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Raising the Bar with Professional Development in the Use of Distance Learning Tools

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Literature Review

Self-efficacy is the future-oriented belief about the level of competence a person expects he or she will display in a given situation (Bandura, 1977). Schwarzer and Jerusalem (1995), found self-efficacy to be a stable cross-cultural construct in facilitating goal-setting, effort investment, persistence in the face of barriers, and recovery from setbacks. Findings confirm moderate-to-strong correlations between faculty self-efficacy to teaching online and the training received (Dunbar & Melton, 2018), as well as significant positive effects of attitudes and digital literacy. Faculty attitudes towards distance learning impact their adoption of online teaching tools. Research shows significant relationships between faculty attitudes towards distance learning and self-efficacy in online teaching, specifically regarding future interest in and satisfaction with teaching online (Horvitz, Beach, Anderson & Xia, 2015). Similarly, system quality, perceived self-efficacy and facilitation conditions act as significant predictors of faculty attitudes towards distance learning tools, thus affecting their use by faculty (Fathema, Shannon & Ross, 2015).

Several attitudinal variables explain faculty participation in distance education. Favorable attitudes towards technology and distance education were found to be significantly associated with increased participation in distance education (Tabata & Johnsrud, 2008). Also, the perceived ease of use and usefulness of the technology significant correlations with faculty attitudes. The combination of the faculty's beliefs about the usefulness of the technology increased proportionally to their perceived ease of distance learning tool use. However, the perception of the technology did not collorate with the actual use of distance learning tool (Wichadee, 2015). Instructor confidence in the use of distance learning tools and effectivenssing in teaching improved with professional development designed to train instructors to teach online (Brinkley-Etzkorn, 2018).

Supports and Barriers for Technology Adoption

The adoption of DL technology offers various challenges. Structural/organizational factors impacting the adoption of technology include lack of training for DL course development and instruction, and lack of ongoing technology support. Without these organizational supports, the adoption of technology becomes compromised or abandoned (Osika, Johnson, Buteau, 2009, Allen & Penuel, 2015, Bennett, Dawson, Bearman, Molloy, & Boud, 2017). Difficulties with content development include instructors' role in content development, integration of multimedia in content, the role of instructional strategies in content development, and considerations for content development (Kebritchi, Lipschuetz & Santiague, 2017).

Faculty's internal factors can act as barriers to technology adoption such as insufficient time for training in delivery methods and for course development; instructional challenges in the design of instruction and unclear goals (Allen & Penuel, 2015); doubt that online courses have the same quality as traditional face-to-face instruction (Neban, 2014); and inadequate resources for technology (Neben, 2014). Hindering factors pertaining to instructors also include changing faculty roles, transitioning from face-to-face to online, time management, and teaching styles (Kebritchi, Lipschuetz & Santiague, 2017). Faculty often continue to express a lack of confidence in using online technology even after participating in training (Kerrick, Miller & Ziegler, 2015).

Several factors are important in developing a positive self-efficacy in the use of distance learning tools. The instructor's level of perceive benefits from using LMS increased with the effectiveness in the implementation of the tool. (Zheng, Wang, Doll, Deng, & Williams, 2018). The faculty members' internal drive to innovation within their teaching, the need for greater efficiency in the delievery, and their adaptability to feedback improved their skills for teaching in distance learning environments (Bennett, Dawson, Bearman, Molloy, & Boud, 2017). The adoption of LMS as the delivery mechanism for distance learning is influenced by past success with the use of technology, the perceived need for distance learning courses for success by the program, and students' need for flexibility in scheduling (Osika, Johnson, Buteau, 2009; Shagrir, 2012).

Theoretical Framework for Adaption

The Concerns Based Adoption Model (CBAM) a relevant theory describing the innovation processes in the adoption of new strategies or tools. The model focues upon widespread acceptance and understanding individuals' attitudes, perceptions, thoughts, and considerations toward using an innovation (Anderson, 1997; Newhouse, 2001). The model is comprised of three key dimensions: Stages of Concern (SOC), Levels of Use (LOU), and Innovation Configurations (IC) (Newhouse, 2001). SOC, specifically, offers a way of thinking about people's feelings and perceptions about change, structured into seven stages, with the understanding that in practice, an individual may have multi-stage concerns on the SOC continuum (Hall & Hord, 2014). This framework has been utilized to examine teachers involved in attempts to implement new curriculum materials and instructional practices (Anderson, 1997). Therefore, the current study utilized the CBAM framework and the SOC, as a theoretical guide in examining teachers' adoption of DLTs for online instruction.

