Preservice Teachers’ Computer Use in Single Computer Training Courses; Relationships and Predictions

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ABSTRACT

Single computer courses offered at colleges of education are expected to provide preservice teachers with the skills and expertise needed to adopt computer technology in their future classrooms. However, preservice teachers still find difficulty adopting such technology. This research paper investigated relationships among preservice teachers’ self-efficacy, control of learning beliefs, value-related beliefs—extrinsic goal orientation, extrinsic goal orientation, and task value—prior computer technology experience, frequency of computer use for general purposes, and computer use in single computer courses. Participants in the study were 227 preservice teachers enrolled in a one year bachelor’s of education program. Regression analyses yielded significant results about the frequency of computer use for general purposes and intrinsic goal orientation. Self-efficacy and prior computer technology experience were significantly correlated with computer use in single computer courses. The findings send a clear message about the necessity to consider preservice teachers’ beliefs, personal use of computer technology, and prior computer technology experience when designing computer courses.

Keywords: Computer Use, Experience, Learning Beliefs, Self-Efficacy, Single Computer Courses, Value Beliefs

INTRODUCTION

As adopting computer technology in the classrooms is basic to enhancing students’ learning (Kim & Hannafin, 2011), colleges of education in many countries around the world are providing computer technology training to preservice teachers (Ronald, 2010). Such training is mainly provided through single computer training courses that teach computer skills and ways of integrating those skills. Unfortunately, many teachers are still hesitant or not prepared to incorporate computer technology into education (Gill & Dalgarno, 2008; Lei, 2009; Pitler, 2006; Project Tomorrow, 2010) simply because computer training provided to them is neither adequate (Angeli & Valanides, 2008) nor helpful (Singer & Maher, 2007). Above all, digital
technology has never been a basic part of the educational process worldwide (Warschauer & Grimes, 2008), though such technology has provided learners with unlimited range of resources which has helped them master new knowledge faster than any other media tools (Ferdig & Boyer, 2007; Stevenson, 2008).

Understanding the processes and factors that govern and influence preservice teachers’ computer use in single computer training courses seems essential particularly that training providing in such courses influences not only preservice teachers’ potential to use computer technology in educational contexts (Franklin, 2007), but also their attitudes, self-efficacy, as well as the frequency of computer use (e.g. Milbrath & Kinzie, 2000). Investigating computer use in single computer training courses will also help educators to develop technology courses that meet the challenge of preparing competent and computer-literate teachers.

This study is unique because the literature showed that no research study has ever investigated factors that affect computer technology use in single computer training courses offered at colleges of education especially that the main focus of such courses is providing preservice teachers with the skills, techniques, and the practical experience needed to implement computer technology in educational contexts. This study investigated a combination of individual factors that stand at the core of human behavior, factors that have been either studied in isolation or undermined by researchers in the field. Among these factors beliefs related to computer technology use are dominant as those beliefs do make a difference (Yeung, Lim, Tay, Lam-Chiang, & Hui 2012).

LITERATURE REVIEW

Research in the field has mainly focused either on preservice teachers’ intentions to use computer technology in their future classrooms (e.g., (Ertmer, 2005; Hermans, et al. 2008; Kim, Jain, Westhoff, & Rezabek, 2008; Niederhauser & Perkmen, 2008), technology use during practicum (Sang et al., 2010) or attitudes and beliefs related to computer courses ((Teo, 2009; Wang, Ertmer & Newby, 2004). To the knowledge of the researcher, investigating computer use in computer training courses was either undermined or ignored.

Although single computer training courses have failed to raise preservice teachers to the level of becoming confident technology users, these courses still provide a good opportunity to learn how to implement computer technology in educational contexts (Franklin, 2007). Even prior research in the field (e.g. Milbrath & Kinzie, 2000) has emphasized the significant role played by computer training courses. Milbrath and Kinzie found that computer training had direct influence on teachers’ attitudes, self-efficacy, as well as frequency of computer use among preservice teachers enrolled in a five-year education program at the University of Virginia. Such results corroborate the findings of earlier research (Savenye, 1992) which revealed that enrollment in computer training courses improved students’ attitudes towards the use of technology in their future classrooms. Students at the end of such courses showed more liking of computers, had less anxiety about using computers, and had more confidence in their ability to learn about and to use computers in their future classrooms. Similarly researchers (e.g. Vanvossen, 2001) revealed that lack of effective computer training was a major barrier to using computer technology among inservice teachers.

As the literature has revealed that computer training courses are a significant factor that determines preservice teachers’ computer use in educational contexts, it would be interesting to find ways that can enhance computer use in those courses. The more effective computer training is, the greater the possibility is that teachers will use computer technology more effectively in these courses as well as in their future classrooms.
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