

FACULTY DEVELOPMENT IN ONLINE EDUCATION:  
A LITERATURE REVIEW

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Over the last few decades extensive research has focused on faculty development in higher education (Amundsen & Wilson, 2012; Bangert, 2004; Graham, Cagiltay, Lim, Craner, & Duffy, 2001; Reilly, Vandenhouten, Gallagher-Lepak, & Ralston-Berg, 2012; Steinert, Naismith, & Mann, 2012; Wilson & Stacey, 2004). Despite this research interest, a view persists that early-career educators focus on getting tenure; whereas, once professors have received tenure they are no longer motivated to improve teaching methods. As a result, both groups eschew faculty development (Shattuck, Dubins, & Zilberman, 2011).

The literature agrees that more study is needed in the field of faculty development. Since 1981 four comprehensive literature analyses have all concluded that the research in faculty development is of low quality. All cited a need for more rigorous research, mixed methods, and longitudinal studies (Amundsen & Wilson, 2012; Levinson-Rose & Menges, 1981; Steinert et al., 2012; Stes, Min-Leliveld, Gijbels, & Van Petegem, 2010). While previous empirical analyzes organized research based on format (online, workshop, etc.) Amundsen and Wilson (2012) analyzed the quality of the research by breaking it into six clusters and broadly categorizing these clusters as either outcome or process oriented. In the 90 studies they examined, over 50% focused only on basic skills or methods. Amundsen and Wilson expose another weakness in the research by reporting that most conducted at the K-12 level is rarely used in higher education.

Not only is research on faculty development in higher education limited, but research for development of online instruction is even more sparse. The proliferation of e-learning courses has created a demand for faculty development in online teaching. Researchers have yet to agree, however, on what methods will produce quality online educators, yet they generally agree that more research is needed in this fast growing arena (Amundsen & Wilson, 2012; Levinson-Rose & Menges, 1981; Stes, Min-Leliveld, et al., 2010).

This literature synthesis investigates research conducted in the last ten years on the topic of faculty development in online teaching. It begins with a short background of online education, then identifies research context and defines key terms. Next, it examines online faculty development programs, faculty satisfaction with teaching online, faculty competencies needed to teach online, and assessment of online education. Lastly, it explores recommendations made by researchers regarding the teaching of online courses.

### **Background**

The rising tide of online courses in higher education has fueled a debate over the quality of these online programs. Many instructors are reluctant to embrace online learning because they are suspicious of its efficacy (Amundsen & Wilson, 2012; Bangert, 2006; Coppola, Hiltz, & Rotter, 2002; Steinert et al., 2012; Stes, Coertjens, & Van Petegem, 2010). Researchers detail a number of faculty concerns: limited personal interaction with students, increased work load, availability of training and support, less flexibility, changes in teaching style, and time required to learn new technologies (Amundsen & Wilson, 2012; Bangert, 2006; Coppola et al., 2002; Steinert et al., 2012; Stes, Coertjens, et al., 2010). Moreover, many educators remain concerned that online courses will not deliver the same quality learning as their traditional courses.

Despite any faculty reluctance, online learning is popular with students. The Department of Education reports that in 2007-08, 20% of undergraduates took at least one online course, while 4% took their entire program online. This represents a 16% rise from the 2003-04 numbers (Walton-Radford, 2011). In 2010 the Sloan Consortium reported that over 6.1 million students took at least one online course representing an annual growth rate of 10%, which far exceeds the 2% growth rate in higher education overall (Allen & Seaman, 2011). According to Sloan, 65% of higher education institutions now say online learning is part of their long-term strategy.

### **Context and Key Terms**

With the rapid growth of online learning, instructors new to online teaching are asked to develop many new roles. In addition to content expertise, online instructors merge roles such as content facilitator, course designer, technical expert, and process facilitator (Coppola et al., 2002; Gaytan & McEwen, 2010; Guasch, Alvarez, & Espasa, 2010). As a content facilitator the instructor ensures that students are able to access and understand the course content. As the course designer, the instructor creates the content with which students will engage. As a technical expert, the instructor resolves any technical problems the students may have with the learning management system. Finally, as the process facilitator, the instructor guides the students to understand the process of taking the online course.

Coppola et al. (2002) specifically studied role changes when instructors move from face-to-face (F2F) to online courses. Rather than diminishing teaching, Coppola et al. found that professors engaged in deeper levels of mental processing when teaching online courses. While the faculty noted the absence of nonverbal clues in relationship building, they found relationships with students were more intimate and connected in online courses.

