

Effect of Professional Development on Instructor Self-Efficacy in an LMS and its Relationship to Teaching and Learning.

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Abstract: With the increase in the number of students enrolled in online education programs today, it is important for higher education instructors to be proficient in the learning management system (LMS) they are using. However, instructors are often presented with the task of teaching online with little to no training; some of which never even used an LMS as a student. This lack of knowledge and training can negatively impact instructors' confidence in their abilities and prevent them from utilizing all the tools the LMS has to offer. By limiting the usefulness of the LMS, student experience often suffers and learning can be hindered. It is important to improve teachers' perceived self-efficacy through training and development in order to properly support student learning in an online learning environment.

Internet-based learning management systems (LMSs) offer higher education institutions the ability to extend education to students at a distance through online or hybrid learning. Because of this, universities are making a considerable investment in the use of LMSs to facilitate their teaching learning processes. These instructional processes, as understood through the lens of the technological pedagogical content knowledge (TPACK) model (Koehler et al., 2014), consist of interactions between instructors' knowledge of pedagogy, technology, and content knowledge. Theoretically, a deficiency in any TPACK knowledge area could compromise instruction – including a deficiency in an instructors' technological knowledge or self-efficacy with respect to LMS use.

There is reason to believe that there may be deficiencies in instructor technological knowledge with respect to LMSs. Research suggests that LMSs are not used by the faculty members to their fullest potential and often invoke resistance from faculty members (Almarashdeh, 2016; Bousbahi & Alrazgan, 2015; Cigdem & Topcu, 2015; Fathema, Shannon, & Ross, 2015). If faculty members do not feel they are proficient at using a program, they are less likely to utilize it, or they will only utilize the portions with which they feel comfortable (Fathema et al., 2015). Professional development is critical in the ongoing growth of instructors (Altany, 2012). Learning management systems are evolving and constantly offer new and improved features and tools, so instructors need well-designed professional development to learn how to improve their teaching practice (Milman, 2016; Rhode & Krishnamurthi, 2016). De Smet, Bourgonjon, De Wever, Schellens, and Valcke (2012) found instructors are more likely to use technology provided in an LMS when proper support is offered at the institutional level. Rutz, Condon, Iverson,

Manduca, and Willett (2012) believed faculty that are well-informed should be able to respond effectively to the changing demands of the classroom.

Perceived self-efficacy (PSE) is defined as “an individual's judgment of his or her capability to organize and execute the courses of action required to attain designated types of performances. It is not concerned with the skills one has, but with the judgments of what one can do with whatever skills one possesses” (Bandura, 1986, p. 391). According to Gagne and Deci (2005), people need to feel competent and autonomous to maintain their intrinsic motivation. When teachers’ perceived self-efficacy declines, their motivation, attitude, stress levels, and instructional quality may be adversely affected (Holzberger, Philipp, & Kunter, 2013; Skaalvik & Skaalvik, 2014; Wang, Hall, & Rahimi, 2015; Yesilyurt, Ulas, & Akan, 2016). These observations suggest that instructor application of TPACK knowledge may be affected by related PSE.

Discussion

LMS Instructor Satisfaction

Instructor satisfaction with an LMS will often dictate whether or not he or she is likely to utilize it to its full potential (Almarashdeh, 2016; Bousbahi & Alrazgan, 2015; Cigdem & Topcu, 2015; Fathema, Shannon, & Ross, 2015). In a study by Almarashdeh (2016), perceived usefulness of the LMS and service quality had the highest impact on instructor satisfaction. When an LMS is chosen and constructed, the needs and perceptions of not only the students, but the instructors as well, should be taken into consideration. If the instructors do not feel the LMS is useful, they are less likely to use it, therefore directly influencing whether or not students are using it (Almarashdeh, 2016). Bousbahi and Alrazgan (2015) conducted a study of IT faculty members about their satisfaction with an LMS. While the faculty members thought of themselves as proficient at manipulating the LMS because of their background, many factors remained the same as far as likelihood of using the LMS as intended. External factors such as motivation, anxiety, support, perceived ease of use, and perceived usefulness played a role in faculty adoption of the LMS (Bousbahi & Alrazgan, 2015). The study by Cigdem and Topcu (2015) yielded very similar results, citing perceived usefulness as having the highest impact on instructor intention to use the LMS. Aside from this correlation, perceived ease of use was another motivating factor; therefore, higher education institutions should ensure the LMS is effective and easy to use with high functionality (Cigdem & Topcu, 2015). Institutions should also provide instructors with constant training on the LMS to increase self-efficacy and help them have the ability to use the LMS effectively, as this also has a direct effect on perceived ease of use and usefulness, thus influencing their likelihood of using the LMS (Cigdem & Topcu, 2015). To strengthen the findings even more, Fathema, Shannon, and Ross (2015) also tested for variables affecting instructor attitudes toward the LMS and found system quality, perceived self-efficacy, and facilitations conditions to have the largest impact. Having an LMS that is easy to navigate, fits the goals of the instructors, and offers adequate support and training all have a positive influence on instructors’ self-efficacy and ultimately their likelihood of using the LMS as intended.

