Best Practices and Value of Technology Use in the Teaching and Learning Environment

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ABSTRACT

Technology tools are valuable in the teaching and learning environment. Technology is an invaluable resource to college professors and students in planning, organizing, implementing, monitoring and evaluating educationally related tasks. There are many technology devices to enhance the teaching and learning experience. Today, a large number of professors and students use the college provided computer devices. However, professors and students use their own lap top computer, smartphone, tablet and e-reader in classes for instruction, recording notes, messaging and accessing needed information from the internet. During 2012, over 86 percents of students have access to a lap top computer for educational needs in the classroom according to the Educational Center for Applied Research. Many college professors are using video technology to enhance instruction, blended learning, re-teachable moment opportunities and assessing students' academic progress. The purpose of this study is to discuss how technology tools are used to enhance planning for instruction, benefits of technology, technology tools used by students and small businesses, and professional development training.

Keywords: *College Professors, Students, Teaching and Learning, Technology Tools, Access.*

INTRODUCTION

Most college professors are using some aspect of technology in facilitating teaching and learning in the educational environment. The objective is to share how technology is in use in all walks of life academically, socially and culturally (Lowerison, Sclater, Schmid & Abrami, 2006). Technology is simply a tool that can be used to enhance or improve job performance in a proficient manner, because less time is needed to complete a task. Colleges and universities must prepare students for real-world experiences with the application of knowledge for work, business and the economy. Therefore, training and teaching institutions must be current in offering relevant experiences for students to be competitive globally. Colleges and universities have an obligation to educate students for predicted careers of the future, global expectations and not live in the past (Valdez, McNabb, Foertsch, Anderson, Hawkes & Raack 1999). Technology is constantly changing.   However, these are some of the ways that professors may use technology for instruction: planning and implementing lessons, assessing students' performance, teaching and supplementing a lesson, emphasizing writing and research skills, creating a website for student recruitment to specific programs of study and online learning experiences for students. College professors can teach students how to navigate the computer and use multimedia for project presentations by group teams and individuals. Most colleges and

universities are making every effort to ensure that the total learning environment is technology friendly and that professors and students have access to computer use throughout the campus environment. Professors and students are using technology devices in a variety of ways in the classroom setting. For example: Professor may have students to use webquest to determine what typical artifacts or visual graphics that could likely be found in a green business office or educational environment today. Another example could be an assignment for students in a business administration entrepreneurship course to determine how students could use social media such as facebook and twitter to market their own business products or services (Apperson, Laws & Scepansky 2006).

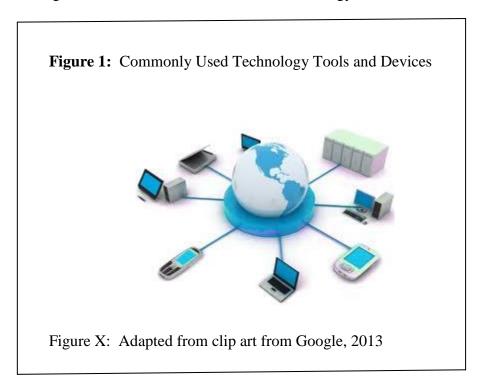## TECHNOLOGY TOOLS TO ENHANCE PLANNING FOR INSTRUCTION

There are a number of technology tools or devices that are used in universities and colleges today to enhance lesson planning by college professors. There are many benefits to having these visualization tools too, to enhance the lesson plan agenda and other aspects of the teaching and learning environment. Technology can be used in the arts and the sciences (Viegas, Wattenberg, McKeon, Van Ham & Kriss, 2008). In order to have a clearer understanding of these devices a simple definition and how the tools can be used are being given for each terminology as follows:

