

Skimming the Surface or Going Deep?

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Introduction

Most college teachers probably would say that they want students to think for themselves. If so, we can progress by using the growing research into teaching and learning in higher education. Approaching teaching as a scholarly activity parallels our approach to research.

As researchers, we learn to be methodologically self-conscious. We learn to trust neither intuitions nor instincts, but to seek and respect data, confounding though they often are. Equally, as teachers, we must be conscious of the processes of teaching and learning, as well as the content. We must apply the same critical scholarship to teaching that we do to research.

In these pages we shall tour briefly a selection of empirical and theoretical literature on teaching and learning in higher education. The tour represents research combining rigor and insight, with practical implications and challenges for intuitions. The wheel has been invented; now it needs to spin.

What do teachers and students say about their teaching and learning experiences? Throughout my 25 years of teaching, both teachers and students have said they want active teaching and learning on a high cognitive level. They aspire to similar goals. But they also say their teaching and learning experiences are usually passive, on a low cognitive level. Like divorcing couples, teachers and students can be disappointed and frustrated with their relationship despite mutual good will.

Teachers frequently say that student learning is conceptual growth. Many professors conceive of teaching as a well-organized syllabus supported by clear and logical presentations, relating like to like. In contrast, my assumption is that teaching has value only if it promotes student learning. That, in turn, includes conceptual growth and other goals such as working

with others, communicating, achieving potential, and more (see, e.g., Jackson and Page 1990, 4–14).

Why does learning need to be improved? Too often academically successful students do not grasp the fundamentals of the disciplines they have studied. Economics graduates believe that price is decided by the production costs of a commodity, while the profession has established that price is a relation between supply and demand (Dahlgren 1984, and for sociology cf. Becker, Greer and Hughes 1968). Can it be different in political science? Accomplished graduates all too quickly explain political phenomena by personalities or conspiracy theories.

Students approach learning in a variety of ways, depending on their perceptions. Once we become aware of students' perceptions, we can induce more students to take deep approaches to learning.

The Administrative Concept of Teaching

According to the administrative concept of teaching, quality lies in the order, validity, and coverage of the material presented (Svensson and Högfors 1988). If students take accurate notes, in this concept, the information has been transmitted (Handal, Lauvås and Lycke 1990). This is largely the way Jean Piaget described the development of children's psychomotor skills, where there is no conceptual dimension. When members of promotions committees discuss teaching, when nominators propose candidates for teaching excellence awards, when entry appointments are made, the emphasis usually falls on information (amount and currency) and presentation (logic and order). This concept of teaching has been much honored in academic life. How does it relate to our expanding knowledge of student approaches to learning?

The relationship between the volume of information presented and conceptual change in students is neither obvious nor articulated (Marton and Ramsden 1988, pp. 276–277). It may even be that the volume of information discourages conceptual change by students. If so, this is probably contrary to the hopes of most teachers. Rather than focus on the teacher's presentation of information, we might concentrate on how students approach learning.

Student Approaches to Learning

In this section, I offer three perspectives from the research literature. These three challenge the administrative concept of teaching. They are (1) surface and deep approaches, (2) perceptions, and (3) diversity and versatility. Each contributes to the panorama.

1. Surface and Deep Approaches to Learning

One conceptual framework distinguishes between deep and surface approaches to learning (Ramsden 1992). For example, a student engaged in surface learning approaches the task of learning as reproducing what the teacher does without trying to understand. If I write a passage from Jean-Jacques Rousseau on an overhead projector, the reproductive student will copy it to reproduce it later.

In contrast, deep approaches to learning aim at meaning. When Rousseau's words are displayed, students using a deep approach will relate it to what they already know, including other elements of the course or other courses. When asked to describe what they do when the overhead projector is used, these students say they think about the material in the course and relate it to their life experiences, real or imagined.

A summary suggests the distinction (Ramsden 1988a, p. 19). If a student adopts a surface approach, that individual will focus on the signs (the text itself) as discrete elements, memorize information for examinations, and associate concepts and facts without structure. Unaware of the topography of the discipline, the student will not discriminate among levels of meaning (assumptions, theories, concepts, interpretations, data, evidence, and facts), but will treat each as equal. Grades alone will stimulate focus. Skimming the surface, a bright student may very well absorb and command enough material to pass a course, even to get an "A."

Going deep, a student focuses on what is signified (arguments and conclusions), relates new ideas to previous assumptions, sees concepts in everyday experience, distinguishes argument from evidence, organizes content into structures. A student taking this approach may well err, but it is this approach alone that promises conceptual growth.

There is a normative dimension in students' approaches to learning. No matter how much time there is, a student who thinks that the surface approach is right will not go deep. (Here, the word "right" means normatively right, not instrumentally effective.) A study of students reading and rereading a Franz Kafka story concludes that repeated readings do not lead to a greater depth of understanding (Marton *et al.* 1992, 1–16, and Prosser 1993, 21–31).