An online instructor not only must adopt new and varied roles, but must also possess vast technical knowledge. In addition to learning to navigate the institution's course management system, instructors may be expected to use a wide variety of e-learning tools such as wikis, social media, virtual reality, enhanced reality, podcasting, and so forth (Coppola et al., 2002; Guasch et al., 2010; Reilly et al., 2012). Reilly et al. (2012) report that it is critical for faculty to feel confident in the online environment because students can sense an instructor's discomfort in managing an online course or working with the technology.

Given the numerous approaches to online learning, the terminology used to define each is constantly shifting. Online teaching, online learning, and e-learning are used with frequency and can be defined as any use of the online environment to support course content or delivery. The variety of online learning methods can be seen on a continuum from web-enhanced classes to fully online coursework. Currently, web-enhanced learning is defined as a traditional F2F class supported by some online content. This may include significant course content, such as lecture materials and required reading or merely supplemental content such as recommended readings and lecture notes. Hybrid courses and/or blended learning are defined as coursework where instruction is split between online sessions and traditional F2F classes. For example, a typical ten-session course might include five sessions online and five sessions delivered face-to-face.

For the purpose of this synthesis, I review the literature focusing on the fully online course, defined as formalized instruction where content is delivered completely online and all communication with the instructor is conducted virtually. Frequently, students may be distance learners who are far from the campus location and will never see the online instructor face-to-face. Students may be conducting only part or their entire program online.

The terms faculty development, instructional development, educational development, and academic development are used interchangeably within the literature. For the purpose of this synthesis, the phrase faculty development will be used to refer to any formalized program that seeks to improve course instruction and pedagogical methodology.

### **Faculty Development Online**

Not only is the vocabulary of online learning constantly shifting and adapting to new technologies, but researchers disagree on the best ways to accomplish faculty development for online educators (Reilly et al., 2012). While much faculty development in this area has centered

on technical skills, some researchers urge a focus on pedagogy and skills in the affective domain (Reilly et al., 2012; Wilson & Stacey, 2004). Wilson and Stacey (2004) identify a need for framing online education as one of many new teaching methods, emphasizing innovation, and incorporating online development with faculty development generally.

The most common method of faculty development is a short workshop (Bangert, 2004; Graham et al., 2001; Lawless & Pellegrino, 2007). However, researchers generally agree that short-term workshops without follow up are not effective in improving online pedagogy. Lawless and Pellegrino (2007) found that short-term programs often include as little as one hour to one day of development in a year. They found that only 9 of the 21 studies they reviewed used any explicit method for evaluating the changes in teacher skills following short-term programs.

In addition to short-term workshops, a variety of other methods of accomplishing online faculty development have been researched, including ongoing programs, F2F programs, blended learning, and fully online programs (Coppola et al., 2002; Gaytan & McEwen, 2010; Hixon, Barczyk, Buckenmeyer, & Feldman, 2011; Reilly et al., 2012; Shea, Pickett, & Li, 2005; Terantino & Agbehonou, 2012; Wilson & Stacey, 2004).

Since online faculty development saves both time and money, adoption at many institutions is likely. One key study conducted by Reilly et al. (2012) was a year-long, multi-campus online virtual learning community of practice with nursing students at the University of Wisconsin. Participants attended six monthly videoconferences conducted by expert guest speakers who focused on integrating new technologies into online courses. Training included technologies such as Twitter, Skype, Adobe Connect, Polleverywhere.com, and Prezi. The program culminated with a two day e-learning conference where best practices were showcased.

The program included discussion boards, PowerPoint presentations, and online resources. Self-reflection was a primary tool for encouraging a paradigm shift in new faculty.

Using another approach, Terantino and Agbehonou (2012) studied a faculty development course at a large, southeastern university which blended both F2F sessions with online sessions. They compared two iterations of a 12-week course which included eight F2F sessions and four online sessions. The training course focused on increasing technology skills with topics such as creating a web page, wiki or blog, using streaming media and interactive course content, and designing banners and buttons. The courses trained faculty both to design and deliver online classes and select appropriate software to increase student engagement. At the culmination of the training course, participants designed and presented online courses that were required to pass a quality review before they could be offered to students. Over a period of two years, a questionnaire was given to faculty completing the course with an impressive 96% return rate excluding faculty who did not complete the course. The research found that 94% of the participants reported that the course provided useful information, incorporated effective online components, and integrated the learning management system effectively.

