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Handbook of Research on Strategic Management of Interaction, Presence, and Participation in Online Courses

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Chapter 16
Interacting at a Distance:
Creating Engagement in Online Learning Environments

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ABSTRACT

Effective online instruction requires understanding not only interaction but also how to facilitate interaction through technology (Moore & Kearsley, 2012). Specifically, Moore and Kearsley (2012) categorize these types of interactions as "learner with content, interaction with instruction [or] interaction with other learners" (p. 132). This chapter examines each of these interaction types and suggests ways to incorporate them into online learning environments (OLEs). The chapter provides techniques and approaches that will be beneficial to both instructional design practitioners and online instructors. It seeks to assuage some of the concerns that faculty have about OLEs and provides ideas and activities that can be implemented by course designers or instructors in OLE projects.

INTRODUCTION

Interaction in an online course looks and feels different from interaction in a face-to-face classroom. In both environments students interact with the content, the instructor, and each other. One difference between these two learning environments is found in the third type of interaction—between learners and other learners (Moore & Kearsley, 2012). An online learning environment (OLE) that epitomizes this type of interaction can make a course engaging and enjoyable; the absence of this interaction can create feelings of isolation, ultimately causing students to become disenchanted

with online courses. To be successful in an OLE, both instructors and students must adjust their approaches. This chapter provides advice and suggestions for instructors, instructional designers, and administrators interested in improving online courses and creating successful OLEs.

This chapter is an outgrowth of the author's online education experience as both an instructional designer and support person for online instructors as well as an online student. This unique perspective has provided him with a better understanding of the types of challenges and difficulties faced by students in online learning environments and enabled him to provide useful

suggestions for making the learning environment a more engaging and enriching experience. To help illustrate the different components and challenges faced when developing engagement in online learning environments, this chapter makes use of three composite instructors (described below) who represent examples of different personality types and instructional approaches the author has encountered as an instructional designer.

- **Troy Henderson:** A new instructor who has just earned a master's degree in teaching. Troy is a big fan of technology and is always eager to use the newest technological tool.
- **Ruth Murray:** An experienced instructor with over eight years of instructional experience. Ruth enjoys teaching and is open to using technology but often becomes frustrated when she feels that the technology is too complicated or difficult to implement.
- **Charles Smith:** A tenured professor with more than twenty-five years of instructional experience. Charles has been teaching the same courses for the better part of his instructional career and is resistant to technology. He is not comfortable with new technology, considers it distracting and ineffective and strongly feels that in-class lecturing is by far the most effective way to deliver instruction.

Teaching in an online learning environment is very different from face-to-face, classroom instruction, and some teachers find the transition to the online environment quite challenging. These three instructors come from different perspectives but ultimately want to be successful as teachers. Throughout this chapter, their perspectives will be incorporated to help frame the discussion and to illustrate possible ways of addressing the challenges of creating an interactive and engaging online learning environment.

Online education affords new opportunities to leverage technology and create interactive and immersive learning environments for students. At the same time, instructors often struggle with striking an appropriate balance between instructor–learner interaction and learner–learner interaction (Moore & Kearsley, 2012). A common example of poor online instruction is when an instructor takes PowerPoint presentations used in a face-to-face classroom and posts them to a learning management system (LMS) as "lecture notes." An imbalance occurs because students are not given an opportunity to engage with the content or with each other; they are simply receiving passive instruction through PowerPoint slides. According to Vasu and Ozturk (2009), "any distance education course is enhanced if traditional lecture notes can be augmented with rich media." (p. 272). So how might the instructor in the above example achieve the balance of interaction needed for an effective online course? He or she could supplement the slides with a short screencast (a video that shows the viewer what is on the instructor's screen and is equipped with narration by the instructor that provides additional context) and then ask students to answer questions based on both the screencast and the slides. This is only one of many ways instructors can make online courses more interactive and create the type of engagement that makes an OLE successful for students.

This chapter is divided into three main sections, as follows:

- Section 1 ("Background") provides a brief background of online instruction and distance education and an explanation of the connectivist learning theory.
- Section 2 ("Creating Engagement in OLEs") outlines the importance of creating engagement in OLEs and explores the changing roles of instructors and students in OLEs and how these roles can create the kind of engagement and interaction that characterizes successful online courses.

- Section 3 ("Field of Dreams") offers solutions and recommendations that can help create the sense of community and interaction instructors should strive for in OLEs. The tools, strategies, techniques, and activities described will provide instructors with multiple options to support the type of engagement and interactive learning found in successful online courses.

The chapter concludes with suggestions for future research in this field of study.

Background

Before getting into the creation of an engaging online learning environment, it is helpful to understand why online learning environments are worth researching and understanding. For instructors such as Charles who are reluctant to teach in an online environment, this can be a helpful way of establishing the justification for the online instructional approach. Prior to 2008, a standard American college education would have been described as the completion of a face-to-face, two- or four-year program. This type of education is commonly referred to as residential education because students attend classes in the same physical location as their classmates and instructors. U.S. colleges and universities have traditionally built their infrastructure and support services around residential learners. Since 2008, however, this model has undergone significant changes. According to Allen and Seaman (2013), over 6.7 million students will take at least one online course during their higher education careers, and more than 30 percent of current higher education students have taken at least one course in an online format. Adkins (2013) predicts that by 2017, over 4 million U.S. students will be taking all of their classes online. What is more significant is that nearly 70 percent of higher education institutions have disclosed that online learning is now a critical part of their long-term strategy

(Allen & Seaman, 2013). Moreover, between fall 2010 and fall 2011, online enrollment increased by 9.3 percent while total enrollment decreased by .1 percent (Allen & Seaman, 2013).

Providing these numerical facts about the growth of online education is not usually enough justification for online instruction for an instructor such as Charles. His counterargument would be that he has been teaching face-to-face for years, that it has worked, and that students are not able to learn in online environments. This is a common rebuttal to online education but one that multiple research studies have demonstrated to be largely unfounded and incorrect. One such study, by Jahng, Krug, and Zhang (2007), showed that there was not a significant difference in student achievement between online courses and face-to-face courses. Moore (2014) found that when comparing students in an introductory Spanish course offered in a face-to-face model versus a hybrid model, there was not a statistical difference between the outcomes of the two classes. In other words, both studies found that students were not harmed by receiving instruction in online or hybrid formats.

Another reason for the explosion of online education has been in response to such concerns as the rising cost of education and the difficulty of balancing family life and school, both of which often preclude residential education as a viable option for a growing percentage of adult learners. Distance education, defined as instruction wherein learners and instructors are separated (Moller, 1998), may better fit the educational needs of these non-traditional students. Distance education can be delivered in a variety of ways—asynchronously, synchronously, or by a combination of the two in a hybrid model. Asynchronous instruction means that it is delivered in a self-paced format in which students have the ability to set their own schedules for completing the course and where interactions do not occur in real time (Croxton, 2014). A popular instructional site, lynda.com, is a good example of asynchronous instruction. Conversely, synchronous instruction follows a

specific schedule for the interactions, such as web or video conferencing or online chat sessions (Croxton, 2014). A face-to-face environment is one in which students meet on specific days at a specific time and place for classroom instruction. An online course, in contrast, entails weekly virtual class meetings conducted by the instructor using such tools as GoToMeeting or Blackboard Collaborate.