Faculty Professional Development

Professional development (PD) is an important way to improve faculty adoption of DL tools. A poll within the Online Learning Consortium (formerly Sloan Consortium) and Western Interstate Commission for Higher Education (WICHE) reported that less than 90% of the institutions provided training and support to their faculty members (Meyer & Murrell, 2014). Fifty-seven percent of the institutions used the community of practice approach that placed a higher value on pedagogical training over the use of the tools. Approaches varied throughout different institution types with institutions with greater resources offering more personnel-intensive activities (such as multiple sessions), while institutions with fewer resources offered train-the-trainer models (Meyer & Murrell, 2014).

Offering training is for higher educational faculty is challenging. One particular challenge is the completion rates of the professional development offered. Ensuring clear communication of expectations for the training can assist faculty in determining if they have the time to properly complete the training is important (Cho & Rathbun, 2013). Training does require additional time on behalf of the faculty member the lack of time leads to low participation rates (Cho & Rathbun, 2013) A meta-analysis of faculty training interventions found that PD is often based on a "one-size-fits-all" approach with the assumption that all faculty think, feel, and learn about DL in the same way (Meyer & Murrell, 2014). Training based on the one-size-fits-all method potentially leads to non participation in training since it does not meet the individul needs of the instruction.

Professional development designed using CBAM framework allows for multiple interventions meeting the needs of the faculty members. The model encourages the evaluation of the faculty to determing levels of concern about the adoption of an innovation through the use of focus groups, individual interviews, and stages of concern questionnaire. Based upon the results of the data gathered, interventions are designed to encourage the end results (Hall & Hord, (2015). Professional development becomes an intervention designed to move the user of the innovation through the different states of adoption.

Methodology

The current study employed an online survey. The online survey gathered data on faculty demographics/background, self-efficacy with distance learning tools, attitudes towards distance learning tools, PD experiences with distance learning tools. The survey consisted of several sections. The first was 35 items adapted from George, Hall, & Stiegelbauer (2013) were used to measure faculty's attitudes toward distance learning tools. The items were presented on an eight-point scale that ranged from 0 to seven with endpoints of "not true to me now" and "very true for me now." The second section about self-efficacy in the use of DL tools was adapted from Schwarzer & Jerusalem (1995) general self-efficacy scale with 10 items using a 4-point scoring scale with the endpoints of "not true to me now" and "very true for me now." The last section of the survey gathered information about the types of professional development. The survey including professional development from the university distance learning center (course development assistance and pedogogy training), university office of information technology (technology tool training), webinars, conferences, and courses taken. The items were presented on a seven-point scale with endpoints "0 hours" and "30 hours or more."

Findings

The survey was made available to 287 faculty for two weeks. These faculty members taught distance learning courses in the spring semester. The survey collection process was disrupted due to Coronavirus concerns causing the move of all classes to online. Thus, the survey reminder was delayed. These findings are those gathered in the first week. A second round was not collected because the researchers felt that with the stay-at-home manidates, faculty were stressed in moving all courses to an online environment and responses would have been impacted by the intervening events. A total of 47 faculty responded to the first request to participate. One faculty member decided not to consent to the study. Another 12 faculty provided incomplete information. Those scores were removed from the analysis. Thirty-four faculty members consented to and completed the survey.

The faculty members that completed the survey participated in various types of professional development. All of the participants reported using centralized professional development for distance learning offered by both the distance learning office and the technology support office. Most of the faculty (85%) also participated in training offered by the technology office. Of the total faculty participating, 58% sought professional development beyond that available at the university, and 94% reported engaging in self-study through webinars or tutorials to learn about the tools they were using in their classes.

