Approaches to economics education

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In these pages we argue that economics has much to learn from recent advances in knowledge of how students approach learning. If we influence how students approach learning we can increase their conceptual growth and change. If we set aside the commonly used administrative approach to teaching in favour of one that concentrates on managing students’ perceptions and experiences we can make this progress. To make this argument we review the administrative approach to teaching, make a distinction between surface and deep approaches to learning, and then review key research on objectives of a course, and factors such as assignments, workload, and teaching methods. The conclusion is that teaching approaches that lead students to deep approaches to learning are essential to economics.

INTRODUCTION

Teachers don’t teach,
but students learn.
Jacob Neuhauser.

Economists often say that their goal as teachers is to arm students to think for themselves. Put in those terms it is rather generic, and at that level perhaps we can make further progress by taking note of the growing body of research into teaching and learning in higher education. After all, approaching teaching in a scholarly way parallels the systematic approach we take as researchers. This approach is widely known as the scholarship of teaching and learning thanks to Boyer (1990) and is now promoted by leading institutions such as the Carnegie Foundation for the Advancement of Teaching.

In research training we become methodologically self-conscious and reflective, cataloguing experience and assessing feedback. We learn to trust neither our intuitions nor our instincts. The scholarship of teaching and learning is a similar discipline for reflective teachers in higher education. These pages offer an overview of some of the empirical and theoretical findings in the scholarship of teaching and learning. The focus is on elements that have practical implications in the economics classroom. Some of its findings confirm common practice while other findings spotlight alternatives.

What do students and teachers say about teaching and learning? They usually describe a good class in pretty much the same terms. More often than not, both say they want active experiences on a high level. Neither wants passive and boring sessions where their minds wander to what to have for lunch. Teachers say they want students to be responsive, and
students say they want classes to be lively and relevant. We make these assertions from our professional experience; from interviews with students for other projects (Jackson & Prosser 1985; Jackson & Prosser 1989; Jackson 1990; Booth 1997); and from countless hours on staff-student consultative committees. Despite this common ambition, students and teachers do not always find that classes work out in the way they say they want.

Student learning in economics is about conceptual change and growth, an enrichment of the means to understanding. In practice, with a teaching load to manage and other commitments, it can be tempting to approach teaching as simply information presentation and transmission. Many instructors conceive of teaching as the well-organised syllabus, explained in clear and well-organised lectures with graduated assignments and examinations to test for mastery. This is the administrative approach to teaching (Svensson & Högfors 1988). The unwelcome but inescapable fact is that sometimes this kind of teaching does not result in good student learning outcomes. It certainly does not stimulate the best students in large undergraduate economics classes. In contrast, good teaching is teaching that leads to learning. It is only a means to an end.

Student learning goes well beyond completed assignments and grades (Jackson 1990). Student learning happens when the concepts that students use to analyse arguments and phenomena enlarge and change. If at the start of a course we ask students to make a concept mapping identifying and linking the ideas they associate with the subject matter, their responses will predictably be relatively sparse (on concept maps, see Novak & Gowin 1984). By the end of the course students should have developed a much larger, more complicated set of relations with a variety that cannot be predicted. Of course there is variation among them on the degree of change and the success with which they master this change. A more familiar example might support the point. If students write two assignments in a course, we expect most of them to do better the second time; that is usually why we set two. This too is an example of conceptual change.

If we are already teaching students this well, then why spend precious time reflecting on the scholarship of teaching and learning? First, we have evidence that there is teaching-without-learning, that not all students grasp the fundamentals we teach. Teachers often speak of their frustrations with students (as students do of teachers). We can be sure that even academically successful students who can spot a faulty argument in a classroom apply less rigour outside it. We meet many graduates who believe that production costs determine price; so do others (Saunders 1980; Dahlgren 1984). Does this mean all that time spent teaching the higher law of supply and demand is wasted? Becker et al. (1968) find that sociology students likewise retain naïve misconceptions. In another example, the short film *A private universe* shows Harvard science graduates explaining the change of the season by the proximity of the earth to the sun, rather than the tilt of its axis in stellar orbit (Schneps 1988). The matter is general. Sometimes education is bolted onto pre-existing and continuing naïve conceptions (Jackson 1986). To root out those naïve conceptions we need what we will dub here ‘deep approaches to learning’.

With the stage now set, the discussion turns to the means to promote greater student learning through three short sections. The first expands on the administrative approach to teaching; the second and longest section makes a distinction between the surface and deep approaches to learning of the title; and the third draws some conclusions about teaching in ways to encourage and support deep approaches to learning. To anticipate
what follows, students approach learning in different ways based on assumptions, past experiences, and the like. If we are aware of this selection of approaches we can try to influence it with the payoff that we can induce more students to take deep approaches.

