

## Towards Best Practices in Online Learning and Teaching in Higher Education

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### Abstract

This article examines a review of literature related to online learning and teaching. The authors provide a brief historical perspective of online education as well as describe the unique aspects of online teaching and learning. The barriers to online teaching, the new faculty roles in online learning environments, and some implications for online learning and teaching are also provided. This article is intended to stimulate reflections on effective strategies to enhance faculty success in their transition from traditional pedagogical platforms to online learning and teaching.

**Keywords:** Online Learning; Online Education; Online Pedagogy; Technology Integration; Learning Environments; Faculty Support

### Introduction

A large number of colleges and universities across the United States are transitioning traditional face-to-face classes into fully online, blended, or web-facilitated courses. This is partly due to the need to maintain a competitive edge and make classes more accessible to a growing and diverse student population. Additionally, online teaching offers new, exciting opportunities to expand the learning environment for diverse student populations. In a recent study of undergraduate students at an American university enrolled in both traditional and online courses, students preferred online courses to the traditional classroom saying that they learned more in these classes, spent more time on these classes, and found these classes to be more difficult yet of higher quality than traditional classes (Hannay & Newvine, 2006).

Over the past decade, the number of online courses and programs have also grown tremendously (Allen & Seaman, 2008; Sugar, Martindale, & Crawley, 2007; Wait & Lewis, 2003). A large number of students (about 3.94 million) were enrolled in at least one online course in the Fall semester of 2007 (Allen & Seaman, 2008). This is an increase of 12.9% over the previous year. As student enrollment and the number of online courses continue to rise, institutions will need faculty who are willing to address existing challenges and participate in developing and teaching online courses.

With increased demand for online learning as well as more institutions of higher learning striving to provide diverse educational opportunities, online learning continues to grow as a viable means of providing increased access to a greater number of students (Allen & Seaman, 2008; Saba, 2005). As a result, at some point in their teaching career, university instructors may be asked to consider teaching their classes either partially or fully online (Clark-Ibanez & Scott, 2008).

### Online Learning and Teaching

Online learning is used to refer to web-based training, e-learning, distributed learning, Internet-based learning, web-based instruction, cyber learning, virtual learning, or net-based learning (Urda & Weggen, 2000). Online learning is a subset of distance education and embraces a wide set of technology applications and learning processes including, computer-based learning, web-based learning, virtual classrooms, and digital collaborations (Urda & Weggen, 2000). Additionally, it takes the form of complete courses with access to content for "just-in-time" learning, access (Hall, 2000). This definition

encompasses delivery of course content via all electronic media, including the Internet, intranets, extranets, satellite broadcasts, audio/video tapes, interactive TVs, and CD-ROMs.

Online learning is focused not only on the online contexts, but also includes a full range of computer-based learning platforms and delivery methods, genres, formats and media such as multimedia, educational programming, simulations, games and the use of new media on fixed and mobile platforms across all discipline areas. Campbell (2004) argues that the emphasis of online learning in higher education settings is on the development of metacognitive as well as reflective and collaborative learning. Further, online learning goes beyond planned subject learning to recognize the value of the unplanned and the self directedness of the learner to maximize incidental learning and improve performance.

In a comparative study, Dabbagh and NannaRitland (2005) examined the differences between traditional and online learning environments and argued that traditional learning environments are (a) bound by location and presence of instructor and student, (b) presented in real time, (c) controlled by an instructor and (d) are linear in teaching methods. Using evolving information and communication technologies, asynchronous communication and real-time information, online teaching and learning environments are unbound and dynamic. Online learning environments include diverse range of pedagogical practices and are often characterized by active learning student-centered pedagogical techniques (Baker, 2003; Browne, 2005).

Since the 1960s, online learning has dramatically changed affecting small and corporate business, private and public education, the training sector, and the military in different ways. Table 1 provides a brief historical context of online development as well as the changing focus of educational technology over the past 30 years (Herrington, Reeves et al., 2005; Mortera-Gutiérrez, 2006; Nicholson & McDougall, 2005; Pilla, Nakayama, Nicholson, 2006).

*Table 1: Historical Context of Online Distance Education Development*

Era	Focus	Educational Characteristics
1975-1985	Programming; Drill and practice; Computer-assisted learning CAL	Behaviorist approaches to learning and instruction; programming to build tools and solve problems; Local user-computer interaction.
1983-1990	Computer-Based Training Multimedia	Use of older CAL models with interactive multimedia courseware; Passive learner models dominant; Constructivist influences begin to appear in educational software design and use.
1990-1995	Web Based Education & Training	Internet-based content delivery; Active learner models developed; Constructivist perspectives common; Limited end-user interactions.
1995-2005	eLearning	Internet-based flexible courseware deliver; increased interactivity; online multimedia courseware; Distributed constructivist and cognitivist models common; Remote user-user interactions.
2005 – present	Mobile learning and social networking	Interactive distance courseware distributed online through learning management systems with social networking components; learning that is facilitated via a wireless device such as a PDA, a smart phone or a laptop; learning with portable technologies where the focus is on the mobility of the learner.