Pence (2013) identifies three factors that have contributed to the increased acceptance of online education in recent years: (1) state and federal budget cuts in higher education funding, (2) the potential for high learner outcomes in online environments, and (3) the need for learners to develop new skills in order to succeed in a rapidly changing digital environment. Since the economic downturn in 2008, the demand for distance education options has grown. Colleges and universities have been forced to develop solutions to meet the needs of a larger number of adult students who have lost their jobs and gone back to school in search of new opportunities. Laitinen (2013) suggests that, generally speaking, "students today are more likely to be older, working, attending [school] part-time and learning outside of traditional credit-bearing classrooms than students in the past" (p. 63). For-profit schools have been able to identify this niche and need within higher education and have developed a model that seeks to fill that gap. Bonvillian and Singer (2013) report that the University of Phoenix had a total enrollment in 2012 of over 300,000 and that Kaplan University had more than 77,000 enrollees (p. 23). These are just two examples of the number of students seeking distance education options through the for-profit sector.

Educational institutions must pay attention to the different requirements of non-traditional students and develop support services that will allow these students to tackle the unique challenges inherent in distance education. Tschofen and Mackness (2012) describe four principles of learning—autonomy, connectedness, diversity, and openness—which they identify as components of "connectivism" (p. 124). Connectivism is a learning theory that values the connection between learning and real-life experiences, and it can have a significant impact on a learner's ability to meet a course's requirements. According to this theory, establishing and tapping into various connections is crucial to acquiring knowledge. Bell (2011) references Siemens's work in suggesting that connectivism be considered a "learning theory for the digital age," (p. 102) a nod to the growing reliance on technology in education and to the ease with which information is obtained from a multitude of sources. Thus, as students become more connected through technology, connectivism seeks to link that technology to their education. Distance education has evolved from the correspondence courses that offered little to no opportunity for interaction between instructors and students to the potentially dynamic and interactive courses that Web 2.0 and Web 3.0 technologies make possible. Connectivism requires students to take a more active role in their learning, but instructors must also create a learning environment that supports and enhances students' interaction with content, the instructor, and each other. This represents a transition for students from the traditional face-to-face classroom where they were more passive participants to the more active online environment (Hung & Chou, 2015).

Instructors can take several steps, outlined throughout this chapter, to promote more meaningful connections and create opportunities for interpersonal interactions. The resulting community of learners will be engaged and invested in the course and, consequently, will be more likely to succeed. One can see this evolution in alignment with the evolution of the Web. Currently, we are in the midst of a transition from Web 2.0 to Web 3.0, which focuses on mobile learning. In the earlier Web 2.0, learners had new opportunities to create Web pages, but typically these were

built on centralized computers based in libraries or computer labs. The latter part of the Web 2.0 era saw more home computer use and better tools for developing interactive webpages. The Web 3.0 era, however, is lowering the barrier of entry for the creation of interactive online elements. One of these areas is through e-learning modules. Tools such as Articulate Storyline and Adobe Captivate enable even novice instructors to create engaging and interactive learning objects in a way that simply was not possible ten years ago without specialized training. This trend towards creating tools that provide for rapid development of learning objects will likely continue and further bolster the ability of instructors to create engaging online learning environments.

Notwithstanding the evidence that technology can help improve interaction in the classroom, emerging technologies can be a hindrance to some. Technology should always follow and support the instructional goals of the course. It is not uncommon for eager instructors such as Troy and Ruth to identify a new tool they have heard or read about and then try to simply add it to their course. Without aligning the technology tool to a specific learning objective, though, instructors run the risk of creating unnecessary headaches and challenges for students. If the tool is too complicated to use, requires significant training for students, or simply does not work as intended, frustration and anxiety will result and potentially contribute to a poor learning experience. Particularly in an online environment, instructors need to be mindful of the scaffolding they provide, and it is paramount that learning tools come equipped with adequate instructions and resources. One way to bolster these resources is by creating a short video screencast or digital recording of what is being shown on the computer screen. As instructors demonstrate how to download, set up an account with, and use the tool, students get a clear understanding of what is necessary and expected of them when completing a given assignment.

CREATING ENGAGEMENT IN ONLINE LEARNING ENVIRONMENTS (OLES)

The Importance of Engagement

In traditional face-to-face learning environments, the instructor manages course delivery and dictates the "scope of choices and learner control" (Tschofen & Mackness, 2012, p. 129). "Learner control" refers to the ability of students to determine their own instructional paths (Simsek, 2012). Simsek explains that giving learners control of their own learning will "accommodate their individual differences toward the purpose of maximizing their gains" (p. 1748). Learner control varies across learning environments. For example, if the instructor in a face-to-face classroom wants to show a short video at the start of class followed with a small group discussion, all of the students are engaged in that activity, at that specific time. Students cannot opt out of watching the video or watch it at a different time. In an online class environment, however, students have much more flexibility and control over when and how they complete assignments and thus must be more self-motivated. Pappano (2012) cites Ray Schroeder's three most important factors for online learning as "quality of material covered, engagement of the student, and interaction among students" (p. 3). A poorly designed online learning environment usually offers significantly less interaction between students and instructors than does a face-to-face course. This lack of interaction can cause students to feel isolated and disconnected from the course and can lead to a high rate of attrition, impacting overall course quality.

He, Xu, and Kruck (2014) designate social interaction as an important component in online learning environments, explaining that "online participation alone is not sufficient to achieve deep and meaningful learning" (p. 102). One way to achieve this "deep and meaningful learn-

ing" is by using the Community of Inquiry (CoI) framework developed by Garrison, Anderson, and Archer (2000). He et al. (2014) explain that this framework focuses on three elements: "social presence, teaching presence, and cognitive presence" (p. 102). A discussion of each follows.

Social Presence

Akyol and Garrison (2009) define social presence "in terms of affective expression, open communication and group cohesion" (p. 4). Boston et al. (2009) define affective expression as "the ability of online learners to project themselves through text-based verbal behaviors" and open communication as "the provision of a risk-free learning climate in which participants trust one another enough to reveal themselves" (p. 68). Finally, Boston et al. (2009) define group cohesion as "the development of a group identity and ability of participants in the learning community to collaborate meaningfully" (p. 68). Put another way, this is the concept of making personal connections between the students. Even in an online course, students should feel that they are dealing with actual people (Swan & Shih, 2005). Moore and Kearsley (2012) explain that the technique of creating an environment that supports learners by allowing them to build a rapport is called "humanizing" (p. 137). Akyrol et al. (2009) further explain that social presence provides the basis for a collaborative learning environment and a constructivist online learning environment. Gunawardena and Zittle (1997) found social presence to be "a strong predictor of satisfaction" in an online course (p. 23). Thus, it is important for instructors to work on developing this social presence if they hope to create the type of collaborative and interactive online learning environment that will make learning effective and efficient for students.