THE ADMINISTRATIVE APPROACH TO TEACHING

According to the administrative approach to teaching, high quality lies in the order, validity, and coverage of the material presented to students. This approach is commonly used in departments where class size is an important constraint on teaching delivery. If students take accurate notes, or study the PowerPoint slides posted on the web site, the information has been transmitted (Handal et al. 1990). The material moves students from like to like in manageable steps with the aim of moving them by stealth from like to unlike. Do we? This is how Piaget described learning psycho-motor skills in children riding bicycles, where there is no conceptual dimension. However, conceptual frameworks are not increments of each other. Some are antithetical to others, assuming what others contest. Neoclassical economics and Marxism are not stops on the same line. Postmodernism says that all is opinion, while empiricism kicks hard reality. We know that theories are alternative realities, but when selection, tenure, and promotion committees meet to consider a candidate’s teaching, more often than not the emphasis falls on information (volume and currency) and presentation (logic and order): in short, the administrative approach to teaching. This is not only in the classroom; we also observe it when nominators for outstanding teaching prizes compose testimonials, and when students evaluate teaching. We honour it in committee even while we disobey it in class by contrasting opposing theories.

There is no bright line between the volume of information skilfully presented and conceptual growth and change in students (Marton & Ramsden 1988). Listening to ever more lectures on rationality may not make a student more rational. It may even be the case that the volume of information presented in serried ranks of PowerPoint screens may discourage conceptual change in students, as shall be explained below. If students grow discouraged the result is counterproductive. What can we do then? Rather than place all our efforts on improving teaching, we could take some time to consider how students approach learning.

There are alternatives to the administrative approach to teaching, informed by knowledge of how students come to learning. In what follows we review three snapshots of the research literature on student learning that have practical value in the classroom. These are: the distinction between surface and deep approaches to learning, students’ perceptions of learning, and the diversity and versatility of these approaches.

Taken together, these three snapshots offer a panorama of key aspects of the scholarship of teaching and learning research literature.

SURFACE AND DEEP APPROACHES TO LEARNING

What is the distinction between surface and deep approaches to learning? A student taking a surface approach to learning is one who strives to reproduce what the teacher does without trying to understand why the teacher does it that way (Ramsden 1988a). If an instructor puts a demand curve on the screen this student will copy it down. While copying it this student may not hear what the instructor is saying about it. This student assumes that if a curve is selected and screened then it must be important in and of itself. To ask students why they write down such illustrations is to be told that ‘if it was
important enough for the instructor to prepare in advance, then it must be crucial’, or words to that effect (Ramsden 1992). Yes, sometimes that may be true, but not always. Sometimes a teacher singles out an example to bring the class back to the larger purpose, or to make a transition to another point, or a comparison with a different perspective, and so on. The illustration can be a means to an end of understanding and not an object of received knowledge to transfer to the students’ notes, while to the student copyist it is taken as an end in itself. There is experience in an instructor who pauses while the copying goes on, and there is wisdom in the instructor who enjoins students not to copy it but to attend to it, promising time later for any copying that needs to be done.

If a student adopts a surface approach, that student will focus on the signs (e.g. the demand curve) as discrete elements; memorise the information for examinations; and associate concepts and facts without the significance of context (Ramsden 1988a). Unaware of the skyline of a field of study, such a student treats everything as though it exists on the same flat surface, and does not discriminate between different kinds of meaning (assumptions, concepts, theories, evidence, and argument) but treats each as equally arbitrary. One of us still chuckles at the student who, when asked in a final exam to explain why the demand curve slopes downward, responded seriously ‘because otherwise you would not have drawn it that way in class’!

The magic of assignments and grades does not compel deep approaches to learning. Bright students adopting surface approaches to learning may well absorb enough information and command enough material to pass a course. Many teachers see some of the longer term evidence of this surface approach to learning in graduates who a few short years later can barely remember what they studied in university. Please note that a surface approach to learning is not rote learning. Rote learning has a place in learning multiplication tables, verb conjugations, or logical operators. Nor is the surface approach an irremediable psychological attribute. In addition, there are middle stages between surface and deep approaches (e.g. Case & Marshall 2004) but to keep the focus on what is most important they have been set aside here.

