

Students' Approaches to Learning and Teachers' Approaches to Teaching in Higher Education

John T. E. Richardson^{*}
The Open University, UK

Research into learning and teaching in higher education over the last 25 years has provided a variety of concepts, methods, and findings that are of both theoretical interest and practical relevance. It has revealed the relationships between students' approaches to studying, their conceptions of learning, and their perceptions of their academic context. It has revealed the relationships between teachers' approaches to teaching, their conceptions of teaching, and their perceptions of the teaching environment. And it has provided a range of tools that can be exploited for developing our understanding of learning and teaching in particular contexts and for assessing and enhancing the student experience on specific courses and programs.

The last 25 years have seen considerable developments in our understanding of how students set about learning in higher education. I contributed a literature review on this topic to one of the first volumes of *Educational Psychology* (Richardson, 1983), and writing that review was a key factor in the development of my own interest in the topic. Nowadays, the larger part of my professional work is concerned with exploring and evaluating the student experience (albeit within the distinctive context of distance education), and thus I had little hesitation in identifying this as an area that deserved to be recognised. Moreover, the last 15 years have seen similar developments in our understanding of how teachers set about teaching in higher education. In this article, I shall briefly trace the parallel evolution of these two distinctive areas of research.

^{*}Institute of Educational Technology, The Open University, Walton Hall, Milton Keynes MK7 6AA, UK. Email: j.t.e.richardson@open.ac.uk

Approaches to Studying in Higher Education

Interview-based research carried out in Britain and Sweden during the 1970s had identified three predominant approaches to studying in higher education: a deep approach, based upon understanding the meaning of course materials; a surface approach, based upon memorising the course materials for the purposes of assessment; and a strategic approach, based upon obtaining the highest grades. Even so, the same student could exhibit different approaches to studying in different situations. In general, the choice of one approach to studying rather than another appeared to depend upon the content, the context, and the demands of particular tasks (Laurillard, 1979; Marton, 1976; Ramsden, 1979; for a review, see Richardson, 2000).

Various questionnaires were developed to measure approaches to studying in larger numbers of students, including the Approaches to Studying Inventory (Entwistle & Ramsden, 1983) and the Study Process Questionnaire (Biggs, 1987). Investigations using instruments of this sort confirmed that the same students may adopt different approaches, depending upon the demands of different course units (Eley, 1992), the quality of the teaching (Vermetten, Lodewijks, & Vermunt, 1999), and the nature of the assessment (Scouller, 1998). All these results suggest that one could bring about desirable approaches to studying by appropriate course design, appropriate teaching methods, or appropriate forms of assessment.

This has been confirmed in research studies comparing problem-based learning and traditional, subject-based curricula: students following problem-based curricula are more likely to adopt a deep approach to studying and are less likely to adopt a surface approach to studying (Newble & Clarke, 1986; Sadlo & Richardson, 2003). In other research, however, interventions aimed at inducing desirable approaches to studying have proved to be largely ineffective (Gibbs, 1992; Hambleton, Foster, & Richardson, 1998; Kember, Charlesworth, Davies, McKay, & Stott, 1997). Eley (1992) found considerable variation in how different students perceived the requirements of the same courses. One possibility is that the effects of contextual factors are mediated by students' perceptions of their academic environment, and therefore educational interventions will not be effective in changing students' approaches to studying unless they also serve to bring about changes in the students' perceptions.

To measure variations in students' perceptions, Ramsden (1991) devised the Course Experience Questionnaire (CEQ). This contains 30 items in five scales relating to different aspects of effective instruction: good teaching; clear goals and standards; appropriate workload; appropriate assessment; and emphasis on independence. Subsequent research has shown that the CEQ provides a reliable and valid way of monitoring the perceptions of both students and graduates across a variety of disciplines and in several different countries. It has also shown that there is an intimate relationship between students' perceptions of the quality of their courses and the approaches to studying that they adopt on those courses (Richardson, 2005).

Conceptions of Learning in Higher Education

Nevertheless, students still vary significantly in their approaches to studying, even when variations in their perceptions of their courses have been taken into account (Sadlo & Richardson, 2003). Why should students with the same perceptions of the same course adopt different approaches to studying? One possibility is that students may adopt one approach rather than another, depending upon their conceptions of learning and their conceptions of themselves as learners.

