

**College faculty's perception of technology tools & support:
Supporting faculty to teach online**

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Abstract. The purpose of this survey research was to understand the perceptions of college of education (COE) faculty members about technology tools and how to support online teaching faculty. Results indicate that the majority of COE faculty were confident with using technology tools for their professional career needs and for teaching with students. The COE faculty also reported being confident in using the university-supported Lulima online course management tool (asynchronous) and the Blackboard Collaborate web conferencing tool (synchronous). Additionally, many faculty acknowledged that the COE for providing excellent training and support for using technology for teaching. The top three ways faculty preferred to learn new features or skills related to technology for teaching were asking a support person, followed by attending formal coursework or training sessions and working with an individual tutor. The results of this study have implications for those who teach online as well as those who support them.

Introduction

Online course course delivery in US higher education is on the rise. According to the 2018 Babson Survey Research Group's "Tracking Distance Education in the United States" report, the number of online students in 2017 grew by 337,016, up 5.6% from 2016 and exceeding the growth seen in the prior three years (J. E. Seaman, Allen, & Seaman, 2018). As a result, faculty are under increasing pressure to teach online, yet may be resistant or unready to do so (Mitchell, Parlamis, & Claiborne, 2015). In order to effectively support faculty with online teaching, institutions and their support staff need a clear understanding of the tools faculty use and their perceptions about technology support.

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Literature Review

Teaching online can be challenging for faculty, often due to the technical tools and skills required to facilitate an online course. Technology skills play such an important role in online teaching, “technologist” is one of the eight roles of the online instructor as identified by Bawane and Spector (2009). Faculty with higher technology skill levels report being more satisfied with teaching online (Green, Alejandro, & Brown, 2009; Osika, Johnson, & Butea, 2009), while those who experience technical difficulties report less satisfaction with online teaching (Bolliger & Wasilik, 2009). Faculty satisfaction has been identified by the Sloan Consortium as one of the five pillars essential to support quality learning in higher education (Moore, 2005).

More experienced faculty report higher levels of self efficacy with regard to teaching (Chang, Lin, & Song, 2011). Online teaching faculty with higher levels of self efficacy are more likely to persist through negative experiences and outcomes (Horvitz, Beach, Anderson, & Xia, 2015), and faculty that feel confident in their technology skills are more willing to teach online (De Gagne & Walters, 2010).

As students become increasingly technology savvy, they expect that new technologies will be used in their courses (Austin & Sorcinelli, 2013). This brings opportunities for pedagogical change, and an increased need for professional development. For online courses, most faculty have not been specifically trained to teach online, making specific professional development for online tools and strategies critical for faculty satisfaction (McQuiggan, 2012) and success (Horvitz et al., 2015; Prottas, Cleaver, & Cooperstein, 2016; Stewart, Bachman, & Johnson, 2010). Lack of training is often cited as a barrier to faculty integration of technology (Donovan & Green, 2010; Porter & Graham, 2016) and can serve as a barrier to faculty adoption of online teaching (Maguire, 2005). Faculty at various skill and experience levels value ongoing professional development for online teaching (Tabata & Johnsrud, 2008; Zhen, Garthwait, & Pratt, 2008).

The purpose of this survey research was to understand the perceptions of college of education faculty members about their confidence using technology tools for their professional careers and teaching with students, and how to best support online teaching faculty.

Methodology

This study took place in a college of education comprised of 10 departments, 225 faculty and 1,947 undergraduate and graduate students. This COE is the primary preparer of teachers going into the state’s public school system. The college is a distance education leader at its campus, with the highest number of distance programs of any college at its campus.

Data was collected via an online anonymous survey which included demographic, open-ended, and Likert scale or multiple choice questions. Questions asked about technology

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tools the faculty personally used, used in professional work and teaching, and with students in their courses. Questions also asked about beliefs and opinions on online teaching, online students and support. In order to refine and validate the survey prior to dissemination, it was reviewed by a senior learning design and technology faculty member and three cognitive interviews were conducted with faculty from varying disciplines and campuses, all of whom teach online. The survey was revised after feedback was received.

