Educational technology and the impact on student achievement

Business

" Increasingly central to the role of the new professional teacher is the ability to employ technology to improve student learning and to employ technology in the many facets of professional work. This will require new understandings, new approaches, new roles, new forms of professional growth, and new attitudes. NCATe (1997).

The National Council for Accreditation of Teacher education (NCATe, 1997) is asking teacher education programs to ensure that their graduates are technology literate in order to increase use of technology in K-12 schools. While this is an admirable goal, it is not without its challenges and it raises a number of questions for everyone involved in teacher education. For example, how can we tell if our graduate (or undergraduate) programs are adequately preparing teachers for technology integration? What does it mean to be technologically competent or proficient? What is the relationship between knowledge, skill, and dispositions or attitudes towards technology? How do these concepts relate to technology use or integration in classroom settings? How can we assess our students (either experienced or future teachers) in these areas in ways that help us improve our programs and meet the goals set forth for us by NCATe? The International Society for Technology in education (ISTe) has established a set of foundation standards that describe what all teachers should know and be able to do with technology –that is, the knowledge and skills supposedly required to successfully integrate it into teaching practices. (1) These standards have evolved over the years from a laundry list of everything anyone could possibly know about computers to knowledge and skills that are specific to teaching, learning, and professional development. The newest standards, the

National educational Technology Standards for Teachers (NeTST), embody many of the features of prior standards (ISTe, 2000).

Together, these standards provide schools of education with targets for improving their programs and goals to work towards in meeting the NCATe objectives. exactly how teacher education programs accomplish these goals and demonstrate that their graduates are meeting these standards is a critical question. Teachers who use technology in the classroom find ways to use it as a pedagogical tool that supports their beliefs about teaching and learning (2). But for teachers to use technology in support of their teaching, and to see it as a pedagogically useful tool, they must be confident and competent with the technology they are planning to use. In this sense, basic computer competency is a " stepping stone" towards integration and a necessary, but insufficient, stage in the growth and development of technology using teachers. In an effort to provide evidence that teachers are in fact growing in confidence and competence, to evaluate a particular program, and look for ways to improve it, and also to investigate the connection between knowledge, skill, and dispositions, a simple self-assessment instrument was developed and tested on a group of graduate teacher education students.

At the time this study was initiated, there were no published educational technology self-assessments widely available so one was created that reflected aspects of the NeTST standards for basic competency. This study reports what was learned, drawing on the literature, and future plans for extending this work, with a focus on the process of assessing student

competency in the area of technology and not creating or recommending a specific instrument to be used to accurately measure this. It is important to understand as well that these are initial steps in developing instruments and processes to provide this kind of evidence, and that much more work has been done and is still needed to develop and implement a more comprehensive set of assessments of teacher learning in these areas. ...