So what does social presence look like in an online learning environment? In the author's experience, it is created in the initial assignments. As explained in latter sections of this chapter, this

assignment should be an ice-breaker activity that allows students to get to know both the instructor and each other on a personal level. Furthermore, Rourke et al. (2001) found that students who engage with social presence tend to demonstrate a high propensity for sustaining the content-related communications within the course because they find it more appealing and rewarding. When peers are equally engaged with the course content, they are more likely to comment and respond to more than the minimum required posts; they see an opportunity to connect with peers and to receive feedback and interactions that are both rewarding and encouraging for future projects.

Social presence is a powerful motivating factor for Troy, Ruth, and Charles. Ultimately these instructors are interested in having their students engage with the content, and understanding how a sense of community can lead to demonstrations of student engagement is a critical requisite in migrating to online learning environments. For Ruth, who is open to technology but also somewhat uneasy about its requirements, social presence will help ease her concerns about putting in the effort needed to integrate new tools like discussion forums and other interactive element requirements. Understanding that students with greater opportunities to engage with one another tend to see improved learning outcomes will help assuage her concern that implementing these tools is a waste of time. For Charles, the instructor least open to the use of online technology, the positive impact of social presence on student learning will help him see that it is worth his time to learn how to use these new tools.

Teaching Presence

Teaching presence is defined "in terms of design, facilitation and direct instruction" (Akyol & Garrison, 2008, p. 4). These are defined as instructor responsibilities by Borup, West, and Graham (2012), who assert that instructors need to "motivate, encourage and assess student per-

formance and use direct instruction to scaffold student learning" (p.196). In combination with social presence, teaching presence can also lead to improved student learning (Borup et al., 2012). The role of the instructor in an online course cannot be overstated; it is a critical component for any online course because students tend to feed off the energy, or lack thereof, of the instructor. In the author's experience, courses that are highly interactive and engaging all involve a strong connection to the instructor. When the instructor is present and available to answer questions, students experience much less of the frustration that exists in courses where there is an ostensible disconnect between them and the instructor. In such courses, it feels as if the instructor is disinterested in the learning and overall educational experiences of the students.

Disconnection is often demonstrated through instructor feedback and responses to students. Baker (2011), explaining the importance of providing timely responses to email inquiries from students, suggests that a 12- to 24-hour turnaround is best. The author's experience bears this out; in courses where the author felt disconnected, instructors often took multiple days rather than several hours to respond to emails. When there is not a clear standard for when an instructor is expected to respond, students become frustrated because they expect a fairly immediate response as would occur in a face-to-face course. Such unmet expectations can result in students having negative feelings about a course.

All three of the instructors described in this chapter struggle with this concept. Each would benefit from establishing a set of standards, which is best done initially through the syllabus (Baker, 2011). Ruth and Charles tend to err on the side of not responding quickly enough, whereas Troy can be overzealous in replying and may become overwhelmed by the expectation to be constantly available. While providing this type of access may seem like a good approach, it can set unrealistic expectations that are difficult to maintain.

Answering a student email fifteen minutes after it is received may seem like a good demonstration of responsiveness, but in reality it creates an expectation that *all* emails will be responded to within the same time frame. By stating that he or she will try to reply to emails within 24 hours, the instructor elucidates the expectations of students while establishing an effective way to manage his or her time and obligations to students (Grant & Thornton, 2007). A common thread running throughout this discussion is the need for instructors to be clear and explicit with their students, whether in the form of course expectations or through evaluative feedback. Particularly in online learning environments, it is very important to set realistic standards. In the author's experience, instructors who fail to do so have the most challenges in managing and teaching their courses.

Cognitive Presence

Cognitive presence is defined as "the practical inquiry model and consisting of phases for triggering event, exploration, integration, and resolution" (Akyrol & Garrison, 2009, p. 4). Boston et al. (2009) describe it as the "extent to which learners are able to construct and confirm meaning through reflection and discourse" (p. 69). Borup et al. (2012) explain that the CoI framework provides "insight into ways that online interactions can improve students' and instructors' social presence and learning" (p. 195).

If students feel comfortable in the classroom—whether virtual or physical—they are more likely to excel and make the learning environment more enjoyable for everyone. One of the biggest complaints from students about online courses is that they are boring or lack the opportunity for interaction. For a majority of today's students, their entire education has taken place in a formal classroom setting where they have had frequent, if not daily, direct contact with both peers and the instructor; to these students, an online environment can feel foreign and devoid of this interaction. They do

not feel connected to their peers or instructor and, without these connections, they struggle to understand the course material and fail to remain engaged. They can become frustrated and disillusioned and may ultimately drop the course. If they are unable to make interpersonal connections, a connectivist learning environment cannot exist.

The technique of creating an environment that supports learners by allowing them to build rapport is called "humanizing" (Moore & Kearsley, 2012, p. 137). A great way to facilitate such rapport in the beginning of a course is to implement an initial student introduction assignment. This allows students to become acquainted with one another and has the added benefit of introducing them to the course discussion forum. This assignment can be structured in many different ways, and instructors should experiment with different strategies to find the best option. In face-to-face classroom introductions, students typically take turns going around the room sharing information about themselves. This may be helpful for one or two students but does little to build an interactive community. In the online introduction assignment, pose a question that calls for discussion—such as "why are you taking the course?" or "what do you hope to learn?"—that also solicits the customary demographic information. Even more, ask students to include a picture of themselves with their posts. Then ask each student to reply to a specific number of classmates, perhaps two or three. Be explicit about the number of replies the students must make because, otherwise, they may not interact with many of their classmates. A good rule of thumb is to make the minimum requirements of replies equal to at least 10 percent of the total class enrollment. Having students reply to a specific minimum number of posts will help them make connections and find common interests. Likely they will have to read more than the required number of introductions to find enough posts to which they can meaningfully reply.

FlipGrid (http://www.flipgrid.com) is an example of a tool that enables video interaction between the instructor and the students of an online class. This Web-based tool requires the instructor to create an account and pose questions to which students respond via webcam and microphone (often built into the webcam). Since neither a download nor account creation is required for students to use this tool, it is very easy for them to use. Additionally, the 90-second response limit forces students to be concise and thoughtful. All three of the instructors discussed in this chapter would easily be able to use this tool. Troy and Ruth could use it to create their own videos and participate in the discussion along with their students. Even Charles would find this tool helpful as it would simplify grading. Instead of having to read discussion forum posts or track responses, he would simply click on a single URL to watch each of the students' video responses.

Online learning environments provide multiple methods and opportunities for the students and instructor to both engage in discourse and construct shared knowledge. Ultimately it is the instructor's responsibility to ensure that the OLE supports this type of learning (Moore & Kearsley, 2012). A majority of students in a research study by Borup, West, and Graham (2012) reported that "video communication helped them to develop an emotional connection with their instructor" (p. 199). Specifically, Swan and Shih (2005) identified the instructor's social presence as a significant factor in positive course outcomes for the students. In fact, when the author reflects on bad online learning experiences, one of the first aspects that comes to mind as a contributing factor is the perceived lack of interaction in that course, often evidenced by a feeling of isolation or disconnect from peers and/or their instructor. Thus the challenge for an instructor in an OLE is to identify ways to create the optimal amount of student engagement that facilitates learning and a sense of connectedness. One of the biggest challenges for online instructors—both experienced and new—is finding that right balance between interaction and autonomy. They must provide enough scaffolding for stu-

dents to feel supported and comfortable but not so much that self-directed learning is inhibited. Instructors would be wise to approach the online learning environment as a fluid, dynamic setting that will evolve and develop over the course of a semester. Instructors should view each of their interactions as an opportunity to help shape and guide students, but should also limit restrictions that may hinder students' abilities to learn and develop their own skills. As instructors gain more experience, they will better understand how to maintain the right balance between interactive learning and self-directed learning.