## Blended Learning

Blended courses combine face-to-face learning experiences with web-based learning experiences (Curran, 2004; Garrison & Kanuka, 2004). Blended learning incorporates a wide array of learning environments and approaches to teaching and learning such as, asynchronous learning networks, web-enhanced teaching platforms, and digital online learning tools. Three main technological components required for a hybrid course include: Technology infrastructure, Instructional technology, and Technology in learning (Olapiriyakul & Scher, 2006). Further, they suggest that developing and designing blended courses is an iterative process, which includes five main phases: course content design, course development, course implementation, course evaluation, and course revision. Evidence from research suggests the need for an establishment of a creative balance between pedagogy and technology that will support faculty to design, deliver, and support course design and content (Olapiriyakul & Scher, 2006).

The pathway of course migration to online environments often begins with the assumption that instructional designs, grading procedures, and other methods that typically work in the traditional classroom would remain the same in online settings. When faculty members realize that these two environments are entirely different, they become frustrated (Franklin & Blankson, 2001) and recognize the need for support programs to enhance their skills in online teaching. Converting a traditional course to a successful online one requires more time, skills, and knowledge related to course delivery and facilitation in online environments. Additionally, technical skills and support issues are not the only determinants as to whether faculty will make decisions to teach or not teach online courses (Lari & Wiessner, 2005).

## The Barriers to Online Teaching and Learning

Although instruction provided through the Internet offers a viable alternative to the need for “physical” space, the need for faculty involvement in online learning remains a prevalent issue for those institutions that plan to continue offering instruction at a distance (Matsom, 2006; Nelson & Thompson, 2005; Schifter, 2004). In many institutions, faculty members are expected to participate in online distance education as a part of their regular duties as faculty (Kim & Bonk, 2006). However, many faculty members are hesitant to convert their traditional courses to an online format. This resistance is attributed to a lack of support, assistance, as well as training by institutions of higher education (Allen & Seaman, 2008; Keengwe, Kidd, & Kyei-Blankson, 2009).

Nelson and Thompson (2005) cited faculty time, rewards, workload, lack of administrative support, cost, course quality, student contact, and equipment concerns as barriers to online teaching practices. The researchers recommended that program leaders keep abreast of the technology issues; courses integrate more collaboration between instructors and learners; training be provided to faculty to overcome negative dispositions; leaders attempt to incorporate the need for distance education courses in institutions’ missions, and that a reconsideration of tenure and promotion decisions should be examined in an attempt to support faculty workloads.

Similarly, inadequate hardware and software, slow internet connections, learners’ procrastination, lack of technical expertise among the instructors, insufficient orientation for learners, and a lack of release time for instructors to develop and design their online courses have been cited as barriers to faculty participation in developing and teaching online courses (Nkonge & Gueldenzoph, 2006). The researchers recommended training and support for instructors. Supporting faculty becomes significant because of the number of faculty who begin the online teaching experience with little knowledge of the process of designing, developing, and instructing an online course (Cuellar, 2002).

Both novice faculty, who may have been reluctant to participate, and expert faculty play a significant role in guiding the types of support, assistance, and training provided by institutions of higher education. Rockwell et al., (1999) evaluated the types of education, assistance, and support that faculty felt were needed to be successful in online teaching and learning. Faculty responded with the assertions that assistance and support for developing instructional materials, developing interaction, and for applying certain technologies were critical to their success in online environments.

Faculty regarded teaching online as more difficult than teaching traditional courses (Gerlich, 2005) as well as complain that online delivery were more labor intensive because of the amount of time required to grade papers and respond to questions (Lao, & Gonzales, 2005; Wegmann, & McCauley, 2008; Sellani & Harrington, 2002). In other studies, faculty felt that additional instructional and technical support were needed because faculty were genuinely concerned about the quality of their online courses and the amount of technical assistance and training available to them at their institutions (Allen & Seaman, 2008; Keengwe, Kidd, & Kyei-Blankson, 2009).

Surveys conducted by Brogden and Couros (2002), Grosse, (2004), and Lorenzetti, (2004) suggest that the time and effort demands to develop online courses and to learn new technologies are also causes for faculty member's frustrations. Additionally, some faculty members may resist online teaching because they are concerned that those courses may require more time for advanced planning (Matsom, 2006). Further, faculty members may be hesitant about this shift due to the fact that they may lose autonomy and control of the curriculum, lack of technical training and support, and lack of release time for planning.