Finding similar results, Fisher, et al. (2010) specifically studied differences between professional development conducted online or F2F. Participants were randomly assigned to either a F2F or online workshop. No significant differences were found in posttest scores between the two groups. When evaluating the performance of teachers in their classrooms, the mean after-training score of the F2F group was 75.20% and the online was 88.51%. The researchers also tested students of the teachers who attended the development workshops. The students of teachers who attended the F2F workshop scored 62% correct answers while the students of the teachers who attended online workshops received 67.75%. Singer (2008) found

similar results in a study of a five week course conducted over three semesters. Based on 113 faculty surveys, they found that teachers who had previously taken F2F training stated a strong preference for the online format. Teachers surveyed further agreed that the online development courses increased levels of comfort using technology and allowed them to reinforce and apply their learning through online discussions with colleagues. They further stated they would continue to enroll in online development courses.

Researchers generally agree that an online format for faculty development allows participants to walk in the shoes of their online students (Reilly et al., 2012; Terantino & Agbehonou, 2012). By establishing a learner-centered approach, the developers encourage instructors to use a similar approach in their own teaching. Terantino and Agbehonou (2012) state that the goal is to train faculty members to apply andragogy theory which focuses on engaging independent and self-directed learners.

### **Competencies for Teaching Online**

While some researchers study specific methods of conducting online faculty development, others focus on faculty competencies identified for teaching online (Bangert, 2004; Coppola et al., 2002; Graham et al., 2001; Leh, 2005; Shea et al., 2005; Terantino & Agbehonou, 2012). Unlike other researchers, Wilson and Stacey (2004) focused their study on instructor predisposition for online teaching. They framed instructor readiness using Roger's theory of adoption of technology. Roger's theory suggests that people are inherently predisposed to either adopt or reject new technology. While Roger states that 13.5% of the population are early adopters who see new technology as fun and challenging, the majority (68%) fall into a category who tend to only adopt proven technologies and methods. Wilson and Stacey state that most instructors are pragmatic, conservative and averse to risk.



The majority of the researchers, however, agree on specific competencies that can be taught for teaching online. Five competencies were most frequently addressed in the literature.

First, the most common theme in this research is constructivist learning (Bangert, 2004, 2006; Coppola et al., 2002; Gaytan & McEwen, 2010; Graham et al., 2001; Guasch et al., 2010; Leh, 2005; Shea et al., 2005; Terantino & Agbehonou, 2012). In fact, Bangert et al. (2006) note that constructivist learning is exclusively recommended as a method to design and deliver online courses. In their earlier 2004 study, Bangert et al. reported that 97% of students indicated that the course was specifically designed so they could take responsibility for their own learning. Graham et al. (2001) similarly found that instructors were able to get students to relate learning to the real-world projects and gave effective and specific feedback on assignments. They noted that the instructors in the study underscored the importance of disciplined work, application of learning, self-pacing and scheduling. Leh (2005) echoed these findings and noted that constructivist learning theory was a good fit for online learning because students are increasingly able to access their own information sources and instructors are ceasing to be givers of information.

Second, related to constructivist learning, another competency found in the literature is creating collaborative environments (Bangert, 2006; Guasch et al., 2010; Roman, Kelsey, & Lin, 2010; Wilson & Stacey, 2004). Guasch et al. (2010) classify areas of competency including: design/planning; social function; instructive function; technological domain; and management. Based on a content analysis of 125 thematic units, they identify the competencies of structuring and consensus as the conceptual basis for collaborative learning; analysis of available technological resources; and design of collaborative activities. Bangert et al. (2006) report 83% of the students surveyed felt their instructor created activities that provided several ways for

students to demonstrate competency in course concepts. They also discuss other competencies including cooperation among students, faculty interaction, active learning, and time on task.

Third, an additional competency for online teaching is utilizing technology effectively (Gaytan & McEwen, 2010; Graham et al., 2001; Guasch et al., 2010; Lawless & Pellegrino, 2007; Terantino & Agbehonou, 2012). Graham et al. (2001) specifically identify sufficient ability to assess technology as a key competency. They detail the ability to manage content, design collaborative activities, and identify and consolidate knowledge as important competencies. Gaytan and McEwen (2010) survey research on methods of training for technology use. They reviewed 20 studies which all detailed programs designed to increase faculty technology use. The faculty development included workshops, semester-long courses conducted both online and F2F. Lawless and Pellegrino (2007) discovered that 9 of the 21 studies they reviewed focused on evaluating change in technology skill levels. They reported that participants felt more confident and comfortable using technology.

