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The challenges and opportunities that online education and training present for instructors is discussed, along with strategies that can help instructors succeed in online environments.

Preparing Instructors for Online Instruction

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Man's mind once stretched by a new idea, never regains its original dimensions.

Oliver Wendell Holmes

Imagine that you have used an existing process for a long time, and now you are being asked to use a new process to get the same results. You might be an instructor who has been teaching for fifteen years and using a set way of designing your curriculum and courses. But now you have been asked to redesign some of your courses to be incorporated into an online environment. You have never designed an online course and do not know where to start. This is a very large—possibly overwhelming—challenge for you.

Instructors face this challenge today more than ever before. It is a new challenge that requires a different way of thinking. Currently, face-to-face classroom-oriented instructors are expected to stretch themselves when it comes to online instruction—a very different medium—to facilitate learning.

Teaching in an online environment can present new challenges and opportunities for instructors (Paloff and Pratt, 1999). This chapter explores what some of these potential challenges are and discusses some strategies that can help instructors flourish under these new parameters.

Transitioning from face-to-face instruction to online learning can be a difficult change to make and requires making a paradigm shift (Bates, 1997). Instructors need to remain open-minded and realize that there will be some frustrations (Paloff and Pratt, 2001). Embracing these changes and under-

standing the strengths, weaknesses, and differences in online instruction will lead to successful learning for your students in a relevant anytime-anywhere format.

Initial Framework

Before any design can be attempted, an initial framework must be in place, and the instructor must have the support of his or her organization or institution. Due to a heavier management workload, design, delivery, and follow-up should not be left to the course instructor alone. If you, as the instructor, are left to support your project alone, you run a high risk of creating inconsistencies and, eventually, failures in learning. Do not attempt online instruction without proper support. Another problem is that instructors can be faced with internal resistance to change, which often occurs when we fear a new way of doing something or a lack of knowledge or skills to make that change.

Many face-to-face classroom instructors do not want to be online instructors. In the experience of one of the coauthors of this chapter as an online coordinator of two master's-level programs, the courses that were rated the highest by the students were the courses where the instructor made the necessary changes to adapt the classroom course into the online environment. Not only did they make changes in the initial design stage but each semester they taught the course, they made adjustments based on student feedback and personal experience. If the instructor is truly interested in teaching online, modifications of the classroom version of the course must be made.

The instructor must shift from the role of content provider to content facilitator, gain comfort and proficiency in using the Web as the primary teacher-student link, and learn to teach effectively without the visual control provided by direct eye contact (Smith, Ferguson, and Caris, 2002). It is clear that teaching in the online environment is an entirely different animal (Darling, 2000). Hence, it is important to make sure instructors are selected because they want to work in an online arena and have the skills, knowledge, and support they need to do so.

Design

One of the first questions the instructor should ask is, Is this course to be newly designed, or will I be teaching a course that has previously been designed by another instructor? (Paloff and Pratt, 2001). Teaching another instructor's course can lead to a different set of instructions, such as how much content creation there will be. Other questions: What were the concerns and issues of past semesters? Do I have permission from the former instructor to modify the structure? For a previously designed course, those questions must be answered, but for the purpose of this chapter we will assume that you are starting your instruction from scratch.

Challenges. Online education presents many challenges. In designing your instruction, you must be aware that the initial preparation can be extremely time-consuming. Web-based distance classes require considerably more work, often including hundreds of hours of up-front work, to set the course up (Smith, Ferguson, and Caris, 2001). Entering raw content into the learning management system can take quite a lot of time. In many situations, the content has to be adjusted for online viewing, including adding hotlinks. Exams must be converted into an online assessment system, and the instructor must decide where and how the data will be submitted. Will they be linked directly to a grading system? How will the instructor access the material? If the site is password-protected, how will students access it? Will they use their work or student ID, or does the assessment system require them to memorize another ID and password? Will students be logging on with dial-up modems or behind firewalls?

Lectures traditionally given face-to-face will have to be prerecorded for asynchronous delivery. An instructor who is not used to lecturing into a monitor may take a second or third pass before becoming comfortable. These are just a few of the time-consuming challenges that face the new online instructor in the design phase.

The technology itself is a challenge during the design of online learning. Instructors must understand that the technologies they use can and will cause problems. They will have to learn the technology themselves, as well as seek out support from IT staff. Instructors should not hesitate to rely on these specialists to help them with the design and delivery processes; however, it is also vital that the instructor understand the various technologies that will make up the institution's online learning environment. This can often be difficult; in the traditional classroom, most instructors do not have to rely on others to ensure that their classes are successfully designed and delivered. Depending on the instructor's experience with technology, this can be a steep learning curve.

Many instructors have more than enough technology experience, but there are also pitfalls for being too tech-savvy. When one of the coauthors first became coordinator, he wanted to modernize the entire program in one week: more graphics, more audio and video—in other words, more bells and whistles. What he quickly learned was that the design of online instruction can benefit from cutting-edge technology, but it must be used sparingly and tested vigorously before deployment. Bells and whistles are nice, but successful student interactions through reliable servers with near 100 percent uptime, easy-to-use applications, and fluid course navigation are much more important. Simplicity, transparency, and reliability were preferred, despite minor glitches and downtime. Do not overuse technology, be wary of first or beta versions of catchy products, and you will be able to keep the focus of the instruction on the learner.

When designing the course, the instructor needs to come from a place of learner-centeredness. The focus has to be on the learner and not the tech-

nology. The learners need to be challenged with a problem to solve, a project to complete, or a dilemma that needs to be resolved. The instructor needs to facilitate an environment in which learners can discover the content on their own, carrying out assignments and creating learning opportunities that are self-directed (Hootstein, 2002). Although technologies hold strong potential for remote collaboration, the power of expanded learning hours by accessing course contents anytime is the most widely used dimension of online learning at present.

