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Position Paper

Training in Use of Technology Tools Promotes Learning in Distance Education Courses

Technology tools have changed the face of distance education as we know it. New technologies are emerging and old technologies are being revitalized to offer new learning opportunities. It is my belief that in order to fully appreciate the opportunities these technology tools offer, both educators and students must be trained in the use of the tools. I also believe students who do not know how to properly use the technology tools offered to them are not as able to reach the higher levels of thinking included in the cognitive domain of Bloom's Taxonomy. I define training as being given at least one to two hours of learning about a technology tool before being expected to use it on one’s own. Depending on the tool, this amount of time could be shortened, as long as the person learning about the tool has the opportunity to question someone who has used the tool before.

 In the past, distance education has been as low tech as correspondence classes. As distance education courses have evolved, technology has become a major part of these classes. Technology was introduced to distance education starting as early as the early 1900’s (Jefferies, n.d.). The introduction of technology into distance education began with slides and instructional television (Jefferies, n.d.). As the use of technology in the traditional classroom has increased, so has the use of technology tools in distance education. In an article, Keown (2007) states:

Online courses and online delivery of training have become widely accepted in the educational and training realm… In an online class, students are encouraged to use technology and to cross-talk and share their thoughts and research information that pertains to the subject matter.

 In the article, *Creative Wings in Distance Education Technologies*, Prem Sharan Sah (n.d) describes the ways distance education takes place. The technology tools in distance learning are described using time and place. Distance learning tools are described as synchronous or asynchronous depending upon whether the students and the teacher are communicating about the content in real time or not. Location is classified by whether the students and teacher are in the same place while learning is taking place or not. For example, a lecture group is considered a synchronous class with students and the teacher in the same location. A discussion board is considered an asynchronous class with students and the teacher in different locations.

 The tools that are emerging for use in distance education courses may be completely new or tools that have been released before and are now being updated. I believe that it is important that students understand the tools they are using and how to use them. Students and teachers who do not understand the technology tools they are using may allow their prior perceptions of the tools to influence their use and will not make the most of the potential of the tool. I believe students who do not understand how to use the tools in the course will not be able to understand the material presented as well and will not be able to process the given information at higher levels of thinking.

 I feel training for use of technology tools is important so that teachers are able to integrate technologies effectively. In the article, “Online College Education for Computer-Savvy Students: A Study of Perceptions and Needs,” the authors state, “just like everything else, there is a learning curve for online education. Administrators, faculty members and students need time and practice with new technologies in education.” (Kaifi, Mujtaba, & Williams, 2009) According to Menchaca and Bekele, “The more experienced the students and instructors were, the better their success” (as cited in Kaifi et al, 2009). I agree with this statement greatly. I believe the more opportunity to practice a skill, including practicing technology tools, the more educators and students will benefit from the tool.

In a study, Kaifi et al (2009) looked at the “feasibility of online education for modern students in a developed nation.” The study involved a survey of undergrad students asking about their views, needs, and wants in online classes. The authors also looked at variables that have an effect on student success in distance education. One of the questions from the survey shows that, out of 203 students, when asked what their biggest concerns were, thirty-eight students were worried about not having enough support and forty-six students were worried about not learning as much in the class. The study also showed that younger students tended to be more proficient with computer and internet usage (Kaifi et al, 2009). I feel this study supports my belief that training in technology use is important because out of all the students surveyed, eighty-four had concerns that could be addressed through training about how to use the tools in the class. Students who were worried about not having enough support would likely feel more support if shown a short demonstration of tools to be used and students who were worried about not learning as much would have the opportunity to see how to best use the tools to learn the material. The study also highlighted another reason I feel training is important; students in distance education classes are often individuals who are returning to school after having had a career or other non-traditional students. If computer and internet proficiency are related to age and younger students are more proficient in both areas, then training in technology tools is important to maximize success in distance education.

An article in *Distance Education* detailing a literature analysis supports my opinion that training in technology tools is important. Menchaca and Bekele (2008) analyzed prior studies on distance education. Among the findings in the study were what they considered to be five main success factors in online learning. One of these success factors was technology-related factors (Menchaca & Bekele, 2008). The authors’ analysis showed that the students who had access to many technologies in many contexts were more likely to be successful (Menchaca & Bekele, 2008). Another success factor the authors identified was user characteristics. Several studies analyzed showed that experience with technology and learner confidence had an effect on learner success in online learning (Menchaca & Bekele, 2008). Support services were also identified as a factor in success. Specific support services mentioned included help desks, technical training and educator professional development (Menchaca & Bekele, 2008). This article outlines several things successful distance education students have in common: access to multiple technologies, experience and confidence, and support. These things could be provided through training for both students and educators.