To explain why different students adopted different approaches on the same course, Marton (1976) argued that students who adopt a deep approach take an active role and see learning as something that they themselves do, whereas those who adopt a surface approach take a passive role and see learning as something that just happens to them. Nevertheless, conceptions of learning show more variety than this. Säljö (1979) asked 90 people aged between 15 and 73 at institutions of further and higher education in Sweden what “learning” meant to them. He found five different conceptions:

1. Learning as the increase of knowledge
2. Learning as memorising
3. Learning as the acquisition of facts or procedures
4. Learning as the abstraction of meaning
5. Learning as an interpretative process aimed at the understanding of reality.

(p. 19)

Van Rossum and Schenk (1984) carried out a study with 69 psychology students at a university in the Netherlands. They asked them to read a short text and then interviewed them about how they had approached the task of reading the text and how they approached their studies in general. Van Rossum and Schenk were able to classify the students into Säljö’s five conceptions of learning. Most of the students who showed Conceptions 1–3 had used a surface approach to read the text, but most of the students who showed Conceptions 4 and 5 had used a deep approach to read the text. Thus, the approaches to studying that students adopt in particular learning tasks are linked to their conceptions of learning. This provides another reason why educational interventions may be of limited effectiveness: students who hold a reproductive conception of learning through exposure to a subject-based curriculum may simply find it hard to adapt to a more student-centred curriculum (e.g., Newman, 2004).

Van Rossum and Taylor (1987) interviewed 91 arts students at a university in the Netherlands. They confirmed the existence of Säljö’s five conceptions of learning, but they found a sixth conception that they characterised as:

6. A conscious process, fuelled by personal interests and directed at obtaining harmony and happiness or changing society. (p. 19)

Van Rossum and Taylor found that men and women were equally likely to hold these various conceptions of learning, but that older students were more likely than younger students to hold the more sophisticated conceptions (Conceptions 4–6).

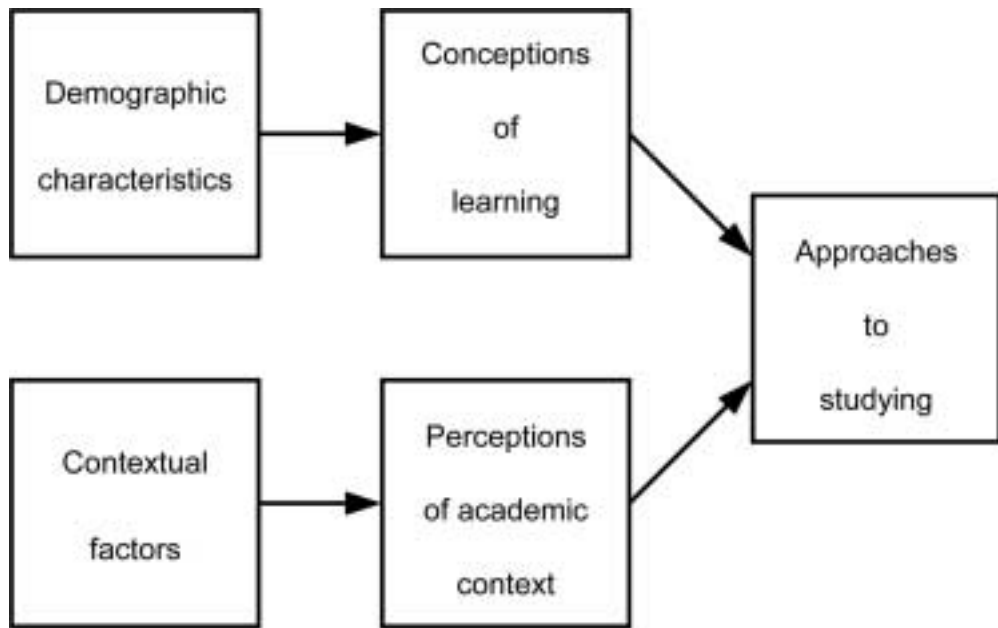


Figure 1. An integrated model of students' approaches to studying, conceptions of learning, and perceptions of their academic context