Fourth, the literature addresses the competency of designing courses which provoke meaningful discourse through problem-solving, cooperative learning activities, simulations, case-studies, and discussion prompts (Bangert, 2004, 2006; Coppola et al., 2002; Guasch et al., 2010; Shea et al., 2005). For example, Bangert et al. (2004) found 79% of students identified that threaded discussions helped provoke thoughtful discourse and 92% felt it increased their interest in the subject matter of the course. Coppola et al. (2002) also reported that faculty engaged in deeper mental processing when responding to questions in online courses.

Finally, the fifth competency discussed in the literature is facilitation (Bangert, 2004; Coppola et al., 2002; Graham et al., 2001). Instructors use a variety of tools to facilitate learning including asynchronous conferencing, face-to-face meetings, and regular feedback (Bangert,

2004, 2006; Coppola et al., 2002). Bangert et al. (2004) showed that 96% of the students felt instructor feedback was both timely and supportive. One student commented: “I was impressed with his prompt responses to my questions. I felt like he understood the difficulties I was having because I was new to WebCT and he was very patient and available for help” (Bangert, 2004, p. 225). Likewise, Graham et al. (2001) report that instructors were good about giving information and feedback, monitoring group bulletin boards, and publically calling attention to excellence.

In Coppola et al. (2002) faculty found that relationships with their online students were more intimate than those with students they teach face-to-face. They further noted that teaching online required more attention to detail and student monitoring. Graham et al. (2001) also reported that instructors found ways to strengthen student relationships and build trust.

### **Faculty Satisfaction with Online Teaching**

In addition to looking at teaching competencies, researchers examine faculty satisfaction (Coppola et al., 2002; Reilly et al., 2012; Shea, Fredericksen, Pickett, & Pelz, 2004; Shea et al., 2005; Terantino & Agbehonou, 2012). Researchers have found that instructors respond positively to online teaching. Shea et al. (2004) found 90% of faculty reported they were satisfied with the course they had completed and with online teaching in general; 93% felt online was appropriate for their content; 97.6% said they would like to teach online again; and 91.9% said they would recommend online teaching to a colleague. Terantino and Agbehonou (2012) report similar results with a 91% positive response. Researchers further found that faculty satisfaction was significantly and positively associated with student interaction, faculty learning, and technical support (Coppola et al., 2002; Reilly et al., 2012; Shea et al., 2004).

Even though research provides a general consensus that faculty development for online instructors increases satisfaction for teaching online, studies still uncover challenges. Some

researchers report that faculty found online courses more time consuming than their F2F counterparts. Instructors stated that insufficient time was given to devote to course activities while others reported that they had to structure online courses too tightly (Coppola et al., 2002; Guasch et al., 2010). Coppola et al. (2002) specifically noted that the most often reported change in teaching style was more formality resulting in lack of humor. Partially due to these reported drawbacks, not all faculty embrace online teaching. Wycliffe and Miwamga-Zake (2008) found when conducting workshops that were three weeks apart, even though faculty expressed interest in continuing the sessions, attendance dropped between the first and second workshop. They also found that 62% of the blogs started as a result of the training were abandoned within a year.

### **Assessment of Online Teaching**

While researchers uncover increased satisfaction with online teaching, the primary purpose of development lies elsewhere. What forms of evidence indicate success in online faculty development? Common methods of evaluation include pretest/posttest, self-assessment, student evaluation surveys, and performance ratings (Bangert, 2006; Gaytan & McEwen, 2010; Reilly et al., 2012). Gaytan and McEwen (2010) report that 65% of those researched used questionnaires, 20% used pre/post testing, and 15% used case studies. Reilly et al. (2012) report that indicators include enrollment, student satisfaction, and faculty willingness to continue teaching online. According to Reilly et al., 93% of faculty reported enhanced understanding of e-learning while 95% said they enhanced their ability to evaluate design and delivery methods and others described enhancements they had made to their own online courses as well as expressing intentions to redesign future courses to reflect the best practices they had learned.

