An Examination of the Utilization of Instructional Technology by Full-time Faculty at West Virginia and Virginia Community Colleges

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Abstract

Without the requisite commitment and support from an institution faculty will minimally take advantage of instructional technology. This support includes having the availability of a full-time instructional technologist to assist them with the features of a new application. It includes, as well, technical support to trouble shoot problems as they arise. A faculty incentive program is also important and includes such rewards as a remuneration schedule for creating new courses in an electronic format or converting an existing course in an electronic format. Having a dedicated revenue stream to ensure a robust instructional technology program is essential. Finally, institutional policies and procedures that support and enhance distance education are critical to the overall success of the program. Absent this level of support, the institution likely will not realize the full measure of its success in recruiting students who are drawn by a diversity of delivery modes.

The purpose of this research is threefold: (1) to measure the usage of select technology by full-time faculty in their courses; (2) to gauge the attitude of full-time faculty regarding the use of instructional technology; and (3) to assess institutional resources required to support the use of instructional technology. An online survey has been created and will be the main data gathering tool of this study. The online survey link will be e-mailed to all full-time faculties at the 10 community and technical colleges in West Virginia and 23 community colleges in Virginia.

Key words: non-traditional, instructional technology, faculty, community college

Introduction

We live in a time of technology. It is everywhere. From our homes, our cars, to our schools and workplace, electronics is a constant component of our lives. There is now high demand from students, parents, employers and the general public that technology must become part of education. Research shows that there are pedagogical benefits of incorporating technology into the curriculum, including learning how to research and access worldwide resources, as well as increased communication skills (Wilson, 2003).

The increased demand for higher education may be due to the number of new learners coming back to school motivated by career changes and personal development. As much as any other factor the economy is motivating many to return to school. These students are not interested in gaining mastery in certain subjects, as they may do at a four-year college, but prefer learning work-related skills to enhance their employment and earning potential, to work collaboratively, to think critically and to learn how to use technology at their job. They demand cost-effective education that is customized to them, where the time, place and pace is convenient for the student, rather than the instructor or institution. Many of them are non-traditional students who are balancing work, family and personal demands (Ryland, 2008).

Research literature shows that community and technical colleges are leading the way in using instructional technology. "Recent studies have shown that community colleges are becoming the primary providers of distance education classes" and also are providing the greatest number of online courses (Ryland, 2008, pp. 5-6). They continue to lead the rest of higher education in serving the needs of nontraditional students by using technology for enhancing quality, expanding educational access and flexibility, and improving productivity (Ryland, 2008).

Using technology in the classroom begins with the faculty. Understanding technology is insufficient to be considered as good teaching. It is essential to understand how to combine good pedagogy with innovative uses of technology when creating course curricula (Wilson 2003). However, regardless of the technology skill or comfort level, "remember that for all that educational technology can offer us through new communication methods and the ability to reach a wider range of students, it is no panacea" (Meloni, 2010). The instructor is still necessary to deliver the material and assist students in reaching the course goals, learning the materials, and completing the necessary work (Meloni, 2010). However, there are many reasons why faculty do not, or choose not to use technology in their classes.

Three of the most common barriers to using technology include time, funding and faculty reward systems. As a professor, time is always an issue. There is not always enough time to learn how to use the technology, figure out how to incorporate it into the curriculum, and then continue to keep up with the new technologies, which can be expensive to purchase and maintain. Also, as faculty workloads continue to increase, a change in workload definitions may be necessary in order for faculty to take advantage of possible training opportunities and learning how to use and integrate technology into their classroom. In addition to these, the challenges that have the most impact on technology use are technical skills and unrealistic expectations. Administrators need to understand that training and professional development is required when expecting faculty to begin using technology as part of instruction, and should be realistic with their expectations of the time that it will take for faculty to begin successfully using it (Wilson, 2003).

There are different faculty perceptions of integrating technology in their teaching. It should be remembered that "technology must be used to enhance the educational experience, not to overpower it" (Wilson, 2003, p. 61). Some professors feel that technology has ruined education, but if it is used correctly, technology should enhance student learning. When used effectively, technology can encourage active learning, which has been proven as more successful than passive lecture and in-class content delivery. Technology and active learning should facilitate both individual and team-based problem-solving; presentations that include multimedia and multi-sensory material; simulated learning environments, including virtual science labs; enhanced class discussion which can carry on after class online; teamwork and technology-based collaboration; and communication outside of the class via email between student and professor, as well as among fellow students (Ryland, 2008).

Unfortunately, not all faculties are motivated to use instructional technology. According to research, faculties who are satisfied with their current compensation are actually more likely to teach online courses. Many of those who currently teach online are motivated by more intrinsic factors, such as an increase in student learning, whereas those who do not teach online courses would be more motivated by extrinsic factors, like monetary compensation (Jackowski, 2005).

Interestingly, gender was found to be a factor regarding internet use for instructional purposes. It seems that men are more influenced by its usefulness, where women are more interested in technology's ease of use. This is directly related to training and available technical support (Jackowski, 2005). Conversely, there have been few significant differences found for age or rank, which suggests that senior professors can still learn how to use technology (Wilson, 2003).