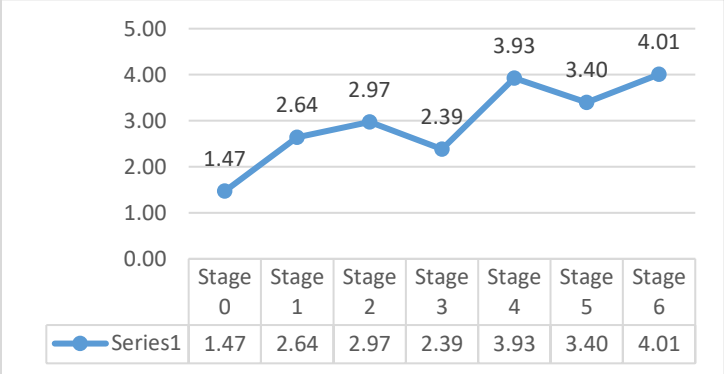

Figure 1: Faculty Stages of Concern mean scores

The faculty participating in the survey rated themselves at the various questions about their concerns. Figure 1 has the mean scores of the questions based upon the stage of the Concerns Based Model of Adoption category. The Likert scale had 7 points ranging from "not true of me now" to "very true now." The graph in Figure 1 represents an increasing likelihood of agreement with statements as "like me" at the higher levels of stages of concern. As anticipated, the faculty with high levels of engagement with various forms of professional development rated themselves low on the level of stages of concern (Stages 0, 1,&2). Of interest is the lower scores at the Stage 3 concerns. Level three reflect concerns in the tasks of teaching online. The dip was attributed to low ratings of one question. Faculty did not agree with the statement that they were unable to learn how to use technology effectively. The negative response to this question indicated high confidence in the use of technology which is reflected in the higher rating for the impact stages of 4, 5, & 6.

This group of faculty also expressed confidence in their ability to use the technology tools related to distance education through the self-efficacy scale. Figure 2 reflects the average scores for each of the six self-efficacy questions. The responses are closely clustered together with the mean scores ranging from 4.34 to 4.86 on a 7 point scale. The faculty reported closer agreement to the statement "like me" rather than 'not like me." They reported a belief in their ability to rely on their technology skills to solve difficulties and expressed confidence in dealing with unexpected events the highest.

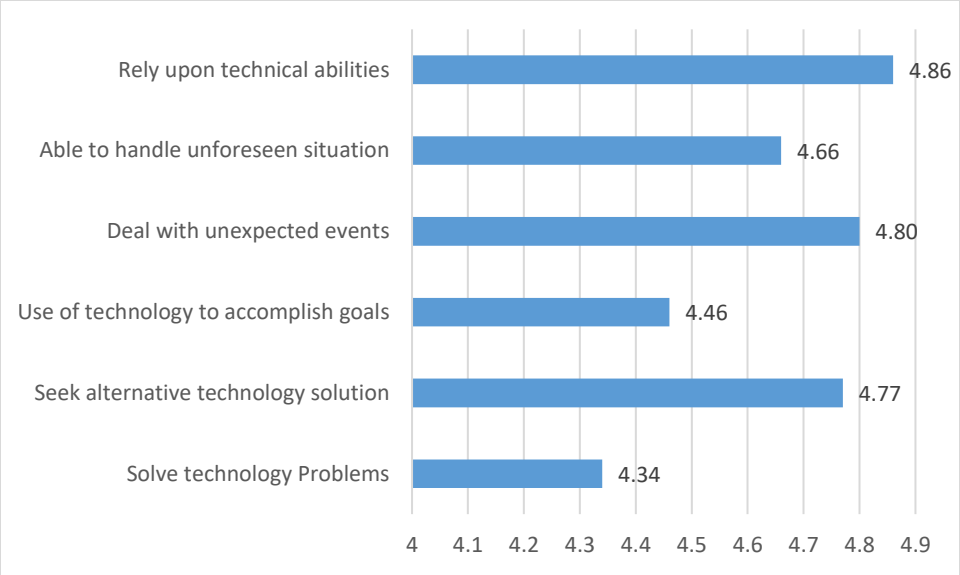

Figure 2: Faculty attitudes mean scores

Discussion

The interplay of multiple forms of professional development improved faculty self-efficacy regarding the use of distance learning tools. The comfort level with the tools expands faculty's positive attitudes and willingness to modify their teaching strategies to accommodate the distance educational learning environment. This group of faculty proactively sought out training both at the university level and through a variety of self-study methods. Their comfort level with technology was exhibited in the higher ratings in the impact stages for the Concerns Based Adoption Model and in the high levels of expression in the self-efficacy survey questions. This study takes a step in understanding how the different forms of PD options designed to meet faculty concerns improve their self-efficacy, and attitudes, and, ultimately, their use of the tools in distance education courses and programs. Future analysis will examine the different variables that potentially impacted the higher levels of confidence in the use of distance learning tools.

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