Morgan, Gibbs, and Taylor (1981) also confirmed the existence of Säljö's five conceptions of learning in 29 students who were taking courses via distance education with the Open University in the United Kingdom. Marton, Dall'Alba, and Beaty (1993) followed 10 of these students through their studies with the Open University over a period of six years. In their later years of studying, some showed the sixth conception of learning found by Van Rossum and Taylor, which Marton et al. (1993) called "Changing as a person". Marton et al. (1993) argued that the six conceptions constituted a hierarchy through which students proceeded during the course of their studies in higher education (see also Beaty, Dall'Alba, & Marton, 1997).

Figure 1 represents my attempt to integrate what we know about the relationships between students' approaches to studying, their conceptions of learning, and their perceptions of their academic context as a result of the last 25 years' research.

Approaches to Teaching in Higher Education

Research into teachers' approaches to teaching in higher education was directly modelled on the concepts, methods, and findings of research into students' approaches to studying. Trigwell and Prosser (1993) interviewed 24 staff teaching first-year courses in chemistry and physics. They identified five different approaches to teaching among these teachers that were differentiated in terms of their intentions and their teaching strategies: some approaches were teacher-focused and were aimed

at the transmission of information to the students; others were student-focused and were aimed at bringing about conceptual change in the students.

Prosser and Trigwell (1993) then developed the Approaches to Teaching Inventory (ATI) to measure approaches to teaching in large numbers of teachers. Trigwell, Prosser, and Waterhouse (1999) showed that students whose teachers adopted a student-focused approach according to their scores on the ATI were more likely to adopt a deep approach to learning and less likely to adopt a surface approach to learning than students whose teachers adopted a teacher-focused approach. In other words, a student-focused approach to teaching engenders more desirable approaches to studying in the students than does a teacher-focused approach.

Prosser and Trigwell (1997) devised the Perceptions of the Teaching Environment Inventory to measure various aspects of the perceived teaching context. They found a close relationship between teachers' perceptions of their teaching context and their approaches to teaching according to their scores on the ATI. In particular, teachers who adopted a student-focused approach were more likely than teachers who adopted a teacher-focused approach to report that their departments valued teaching, that their class sizes were not too large, and that they had control over what was taught and how it was taught.

Conceptions of Teaching in Higher Education

Even so, when they are confronted with the same teaching context, different teachers still adopt different approaches to teaching. Some researchers have ascribed this to constitutional attributes of the teachers themselves: to different styles of lecturing, styles of thinking, or personality characteristics. However, others have argued that different approaches to teaching reflect different underlying conceptions of teaching. Indeed, interview-based investigations have identified a number of different conceptions of teaching. Kember (1997) reviewed these investigations and suggested that most of them converged on five different conceptions:

1. Teaching as imparting information
2. Teaching as transmitting structured knowledge
3. Teaching as an interaction between the teacher and the student
4. Teaching as facilitating understanding on the part of the student
5. Teaching as bringing about conceptual change and intellectual development in the student.

Many researchers assume that teachers' conceptions of teaching in higher education change with experience, usually from being more teacher-centred and content-orientated to being more student-centred and learning-orientated, and that this will inevitably have benign consequences for the teachers' performance in the classroom. There is, in fact, little evidence that teachers' conceptions of teaching really do develop with increasing teaching experience (Norton, Richardson, Hartley, Newstead, & Mayes, 2005). There is also little evidence that conceptions of teaching

change as a result of formal training, although Ho (2000) found some promising results from a teaching development program that was specifically aimed at bringing about conceptual change.

Surveys of university teachers in the United States have found that beliefs about teaching vary markedly across different disciplines, and that these variations are related to the teachers' beliefs about the nature of the discipline that they are teaching. In a questionnaire-based study, Norton et al. (2005) found that conceptions of teaching varied across different disciplines, but that teachers teaching the same disciplines at different institutions had relatively similar conceptions of teaching.