Results

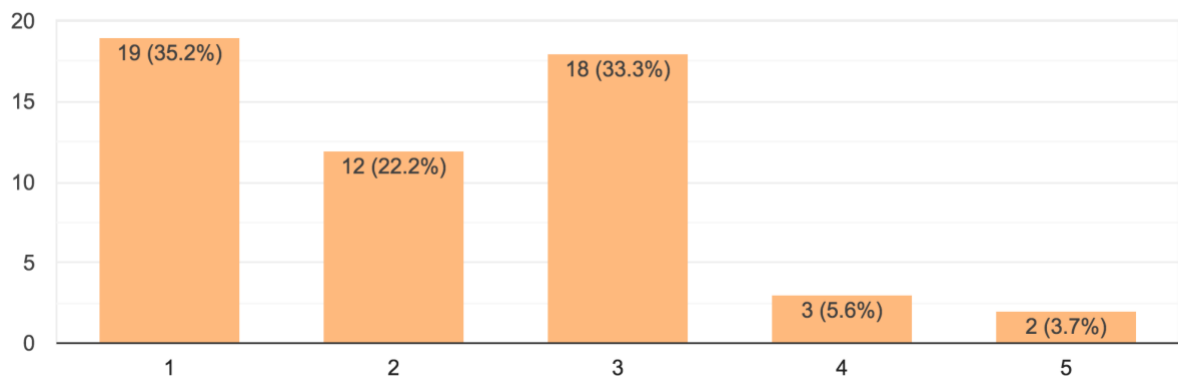
Fifty-five of the college's 225 faculty responded to the survey for a 24% response rate. Participants were 64% female and 73% reported to be 40 or older. Twenty-eight percent were tenured faculty, 22% were tenure-track, with the remaining in other types of faculty or instructor positions. This paper focuses on data pertaining to COE faculty's confidence using technology tools in their professional career and teaching with students. In addition, the study seeks to determine their satisfaction with the support services they received and their preferences on how to learn about new technology.

Confidence with using technology tools for professional needs

About 62% of respondents either agreed or strongly agreed that they were confident in using technology and digital media to meet the needs of their professional career. An even higher percentage of faculty (83.4%) reported feeling confident in using technology and digital media to communicate with their students and colleagues. An equally high number of respondents (82.7%) felt confident in using technology tools to find literature to use for their research. Approximately 87% of COE faculty felt confident in using technology tools to locate content materials to use for teaching. Finally, almost half of the respondents (46.3%) reported being confident in using technology and digital media to design a course or module for online learning.

Confidence with using technology tools for teaching and with students

Next, COE faculty were asked to rate their level of agreement (1-strongly agree to 5-strongly disagree) about their confidence in using technology and digital resources in their teaching and with students. More than half of the respondents (57.4%) either strongly agreed or agreed with the statement "I am confident in choosing technologies to use in my teaching" (see Figure 1).



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Figure 1. Confidence in choosing technologies for teaching

However, only about 43% of them felt confident that they understood the knowledge their students have about using technology for learning (see Figure 2).

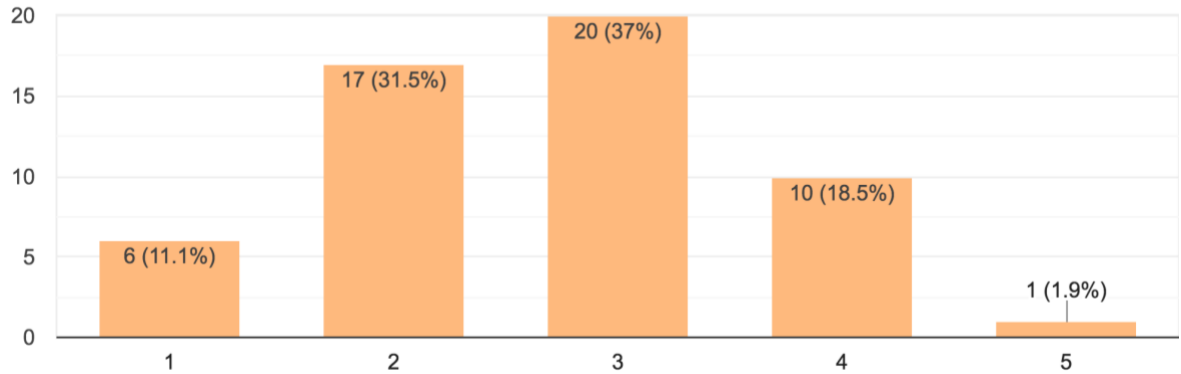


Figure 2. Confidence in understanding students' knowledge of using technology for learning

Interestingly, the majority of COE faculty (74.1%) reported regularly finding materials online for use in planning their courses (see Figure 3).