A Sense of Community

Humans are social beings. We desire to be a part of a group and to feel connected to one another. It is not surprising that students seek this same feeling of connectedness in their instructional environments. Attrition is defined in large part as the absence of a sense of connection and community among learners (Dueber & Misanchuk, 2001), and avoiding it is one of the biggest challenges for distance education. Frydenberg (2007) found that attrition rates tend to be higher in online courses than those in face-to-face classes, and Carr (2000) found that the attrition rate for online courses could be as much as 10–15 percent higher than for face-to-face classes. According to Moller (1998), the number of dropouts "could be lessened through increasing the feelings of community among isolated learners" (p. 116).

One of the most powerful ways an instructor can mitigate feelings of isolation in online learners is to foster a sense of community in a course (Moore, 2014). Rovai and Wighting (2005) define this as "a sense of belonging, identity, emotional connection, and wellbeing" (p. 99). A strong sense of community is formed when "… the [learner's] contributions add to a common knowledge pool" and the "community spirit is fostered through social interactions facilitated by a skilled instructor" (p. 100). These interactions must include the

three types of interactions discussed above—social presence, teaching presence, and cognitive presence—between learners and content, learners and instructors, and learners and other learners. The content–learner interaction in which content is merely provided to the learner, as would be typical in a self-paced or correspondence-type course, is simply insufficient (Moller, 1998). Instead, students should frequently and dynamically interact with the content, demonstrate what they have learned, and apply it to real-life experiences. At the same time, they should be able to share their knowledge and insights with peers and receive input and feedback from both their peers and the instructor. Ultimately, increased interactions contribute to the creation of a collaborative learning environment, the foundation of which is a sense of community (Wegerif, 1998). Through this collaboration, students can expand their knowledge and add to the overall instructional value of the course.

The concept of community-building seems so simple yet, whether due to a lack of online instructional experience or an understanding of how to create a sense of community in this new instructional environment, online instructors continue to struggle with this aspect of effective OLEs. For an instructor like Charles, connecting with students he cannot see feels unnatural, which may make him hesitant to embrace the technological tools that can help foster adequate connections. Charles would need to understand that frequent interaction – either student to student or instructor to student – can contribute to a greater sense of community and satisfaction among learners (Dawson, 2006). A new instructor like Troy, on the other hand, may actually overdo the community development aspect of the course and incorporate too many different tools, leaving students feeling overwhelmed or confused. Meanwhile, the challenge for an instructor like Ruth might be determining which tool would best meet instructional needs, yielding a more cautious approach to the tools used in the course. But all

of these instructors would benefit from taking a step back and understanding that developing an engaging, interactive learning environment is less about designing a complex system of communications and more about creating multiple opportunities for students to engage with each other. Activities that allow students to introduce themselves and learn from each other, such as the aforementioned introduction assignment or working in groups throughout the duration of the course, are excellent ways to encourage student interaction. Giving students an opportunity to develop into cohorts may facilitate learning and provide them with a support system as they proceed through the semester. Potentially useful examples of cohort-building activities include "discussion forum ice-breakers, orientation videos, and testimonials from past successful students" (Moore, 2014, p. 24). In addition, cohorts can help fill the feedback gap that results from having a less accessible instructor.

Active student participation is necessary for the development of community in an OLE. Students must interact with both the content and each other. Research shows that the most effective learning occurs between peers, and thus instructors should look for opportunities that allow learners to easily share their ideas and experiences.

The Role of Technology

Technology plays a central instructional role in an OLE. Most online courses use a learning management system, or LMS, such as Blackboard, Sakai, or Moodle. These Web-based systems provide a centralized location for course content, communication, and interactions. By using these systems, instructors can tap into ever-expanding technology resources to create and facilitate a myriad of instructional tools and activities. However, many instructors are either not familiar with or not sure how to implement and maximize instructional technology. An instructional design practitioner can assist a faculty member in creating an online

course, but whether or not an instructor is working with an instructional designer, all technology used in the course must support the course objectives. Technology should never be implemented for technology's sake. The instructor must first identify the specific learning objectives and align those with the appropriate technological tools. Ironically, this is often an area where an instructor who is keen on technology, such as Troy, will run into problems.

Although helpful for an instructional designer to work with instructors who understand technology, such collaborations can still present a challenge. In the author's experience, the tech-savvy instructors often need to take a step back and evaluate their options. These instructors often aim to implement every new tool they hear about without taking time to consider how it will be used in the context of their course or which learning objective it will help meet. As a student in an online course, the author can attest to the type of frustration that can ensue from being overly ambitious. When numerous tools are added to a course with little justification, students may find them to be overwhelming or ineffective, ultimately producing a feeling of disconnect from the course and confusion about the instructor's expectations.

One question to pose is, "How is this tool improving students' abilities to complete the assignment?" Instructors may find it easier to answer this question by completing the assignment themselves using the specific tool; by taking on the role of the student, they will be able to relate to the issues caused by the tool, such as an overly complicated process, difficulty understanding its use, and so on. This may reveal to the instructor that that the tool is not a good fit for the course; or, it may substantiate its use in the course and illustrate what type of documentation and support is needed in order for students to complete the assignment. Both outcomes provide useful information for the instructor and ultimately the students. For Troy, such an assignment will help him effectively evaluate tools in the future and

at the same time identify ways they can be successfully implemented into his course. For Ruth, who prefers to focus on a few tools and become proficient using them, this process will help her narrow down the tools she decides to emphasize. She also may want to keep a running list of the desired functions the tool is not executing correctly to help evaluate other tools; if another tool is presented to her but does not address one of the limiting factors of an existing tool, she will know that she does not need to spend additional time evaluating it.

One of the most common tools used in OLEs is the discussion forum in which students respond to classmates' posts. Discussion forums and virtual class sessions, in which the instructor polls students to get immediate feedback, are just two ways to create a collaborative and engaging online experience. Ultimately, this engagement should help students participate in and demonstrate active learning while shaping and guiding class discussion.

Regardless of the specific tools employed, teaching online is fundamentally different from face-to-face instruction. Instructors will not be able to see their students in person, and the instruction is conducted using some type of technology (e.g., synchronous chat or video sessions, asynchronous reading assignments, or discussion forum postings, among many other methods). A classroom, whether face-to-face or online, should never be a one-way interaction. Instead, it should be a partnership where ideas and information are shared among students and with the instructor. In addition, as Moore and Kearsley (2012) suggest, "the best distance teachers are empathetic" (p. 127); instructors should understand the specific personalities of their students and find ways to engage and interact with them through various mediums. Some students will want a high level of instructor involvement while others will want more independence (Moore & Kearsley, 2012). A

questionnaire given to students at the beginning of the course can help an instructor determine such preferences and expectations. As an instructor gains more experience in teaching in an online environment, he or she will be better able to identify individual student needs and tailor instruction to meet those needs.