Trigwell and Prosser (1996) compared approaches to teaching and conceptions of teaching in their 24 teachers of courses in first-year chemistry and physics. They found that teachers who held a particular conception of teaching tended to adopt a commensurate approach to teaching. Thus, teachers who hold a student-centred and learning-orientated conception of teaching are more likely to adopt a student-focused approach to teaching. So, if institutions of higher education want their teachers to adopt a more student-focused approach to teaching, they need to ensure that their teachers hold a commensurate conception of teaching – and a brief training course will not be sufficient to achieve this.

However, in Trigwell and Prosser's study, more than half of the teachers described approaches to teaching that were less learner-focused and more teacher-focused than would have been expected from their reported conceptions of teaching. This drift towards teacher-focused approaches to teaching and away from learner-focused approaches to teaching was confirmed in the study by Norton et al. (2005). It suggests that contextual factors tend to frustrate teachers' intended approaches to teaching (e.g., Gibbs, 1992). Senior staff who hold traditional, teacher-focused conceptions of teaching may raise issues about standards and coverage of the curriculum (Estes, 1999), or else the students themselves may conspire to induce the teachers to adopt a more didactic approach (Newman, 2004).

Figure 2 represents my attempt to integrate what we know about the relationships between teachers' approaches to teaching, their conceptions of teaching, and their perceptions of their teaching environment as a result of the last 15 years' research.

Conclusions

Research into learning and teaching in higher education over the last 25 years has provided a variety of concepts, methods, and findings that are of both theoretical interest and practical relevance. For instance, it has provided a range of tools that can be exploited for developing our understanding of learning and teaching in particular contexts as well as for assessing and enhancing the student experience on particular courses and program. Of course, the teachers constitute an important part of the learning context for the students, and the students in turn constitute an important part of the teaching environment for the teachers. Regardless of the

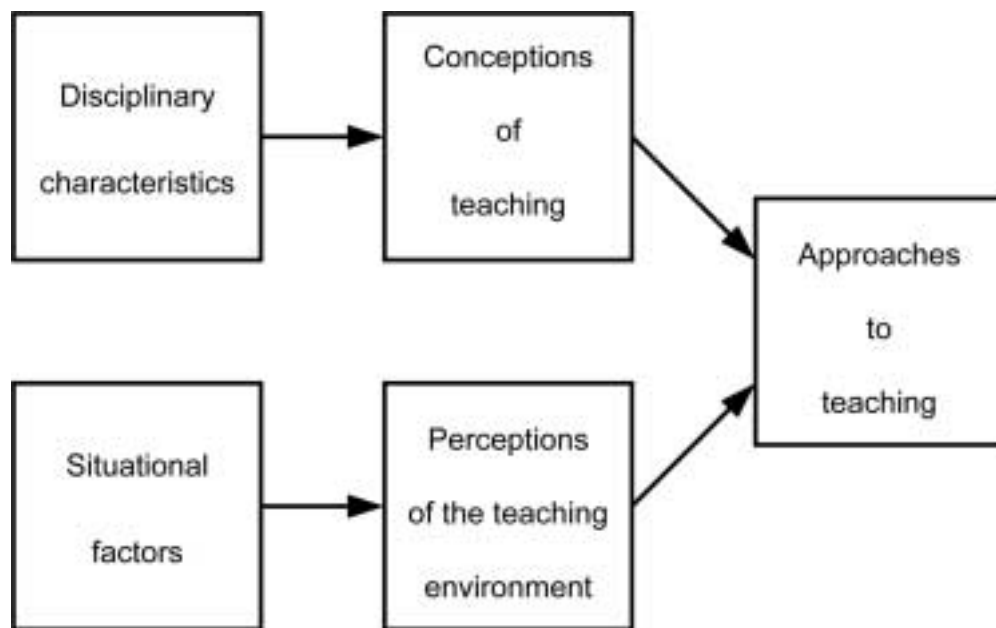


Figure 2. An integrated model of teachers' approaches to teaching, conceptions of teaching, and perceptions of the teaching environment

changes that may impact on higher education across the world during the next 25 years, future research needs to aim at illuminating the interplay between the view of student learning shown in Figure 1 and the view of teaching shown in Figure 2.

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