2. Perceptions

Students' perceptions occur in a learning environment that includes previous and current experience, peers, the department, the physical character of the classroom, course organization, individual instructors, and the college as a whole.

Professors can influence some perceptions. If professors from one department are broadly consistent, students with little idea of academic structures do perceive a department's teaching environment (Newbie and Clarke 1986).

Objectives are crucial. Even half an hour spent discussing why this subject is important will give students a compass. Objectives may be limited to the course alone. They can also be stated against the horizon of the degree. They can be intellectual, social, and moral. They can be intrinsic to the material or extrinsic. With a discussion of objectives, students can set priorities, and this makes it easier to adopt deep approaches.

Studies of students reading assigned texts show that they can fail to recognize the main point for a simple reason—they are not looking for it (Marton and Säljö 1984). A professor can make it plain in word and, more important, in deed that the purpose of the reading is to detect the main point.

Grades are important, as every teacher knows. Grades can help individuals to go deep if the assignments are based on and support deep approaches to learning. Open ended assignments are more likely to do that.

Teaching methods are also central to students' perceptions of and responses to the learning environment.

If there is no discussion, if there is no freedom to direct one's own work, students are likely to adopt surface learning approaches. Autonomy and responsibility fuel those students ready to take deep approaches.

This conclusion is confirmed by one study, among many:

When an analysis was carried out of the 66 departments involved in this study, those departments rated by students as having a heavy workload and less freedom in learning had higher than average scores on reproducing [surface] orientation (Entwistle and Tait 1990, pp. 172–173).

Feedback on assignments has also been identified as crucial. One implication of these findings is that it might be more effective to manage students' perceptions of the environment than to concentrate on special study skills materials. Special materials are mechanistic responses to intellectual and social difficulties of intention, motivation, communication, and beliefs.

They will disappoint the expectations of their proponents.

Students' "perceptions of teaching and assessment methods in academic departments are significantly associated with . . . students' approaches to studying" (Entwistle and Ramsden 1983, pp. 191–192). In social science courses, these researchers found that good teaching seems to depend more on operation learning, on relating evidence and conclusion, and on the appropriate use of a certain amount of initial rote learning to master terminology (Entwistle and Ramsden 1983, pp. 208–210).

Workload includes not only assignments, but also the syllabus, number of contact hours, duration of classes, reading, and the like. If students perceive a heavy workload, then they are likely to take surface approaches to manage the work. An instructor who gives 15 assignments in a 10-week quarter will drive all but the most determined student to the surface. Students' perceptions of workload are derived partly from the course syllabus. If it is long and complex, it is easy for students to conclude that the course has a heavy workload and to orient themselves accordingly.

The nature of assignments also affects students' approaches to learning. Most students study for technical examinations by concentrating on the form in which material has been presented at the expense of its meaning. Such students can reproduce a formula without understanding when to apply it, how it was derived, or what its assumptions are (Ramsden 1988b, pp. 155–168).

3. Diversity and Versatility

That students approach learning in different ways emerges readily in questionnaires, interviews, and observations of what students do to learn (Gow and Kember 1993, 20–33). This finding resonates with the observations of teachers who notice that students comport themselves in fundamentally different ways from the first hour of the first day of the freshman year. In an era of mass higher education, we can-

not assume that students are homogeneous.

A student may also approach learning in different ways from one context to another. The same student may adopt a surface approach to learning in one course and a deep approach in another. Students are versatile. Approaches to learning (Biggs 1982, 1987, and 1988) are not learning styles with underlying psychological dispositions.

Conclusion

The conclusion is asymmetric. Evidence is extensive and consistent that certain perceptions lead students to surface approaches to learning. Perceptions that lead to deep approaches to learning are less well defined.

Moreover, there is no cause-and-effect relationship between deep approaches to learning and deep learning. Post-modernists will be pleased that teaching and learning are hardly that simple. Teachers who want deep learning approaches from students must organize and run courses to promote these approaches from the students willing and able to go deep. What the students are doing (strategies) and why they think they are doing it (intentions) are more important than the number of students in the room.

Deep approaches to learning can be encouraged by promoting self-consciousness among students about how they learn. More particularly, they can be fostered by using teamwork, syndicates, group and individual projects, peer teaching and grading, simulations, and reflection. Some approaches to teaching that deemphasize information presentation are described in Jackson and Prosser 1985 (651–663) and 1989 (55–68); Andresen, Jackson, and Kirby 1994; and Jackson 1991 (41–52) (see also Gibbs and Habeshaw 1989 and Gibbs 1992).

Recognition is the beginning of

an understanding of students' approaches to learning. The sagacious Gilbert Highet (1950, 5) said that most teachers are clumsy at learning and teaching because we have not thought it through, distinguishing the methods from the content. Thanks to the theoretical and empirical research into teaching and learning, we have never had a better opportunity to think it through.

Note

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