The Changing Role of the Instructor

To be successful in an online learning environment, an online instructor must adapt his or her instructional approach. Where to devote time and effort, how to interact with students, and how to structure the course are considerations that may necessitate new skill sets for an online instructor.

Instructor Time and Effort

OLE instructors will likely spend more time teaching an online course than they would in a traditional face-to-face course (Gabriel & Kaufield, 2008). Online teaching involves more than simply taking all of the materials from a face-to-face course and putting them online. Additionally, how instructors spend their time will differ from how they spent it teaching a face-to-face course. In both environments the instructor must respond to emails and provide formative assessments and feedback. However, in the online environment, the instructor may spend additional time observing and commenting on activities in the discussion forum and creating videos or written tutorials and instructions for technological tools being used in the class.

The amount of time an instructor spends on assessment and evaluation may also be different in an online course. One of the first decisions an instructor must make is how to evaluate course participation. In a face-to-face class, he or she may base this evaluation on the number of questions asked and answered, but this approach might not

be possible in an OLE. Instead, the instructor must quantify contributions and equate a grade to them. For instance, students might be expected to post four times to the course discussion forum each week.

Another difference between the two learning environments is the number of assessments. A face-to-face class would likely include several large assessments, such as a mid-term exam and one or two term papers along with quizzes or small homework assignments. In this environment instructors typically lecture two or three times a week and prepare lesson plans and class presentations. An instructor can generally assess student understanding of the material by virtue of the types and number of questions students ask during class. Because online instructors lack this opportunity, they should create a more structured learning environment that offers a higher number of attainable points and includes multiple smaller activities that build toward larger assignments.

Creating formative assessments requires additional work, but in doing so students will ultimately have a better grasp of the course subject matter. In addition, both the students and the instructor can accurately gauge course progress. If the assignment structure is such that the students watch a short video, complete a reading assignment, and then post their thoughts in the discussion forum, the instructor can quickly determine whether they have learned and understood the key concepts of the reading assignment. As smaller assignments build toward a larger one, the instructor can ensure that students have made the progress necessary to proceed.

Interaction with Students

Students learn by responding to various stimuli and interacting accordingly, so it is pivotal to consider the vast differences in instructor-student interaction between an online class and a face-to-face course. The challenge for instructors is identifying which stimuli are most conducive to a

particular online learning environment. Students, meanwhile, must be more self-directed, particularly in an online course that is asynchronous. The freedom and flexibility of an online course may be appealing to students, but they must be more responsible for staying on task. As Tschofen and Mackness (2012) point out, a "potentially unfettered network environment may work best only for adults or the most experienced learners" and this type of environment may be best suited for "those with a large amount of traditional education as a background" (p. 129).

Understanding that students may not have experience with online learning places an even greater burden on the instructor to take proactive steps to support students and create an environment in which they feel safe and can see themselves excelling. For Charles, this will be particularly frustrating and another potential reason why he has doubts about the value of online education as an instructional tool. To help assuage his concerns, the author would provide more of a personal support approach as well as examples of existing syllabi or course assignments in the online environment. By creating a shell of the course in the learning management system and then generating assignments for him, the author would try to show Charles how the assignment itself is the same, just delivered in a different way. Creating sample sites and video demonstrations of how to use the different tools within the learning management system would be helpful also for Troy and Ruth, who are interested in technology but not always sure how to implement or utilize it. These sample sites would help establish a set of best practices that align not only to online learning environments but also to the specific learning management system being used.

Online instructors should take into account that students may not realize they need to approach online studies differently. Most online students, even experienced ones, will begin a course feeling apprehensive. They will be uncertain about what they must do to be successful in the course.

Perhaps they have previously had a poor instructional experience in an online class. Instructors cannot take anything for granted and should view each class as if all the students are new to online instruction. One way instructors can alleviate these concerns is to make themselves more accessible through multiple methods (such as by Skype, email, or telephone). Even if the students do not take advantage of these tools, making them available creates a sense of trust in and connection with the instructor. In a face-to-face class, a student knows exactly when to find the instructor because class meetings are always on a set schedule. This is not the case online. Knowing from the outset the instructor's availability during the semester will greatly reduce student feelings of isolation and disengagement.

An instructor in the traditional face-to-face environment may take an approach that resembles "sage on the stage," lecturing at the front of an auditorium, a setting in which students passively receive information and have no opportunity for interaction or engagement. While it is perhaps difficult to do, online instructors should take more of a coach or facilitator role and guide students through the curriculum instead of dictating their path (Cho & Cho, 2014; Anderson & Dron, 2011; Garrison, 2011; Moller 1998). This flexibility will allow different learning styles to develop and flourish.

The successful online instructor must also identify ways that students can support each other in the learning process. One way to accomplish this is by adapting and responding appropriately to student feedback. Just as it is important for learners to actively engage in the course, the instructor must support and guide exchanges among students without inserting him- or herself into the exchange. The instructor has a pivotal role in the discussion forum. He or she must model good posting behavior while keeping the conversation flowing in a way that encourages student participation and interaction (Garrison, 2011).

Course Creation and Modification

Creating an online course is not a simple process. A full transition from the classroom to an online environment could reasonably take several years. Online course design and instruction may be completely different from the way an instructor was trained to teach, so he or she may potentially have a steep learning curve. The author has found that one of the best ways to prepare to teach online is to take an online course as a student. Direct observation is helpful but nothing can compare to firsthand experience. Instructors often take the effectiveness of instruction for granted, so taking on the role of the student in an online course can provide an instructor with an entirely new perspective on what methods better enable students to learn.

For instance, Charles is resistant to teaching an online course primarily because he believes it is not an effective way to receive or provide instruction. Were he to enroll as a student in an effectively designed online course, it is likely that his perspective of online education would change. In addition, he would experience the feeling of success, and this feeling is key. The author has found that one of the underlying fears of an instructor like Charles, who has always taught and received instruction in face-to-face environments, is that students will not be as successful in this new environment. This fear of the unknown may be demonstrated or appear as resistance to the delivery method, but in reality it is it something completely different. Putting these instructors in an online environment so that they can experience what it is actually like to be a student and, more importantly, having them experience learning in that delivery method will be very effective in getting them to accept and adapt to an online learning environment. Being a student will also illustrate the types of interactions, communications, and issues that are important to this population and enable instructors to make changes that take student perspectives into account.

A thoughtful instructor will recognize and accept that not every student will be successful in an online environment and not all planned activities or tasks will be as effective as intended. Fortunately, creating online courses can be a dynamic, flexible process; an instructor can tweak a course and add content to it, shaping and reshaping it throughout the term of study if necessary. If the instructor notices that a specific unit of information has generated confusion, he or she might add supplemental content or resources, such as interactive lectures in the form of e-learning modules, to subsequent sections of the course.

