Chapter 1.8
What is an Authentic Learning Environment?

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ABSTRACT

Recent research and learning theory provides a wealth of thought, ideas and strategies to inform the design and implementation of learner-centered, realistic and effective learning environments. This chapter proposes guidelines for designing authentic learning environments for higher education that can be applied across a range of disciplines and in a variety of modes. Characteristics of the approach are explored in depth, and the chapters of the book are introduced as examples of authentic learning environments in diverse subject areas and contexts. The chapter provides a practical framework for teachers wishing to break away from traditional, teacher-centered approaches in higher education, and who are willing to create learning environments where students are motivated to learn in rich, relevant and real-world contexts.

TOWARD AUTHENTICITY IN HIGHER EDUCATION

Take a walk around most university campuses and observe what you see in the way of adult teaching and learning. If you are fortunate, you will find students engaged in motivating and challenging activities that require collaboration and support. The tasks the students do reflect the tasks seen in real professions and workplaces, and the problems they solve are complex and sustained, requiring intensive effort.

For most students at university today, the reality is very different. Large lecture theatres, centre-staged with discipline experts, continue to transmit theoretical knowledge in bite-sized

chunks for passive learners to receive and consume. Collaboration is not encouraged or required. If it occurs at all, it is sought subversively among students away from the formality of the lecture halls.

So, why is the second scenario the more probable one to encounter?

The approach taken by many teachers in universities today is simply a result of the way they were taught. They are perpetuating a tradition of formal university teaching that has ignored the substantial insights gained from more recent theory and research into the way people learn. Typically, university education has been a place to learn theoretical knowledge devoid of context. Essentially, for students, this has meant that their teachers transmit the facts and skills that they are required to absorb and regurgitate on exams. Textbooks and lecture notes are the main resources for study, with the practice of "cramming" for exams a common learning strategy. Retention and transfer of knowledge was assumed but rarely assessed. For many students a "surface" approach to learning (Marton & Säljö, 1976) assured success. It is not surprising that a growing proportion of graduates now choose to follow their university courses with practical courses at vocationally oriented institutions (Golding & Vallence, 1999).

In the wider community it has become increasingly clear to employers of university graduates and governments that fund universities that university learning outcomes are lacking, and no longer meet the needs of a dynamic and changing workforce. What employers, governments and nations require are graduates that display attributes necessary for knowledge building communities: graduates who can create, innovate, and communicate in their chosen profession.

If traditional approaches to university education do not result in appropriate learning outcomes, what then are the teaching and learning approaches that universities should adopt? The growing influence of constructivism as a philosophical approach

to learning, and a wide range of research studies and papers investigating alternative models of teaching and learning over the last decade, have prompted many teachers in universities to implement more "authentic" teaching and learning environments. The challenge they have faced is to align university teaching and learning more substantially with the way learning is achieved in real-life settings, and to base instructional methods on more authentic approaches, such as situated learning (Brown, Collins, & Duguid, 1989; Collins, Brown, & Newman, 1989; McLellan, 1996; Cobb & Bowers, 1999).

But what does it mean to be authentic? Some have argued that only real-problem contexts should be presented to ensure authenticity. For example, Savery and Duffy (1996) nominated two guidelines in developing problem-based scenarios for teaching and learning: firstly, that the problems must raise the concepts and principles relevant to the content domain, and secondly that the problems must be *real*. However, other research into the realism of learning environments has indicated that maximum fidelity, either in real situations or simulations, does not necessarily lead to maximum effectiveness in learning, particularly for novice learners (Alessi, 1988). Others argue, however, that in designing learning environments it is impossible to design truly "authentic" learning experiences. Petraglia (1998a, 1998b) contended that authenticity can be neither "predetermined nor preordained," and such attempts often result in little more than "pre-authentication," that is, "the attempt to make learning materials and environments correspond to the real world prior to the learner's interaction with them" (p. 53). Barab, Squire and Dueber (2000) have also argued that authenticity occurs "not in the learner, the task, or the environment, but in the dynamic interactions among these various components … authenticity is manifest in the flow itself, and is not an objective feature of any one component in isolation" (p. 38). Smith (1987) in his review of research related to simulations in

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