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Approaches to studying, conceptions of learning and learning styles in higher education

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ABSTRACT

Learning styles have been construed in different ways but traditionally have been regarded as relatively stable. In contrast, the "student approaches to learning" perspective tends to assume that approaches to studying are contextually driven. This article argues for a rapprochement between these two traditions. First, the evidence that students' perceptions of their context determine their approaches to studying is open to other interpretations. Second, students' approaches to studying depend as much on their conceptions of learning as on contextual factors. Third, students' conceptions of learning seem to be relatively stable, even across an entire degree programme. This suggests that conceptions of learning fit the traditional notion of learning styles. Future research should explore the conceptual and empirical relationships between students' learning styles and their conceptions of learning.

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1. Introduction

According to Entwistle and Peterson (2004), "Learning styles are relatively consistent preferences for adopting learning processes, irrespective of the task or problem presented" (p. 537). This is probably accurate as an account of the traditional core of the concept of learning styles, but the term has always been used in a wide variety of ways to describe differences in the way that people learn. More than 25 years ago, Curry (1983) tried to make sense of these various interpretations by grouping them under three headings: learning style as instructional preference, learning style as information-processing style and learning style as cognitive personality style. The different notions were assumed to vary in terms of the extent to which they could be directly observed and modified as a result of environmental influences, and as a metaphor to capture this, Curry likened them to progressively deeper layers of an onion. A recent survey of learning style researchers confirmed that they continue to employ a number of different definitions that vary (among other things) in whether learning styles are regarded as being relatively malleable or relatively stable (Peterson, Rayner, & Armstrong, 2009).

Over the same period, this research has been conducted in relative isolation from a different tradition that focuses on the quality of learning in higher education. This originated in the results of interview-based research that students seem to adopt different approaches to studying depending on the content, the context and the demands of particular learning tasks: a deep approach aimed at understanding the meaning of the learning materials and a surface approach aimed at being able to reproduce those materials for the purposes of assessment (Laurillard, 1979; Marton, 1976; for a review, see Richardson, 2000). Various questionnaires have been developed to measure approaches to studying in larger numbers of students (e.g., Biggs, 1987; Entwistle & Ramsden, 1983). This view has been described as the "student approaches to learning" (SAL) perspective (Biggs, 1987). Its proponents insist that an approach to studying is "a context- and content-specific way of carrying out academic tasks" (Entwistle & Peterson, 2004, p. 537) and that their instruments are measures of how students approach learning in particular situations, not of learning style (see also Biggs, 2001).

In this article, I argue that there is a need for a rapprochement between classroom-based research from the SAL perspective and laboratory-based investigations of learning styles. The argument has three parts. First, there are several problems with the position that students' perceptions of their learning context determine the approaches to studying that they adopt in that context. Second, students' approaches to studying seem to depend as much on their conceptions of learning as on contextual factors. Third, students' conceptions of learning seem to be remarkably stable, even across an entire degree programme. Indeed, they provide a different interpretation of the traditional notion of learning styles as "relatively consistent preferences for adopting learning processes." I conclude by outlining the implications of this rapprochement for future research on conceptions and styles of learning in higher education.

2. Approaches to studying and perceptions of the academic environment

One implication of the SAL perspective is that it should be possible to bring about more desirable approaches to studying in university

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students through the use of appropriate course design, appropriate teaching methods or appropriate forms of assessment. This has been confirmed in studies comparing students following curricula using problem-based learning with students following curricula using a traditional subject-based approach (Newble & Clarke, 1986; Sadlo & Richardson, 2003). In other research, however, interventions aimed at inducing desirable approaches to studying have proved relatively ineffective (Gibbs, 1992; Hambleton, Foster, & Richardson, 1998; Kember, Charlesworth, Davies, McKay, & Stott, 1997). Eley (1992) found considerable variability in how different students perceived the demands of the same courses. This suggests that the impact of contextual factors on students' approaches to studying is mediated by their perceptions of their environment. Consequently, 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). The original version consisted of 30 statements in five scales reflecting different dimensions of effective instruction. Half of the items referred to positive aspects of courses, but the other half referred to negative aspects and are scored in reverse. From 1993 onwards, an adapted version of the CEQ was administered each year to all new graduates from Australian universities. This contained only 17 of the original 30 items, but it included a sixth scale concerned with the fostering of generic skills (such as problem solving or teamwork). For research purposes, Wilson, Lizzio, and Ramsden (1997) suggested that this sixth scale should be added to the original CEQ to yield a 36-item questionnaire, and subsequent research has shown that this version of the CEQ provides a reliable and valid way of monitoring students' perceptions (Richardson, 2009).

