions and materials for studying are appropriate
- Use previous exam papers to predict questions
- Are alert to cues about marking schemes

This approach when allied to a deep approach to learning in the subject would seem likely to deliver both an intelligent engagement with the subject as well as success in the subject. While the focus of interest in the literature has been on deep and surface approaches, you can read more about this third approach if you wish (Entwistle, 1987; Biggs, 1987).



A note about rote learning: it is far too simplistic to define a student taking a surface approach as merely a rote learner, or to nominate rote learning as the defining characteristic of the surface learner. We have all used rote learning in our education - I can tell you what  $12 \times 12$  is without thinking about it, but I can't tell you what  $13 \times 13$  is unless I work it out. We may use rote learning when learning a foreign language; perhaps we use it to remember the periodic table, or a complicated area of anatomy. Rote learning can be deployed intelligently to further our higher-level educational aims. The bad aspect of rote learning is when it is used instead of those higher order learning strategies which are aimed at acquiring an understanding of the material. This is where teaching and learning strategies become important.

Think of your own experiences as a student. Can you identify examples of rote learning you engaged in at second or third level? Was this rote learning useful for your understanding of the subject? Were you engaging in rote learning in order to comply with a distasteful or uninteresting course requirement?

## Teaching and Learning Strategies to encourage a deep approach to learning

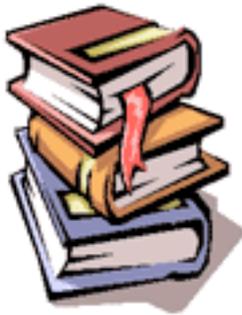
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You will see that some of the teaching and learning issues we are about to discuss may lie within your sphere of influence i.e. they are aspects of the curriculum over which you have control, and so you can make changes in order to encourage students to take a deep approach to learning in the subject. However, if you are a junior staff member you

may have little room to make changes. In that case, regard the following as empowering you so that you can take part in any discussion about curriculum from as informed a position as possible. Whatever the case, remember that a most potent way to encourage enthusiasm and interest in students is to demonstrate your own enthusiasm and interest in the subject. Few students are likely to engage meaningfully and enthusiastically with the subject - i.e. take a deep approach to learning it - if the teacher is clearly bored or uninterested in it.

What are the teaching and learning issues which can affect the way students approach their learning? Research has shown the following:

### 1. Workload



When you are overloaded, what do you do? You probably reorder your priorities so that the most immediately urgent things get done (most urgent, not necessarily most important). If some of these things are compulsory, or imposed, or uninteresting, you may do a perfunctory job in order to satisfy the requirement, as you do not have the time to get involved and interested. So it is with students, who usually have even less room for manoeuvre than staff. Any student doing a full-time course will have a formidable workload during the semester if they are to conscientiously keep up with class attendance, reading and with the requirements of continuous assessment. Add to that the extreme likelihood that the student has a part-time job of some sort and it becomes quite likely that the student will say that they are overloaded, and will adopt surface approaches to learning in order to cope with all the requirements of their various subjects.

Consider again your most enjoyable subject. You know what you expect of a student in this class, but do you know what all the other teachers this student encounters in the semester require of that student? For instance, do you know the total assessment requirements this student must undertake in all their subjects during the semester? This includes essays, class quizzes, lab reports, projects, and anything else which is

not part of the formal end of semester exam period. Do you expect regular pre-reading before tutorials or lectures? Do you get it? If not, what do you do?

There are no easy answers here, but you can see that workload pressures on students may encourage or force them to take a surface approach to meet their academic obligations. In order to counter this

- It may help to consult the other teachers of a student cohort in order to see if there are ways of rationalizing the assessment workload imposed on students during the semester.
- It may help to be realistic about what you can expect from students in terms of reading and preparation - you can find this out by frank discussions with them, and perhaps by mutually determining a set of ground rules for classes at the beginning of semester.
- It may help to discuss the best ways of studying in the subject with students, so that students are aware of teacher expectations and of where they should put their energies.