Going more deeply, students approach learning by concentrating on what is signified (assumptions, arguments, and conclusion) not on the signs per se, and then trying to apply the concepts being studied to everyday experience. This approach distinguishes argument from evidence, relates and integrates knowledge from a variety of sources, and tries to organise the course content into structures of several dimensions. A student taking this deep approach may very well err, but this approach is the one that promises conceptual growth. That errors occur simply reminds us why we teach – that is, to identify and amend these errors. Need it be said that we assume most economists want students to take such deep approaches to learning?

It is common to blame the lack of deep approaches to learning on externalities. These include time poverty identified by students, attention span deficits identified by teachers, and binding resource constraints in the teaching budget. Conversely, the argument here is that a student adopting a surface approach to learning will not go deep, no matter how much time there is, no matter how attentive students are during that time, no matter how small the class is, and no matter how many assessment tasks they do. The intention with which the student approaches a task is decisive, not time or attention span. There is some evidence to support this argument. A study of students reading and
then re-reading a Franz Kafka story found that repeated readings did not lead to a greater depth of understanding (Marton 1992; Prosser 1993). Students who read the story in a surface manner read the story time after time to the point of being able to recite it, without yet grasping its meaning. We have all had the experience of teaching students who look just as blank after the second (or third) explanation as they did during the first. In a senior labour economics course, Ross has experimented with trial quizzes only to discover that for most students there was no improvement in their grades.

For some students, and perhaps for some teachers, the surface approach may work well enough. Completing a junior course in the senior year to meet a degree requirement may simply be a job to be done. Equally, some teaching assignments just have to be done. The frustration arises when bright students keen to learn and teachers possessed by a love of knowledge meet in mutual incomprehension, one side floundering with a surface approach to learning and the other bunkered in an administrative approach to teaching. The result is a gap as deep if invisible as that which divided C. P. Snow’s two cultures. Teachers have some opportunity to encourage deep approaches to learning and many, many economists do. We want to strengthen their arms and encourage others to join them.

Students’ perceptions occur in a learning environment that includes previous experience, contemporary experience, peers, family, the school, the degree, the department, the physical character of the classroom, the timetable, and, last but not least, the idiosyncrasy of teachers. There is a great deal on that list, but its engine is the classroom and it is there that instructors work to influence students’ perceptions. Again there is encouraging evidence. Students can perceive a learning environment in a department where instructors are broadly consistent in their approach to teaching. Students can also describe the distinctive learning environment of departments (Bain & Thomas 1984; Newble & Clarke 1986; Lizzio et al. 2002; David 2004).

The one thing we have most control over is our own intentions. If our strategy is to promote conceptual change in students, then we are well advised to select teaching tactics that encourage and support approaches to learning that are associated with conceptual change. That all seems logical, but it takes will and wit to make it happen, not simply first principles, the more so when there is pressure to publish, to do committee work, and a family at home (McInnis 2000).

Among the critical factors that shape students perceptions four stand out. These are the course objectives, the assignments, the teaching methods, and the workload. There is a research literature on each of these, which we can only imply in a few paragraphs.

Course objectives

These are critical. If an instructor spends half an academic hour early in the semester saying why this course is important that will give students a compass. These objectives may be described within the context of the course alone. Why should a student take ECON1001 seriously if that student is not a major or a minor? Why indeed if they are doing it only because the faculty has determined that it is compulsory for their degree requirements? Some very good answers can be given to that question, and given they should be. Objectives can also be stated against the horizon of the major or minor, or the degree, for instance in more advanced courses. The objectives can be intellectual, social,
or moral; they can range from the intrinsic satisfaction of understanding to the extrinsic use (and rarity) of clear thinking. With a set of objectives students can fix priorities, and these fixtures make it easier for them to navigate deep approaches, as we shall see. When the mid-semester slump sets in, this message might also be reiterated in variation.

Perhaps a qualification is in order. Many economists have come to this conclusion about objectives in the effort to encourage students to enrol in economics, or in the case of universities such as The University of Sydney, to enrol beyond first year. Once they are there in class, we need to reiterate it more than once. Moreover, there may still be teachers so intent on the subject, so sure of its celestial importance, so worried about running out of time before its every nuance can be savoured, that they forget to take the time to remind students why the course is important to them, and to say it in terms that connect with the life experiences and ambitions of students.

One reason why students in the Kafka study failed to recognise the main point of the story was that they were not looking for it (Marton & Säljö 1984). Anticipating that some students may not be fully focused, the instructor can make it plain in word and deed that the purpose of an assignment is to detect the main point. After the Invisible Hand of meaning has been sighted the details can be assembled and examined. Meaning comes first, then detail; meaning does not arise from amassing detail.