By the same token, Bangert (2006) evaluated faculty development using the metric of student satisfaction. He surveyed 817 students using the Student Evaluation of Online

Effectiveness (SEOTE), a tool specifically designed for evaluating online teaching. Bangert surveyed students enrolled in WebCT courses at a mid-sized university, including 807 enrolled in fully online courses. A 68% majority of the students were undergraduates, 32% were graduate students, and 96% were enrolled in education programs. Researchers elicited responses using a six-point Likert scale and open-ended questions administered through the WebCT system. A large majority of students surveyed (88%) indicated that the instructor was accessible, communicated effectively in the online environment (92%), and used personalized interactions to enhance learning (96%). Students reported that instructor feedback was timely and supportive (96%), that the instructor motivated them to do their best (88%), and that the course was well organized and facilitated effectively (92%).

In contrast, few researchers use improved student learning outcomes as an evaluation method. However, Fisher et al. (2010) used an ANCOVA analysis to determine both instructor and student outcomes following an online faculty development program. They found that knowledge scores earned by participants in the online program grew from 0%-11% before the training to 47%-92% after the training. In addition to increased learning outcomes, like Bangert (2006), they also found significant increases in student satisfaction scores.

### **Recommendations**

Researchers agree on one key issue: more research is needed in the field of faculty development for online educators (Amundsen & Wilson, 2012; Lawless & Pellegrino, 2007; Steinert et al., 2012; Stes, Coertjens, et al., 2010). Researchers have called for more data on the affects of faculty development on student learning (Gaytan & McEwen, 2010), for more resources allocated for faculty development and the same kind of technical support for faculty that is given to students (Shea et al., 2005), and for better instruments for evaluation (Bangert,

2004; Dede, Ketelhut, Whitehouse, Breit, & McCloskey, 2009). Dede et al. (2009) determined that evidence on outcomes from development is often lacking or anecdotal. They further raise the issue that most surveys used for analysis are given immediately after the participants complete the development which leads to limited data on the long-range implications of such programs.

The methods for evaluating online faculty development vary. Researchers recommend planning for evaluation in the design process and point out that a review of the literature on faculty development assessment demonstrates that few met best practices standards (Gaytan & McEwen, 2010; Reilly et al., 2012; Shea et al., 2004). Wilson and Stacey (2004) endorse a staged approach to online faculty development wherein the instructor's level of readiness would be matched to the necessary development. For example, a beginning or novice instructor would benefit from "show and tell" and exemplary models. Instructors more comfortable teaching online, however, could receive training in more complicated online skills such as advanced technology or problems such as flaming or lack of participation. Wilson and Stacey (2004) recommend the use of case studies at this stage of development. Further, instructors who have achieved proficiency in teaching online can be used as role models and can be encouraged to engage in research and participate in the development program as trainers.

Researchers recommend that before hiring instructors to teach online, hiring committees should consider whether or not an individual possesses the predisposition for teaching online or adopting new technologies (Reilly et al., 2012, 2012; Shea et al., 2005; Wilson & Stacey, 2004). A minority of people claim such a predisposition for embracing new technologies. For example, Wilson and Stacey (2004) reference Rogers' theory of diffusion of innovations and note that early adopters of technology represent only 13.5% of the population.

Several researchers recommend structuring faculty development around the various roles of the online educator (Coppola et al., 2002; Shea et al., 2004). For example, Wilson and Stacey (2004) recommend using the competency frameworks that can be found in the literature such as facilitator, course designer, and technological expert as a basis for online development. Likewise, Gaytan and McEwen (2010) propose a similar five-step process and further recommend focusing on student learning, rather than participants' satisfaction with development programs.

Other researchers address processes and recommend more opportunities for faculty members to reflect, communicate, and share ideas. They call for faculty development that applies new learning to traditional courses (Amundsen & Wilson, 2012; Guasch et al., 2010; Shea et al., 2005; Wilson & Stacey, 2004). One way they suggest accomplishing this goal is through a combination of online and F2F training. Researchers recommend that coursework in teaching online be required for beginning teachers and/or for performance review. In addition, Amundsen and Wilson (2012) emphasize the value of discipline specific faculty development. They report that informal learning experiences resulting from interaction with colleagues has a longer-lasting and more profound influence on teaching practice. They further stress the importance of taking into consideration the social nature of teaching when designing development initiatives.

Finally, to summarize, this literature synthesis has examined research on faculty development for online teaching. I reviewed research on the types of faculty development programs, faculty and student satisfaction with online teaching, faculty competencies for teaching online, and the role of assessment in online faculty development. Based on the recommendations of researchers and given the fast-growing nature of online education, the need for more rigorous and longitudinal studies seems clear.

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