1. Capzles – helps to gather pictures, videos, useful documents into one place for emphasis on teaching and learning for face-to-face or online activities.
2. Creaza – makes it possible for students brainstorm, create original cartoons, video projects and edit all work before final display.
3. Glogster - places emphasis on social information such as art, music, photos and makes it possible for students to create projects for class assignments.
4. Google docs – creates and shares documents such as spreadsheets with students and share information with other faculty members plus give feedback to students regarding their project.
5. Masteryconnect – helps students to understand what common core standards are and the expectations for students' performance.
6. Mentor mob – creates a learning playlist of high-quality and advanced materials for students regarding a specific concept.
7. Planboard – helps to organize lessons in a productive manner online for teachers to use.
8. Prezi – helps to design lessons online in a collaborative manner for teachers.
9. Qr codes – helps with reading various technology codes in a quick manner.
10. Quizlet - helps teachers to create friendly study tools for students to recall such as the memory card concept.
11. Ted-ed – provides a variety of videos for specific subjects as teachers teach.
12. Timetoast – places emphasis on students' project by using an interactive tool.
13. Wordle – provides useful clouds for language related lessons (Hallas, 2008).

A number of technology tools and devices are available for college professors to use as they plan lessons to ensure that students are well versed on topics, educational skills and knowledge needed in order to be competitive for the 21st Century globally. The tools can also be used for

assessing the progress of students' performance and how effective programs are based on a number of criteria (McCombs, 2000).

In order to facilitate the use of various technology tools, the college professor can find out which tools such as ipad, tablets, smartphones, laptop computers plus other devices work best for the planned lesson agenda through research or networking with other professors. A graphic illustration in figure 1 below shows some common technology tools and devices.

Figure 1: Commonly Used Technology Tools and Devices

Figure X: Adapted from clip art from Google, 2013

Technology capabilities are advancing to a new level as this document is being written. Therefore, it is essential that college professors and others who deliver instructional services stay aware and current of the new technology and learn how to use the new technology in a comfortable manner to enhance teaching and learning as soon as possible (Epper & Bates, 2001).

BENEFITS OF TECHNOLOGY

There are many benefits to infusing technology into the curriculum, because technology is a natural part of society today. In essence, technology is a part of our lives, homes, jobs, and community in the public and private sector. It makes sense that professors in universities and colleges learn how to embrace and not fear the use of technology and make technology work for them for personal use, instruction and management. Based on research, technology use at the university is of value, because it helps to advance active learning, participation in group problem solving activities, gives quick feedback and it offers students the opportunity to connect to global communities. Using technology tools also help students to be challenged intellectually and be

able to successfully work on team projects. By using technology tools, students are able to connect with individuals who have specific expertise skills and knowledge on particular subjects at a national and international level (Gulek & Demirtas, 2005).

For college professors, technology helps to create a mindset of new and informed ways of delivering instruction to students. By using technology, college professors are able to meet the needs of a diverse student population through multiple methods of teaching and creating their own software (Barretto, Piazzalunga, Ribeiro, Dalla & Filho, 2003). The college professor is able too, to provide advisement, mentoring and tutoring online.

RESULTS OF THIS STUDY

The application of technology tools can help professors present more current and relevant skills and knowledge to students. Technology can be used to improve lectures with discussion, enhance the curriculum, provide more specifics and visualization in a variety of formats, increase flexibility of presentation, share resources, enables the demonstration of complex concepts with more clarity with relevance.   Using technology in the classroom can add a richer experience for students. Students, for example, are able to manipulate data for research papers in various types of graphic displays by showing quantitative outcomes by using various technology tools (Roblyer, 2003).

The percentage of graduate students using technology devices is increasing each day. Just to give a brief illustration of the number of students using electronic devices is as follows:

Table 1:   Today's Common Technology Tools Used by Graduate Students

Electronic Tools in Common Use	Percentage of Use
Laptops	96%
Printers	85%
Thumb drives	95%
Desktops	66%
Tablets	68%
Smartphones	98%
Scanners	84%
E-readers	62%

Note: Brief survey was informally taken by researcher among 58 graduate students in the College of Education at BSU – spring 2013.