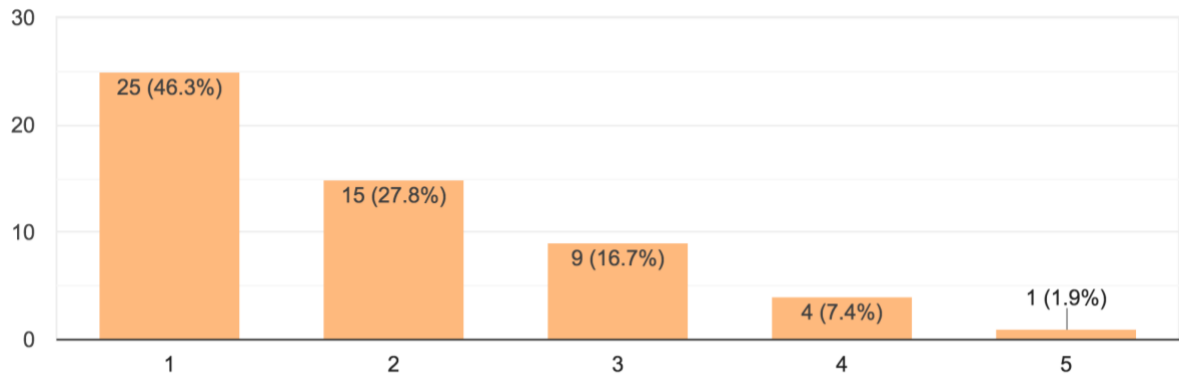


Figure 3. Regularly finding materials online for course planning

About 80% of COE faculty also reported regularly finding materials online that they share with their students (see Figure 4).

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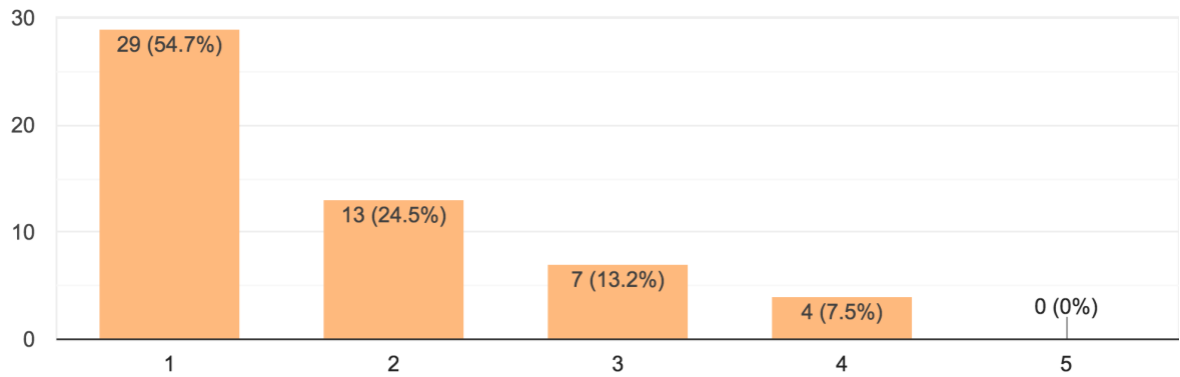


Figure 4. Regularly finding materials online to share with their students

Technology tools for teaching

The COE faculty were also asked to rate their confidence on a scale of 1=strongly confident to 4=not confident or 5 (don't use) in using commonly used tools in the COE in their teaching .

Laulima is the Sakai-based online course management tool supported at the University of Hawaii (<https://laulima.hawaii.edu/portal>). The majority of COE faculty (87.8%) reported being confident in using the Laulima online course management tool (see Figure 5).