An online instructor's attempts to reformulate his or her teaching approach to better suit online learning may be initially unsuccessful. A particular activity could fail to engage students or connect them with the material. Alternatively, students may not generate ideas that will keep a discussion thread going because the instructor did not provide a solid foundation for the discussion. Such setbacks could, justifiably, discourage an instructor, leading him or her to attribute these problems to an inability to fully engage and connect with students in the same way that was possible in the traditional classroom. These issues can and likely will occur, and instructors must focus their attention on ways to mitigate such challenges.

FIELD OF DREAMS (OF INTERACTION): IF I BUILD IT, WILL THEY COME? SOLUTIONS AND RECOMMENDATIONS

This section provides solutions and recommendations to help instructors create an online learning environment (OLE) in which students actively interact and engage with the content and each other. The connections and engagement established will result in a sense of community that ultimately is the foundation for a successful learning experience.

Course Design and Structure

To create opportunities for engagement in an online course, the instructor must design it to be conducive to engagement. The three specific areas in which this can be addressed are course navigation, the syllabus, and feedback.

Navigation

Problem: *My students are asking a lot of questions about where to find things. They don't seem to understand how to use the course site. How can I address this?*

In a face-to-face class, instructors can effectively teach without a learning management system (LMS). They can email the students the syllabus and accept assignments via email or in paper form. These are not all possible in an OLE. A successful online course must use an LMS. Of course, an online instructor could accept assignments and correspond with students through email. But, as discussed previously, communicating in this manner would not be conducive to an effective OLE because the students cannot interact with each other or feel engaged in any meaningful way. The specific LMS used by the instructor is not significant—they all allow posts of course content, discussion forums, and other tools that provide opportunities for student engagement and interaction.

Solution 1: *Make expectations consistent and design a navigation scheme that mirrors the course structure.*

Assume a semester is 16 weeks long. Within the LMS the instructor could create eight units and then explain the assignments within each unit. All of the units would be linked in the course site navigation, but the instructor would not release

the unit content until the second week of the preceding unit. The syllabus would show and the students would see the links to all eight units. However, the content for unit three, for example, would not appear until the second week of unit two. Throughout the course and at any given time, students would understand exactly where they are. To foster communication, the instructor could email the students at the start of each unit, congratulating them on completing the previous unit and providing a brief overview of what to expect in the next unit.

The instructor would also want to have consistent assignment requirements and explain them in the course syllabus. For instance, discussion board postings would all be due on the same schedule within each given unit. In the two-week units described above, a particular unit assignment might be due at midnight on the Thursday of the second week. Students could always click on a link for a specific unit and know what to do without referring back to the syllabus. Structuring a course in this way sets clear expectations and allows students to focus on successfully completing assignments instead of trying to figure out what to expect from week to week.

Solution 2: *Make the course an interactive course rather than a "correspondence course."*

Structuring the course and navigation tools in the manner described above would prevent the class from becoming a correspondence course because students would have to progress through each unit together. Since everyone in the class is moving through the content at the same time and pace, they can share their knowledge, insights, and experiences with each other. In addition, the instructor will have more opportunities to gauge student progress and identify areas that need more discussion or explanation. If the instructor sees that the discussion forum posts are following an unintended path, he or she can redirect their focus. By concentrating on smaller chunks of content

at a time, students have a greater opportunity to familiarize themselves with individual concepts and reach deeper levels of understanding. They also will be able to demonstrate a more sophisticated application of the concepts using structured assignments and activities, leading to a greater level of success for the students and an enriching educational experience for the entire class.

Syllabus

Problem: *I don't think my online students even looked at the syllabus. They are always asking questions about assignments and submitting assignments in the wrong format. What should I do?*

The syllabus is the core document for any course regardless of the learning environment. It is even more important in an online course and should serve as its roadmap. It should include a course overview and expectations, a description of each of the assignments with due dates, and the instructor's contact information. Instructors should explicitly state their availability to answer questions (for instance, "Emails will be returned within 24 hours."). In addition, instructors should consider making themselves available via phone or an online tool, such as web conferencing software or Skype.

Solution: *Create a scavenger hunt quiz as an initial assignment.*

In the first day of a typical face-to-face class, the instructor usually reviews the syllabus and asks if there are any questions. In this situation the instructor can observe body language and get visual cues when there is confusion, neither of which is possible in an OLE. One way to address this is by creating a scavenger hunt in the form of a quiz. The quiz should be worth a nominal number of points (maybe two to five) and clearly presented as the students' initial assignment. Allow students to take the quiz as many times as they need in order

to reach a score of 100 percent. The purpose of the assignment is not to assess the students; it is meant to expose them to the course design and navigation scheme and the format of the assignments. Each of the questions should address specific items within the syllabus, such as assignment due dates, the number of discussion forum postings required each week, and the location of other information. All of the answers should be found in the syllabus, and the quiz should randomize questions from a pool. The number of questions does not need to be extensive—between five and ten is sufficient—but the questions should cover the main points or parts of the syllabus. Administering this quiz will accomplish several things. First, it will ensure that students have actually read the syllabus. But more important, it will give the students a sense of accomplishment. Finally, if the instructor is planning on giving online tests or quizzes, this assignment will introduce students to the online quiz format. Remember, the assumption is that this is their first online course. Earning two to five points toward their grade for simply reading the syllabus and understanding the course structure demonstrates to them that success is possible in the course.

Feedback

Problem: *How can I evaluate students that I cannot "see" in class? How can I assess what they are learning?*

Usually a syllabus for a traditional face-to-face class describes a "course participation" grade. This grade is usually determined by the contributions made during class sessions. Determining course participation grades is a challenge in an online course, particularly an asynchronous course. In addition, an online course requires self-motivation. Because students in these courses are generally not required to attend class on a set schedule, they must meet some other quantifiable criteria to demonstrate they are actively engaging with the

course content. This is the double-edged sword of distance education—the flexibility it offers is highly attractive for an adult learner who has a job and family, but students can very easily fall behind in the course work.

Solution 1: *Provide feedback on a unit basis.*

Frequent feedback serves multiple purposes. First, by providing feedback at the end of each unit, instructors give students the opportunity to take corrective action before they start the next unit. The instructor must be committed to providing timely feedback. If course units run from Monday to Sunday, students should be provided feedback and a grade on the Sunday before the start of the next unit. To make this goal more manageable, an instructor could provide feedback on smaller assignments throughout the specific unit. This formative feedback can be helpful to both the instructor and the student; each can evaluate a small course segment (in our example, two-week chunks) to evaluate progress. The feedback from the instructor should be constructive and offer suggestions for improvement. If points are deducted, the instructor should be explicit about why. This feedback will provide an opportunity for the student to take whatever action is necessary to improve in subsequent units. It may also motivate the student to reach out to the instructor if help is needed. Finally, feedback will help the instructor evaluate course structure and assignments. Low overall course grades for a specific unit might indicate that the instructor should make adjustments to subsequent units. Biweekly assessments of this nature can enhance the course as a whole.

