Computer Self-Efficacy, Computer Anxiety, and Attitudes toward the Internet: A Study among Undergraduates in Unimas

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ABSTRACT

Eighty-one female and sixty-seven male undergraduates at a Malaysian university, from seven faculties and a Center for Language Studies completed a Computer Self-Efficacy Scale, Computer Anxiety Scale, and an Attitudes toward the Internet Scale and give information about their use of the Internet. This survey research investigated undergraduates' computer anxiety, computer self-efficacy, and reported use of and attitudes toward the Internet. This study also examined differences in computer anxiety, computer self-efficacy, attitudes toward the Internet and reported use of the Internet for undergraduates with different demographic variables. The findings suggest that the undergraduates had moderate computer anxiousness, medium attitudes toward the Internet, and high computer self-efficacy and used the Internet extensively for educational purposes such as doing research, downloading electronic resources and e-mail communications. This study challenges the long perceived male bias in the computer environment and supports recent studies that have identified greater gender equivalence in interest, use, and skills levels. However, there were differences in undergraduates' Internet usage levels based on the discipline of study. Furthermore, higher levels of Internet usage did not necessarily translate into better computer self-efficacy among the undergraduates. A more important factor in determining computer self-efficacy could be the discipline of study and undergraduates studying computer related disciplines appeared to have higher self-efficacy towards computers and the Internet. Undergraduates who used the Internet more often may not necessarily feel more comfortable using them. Possibly, other factors such as the types of application used, the purpose for using, and individual satisfaction could also influence computer self-efficacy and computer anxiety. However, although Internet usage levels may not have any impact on computer self-efficacy, higher usage of the Internet does seem to decrease the levels of computer anxiety among the undergraduates. Undergraduates with lower computer anxiousness demonstrated more positive attitudes toward the Internet in this study.

Keywords

Computer self-efficacy, Computer anxiety, Internet attitudes, Internet experience

Introduction

The teaching and learning process has been altered by the convergence of a variety of technological, instructional, and pedagogical developments in recent times (Bonk & King, 1998; Marina, 2001). Technology is challenging the boundaries of the educational structures that have traditionally facilitated learning. Recent advances in computer technology and the diffusion of personal computers, productivity software, multimedia, and network resources over the last decade, heralded the development and implementation of new and innovative teaching strategies. Educators who advocate technology integration in the learning process believe it will improve learning and better prepare students to effectively participate in the 21st century workplace (Butzin, 2000; Hopson, Simms, & Knezek, 2002; Reiser, 2001).

The Campus Computing Project's survey shows that the computer technologies have become core components of the campus environment and the college experience (Green, 1998) while a survey of first-year students by Sax, Astin, Korn, and Mahoney (1998) indicated that computer network use has become a way of life for the majority of the students. They use computers around the clock to accomplish a wide range of academic tasks (Green, 1998; Romiszowski & Mason, 1996). Many prepare course assignments, make study notes, tutor themselves with specialized multimedia, and process data for research projects. Most exchange e-mails with faculty, peers, and remote experts. They keep up-to-date in their fields on the Internet, accessing newsgroups, bulletin boards, listservs, and web sites posted by professional organizations. Most access library catalogs, bibliographic databases, and other academic resources in text, graphics, and imagery on the World Wide Web (Green, 1998).

Furthermore, "information technology literacy" has become the centerpiece of "professional literacy" and "workforce readiness" (Resnick & Wirt, 1996). Workforce readiness includes communication skills, competencies in emerging technologies, and critical thinking skills. Given the certainty of technological change,