Chapter VI

Problem-Based Learning in Information Systems Analysis and Design

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ABSTRACT

The critical question challenging information systems educators in the new millennium is how university information systems courses can add enough value to students that they will choose to study in higher education for a full degree rather than opt for a one-year certification course leading to similar economic and status outcomes in the short term. This chapter assesses the feasibility and desirability of achieving a better match between delivery of information systems education and the professional workplace through Problem-Based Learning (PBL). A brief introduction to cognitive and learning principles is followed by a discussion of PBL and its potential to help to achieve a better fit between student aspirations and employer requirements. The chapter concludes with an illustration of the use of PBL in a systems analysis and design course.

INTRODUCTION

As the 21st century gains momentum, university information systems departments face increasing competition from IT industry vendors in the education of new professional entrants. Several major vendors have developed "certification" schemes in the past five years, largely in response to a shortage of people trained in the application and use of their products (NOIE, 1998, 1999; Orr & von Hellens, 2000). They have concluded that the growth of their firms and the sales of their products are severely limited by a worldwide shortage of properly trained technical staff.

At the same time, vendors such as Microsoft, Oracle and SAP have enthusiastically worked to initiate and support "strategic partnerships" with university information systems and computing departments. The vendors would rather *not* be in the university education business. They acknowledge that universities do that better than they do. They would prefer to concentrate their efforts and resources in their core (and more lucrative) businesses.

Universities may have begun to lose their short-lived and always shaky monopoly on professional entry into information systems careers. A growing number of aspiring young IT professionals are selecting certification by software vendors over university study as a means of preparation and career entry. After one year of focused technical study, followed by an inexpensive, independent examination, many newly certified vendor-trained "solution developers," "systems administrators" and "Web site developers" command salaries and working conditions equal to or, often, superior to new information systems graduates.

Prins Ralston, a recent president of the Australian Computer Society, commented on this issue in the media (Ralston, 1999), stating that:

"One of the things that has come out of the IT skills crisis is the need for our universities to produce the best students possible, young people equipped with the knowledge, technical and social skills to move straight into vacant positions within industry and commerce."

Turner and Lowry (1999) address the issue of reconciling the career aspirations of business information systems graduates with the intellectual skills and personal attributes desired of them by employers. Finding some conflict between the interests of these stakeholders, the authors went on to identify factors that motivate intending information systems graduates seeking initial employment (Turner and Lowry, 2000, 2001). The crucial issue for information systems educators is to achieve a "correct" balance between these sometimes conflicting interests.

Students commonly represent themselves as primarily concerned about securing a job following graduation and with subsequent career advancement.

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