Perceived Self-Efficacy

According to Skaalvik and Skaalvik (2014), self-perceived confidence and autonomy are fundamental psychological needs important for motivation and psychological well-being. Taking this into consideration, perceived autonomy should predict teacher engagement and job satisfaction positively as some autonomy is necessary in the teaching profession to deal immediately and adequately with unexpected situations (Skaalvik & Skaalvik, 2014). Skaalvik and Skaalvik (2014) found self-efficacy predicted both engagement and job satisfaction positively and emotional exhaustion negatively; self-efficacy also increased motivation and decreased stress and burnout. Taking this topic one step further, Holzberger, Philipp, and Kunter (2013) explored the relationship between self-efficacy and instructional quality in a longitudinal study. As predicted, teachers with higher self-efficacy beliefs showed higher instructional quality, and as instructional quality improved throughout the school year, self-efficacy beliefs also improved (Holzberger et al., 2013). Wang, Hall, and Rahimi (2015) looked a bit deeper into

teacher well-being and the effect self-efficacy has on burnout, job satisfaction, illness, and intention to quit. Self-efficacy was determined to be an important predictor of psychological and physical health in teachers, as well as intentions to quit (Wang et al., 2015). Teachers' perceived self-efficacy when it came to teaching strategies and motivating students was also a positive predictor for likelihood to quit (Wang et al., 2015). Yesilyurt, Ulas, and Akan (2016) also found teacher self-efficacy, as well as academic self-efficacy and computer self-efficacy, were important predictors of teachers' attitude toward applying computer-supported education.

Proposed Study for Further Research

Based on the literature reviewed, the authors plan to examine the impact of professional development and training on self-efficacy as it relates to technological content knowledge application. Higher education institutions are experiencing an increase in the number of students requesting and enrolling in online courses. As a result, adjunct and part-time faculty members are being hired more frequently to replace tenure track faculty, especially to fill roles in online courses, and these instructors often need training to effectively perform in this capacity (Lewis & Wang, 2015). A research university in Virginia currently utilizes Blackboard as its LMS but is lacking in the number of courses currently being offered online. As a result, faculty, staff, and support personnel have been tasked by administration with increasing the number of courses offered; however, some faculty members that will be required to teach online have never experienced the online environment as a student, and others have never taught online and are unsure how to properly utilize the LMS. Both situations may place instructors at a disadvantage in online instruction. The authors hypothesize, based on previous studies, that providing instructors with proper training and professional development will improve their perceived self-efficacy, thus positively impacting student learning and willingness to utilize more LMS functions.

The university provides face-to-face professional development; however, sessions have been poorly attended. Faculty have cited lack of time as the main obstacle to participating in professional development, thus it was determined that an online class would be an appropriate alternative. As a result, the researchers are creating an online professional development course that both trains instructors in how to use the LMS and offers them the experience of participating in an online course. The course will offer more flexibility than a face-to-face or virtual workshop, however, it will not be self-paced in order to offer a more realistic online teaching and learning experience. Faculty are most interested in hands-on techniques and practical tools that can be implemented immediately into their lesson plans or class activities (Nicholls, 2001). The course itself will exemplify effective instructional design to reinforce good online teaching and learning practice. Faculty participating in the professional development course will be required to build their own online course as the capstone project, and will be evaluated by instructional designers and other experienced online faculty. To assess the impact of professional development on instruction, pre- and post-test surveys will be utilized. To examine instructor PSE, a survey will be administered prior to and following professional development. To assess the impact on instruction, surveys will be distributed to students taking a classes delivered by instructors participating in the professional development course. Survey questions will focus on course delivery and activities offered through the LMS.

Conclusion

As the use of online learning is only likely to expand, it is important for instructors to embrace the utilization of an LMS. Proper training and support must be provided to encourage instructor development and self-efficacy and to facilitate LMS adoption by faculty. Moreover, instructor buy-in to the LMS and tools offered is imperative to student satisfaction and utilization. If instructors are not comfortable using the LMS they will not encourage students to use it and may even refuse to use it at all. Further, perceived self-efficacy affects instructional quality, attitudes toward technology and teaching, motivation, and student satisfaction. Finally, when faced with challenges in teaching strategies and implementation, decreased self-efficacy compromises instructors' psychological and physical well-being and notions of quitting are entertained.

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