Generally, understanding the differences between traditional face-to-face learning environment and online learning environment, and the process of being able to shift from one modality to the other, will give faculty members the ability to design better online courses and focus more on course delivery (Conrad, 2004; Harlow, 2007; Marfoglio, 2006, Sugar, Martindale, & Crawley, 2007). Faculty members may also need to rethink (a) the nature of the content to be taught (b) their role as faculty members and (c) the needs and requirements of the students (Ben-Jacob, Levin & Ben-Jacob, 2000; Lee & Busch, 2005; Jones, Kollof, & Kollof, 2008).

### **The New Faculty Roles in Online Learning Environments**

The use of information and communication technology has transformed student expectations (Wegmann, & McCauley, 2008). Heuer and King (2004) argue that while online instruction shares many features with the traditional teaching and learning modality, it has unique attributes such as flexibility – anytime, anyplace – along with time for reflection and learners' anonymity. Further, online instructor's role is viewed as new and more complex. As a result of this unique attributes and the general manner in which online teaching and learning differs from teaching in traditional settings or environments, faculty will have to rethink their roles in the learning and teaching paradigm (Grosse, 2004; Johnson, 2008; Panda & Mishra, 2007; Kurzweli & Marcellas, 2008; Lee & Busch, 2005).

The online instructor's role can be viewed under four categories; pedagogical, social, managerial, and technical. Pedagogical role revolves around educational facilitation while the social role is creating a friendly social environment necessary for online learning. The Managerial role includes agenda setting, pacing, objective setting, rule making, and decision making while the technical role depends on the instructors first becoming comfortable with the technology being used and then being able to transfer that level of comfort to their learners.

Coppola, Hiltz, and Rotter (2002) identified three faculty roles: cognitive, affective, and managerial. The cognitive role is connected with the mental processes of learning, information storage, and thinking. The affective role is influenced by the relationships between students, faculty, and the classroom environment. The managerial role relates to class and course management (Liu, Kim, Bonk, & Magjuka, 2007). Developing and teaching online course requires specific sets of skills that faculty must acquire in order to be successful in this new paradigm of learning and teaching (Howell, Saba, Lindsay, & Williams, 2004). Further, the challenge is for faculty to shift their pedagogical practices and to gain the appropriate skills necessary to become effective online instructors. A similar conclusion was reached by Smith (2005).

There is evidence of shifting roles of traditional faculty members when teaching in online environments (Appana, 2008; Browne, 2005; Marfoglio, 2006; Riffée, 2003). Rather than delegating technology and competency based functions to individual faculty members, these roles are now being distributed among teams made up of instructional designers, technologists, and the faculty members themselves. The faculty member takes on the role of instructional designer and technologist without assistance from institutional administration (Oh & Kim, 2007; Williams, 2003). Additionally, the faculty member plays the role of facilitator, teacher, organizer, assessor, mentor, role model, counselor, coach, supervisor, problem solver, and liaison (Liu, Bonk, Magjuka, Lee, & Su, 2005; Riffée, 2003).

There are several faculty tasks associated with designing and teaching online courses. These tasks start during the development phase of the course and continue until the course is delivered (Grosse, 2004). Tasks employed during the development phase focus on the instructional design and organization of the course. According to Anderson (2001), these tasks include setting the curriculum (i.e., building curriculum materials), designing methods (i.e., repurposing lecture notes, mini-lectures, personal insights, and other customized views of course content), designing and administering an appropriate mix of group and individual activities that take place during the course, establishing time parameters (i.e., timelines for group activities and project work), and establishing "netiquette" (i.e., providing guidelines and tips, modeling appropriate etiquette and effective use of the medium).

Delivery of online courses also involves some type of interactions between students, content, and technology. These tasks are categorized as cognitive, affective, and managerial (Coppola et al., 2002).

Cognitive tasks include responding to questions; editing questions and responses to questions; thinking, reasoning, and analyzing information; and helping students to engage in rehearsing and retrieving information. Affective tasks comprise behavior related to influencing students' relationships with the instructor and with other students in the virtual classroom environment. Managerial tasks during the delivery of the course include getting students into the conference as well as interactions with other support staff, motivating and coordinating students to participate in the course, and monitoring and evaluating student learning outcomes.