Assessments

That grades motivate students is a truism, but what may be less obvious is the finding that ‘the majority of students reported greater use of transformational [deep] activities for the open-ended assessment than for the closed examinations; and conversely less use of reproductive [surface] activities with the open-ended assignments than with the short answer and closed examinations’ (Bain & Thomas 1984). Grades can encourage students to take deep approaches only if the assignments are conducive to deep approaches to learning. A true-false test is not conducive; an essay assignment can be. If there is pressure to teach more students and to cut costs by using more examinations, then we need a rational argument with evidence that open-ended assignments lead to qualitatively different and better results for students, not simply to assert that traditional assessments are preferable.

Teaching methods

Teaching is at the heart of the matter. If there is no free discussion, if there is no freedom for students to make choices, for instance about what topic on which to write their essay or what kind of argument to make, students are less likely to adopt deep approaches to learning. Autonomy and responsibility fuel those students ready to take deep approaches, and give others the incentive to try.

When course objectives, assignments, and teaching methods align, they have the greatest influence (Kember et al. 1996). This is not always the case. In one department where one of us taught long ago the rhetoric rang of critical thinking and the like, but the reality was a curriculum cut into canonical stone with set essay topics and granite reading lists for each topic in every course. Students wrote essays by piecing together passages from the restricted list of reading. They showed they could read and understand which were all that the assignments permitted. They did not show, they
could not show, for example, that they could evaluate the arguments in the readings in contrast to other points of view not represented in the syllabus, or apply any of it to reality. These latter two were out of bounds.

Again we can take courage from an empirical study. Entwistle and Tait (1990) interviewed undergraduate students from more than sixty departments, and found that departments with assignments that placed a premium on factual information and gave students less freedom (and its twin, responsibility) led students to adopt a surface approach to these assignments (Beckworth 1991; Kember et al. 1995; Scouller 1998). The authors go on to say that feedback on assignments was another crucial element associated with the approach to learning taken by students in these departments. If the feedback focused on compliance and facts, the surface approach remained, as it did if there was no feedback apart from the grade (Entwistle & Tait 1990).

We hasten to remind readers that it is the perception of the learning environment, not the environment itself, which influences approaches to learning. Seeing may be believing but believing is also seeing, as phenomenographers have told us for centuries, or so it seems.

One implication of the discussion to this point is that it might be more effective to manage students’ perception of the learning environment than to concentrate on special study skills sessions, essay writing workshops, yet more PowerPoint slides, more self-paced web material, and the like. Though academic reward structures value such techniques by endowing them with the hallowed term ‘innovations’, alas, there is no technical means to quicken deep approaches to learning. A note on terminology may be wise. We have repeatedly written ‘deep approaches to learning’ and not ‘deep learning’. One assumption in this research literature is that deep approaches to learning are the most likely approaches to lead to deep learning but there is no absolute guarantee of that. Some students may try the deep approach and discover that it is just too deep for them. Try as we might, we have had our own failures as students. Jackson’s undergraduate efforts at a deep approach to learning physics went for nought and with it his hopes to be an astronomer. Jackson simply could not fathom the symbolic language. Ross’s salvo into French did not shed any light on his understanding of French; to this day it is still very much a foreign language to him. Despite this he still shudders when students describe economics as like a foreign language!

To return to the main theme, students’ ‘perceptions of teaching and assessment methods in academic departments are significantly associated with … students’ approaches to studying’ (Entwistle & Ramsden 1983; Campbell et al. 2001; Bernardo 2003; Diseth & Martinsen 2003). If there is freedom in the course and in the assignments, they are more likely to adopt deep approaches.

**Workload**

Workload includes not only assignments, though they are crucial, but also the number of contact hours, duration of the classes, length of assigned reading, and the syllabus itself. If students perceive a heavy workload, and we stress ‘perceive’, they are more likely to take a surface approach to learning to manage the volume of work. We all do the same when there is just too much to do. We know this and yet there are instructors who continue to set weekly written assignments throughout the semester. Such an
instructor grows exhausted reading and grading these assignments, the more so because most of them are superficial and repetitive. To manage this volume of work with a full load of courses, students swim to the surface just to meet the deadlines. Equally the nature of the assignments influences students’ approaches to learning. Students will study for technical examinations by concentrating on the form of the material rather than its meaning. In mathematical economics and econometrics we know that there are students who can reproduce a proof with no understanding of when to use it, how it is derived, and what its assumptions are; it is a common occurrence (Ramsden 1988b).