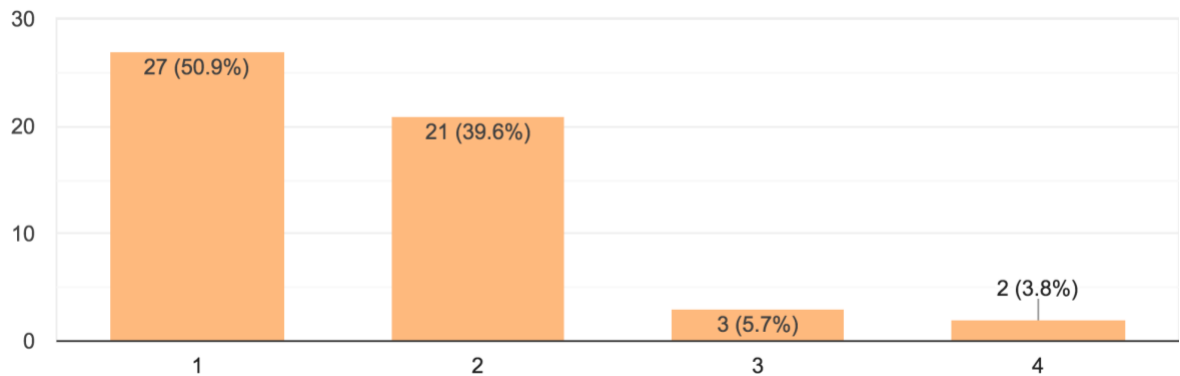


Figure 5. Confidence in using the Laulima online course management tool

Additionally, faculty were asked about the usefulness of Laulima for their students. It was evident that COE faculty found Laulima to be a useful online repository and integral to the organization of their courses as reflected in the following open-ended responses:

“One place for everything - having things for students and students leaving items for instructor. Easy to email whole class, particular student(s).”

“It allows me to provide most all course information and materials in an organized fashion. Students are generally familiar with Laulima and seem to learn my organization quickly and easily. Submitting assignments through Laulima is a

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great accountability tool because I can see exactly when the assignment was completed and I don't have to worry about misplacing assignments.”

“I often use the resources, discussion tool and drop box. These can facilitate a sense of community and dialogue. It invites students to consider the perspective of others and to have this inform their reflection on course content.”

The COE also provided faculty with access to the Blackboard Collaborate (<https://www.blackboard.com/teaching-learning/collaboration-web-conferencing/blackboard-collaborate>) synchronous web conferencing tool. More than half (55%) of the COE faculty were confident about using the Blackboard Collaborate web conferencing tool (see Figure 6).

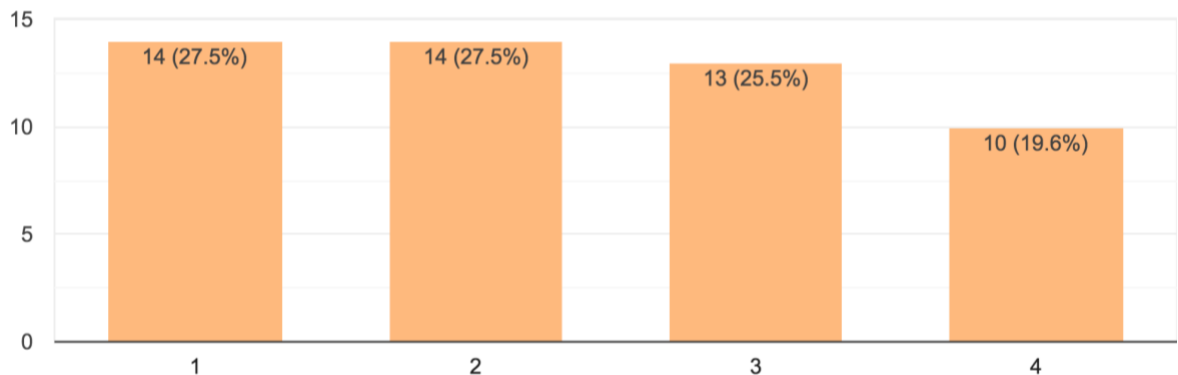


Figure 6. Confidence in using the Blackboard Collaborate web conferencing tool

When asked about the usefulness of Blackboard Collaborate for their students, the COE faculty were very impressed with the ability to connect synchronously with their students. Blackboard Collaborate also provided them with various ways of interacting with their students using features such as media sharing, breakout rooms, and recording:

“The ability to connect synchronously with online learners is very useful. It provides a very convenient way to have periodic meetings with our students who are located remotely.”

“BBC (Blackboard Collaborate) puts a face and a voice to online learning. This is extremely powerful. Not only can students see and hear me, then can see and hear each other. This helps to mediate the "social vacuum" of online learning.

1. Everyone can get online to the same site fairly easily (with a few tech issues).
2. It can handle multiple types of media (ppt, video, web, etc.)
3. A recording of the session can be produced easily and quickly.”