However, two conflicting approaches to the facilitation of student learning now become evident: one is that you should restrict your lecture content to that which is essential, and expect that students will do the research themselves to flesh out and follow up the lecture content, thus encouraging them to be independent and to take responsibility for their own learning. But you also know that they have a lot to do, and may well not do the extra work in your subject, so should you give them everything they basically need in your lectures to pass the exam? You will need to navigate between these two approaches, bearing in mind how you wish to encourage a deep approach to learning in the subject.

**Summary:** When students' workload is perceived by them to be heavy, they will often attempt to cope by adopting a surface approach to learning. Teachers are caught between a rock and a hard place - do they give students what they will need to pass the

exams, often referred to as spoon-feeding. Or do they arrange learning in their subject in such a way that students must be actively involved in it?

## 2. Assessment and learning objectives

It is commonly thought that assessment is the most powerful influence of all on how students approach learning in a subject and where they decide to put their energy. So if the assessment tasks reward memorising and rote learning then that is what students will do in order to succeed in assessment. In other words, in this situation they are being rewarded for taking a surface approach to learning in the subject.

But it is usually the case in university courses that more is required of students than merely the memorising and recall of information. So it is worth looking carefully at the learning objectives in a subject to ensure that they are stated in more than merely content terms.

When higher-order learning objectives are specified, it then follows that the assessment must mirror and test those objectives. For example, if the objectives require students to apply principles and solve problems, then the assessment tasks must test to see if they can do these things, not just write about them. In preparing for this sort of assessment, students will be more likely to engage with the subject, think intelligently, and thus to adopt a deep approach to learning in the subject than if the assessment merely asked them to recall information or describe material. The latter asks them to reproduce, which is amenable to rote learning, while the former asks them to think and apply the information.

**Summary:** Higher order objectives are more likely to encourage students to take a deep approach to learning in the subject. Assessment tasks should mirror and reward these objectives, not merely reward recall.

Look at the most recently administered exam paper in a subject you teach. Can you be specific about what students are being asked to do in this paper - e.g. is there more required than the recall of information? Will rote learning get them good marks?

### 3. Teaching

There is a direct link between learning objectives and teaching methods, and your choice of teaching methods will have a strong influence on how students approach learning in your subject. For example, if the objectives in your subject include verbs indicating higher level cognitive abilities you want to encourage in students, like "apply," "deduce" "generalise" "hypothesise" "reflect" "analyse" "solve" "justify" then you would need to use teaching methods which would support the development of these abilities. These teaching/ learning strategies will inevitably involve activity on the part of students; perhaps through a problem-based learning (PBL) organisation, or other regular forms of group or syndicate work, or through individual contract learning. If students undertake these active approaches to learning then they are being encouraged to become involved, to be thoughtful about the content and thus; to take a deep approach to their learning in the subject.

By contrast, the traditional form of university instruction, the conventional lecture, rewards passivity in students rather than active involvement, and has less chance of developing those higher level cognitive abilities which are usually stated in learning objectives (Bligh, 1971).

**Summary:** Teaching which involves students in active and independent learning is more likely to encourage a deep approach to learning in the subject

### 4. Choice

Students, being human, are more interested in some things and less interested in other things. Interest leads to involvement and motivation, and thus is more likely to facilitate a deep approach to learning in the subject. We usually assume that the degree program or

professional course students have embarked on is of intrinsic interest to them, and that they are motivated to study and achieve. However, there are some areas of professional programs which are mandatory but for which students can see little relevance. Students have no choice in these circumstances; they know they must jump through that particular hoop, so they may respond or retaliate by doing the minimum to obtain a pass, and remain uninvolved i.e. they take a surface approach to their learning in that subject. The opposite situation is seen in contract learning i.e. where the individual student in a contractual arrangement with the teacher is free to follow areas of interest by deciding what it is they want to learn, how they will do this, and how they will be assessed.

What choice, if any, do students have in a subject you teach? i.e. choice of what content areas to study, choice of ways of learning, choice of assessment procedures (e.g. two essays or a three hour exam) or choice within assessment tasks ( e.g. of essay topics or of questions to be answered in an exam). If they have no choice, why is this?

**Summary:** Students will be more likely to adopt a deep approach to learning in the subject if there is some element of choice available to them. Where this is impossible, or where a service subject is being taught, care should be taken to explain to students as thoroughly as possible why this is the case and what the relevance is of the material or of the subject.

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