Students’ perceptions of the volume of work are stimulated in the first instance by the syllabus itself. If it is long and detailed, it is easy for students to conclude that the workload is heavy. Before the end of the first class students start the course on the assumption of a high workload and govern themselves accordingly. Teachers, who dedicate themselves to thinking of everything and setting it all out in the syllabus or on a web site, may obey the law of unintended consequences by discouraging deep approaches. If so, it can be prevented by presenting the syllabus in parts and stages, a general outline first, then more detail as it unfolds, rather as instructional designers say that web sites should be dynamic, growing and changing through the course, and not fully loaded from day zero. As a personal aside, we are well aware that we are not all sovereign, not even on the syllabus. Our own faculty has decreed a template be used for all syllabi to comply with accreditation standards – a worthy goal – but the result is a pro forma fashioned by a committee of PhDs: they tried to think of everything. The template is sixteen pages long before the first section in which the instructor enters content. Introduced two years ago, students now commonly pull off the first sixteen pages and leave them in the classroom. Reports of this fact do nothing to dampen the enthusiasm of the committee which now amends the template each semester as more things come to mind. The gravity of the dark star of administration is ever with us and we fear that someone is working on a staple which will prevent students from discarding those first sixteen pages.

Earlier we wrote of diversity and versatility, and now it is time to come to them. That students approach learning in different ways emerges readily in conversations with them, in research interviews, questionnaire studies of student descriptions of learning activities, and in one’s own observations in and out of class (Gow & Kember 1993; Prosser et al. 2003). Entering the first class on the first day of semester, an instructor will see some students at the front of the room leaning forward to show interest, and others lounging in the farthest corners tilting back still more to increase the distance between themselves and the instructor. We have known since Perry’s (1970) study – even though it was based on a sample restricted to white males – that there are several worlds in any classroom. This is indicative of diversity.

Approaches to learning are not fixed psychological traits but responses to the environment. A student may take a surface approach in one course and a deep approach in another. This point is clouded because there is a psychological literature on learning styles which anchors them in psychological characteristics (Canogarcia & Justicia 1994; Biggs 1999; Kember et al. 2004), but that is not what is at issue here.
CONCLUSION

There is extensive evidence that certain perceptions by students lead them to surface approaches to learning in university courses and assignments. We know that a perceived lack of objectives, closed assignments, teaching methods that do not put responsibility onto students, and the perception of a heavy workload will drive many students, including good ones, to surface approaches. There is a degree of asymmetry here because the path to deep approaches to learning is less well marked. But we may be sure that if we do not try to stimulate, encourage, and support students to take deep approaches, fewer of them will do so than if we do try (Gow & Kember 1993). Finally, there is no cause-and-effect relationship between deep approaches and deep learning. There is no silver bullet to slay surface approaches to learning in economics.

Deep approaches to learning can be cultivated with reflective assignments so that students can think back on their own work (by revising an essay), or by comparing their work with that of peers by posting work on a web site. Deep approaches to learning can be legitimated by encouraging students to relate what they are learning in one course with work in previous or contemporary courses, rather than narrowing the focus to this course alone, a mistake we have both made for years. The time spent at the beginning of the semester revising concepts from previous economics study is time very well spent. Deep approaches to learning grow from encouraging students to apply what they are learning to their own lives, and to consider messy reality rather than sterile thought-experiments, but that is an argument for another day.

With luck, here at the end the opening assertion that good teaching is about learning now makes more sense than the numbing tautology it seemed at first. Good teaching is not defined by the most tender pastoral care, as valuable as pastoral care is, it is not defined by the Herculean effort to correct every error however valuable correction is, it is not defined by the unflinching assertion of a lofty academic standard however valuable standards are, it is not defined by a method worthy of Socrates however salutary questioning is. Nor is good teaching defined by the meticulous organisation of material, nor presentations of it akin to world class stars at the height of their thespian powers. These are means to the end of learning, and on occasions they are not the best means. The administrative approach to teaching is much more about teaching than it is about learning. Neuhauser (1992) put it best:

Teachers don’t teach, but students learn. Students should ask their teachers:
(1) Let me discover. Don’t tell me things. (2) Give advice in my terms.
(3) When my work is poor, tell me how to improve it.

While this may appear to imply that the entire onus is on the student, it places a huge challenge on the instructor to think about how best to motivate students to want to learn.

It may be objected that economists have known all that has been reviewed above without the need for the vocabulary of ‘surface’ and ‘deep’, and the vagaries of empirical studies. If so, then it is a happy day to see that confirmed. However, we still need to tell the world, starting with ourselves, because there does not seem to be much awareness of this in economics teaching. There is considerable progress to be made.
REFERENCES