“Collaborate allows personal contact through live discussions and group sharing activities such as "Jigsaws" - students give feedback that they like the synchronous Collaborate sessions that I regularly include as part of my online courses.”

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“I love the breakout rooms. The rooms help build the community that I feel is necessary for learning. Application sharing is also worth of mention.”

“I like that I can easily record a session and upload it to Lualima right after the class.”

Support Services

Lastly, the COE faculty were asked to rate their satisfaction (1=strongly agree to 5=strongly disagree) with the support services they received and their preferences on how to learn about new technology.

Almost ninety percent of COE faculty either strongly agreed or agreed with the statement “I generally am able to find the support I need for using technology in my teaching” (see Figure 7).

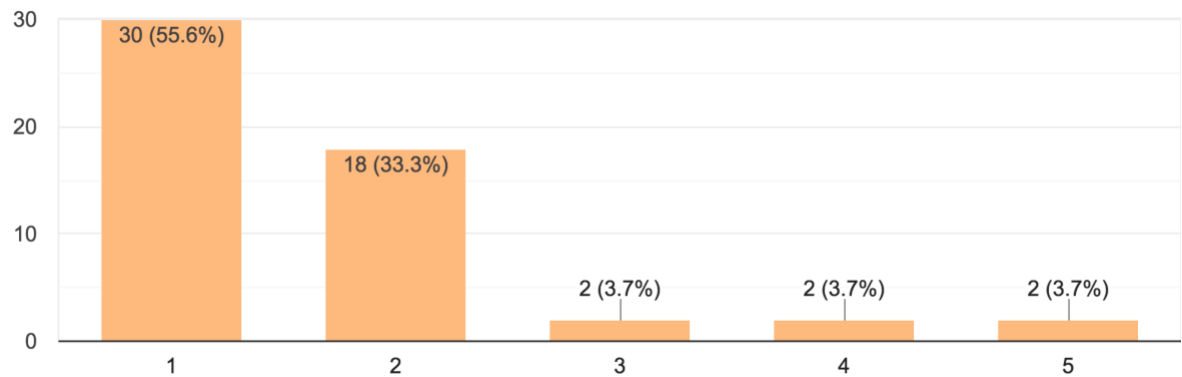


Figure 7. Finding support for using technology for teaching

An equally high percentage (87%) of respondents also found that the COE offers excellent training and support for using digital tools in the classroom (see Figure 8).

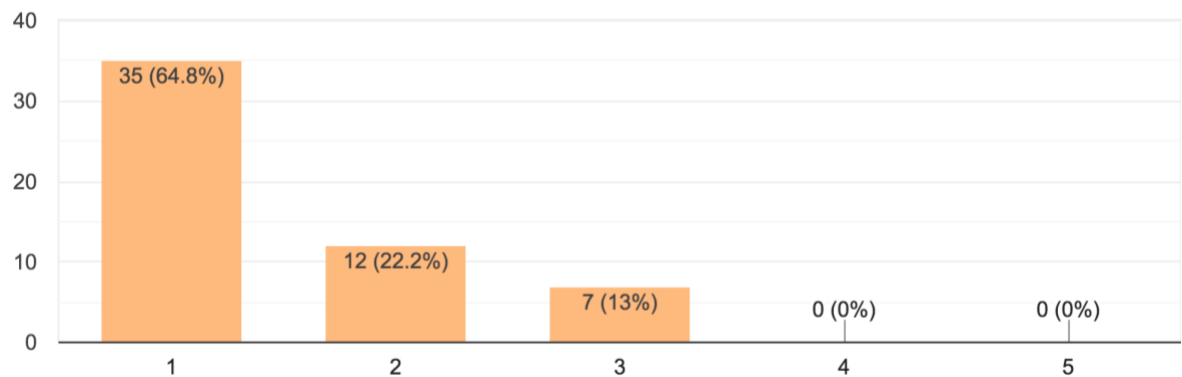


Figure 8. The COE offers excellent training and support for using digital tools

Additionally, an overwhelming percentage (92.4%) of faculty rated the COE technology workshops to be very helpful or helpful (see Figure 9).