A key tool for feedback is the use of rubrics. For every assignment, there should be a specific rubric. It should be shared with students before they complete a given assignment, and the instructor's grading should reference and reflect the rubric. Students will then understand explicitly the expectations for the assignment and the instructor can grade assignments consistently across the class.

Grade objections from students should decrease, as the students are provided with specific descriptions of how they will be evaluated and can work toward those standards.

Solution 2: *Provide video-based feedback.*

An instructor may also want to use screencast tools to provide feedback and assessment of an activity. For instance, if an assignment involves the submission of a Web-based module, the instructor may want to do a screencast that points out the things that were done well along with specific feedback for the parts that lost points based on the rubric. This type of feedback is helpful for an online course because it gives the instructor the benefit of explaining things in more detail. This feedback should align with the rubric to demonstrate to the student exactly how the instructor assessed the assignment. The video feedback can be more specific than a text response by allowing the instructor to go more in depth into areas for improvement.

Tools, Techniques, and Activities

This subsection will discuss how to leverage different tools to create interactive activities for learners in an online course.

Discussion Forums

Problem: *I've heard that discussion forums don't work in online courses because the students don't take them seriously and their posts are no more substantial than "good job." How can I make them more successful?*

Discussion forums can be the biggest source of frustration for both instructors and students in online courses. Students often complain that the discussion forum feels like busy work, and instructors get frustrated with superficial posts from students that neither engage their peers nor stimulate discussion. Consequently, many instructors will not include a discussion forum in their courses. This is a big mistake. As this chapter has shown, there are multiple ways to successfully integrate discussion forums into a course. They afford an opportunity to extend classroom discussion and may encourage students to participate in a more dynamic way than in the classroom; they provide an online instructor endless possibilities for motivating and inspiring students to interact and engage with each other and the course content. Every LMS, for example, Blackboard or Sakai, includes a discussion forum tool.

Solution: *Create guidelines for posting that allow students to demonstrate their understanding of course concepts.*

Clear guidelines for posting requirements and the rules of etiquette are key to a successful discussion forum. Simply asking students to post their comments to the forum is insufficient—give them specific instructions for how often to post and even consider providing them with specific questions or concepts to address. Do not make the students guess what is required in the posts; if a 500-word response is expected, state that in the guidelines. Modeling is a highly effective instructional tool, especially with discussion forums. Randomly select postings each week and comment on them. These model posts will demonstrate the desired format and style and show students that the instructor is in fact paying attention to their posts. Instructors should maintain their roles as facilitators and resist the urge to take over the discussion forum. Ultimately, the forum is intended for student interaction, and the instructor should remain on the sidelines, steering the conversations and providing additional points to consider. There should be a graded component to the discussion forum postings, as a percentage of students' participation grade or otherwise.

Once a discussion forum has been integrated into an online course, it can be used to support

and employ many other activities. One way to use the discussion forum is to prompt students to demonstrate their understanding of a course concept. For instance, ask students to post videos from YouTube or other websites that relate to a specific topic and share their comments. Avoid making the assignment too passive by simply asking students to post a video. Create a rubric outlining what to include in the initial post and provide ample opportunities for learner-to-learner interaction by, among other things, requiring them to provide feedback and comments on their peers' postings. The discussion forum creates an opportunity for students to effectively share and engage with multimedia presentations. For example, students could create short videos and post them to the discussion forum. Because they would not be limited by the time or technology constraints of a traditional classroom, students could benefit greatly from this type of assignment, which offers almost unlimited means to express their creativity. In addition, the instructor can provide helpful and evaluative feedback.

Screencasts

Problem: *I've found software I want to use for an assignment, but the students seem confused about how to use it and are getting frustrated.*

An online course will likely use instructional technology tools that are new or unfamiliar to the students. In a face-to-face course, the instructor can devote the first class to showing students how to use a new tool and answering any questions. In an online course, an instructor must use other means to demonstrate new software or tools.

Solution: *Use screencasts to do mini-lectures, demonstrations, and training.*

Learning is best accomplished by both seeing *and* doing. Fortunately, current technology offers many educational tools that combine visual and

kinesthetic activities to create optimal learning experiences. Screen capture videos, for example, are an excellent option for demonstrations. These videos are easy to create; can serve multiple audiences at once; and allow users to watch, pause, and stop them as needed. The creation of the video occurs in real time, since you are recording the steps as you complete them. . Once the target activity or lesson has been captured, the video may need additional editing. One benefit of making these videos short (two to four minutes, for example) is that if a mistake is made, the entire video can easily be redone. Several programs, such as Jing (http://www.techsmith.com/jing.html), CamStudio (http://www.camstudio.org), and Screencast-O-Matic (http://www.screencast-o-matic.com), facilitate the creation of screen-capture videos. These programs are free but have length limitations on recordings and add a watermark. Limiting recordings to five minutes or less, however, may make these programs beneficial to instructors, compelling them to make short and cogent videos. Instructors wishing to attempt more advanced screen captures, such as zoom and pan functions or embedded quizzing, should consider the licensed version of Camtasia Studio (http://www.techsmith.com/camtasia.html), a product of the same company that makes Jing.

Mini-Lectures

One way to integrate a screencast into your course is to introduce a unit with a two- to three-minute video that explains the lesson's objectives, reviews assignment due dates, and provides additional useful information. The video does not have to be complicated—it can be as simple as appearing before a webcam in the office while providing the information. Instructors can use "screen sharing" or "desktop sharing," recording what they are seeing on a screen or desktop and narrating the different steps of a new procedure. Students can then watch the video and see exactly where to click. These tools are particularly useful in describing a

necessary sequence of steps (for example, logging into the LMS and clicking on the assignments link). Because the procedure has been recorded, students can start, pause, and stop the video as necessary and follow along on their own computers. The instructor also may want to consider giving a short quiz, worth one or two points, at the end of each screencast. The quiz will ensure that the students are both watching the video and beginning the unit with an understanding of all of its requirements and assignments.

Demonstrations and Training

Screencasts can also be used to demonstrate a new product, software, or application. Screencasting tools allow video and audio synchronization and zooming in for emphasis. They can also be used to create a more interactive "Frequently Asked Questions" section for the course or website. Instead of providing a list of written instructions for a new procedure or process, create a video companion that actively demonstrates those steps. This type of demonstration video is a highly effective resource and in many cases can actually reduce the number of questions students need to ask.

Imagine an assignment in which the students are asked to create an animated video using a website such as GoAnimate (http://www.goanimate.com) or Voki (http://www.voki.com). While these tools each provide tutorials, it may be helpful to create customized tutorials focused on the specific tasks the students should be able to complete. Providing these focused tutorials helps ensure th students are not overwhelmed by a tool's available options. Using one of the screen capture options, create a series of short training videos demonstrating how to use the tools. Students new to the tool can learn how to use it and can complete the assignment. Keep the videos as short as possible; six to eight minutes is the average attention span for someone watching a video. Also, keep the videos focused and simple; too much content will make learning

a task more difficult. Breaking a complicated concept into a series of videos benefits both the instructor and the students. First, the videos will be easier to edit—instead of making changes to a 15-minute video, the instructor can re-record the specific parts of the series that need correction. Also, the students can re-watch the specific video they want and more quickly find the answers they need instead of scrolling and searching through a longer video. Finally, an instructor can create a playlist that organizes a series of tutorials into content-related groups.