Other tasks employed during the delivery of the course include facilitating discourse, which means regularly reading and commenting on student postings; establishing and maintaining the discourse that creates and sustains social presence; encouraging, acknowledging, or reinforcing student contributions; setting the climate for learning; sharing responsibility with each student; attaining agreed-on learning objectives; supporting and encouraging student responses; drawing in less active participants; and assessing the efficacy of the process (Anderson et al., 2001).

Anderson et al., (2001) described direct instruction as a primary instructional task. This task consists of presenting content/questions, focusing the discussion on specific issues, summarizing the discussion, confirming understanding through assessment and explanatory feedback, diagnosing misconceptions, responding to technical concerns, and injecting knowledge from diverse sources such as textbooks, articles, the Internet, and personal experience. The direct instruction tasks include functions similar to what Coppola et al., (2002) described as cognitive or affective task.

As many institutions continue to invest in orientation and training to ensure faculty preparation to teach online (Hewett & Powers, 2007), it should be noted that online teaching requires moving beyond traditional pedagogy to adopt new practices as "Not all faculty members are suited for the online environment" (Palloff & Pratt, 2001, p. 21). Further, "Faculty members cannot be expected to know intuitively how to design and deliver an effective online course...seasoned faculty members have not been exposed to techniques and methods needed to make online work successful" (p. 23).

### **Implications for Online Learning and Teaching**

Faculty members have significantly more responsibility for establishing specific structures and processes within an online environment than in a traditional learning modality (Grosse, 2004; Lorenzetti, 2004; Sugar, Martindale, & Crawley, 2007). Faculty members new to online learning environments will need to take time to understand their different roles and responsibilities in the new modality of learning and teaching (Colaric & Taymans, 2004; Lorenzetti, 2004). Additionally, faculty who develop and teach online courses must remember that it is pedagogy not technology that is critical to the success of online courses (Appana, 2008; Lewis & Abdul-Humid, 2006; Shieh, Gummer, & Niess, 2008).

To successfully transition from traditional pedagogy to active online learning pedagogies, faculty members may need to alter their teaching styles used within their "traditional classroom," and embrace new skills to effectively reach the distant learners (Colaric, & Taymans, 2004; Grosse, 2004; Johnson, 2008; Kurzweli & Marcellas, 2008; Maguire, 2005; Nelson & Thompson, 2005; Panda & Mishra, 2007). Further, a critical component of online learning experiences is for faculty to provide ongoing and meaningful communication. It is the responsibility of the faculty members to create a strong learning community among class members (Jones, Kolloff, & Kolloff, 2008; Wegmann & McCauley, 2008).

While the use of traditional faculty may seem to be a quick and easy solution to the need for faculty involvement in online learning, it is important for faculty members to understand the advantages and disadvantages of online teaching (Hurt, 2008). Faculty involvement and success in online learning and teaching requires an understanding of the different aspects of design and delivery of an online course, as well as challenges and opportunities they encounter (Ginzburg, Chepya, & Demers, 2007; Pankowski, 2008). To help faculty develop and teach online courses requires that instructional guides, professional development opportunities, and instructional materials are carefully designed to address all components of the learning and teaching processes including pedagogy, course management, technology and the social dynamics (Caplow, 2006; Grant & Thornton, 2007; Keeler & Horney, 2007; McQuiggan, 2007).

In designing a successful online teaching and learning experience, faculty should understand the components involved in both setting the stage and managing the change process (Maguire, 2005; Park, & Bonk, 2007). Specifically, a sequence of activities, required resources, and timing should be carefully determined and planned (Grosse, 2004; Lorenzetti, 2004). Once the major components such as, course description, specific course objectives, course competencies, evaluation criteria, and teaching strategies (Maguire, 2005; Park & Bonk, 2007) are addressed, faculty may now review the challenges and

opportunities that they might face both during the process of developing and teaching online courses as well as making the shift from the traditional teaching modality to an online teaching and learning environment (Grosse, 2004; Lorenzetti, 2004; Sugar, Martindale, & Crawley, 2007).

Advancements in information and communication technologies have created tremendous opportunities for faculty to expand the educational process beyond the traditional classroom to include geographically dispersed audiences via online. However, in the shift from the traditional learning and teaching modality to online teaching and learning environments, it is critical for faculty not only strive to learn the technologies associated with online learning, but also understand the need to fundamentally change and transform their pedagogical approaches to the learning and teaching process to meet the instructional needs of online students (Colaric, & Taymans, 2004; Grosse, 2004; Johnson, 2008; Kurzweli & Marcellas, 2008; Maguire, 2005; Nelson & Thompson, 2005; Panda & Mishra, 2007). Technology alone does nothing to enhance online pedagogy. According to Jacobsen, et al. (2002), the real challenge is to “develop fluency with teaching and learning with technology, not just with technology, itself” (p.44).

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