The above tools are considered to be a must for academic success according to graduate students. In essence these are just common tools used by graduated students today in schools and colleges.

TECHNOLOGY TOOLS USED BY STUDENTS AND SMALL BUSINESSES

Most students today are technologically savvy and would prefer a number of courses or course assignments to be completed by using technology. The most common technology tools used by students are laptop computers, smart phones, external hard drives, e-reader kindle and headsets and microphones. Plus some students are operating their own business and they find that it useful to use social media to help find customers and to connect with other businesses by the use of facebook, twitter and linkedln. Some college students are successful entrepreneurs by using social media to get customers to buy products and services. Social media allows students to engage and interact with their customers and feel comfortable with the experience (Ray, 2013). Many students are willing and enjoy using social media tools for academic, business matters and for personal reasons. When a business is slow, social media tools, for example, could help to get more customers to visit stores and businesses in search of discounts and sales online (Mitra & Steffensmeier, T. 2000).

More businesses today especially small businesses are using affordable marketing and advertising strategies at a low cost. Social media tools help business owners to generate additional business from consumers without paying out lots of money. Using the internet, businesses are able to show photos or images of their products and services to the public. Today, many businesses in the public and private sector cannot afford a high expense for advertising and staging their products or services; therefore, social media is an ideal way of reaching the public with little expense incurred. The most common friendly social media used by businesses are facebook and twitter. Social media sites such as facebook and twitter have the capability to amplify information to the public. However, if there is a problem with the computer, it may take more time and money for repair and that could delay public access to the site. The drawback may suggest too, that some consumers or customers may feel that using the convenience of technology or sharing personal information through social media is great, but it may on the other hand invade their privacy (Joseph, 2012)

It is becoming more and more popular for the general public to make more purchases online. A large percentage of people are making purchases online for such items as books, clothing, shoes, travel tickets, electronic equipment, and making hotel and tour reservations using their computer at home. Many students will continue to purchase their own smartphones and computers online because of the quality and price differences compared to local computer stores (Nielsen Q1 Global Online Survey, 2010*).*

PROFESSIONAL DEVELOPMENT TRAINING

The pace of new and improved technology tools are in the marketplace almost every six months. Therefore, college professors need to be competent and comfortable with using advanced technologies. The best practices for college professors to continue participating in professional development training in order to learn how to use new technology tools in the most productive manner to improve curriculum instruction and management. At the university, professors need to be offered support during and after training when new technology is introduced to the colleges at the university. Professional development activities should be set up as a teacher-directed training experience. College professors and their students should have adequate access and

training to the on campus technology. All campus support systems should be geared to the needs of the professors and students. The whole idea is to get all professors and students comfortable with using new and improved technology as an everyday tool to enhance the teaching and learning environment. When students exit the university and college for the real-world, it is hoped that students are acquainted with the use of common technology tools and will have the ability to quickly learn and adapt to the use of new technology tools as they advance into the marketplace for work and careers (Rodriguez & Knuth, 2000).

CONCLUSION

Best practices and the value of technology in the teaching and learning environment should be natural for college professors and students. Technology advances quickly; however, it is hoped that college professors stay motivated to continue learning and be able to impart current skills and knowledge to their students. Hopefully, the day has come where college professors are more comfortable with various types of technology tools and devices and will be able to skillfully use these tools and devices in curriculum instruction and management. There must be an intentional effort by all professors to have the vision to prepare students to meet the challenges in the marketplace for the 21st Century globally (Mitra & Steffensmeier, 2000). As college professors teach students real-world application of knowledge, it is important for the college professor to be effective in using technology tools in teaching and learning across disciplines and to be especially reflective of their own practice and quality of performance as the facilitator of instruction.   However, using all of the technology tools and devices available in the world cannot substitute for the core of quality teaching in the university environment (Olds, Schwartz & Willie 1980).

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