Web/Video Conferencing

Problem: *I'm teaching in an asynchronous course, but I want to interact with the students in real time. How can I do that?*

The biggest challenge in organizing any sort of meeting is getting everyone in the same place at the same time. Moving these meetings online provides flexibility and, in some cases, additional functionality.

Solution: *Use web/video conferencing to conduct virtual office hours, review sessions, or class sessions.*

Web conferencing tools, such as virtual office hours and online review sessions, are an additional resource for instructors who want to reach out to their students. These tools are easy to manage and, in many cases, free. Several, such as Blackboard Collaborate (formerly Elluminate!) (http://www.blackboardcollaborate.com) and BigBlueButton (http://www.bigbluebutton.org), provide free trial accounts that include a virtual room in which a certain number of people can meet. Instructors may also want to use Google+ (http://plus.google.com) for virtual meetings and course group pages. Meeting participants can communicate using webcams, microphones, phones, or text-based chat

in the virtual rooms. Screen sharing will allow participants to share a desktop or an application, such as Word or PowerPoint, with everyone in the room.

Virtual Office Hours

Having regularly scheduled virtual office hours allows instructors to be more available to their students. An instructor can log into the room and check emails or do other work but still be accessible if needed. And even if students do not avail themselves of this resource, establishing reliable, predictable office hours will go a long way toward building student engagement and trust.

Review Sessions

Students are always interested in asking questions and getting help reviewing for a test, but finding a room and time for a review session that works for everyone is a daunting task. Web conferencing makes these sessions manageable and also enables an instructor to record and publish them for those students who are unable to attend.

Class Sessions

Web conferencing can also be used for an online class session (to offer additional course materials, for example). Most solutions allow the instructor to upload a PowerPoint presentation and then show it to participants in a synchronous Web-based environment.

FUTURE RESEARCH DIRECTIONS

Creating online learning environments that foster student engagement and interaction is a complicated endeavor, and many factors contribute to the success or failure of an online course. While Garrison, Anderson, and Archer (2000) present a fundamental framework with their Community

of Inquiry, it was developed at a time when most online instruction was primarily text-based. With the advent of Web 2.0 and Web 3.0, some assumptions of this framework may not be as relevant.

Shea et al. (2010) identify two areas of potential research for better understanding online teaching and learning. First, they suggest the challenge of being able to "successfully utilize quantitative content analysis for research into online teaching and learning." They also propose the inability to "reliably [identify] affect in online courses" as another challenge and potential area for further investigation (p. 17).

Another area for future research will be how and what technology best supports distance education. Several technological solutions have been discussed in this chapter, but there are countless others. Bonvillian and Singer (2013) point out that universities that emphasize traditional, lecture-based instruction will likely need to make changes to their delivery methods in order to keep up with the changing landscape of higher education. They also assert that such universities will need to "develop a new blended model" in order to create "a new [and] more dynamic role for faculty" (30). Understanding that a new model is necessary is the first step; implementing the new model will probably be an even bigger challenge. It will be interesting to see how these universities address the change to more online instruction and what types of infrastructure and other developments will be needed to help them stay relevant and sustainable. With new tools being developed on a daily basis, additional research will be needed to enable them to identify ways that such tools can best be implemented to support and enhance instruction and create interactive learning environments.

One of the areas in which technology and education have begun to merge are Massive Open Online Courses (MOOCs), which represent another segment of online learning that merits future research. An especially big challenge for MOOCs has been integrating them into the existing higher education landscape (Bonvillian & Singer, 2013).

A contributing factor is what to do with the course credits that have been earned through a MOOC because, for the most part, these courses provide no tangible benefits for students. Some programs do connect completion of MOOC course work to a certificate or a grade, but this is an exception instead of the norm. High attrition rates and a lack of connection between students have been common complaints about MOOCs. This chapter has described how developing and encouraging community and engagement in online learning environments can create effective online courses and positive distance education experiences. Could these concepts be applicable to MOOCs, making them more successful in retaining and matriculating students? A MOOC, by definition, will have an extremely large enrollment, typically in the thousands. How are the concepts of creating connection and community translatable when the enrollment is so high? Changes would need to be made to make it more realistic. For instance, the best practice of responding to at least 10 percent of the enrolled students is not realistic when there are 10,000 students in a class. But what is that number? This is just one of many questions regarding MOOCs that merits future research.

Retention in online courses is a growing concern and another area deserving of additional research. Cochran et al. (2014) point out that while there has been research about retention in online programs, not much of that research has focused on retention within specific courses. It would be interesting to learn more about why students are dropping specific courses and identify possible trends. The course design, structure, and expectations (or respective lack thereof) of online courses that were dropped could be examined to see if any common trends or themes can be found. This information could then be used to develop more effective online courses.

Finally, as an increasing number of courses are delivered online and students have a wider variety of options to meet their education needs, more research should address exactly how students are making decisions about these educational opportunities and choices. What factors contribute to a student's decision to take a face-to-face class as opposed to an online course? Are there aspects or characteristics of face-to-face instruction that could be incorporated into an online program that would make the latter more attractive to students?

CONCLUSION

Online education is here to stay and will only become more prevalent and continue to evolve in the coming years. Higher education should examine what is effective and what is not and ensure that the same high quality of instruction found in face-to-face classrooms is made a part of the online environment. Too often students become disenchanted with online education because of poor instructional experiences or their own lack of preparation or apprehension about a course. While some of these poor experiences can be attributed to student lack of effort, it is necessary for instructors to do whatever they can to help students be successful in an online class. This chapter has examined specific tools that instructors can use to create an interactive and engaging learning environment, ranging from ice-breaker introduction assignments to technology applications such as screen captures for recording mini-lectures and demonstrations. This discussion has only scratched the surface but hopefully will help stimulate ideas and suggest directions instructors can take to create engaging and effective learning environments. Ultimately, the most powerful and effective way an online instructor can impact students and the learning experience is to foster a sense of community. Perhaps no other factor can have a more positive effect both in terms of current student success and future course effectiveness.

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KEY TERMS AND DEFINITIONS

Asynchronous: Not occurring in real-time; not live.

Connectivism: A learning theory that values connecting learning to real-life experiences.

Distance Education: Education in which learners and instructors are separated by time, space, or both.

Engagement: Having continuous interaction with an artifact or person.

Humanizing: A technique of creating a learning environment that feels personal for learners and facilitates their ability to build rapport.

Interaction: The ability to have an input on an artifact or with a person and receive an immediate output.

Learner Control: The ability of learners being able to determine their own instructional paths.

Online Learning Environment: A learning environment with no physical location and in which the instructors and students are separated by space.

Screen Capture: The capture, using either video or an image, of what appears on a screen.

Screen Sharing or Desktop Sharing: The use of a program, such as Camtasia Studio, to record what currently appears on a computer screen or desktop.

Synchronous: Occurring in real-time; live.