Based on research, some conclusions and suggestions have been made. Institutions must support their faculty more, from new equipment, technical training, and faculty development, especially pedagogy for technology and online courses. Institutions may want to begin new incentive programs. These do not have to be purely monetary in nature, as many faculty members are motivated by seeing benefits for their students and improved student learning. Also, the more technology that is provided, the more extensively faculty will use them. When they are available, faculty are able to become more familiar and comfortable using technology (Wilson, 2003).

Research Questions

1. What correlation, if any, exist between the level of administrative and technical support have on the usage of instructional technology by full-time faculty members of WV and Virginia Community and Technical Colleges?
2. What correlation, if any, exist between the level of administrative and technical support have on the types of instructional technology used by full-time faculty members of WV and Virginia Community and Technical Colleges?
3. What correlation, if any, exist between the level of administrative and technical support have on the types of online/social media used by full-time faculty members of WV and Virginia Community and Technical Colleges?
4. What correlation, if any, exist between the amount of administrative and technical support have on the number of credit hours taught online by full-time faculty members of WV and Virginia Community and Technical Colleges?

Operational Definitions

Full-time faculty: According to the West Virginia Council for Community and Technical College Education, "The full-time instructional load for community and technical college faculty in West Virginia is to be fifteen credit hours or the equivalent per semester" (WVCTCS).
Amount of support: Faculty's perceived sense of encouragement and assistance needed to successfully use instructional technology.
Level of support: The measurable amount of necessary material and procedural assistance received from administration that is needed for faculty to be successful using instructional technology. Can include financial support, needed equipment, technological support, training, incentives, supportive policies, etc.
Social media: Types of electronic communication, used for social networking, through which users create online communities to share information in various formats.
Instructional technology: the use of technological tools to plan, design, and develop instruction to improve student learning.
Instructional Technology: the use of an array of teaching tools to improve student learning.

Method

This research study has been designed to determine the degree of instructional technology usage by full-time faculty at the 10 community and technical colleges in West Virginia and 23 community colleges in Virginia. The target population consists of 522 full-time faculties at the ten West Virginia Community and Technical Colleges and 2,228 full-time faculties at Virginia's community colleges (IPEDS, fall 2010).

An online survey was created using Select Survey, and was emailed to the Academic VPs of each community college asking them to forward it on to their full-time faculty. If a faculty member chose to participate in the survey, they would follow the link given in the email and complete the survey. All surveys are done completely anonymously.

Data Analysis

Each participant was asked to rate 14 items according to their own perceptions. There were a total of 137 surveys returned in West Virginia, for a return rate of approximately 25%; the results from Virginia will be

presented at the conference. The Kruskal-Wallis one-way analysis of variance was utilized to analyze the data.

Findings

The findings from the West Virginia study revealed that 69% of the respondents are female, while 31% are male. Sixty percent of those responding indicated they are Fairly Proficient in the use of Instructional Technology (IT), while 25% rated themselves as Highly Skilled. Somewhat surprisingly 57% are satisfied with the level of administrative support for campus-wide IT and 12% are Very Satisfied. There are similar levels of satisfaction for administrative support for teaching online courses. Among the most utilized technologies in the classroom are computers/laptops, PowerPoint, and Blackboard (or some other Learning Management System). The least utilized technologies are PREZI, lecture capture software, iPads, and ePAKS. Faculties are motivated to use IT due to the availability of user-friendly technology, as an effective tool for student learning, and the opportunity for regular instructional training. Obstacles to using IT include insufficient time to learn new technology, lack of technology support, and insufficient training. The survey queried faculty on unsuitable technology for the classroom and among the 20% who responded "yes," they listed Facebook, Twitter, Podcasts/webcasts, and overhead projectors.

In response to the open-ended question on assessing the faculty's interest in integrating more technology into their teaching, the majority who responded answered "yes." They responded that students expect it, technology makes classes more exciting, and it can enhance student learning. Should faculty be required to use technology in their classes was another open-ended question. The responses were nearly evenly divided from "yes," because technology permeates every facet of our daily lives, to "no," because faculties are not only uncomfortable with technology but they are also successful with traditional methods.

Based on the respondents who participated in the West Virginia study, these conclusions can be drawn:

- Satisfaction with online course support does not affect the number of hours taught per semester
- Those dissatisfied with level of support with IT are the most hesitant or deterred from using it
- Whether or not using technology should be required is an ongoing debate
- To use technology faculty need help, training, reliable technology, and assistance

Summary

In order to use resources effectively, administrators need to determine the appropriate level of support for instructional technology. It seems that most faculties are interested in integrating more technology into their teaching; however, a lack of administrative and technical support is among the biggest deterrents. Sufficient support is likely impacted by several factors such as availability of a dedicated revenue stream, technology staff, institutional policies, and a system whereby hardware and software is updated on a scheduled basis.

References

Jackowski, M. (2005). An examination of factors that affect community college faculty's use of technology for teaching: A comparison of full-time and part-time faculty. (Doctoral dissertation). Retrieved from ProQuest.

Meloni, J. (2010). Technologies for teaching: Strategies and pitfalls. The Chronicle of Higher Education. Retrieved from http://chronicle.com/article/TechnologiesforTeaching/125109.

Ryland, J. (2008). Technology and the future of the community college. American Association of Community Colleges. Retrieved from http://www.aacc.nche.edu/Resources/aaccprograms/pastprojects/Pages/technologyfuture.aspx.

Wilson, W. (2003). Faculty perceptions and uses of instructional technology. Educause. Quarterly, 2, 60-62.