If the impact of contextual factors on students' approaches to studying is mediated by their perceptions of their academic environment, then there should be an intimate relationship between students' perceptions of their academic context and the approaches to studying that they adopt in that context. There is now an extensive body of evidence to support this idea: in particular, students with more positive perceptions of their academic context are more likely to adopt a deep approach and are less likely to adopt a surface approach. Richardson (2007b) summarised five studies which indicated that students' scores on the CEQ shared about half their variance with their scores on questionnaires concerning their approaches to studying.

Nevertheless, there are at least two major problems with this evidence. One is that it is wholly correlational in nature, and strictly speaking, it says nothing about either the nature or the direction of the underlying causal relationships. In particular, one cannot conclude that variations in students' perceptions are causally responsible for variations in their approaches to studying. Richardson (2006) applied path analysis to data from two different studies, and he concluded that the relationship between students' perceptions and approaches to studying was bidirectional: variations in certain aspects of the students' perceptions (in particular, the appropriateness of the assessment, the appropriateness of the workload and the amount of student choice) seemed to give rise to variations in their approaches to studying, but equally, variations in certain aspects of their approaches to studying (in particular, their use of a surface approach) seemed to give rise to variations in their perceptions. However, another possibility is that other variables give rise to variations in *both* students' perceptions *and* their approaches to studying (for example, variations in their conceptions of learning).

A second problem is the possibility that methodological artefacts are responsible for the apparent association between students' perceptions and their approaches to studying. In particular, the association might simply arise from the fact that the same student will fill out two different questionnaires in the same way. One example is an acquiescent response style, the tendency systematically to agree with questionnaires rather than disagree with them. Some researchers attempt to control for this kind of response bias by including equal numbers of positively and negatively scored items, and this seems to have been Ramsden's (1991) intention when he devised the original CEQ. However, the negatively scored items are not distributed equally across the different scales of the CEQ, and the 36-item version of the CEQ advocated by Wilson et al. (1997) contains more positively scored items than negatively scored items. The questionnaires that have been designed to measure approaches to studying all contain only positively scored items.

Another example is an extreme response style, the tendency systematically to use the extreme response categories when completing a questionnaire rather than those in the middle of the response scale. It is more difficult to control for this kind of response bias: one possibility would be to score the responses simply as “agree” versus “disagree.” In the way they are normally used, neither the CEQ nor questionnaires on approaches to studying control for extreme response style. Ray (1983) showed that acquiescent response style was relatively stable across different attitudinal questionnaires, and the same appears to be to be true of extreme response style (Richardson, 2010). Variations in response style might therefore be responsible *both* for variations in students' scores on the CEQ *and* for variations in their approaches to studying, and there might in principle be no direct relationship between their perceptions and their approaches. Clearly, researchers in the SAL tradition need to be more careful about controlling for such artefacts in their future investigations.

3. Approaches to studying and conceptions of learning

Even if one accepts the proposition that half of the variation in individual students' approaches to studying is caused by variation in their perceptions of the academic context, this raises the question of what causes the other half. Two investigations have indeed found that students show variations in their approaches to studying, even when variations in their perceptions of their academic context have been statistically controlled. The implication is that students vary in their approaches to studying in ways which are not influenced by the academic context and which are therefore consistent across different contexts.

The first investigation was reported by Sadlo and Richardson (2003). They found that students following problem-based curricula were more likely to adopt an orientation to the meaning of their course materials (i.e., a deep approach) than were students following subject-based curricula. The students who were following problem-based curricula also reported more positive perceptions of their programmes of study in their responses to the CEQ. However, the students who were following problem-based curricula were still more likely to adopt a meaning orientation than were the students who were following subject-based curricula, even when variations in their scores on the CEQ had been statistically controlled.

The second investigation was by Richardson, Barnes, and Fleming (2004). They found that deaf students were more likely to show an orientation to reproducing their course materials (i.e., a surface approach) than were hearing students. Both groups were also asked to complete the CEQ, and the deaf students reported perceptions that were at least as positive as those of the hearing students. Richardson (2008) subsequently found that the deaf students were still more likely to show a reproducing orientation than were the hearing students, even when variations in their perceptions had been statistically controlled. In both investigations, then, students varied in their approaches to studying even when they had been statistically matched in their perceptions of their academic context. Why should students with the same perceptions of their programmes exhibit different approaches to studying?

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