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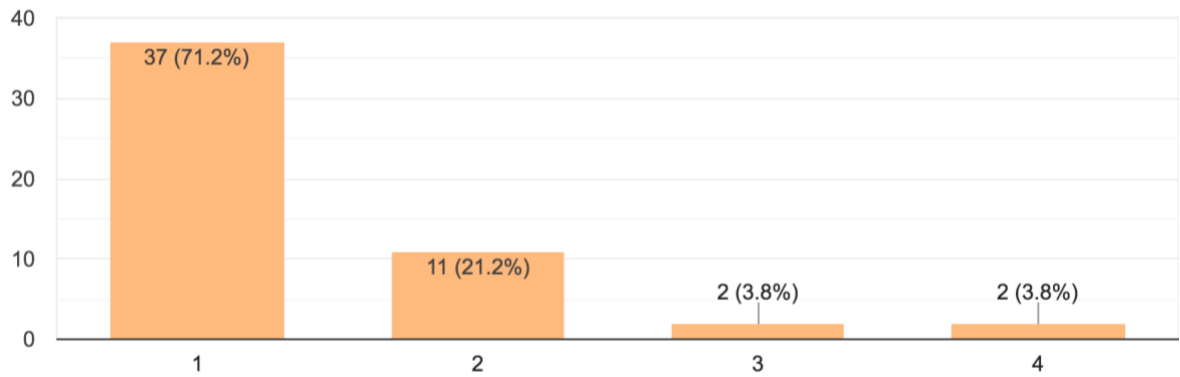


Figure 9. Rating of the COE technology workshops (1=very helpful to 4=not helpful)

Interestingly, about 69% of COE faculty had attended three or more COE technology workshops (see Figure 10).

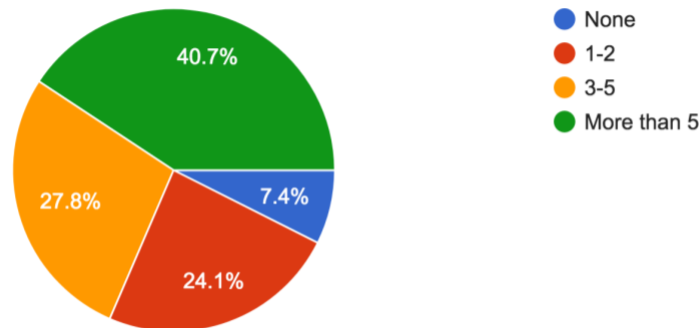


Figure 10. Number of COE technology workshops attended

When asked for the top three ways faculty preferred to learn new features or skills related to technology for teaching, approximately two-thirds (66.7%) indicated asking a support person, followed by attending formal coursework or training sessions (51.9%) and 46.3% preferred working with an individual tutor.

Discussion & Conclusion

In summary, this study found the majority of COE faculty to be confident with using technology tools for their professional career needs and for teaching with students. While the need for professional development focused on integrating technology into teaching and course development is important across fields, faculty members in some fields may also need professional development opportunities to help them use new technologies in their research, e.g. the use of software data analysis packages, or as part of their institutional work, e.g. learning to use new institutional data management systems (Austin & Sorcinelli, 2013).

The COE faculty also reported being confident in using the university-supported Laulima online course management tool (asynchronous) and the Blackboard Collaborate web conferencing tool (synchronous). The COE faculty consider Laulima to be vital for their

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courses as exemplified by this faculty's comment: "central location for all documents, discussion board, announcements." Another faculty's sentiments seem to summarize how impressed they were with the synchronous web conferencing abilities of Blackboard Collaborate:

"It allows me to make live connections with students that I may not otherwise connect with and allows me to interact with my students and my students to interact with each other."

Additionally, many faculty acknowledged the COE for providing excellent training and support for using technology for teaching and highly rated the COE technology workshops they attended. The top three ways faculty preferred to learn new features or skills related to technology for teaching were asking a support person, followed by attending formal coursework or training sessions and working with an individual tutor.

This study has implications for those who teach online as well as those who support them.

The results of this study seem to suggest that providing excellent training and support for using technology for teaching may contribute to COE faculty's confidence with using technology tools for their professional career needs and for teaching. De Gagne and Walters (2010) contend that faculty who feel confident in their technology skills may be more willing to teach online. Additionally, to encourage more faculty to teach online, the findings of this study suggest that it may be important to provide both asynchronous and synchronous online tools that faculty considers useful. The study also revealed that faculty's preferred forms of technology support included asking a tech support person, attending formal training sessions and working with an individual tutor.

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