A Study of Web-Based Instruction

A recently published study investigates web-based learning, and the findings should help inform decisions about this mode of delivery. The study basically found that

“…performance outcomes in the VLE [virtual learning environment] and the traditional learning environment [classroom instruction] are similar. Learners in the VLE reported higher computer self-efficacy and lower satisfaction with the learning experience…”

Some other provocative findings that will merit further research emerged in their analysis. Students in the VLE are likely to need a novel set of skills (time-management, self-monitoring of personal progress, communication by electronic text). On the other hand, instructors in the VLE are likely to experience “considerable time and energy burden.” In their article, the researchers also discuss other relevant issues behind the effectiveness of VLE, such as the assumption of a particular learning model (that is, the objectivist model or the constructivist model).

The study’s research method was fairly rigorous. The study used “a longitudinal field experiment adopting a two group repeated measure design varying the learning environment (web-based, traditional).” The experiment involved 146 undergraduate students of a 4-year institution in an introductory course in management information systems for business students (an introduction to computers and Microsoft Office).

This study has relevance for community colleges because many of the VLE issues that four-year institutions face also confront the two-year colleges. In some respects, the community colleges may face a far greater challenge, considering the potential effects of different levels of student engagement and preparation that tend to occur in the two-year environment.

The researchers, Gabriele Piccoli (Cornell University), Rami Ahmad (Louisiana State University), and Blake Ives (University of Houston), describe the study and discuss its implications in “Web-Based Virtual Learning Environments: A Research Framework and a Preliminary Assessment of Effectiveness in Basic IT Skills Training.” This article appears in the December 2001 issue (Volume 25, No.4, pages 401-426) of MIS Quarterly. The article also includes an extensive list of references on the subject, adding further to its usefulness for the analysis and planning of web-based learning.

Additional abstracts of research can be viewed at our website at:

[Abstract by Willard Hom, Director of Research & Planning, System Office, California Community Colleges, 12/31/2001]