An article which looks at the most prominent issues in distance education includes information which supports the need for training for instructors in technology tools. Mapuva (2009) states that three characteristics of the educator play a part in how successful an online class is: attitude toward technology, teaching style, and level of control of technology. Mapuva (2009) also states that, because the educator is responsible for how technology is incorporated in the class, “it becomes necessary to continuously equip them with more knowledge through training and refresher courses as a way of creating confidence in them.” In an article in Education Week, Manzo (2008) states, “letting teachers see how technology tools can be used to generate practical activities for students can win over even reluctant colleagues and spark them to update their instruction.” While this article was meant for teachers in the regular classroom, I believe this is true in distance education as well. Further, Mapuva (2009) reported that some professors are hesitant about incorporating new technologies into classes because of their own lack of understanding. I believe these are both good points. The educator has control of how much technology is involved in the class, however, if they do not have a solid grasp of available technologies, they are less likely to use them or to encourage their use by students. I believe that because the educator has control of the technology expected in the class, they also have control of the students’ perceptions of the technology; if the instructor gives off a feeling of control of the technology, the students will feel more in control of their learning via technology.

Another reason I feel training in the use of technology tools is important for educators is that perceptions people have of technology colors their use. In my experience, if I feel a certain technology is hampering my ability to get my work done, then I am less likely to use it. In an article, Zhao, Alexander, Perreault, Waldman, and Truell (2009) describe a study of faculty and student use and perceptions of technologies. The faculty reported that the top two technologies they used in their classes were internet notes and assignments and email (Zhao et al, 2009). The faculty also reported feeling that these items increased their productivity (Zhao et al, 2009). Email is a good example of something many people have experience with. This prior experience allows faculty and students to feel comfortable using it. I feel training in new tools would allow individuals to gain experience quicker and allow for technology tools to be integrated into the curriculum quicker.

The second main reason I feel training in technology tools is important is because I feel knowing how to properly use a technology will allow for higher levels of thinking. Many state and national standards are based upon Bloom’s Taxonomy. This classification system is based on the idea that human thinking can be divided into six categories: knowledge, comprehension, application, analysis, synthesis, and evaluation (Bloom’s Taxonomy, n.d.). The knowledge category can be described as remembering information in order to answer factual questions. Comprehension thinking skills are defined as being able to understand the meaning of information (Bloom’s Taxonomy, n.d.). The application thinking skills are shown by using prior knowledge in a new situation, for example, if a student can read a clock after learning to tell time on a worksheet, they can apply the skill. Analysis thinking skills are shown when an individual can divide information into parts and look at how it is organized (Bloom’s Taxonomy, n.d.). Synthesis thinking is shown when an individual can use prior knowledge to make something new. Evaluation is the highest level of thinking according to Bloom’s Taxonomy. These thinking skills are shown when a person can judge an item when there is no right or wrong answer (Bloom’s Taxonomy, n.d.).

In an article, Keown (2007) states that a significant problem with some online classes is:

Instructors post text for the students to read and then answer questions and then read some more. This sets the stage for a very boring and uneventful learning experience. Most times, this type of course becomes nothing but a glorified electronic textbook. Students are not challenged or engaged in the learning process.

I agree that this is a problem; when educators simply ask students in distance classes to read material and retell it, they are not engaged with the material. If students are not engaged with the material, they will not reach the higher levels of thinking that require them to take what they know and combine it with what they are learning to construct a meaning that is their own. I feel that the construction of a personal meaning of content is the most important part of a class, whether it be a distance class or in a regular classroom. In the regular classroom, students are engaged in learning through class discussions and hands-on activities among other things. In the distance education realm, while most students know how to email others and post on discussion boards, many do not know how to replace hands-on activities to engage with the material in their own ways. New technologies exist which can replace some of the hands-on activities; simulations, interactive models, and virtual environments among other things would allow students to interact with the content, given that they know how to find and use these tools. I feel training in a variety of technologies would allow students to find new ways to relate to course material or, at the very least, encourage students to discover new technologies.

Technology is growing at an amazing rate. Teachers are hearing of new things, but unless they have the opportunity to learn about how to use these tools, neither the teachers nor their students will benefit from them. For example, I was given the opportunity to learn about Thinkfinity as part of a class. As a result of my training with this website, I felt comfortable sharing this tool with my cooperating teacher during my student teaching. Word of mouth can help teachers learn about new technologies, however, as in this example, simple word of mouth isn’t nearly as effective as actually showing a person how to use a tool. While my cooperating teacher now knows about Thinkfinity and began using it right away, she does not know all the things it can do. Training, in this case, would give this teacher the opportunity to discover more without needing to ‘guess and test.’ Heather Sullivan, a teacher in New Jersey states, “On my own, it was very difficult getting started using technology in my classroom, but when I started reaching out to other people, it wasn't so overwhelming (as cited in Manzo, 2008).”

As technology grows, so do the possibilities for its use. Thirty to forty years ago when my parents were in high school, they never would have imagined the way my education would be different from theirs. My mom learned to type using a type writer; I learned to type using a computer. My dad learned math with a teacher showing him what to do and pencil and paper; I learned using a software program which allowed me to look at a textbook online without ever seeing my teacher. If I hadn’t been shown how to do these things, I would have never been able to succeed in my classes. I believe that the training I received allowed me to make the most of the experience I was given. I believe training in the use of technology tools would allow more students to succeed in distance education classes and to relate to course material with higher levels of thinking. I believe training in technology tools could give the educator new ways of relating material to their students, especially in distance education, and give the student new ways of looking at the world.

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