Online instructors have to create problems that are realistic to the learner. The information or content needs to be adapted to the purposes and tasks to which it will be applied. A more project-based approach should be favored over a traditional didactic approach so that learners can ask questions and stay engaged in the process. An instructor can use case studies, collaborative activities, small-group dialogue, and simulations to engage them in problem solving. Instructors ask questions and assist the learners through the process.

A third challenge in the design of online instruction lies in keeping focused on students. As stated previously, a critical component of an online class is regular and frequent participation by the students and the instructor. Your main role, as instructor, is to ensure and facilitate a high degree of participation and interactivity by the students (Fredrickson, Clark, and Hoehner, 2002). This can be done through the use of e-mail, newsgroups, listservs, chat rooms, instant messaging, conferencing, and multiuser discussions.

Online instructors should help learners foster collaborative skills through project management, time management, consensus building, and leadership (Hootstein, 2002). If instructors truly want to keep a high degree of student focus, they must not directly transfer their traditional lecture-format material into an online format without making adjustments to activities and assignments. Developing an online course does not mean that you take traditional course syllabi, lecture notes, or PowerPoint presentations and simply place them intact on a Web page (Fredrickson, Clark, and Hoehner, 2002). In order to design successful online instruction, one has to develop appropriate resources in which the pedagogy matches the learning design.

As we have discussed, the design of an online course is very different from a face-to-face classroom course. Instructional design is important in e-learning “because you have a machine in front of you that has the power to put people to sleep, so the courses have to be compelling,” says Carliner (2002). The design needs to include more interactivity within the online environment.

Strategies. Let’s look at some potential design strategies that will help instructors confront the challenges in the online environment. Hands-on learning will help instructors learn the technology they will be required to use for the class. Instructors are strongly recommended to take an online

course or attend a videoconference to see what it's like to be a learner (Mantyla, 2002). This should be done prior to the development of the online course.

According to Hoostein (2002), the goal of the instructor is "to make the technology transparent." This allows the learner to focus on learning and not get stifled with technology issues. The more instructors are familiar with the technology, the higher their degree of comfort, and the more they will be able to solely focus on the learners.

Flexibility is a helpful strategy to keep in mind when learning the new technologies and the pitfalls that may occur along the way. Instructors need to remain amenable to what can happen with the technology. For example, one participant may not be able to access a page that the class is currently viewing. This is a common occurrence, especially during synchronous hours. Using a technology support staff and being familiar with the online learning environment is essential in these situations. When handled correctly, this will not only foster a trusting relationship with the learner but will allow for fewer content-based interaction interruptions by not hindering class flow. Many unforeseen circumstances can occur with technology, and instructors need to plan for them in advance, during the design phase, so that they are prepared when the content is delivered.

Securing a back-up plan in case the technology fails is yet another important strategy in the design phase. Who is responsible for your servers? Whom do you contact if they go down right before class? How do you contact them? Will they be monitoring the servers 24/7? During the synchronous sessions? Your learners must also know where to go when technology is not functioning properly. Having at least three avenues for the client to contact the instructor and support staff is vital. Instant messenger office hours, a tech-help e-mail address, a 1-800 number, and emergency chat boards are all reliable means for back-up and emergency strategies. The instructor should have all of these in place before delivering the course.

Perhaps the most important strategy in the design of online instruction is to include an assistant or cofacilitator to provide support for the aforementioned time-consuming tasks. Having enough advance time to design your instruction before going "live" (start *at least* a few months before your course will be offered) is essential. A plan must be in place to organize your support staff so that they understand their roles and know how they can support the instructor.

A key cog to this plan would be to create a leader guide or online assistant handbook that specifically outlines production tasks, expectations, and online terminology and may even include application tutorials. For example, include instructions for writing on the white board, conducting the warm-up exercises, and posting text into the chat area. The guide should be very specific and cover the when, the why, and the what. Formatting the guide so that tasks can be quickly identified will also help the instructor be better prepared for the problems that arise when an assistant may not be

available. In designing this handbook and examining proposed tasks, the instructor can make informed decisions about which items are manageable without help and which need to be modified or shared.

It is important to meet with the support staff at least a month ahead of the first week of class to walk through and discuss the exercises and course structure. This meeting is best held in a face-to-face format so that the assistant can prepare for exactly how the course will function on a weekly basis and become clearer about the overall course delivery and management plan of the instructor. This will not only allow the assistant to become familiar with the content but will also foster trust. One of the most important factors in a successful online course is creating an environment of trust between the instructor and the support staff. The instructor-assistant relationship should represent a true team. For example, if the assistant suggests that the trainer take a moment to review the questions in the chat area, the trainer needs to trust that the issues raised are worth considering.

Other issues that the instructor and support staff should discuss include how to respond to content questions, emergency procedures, chat room procedures, process checks, course ground rules, and so on. For example, the assistant needs to know how to respond to a participant who may arrive to class late or leave early. If someone logs on twenty minutes into a synchronous hour, should the assistant log that information for the instructor? The assistant must be prepared with a variety of options in order to keep the course moving according to schedule. Discussing these issues in advance will help provide guidance to the support staff and will be invaluable during delivery.

A final strategy in the design process is to prepare for capturing student focus in a distance environment. Many of the most successful online courses that our coauthor has assisted with provide multiple media types for the same instructional contents, such as PowerPoint slides, transcripts, and pre-recorded audio to address different learning styles and hold the students' interest. Instructional design is knowing your audience, knowing your content, knowing what about that content your audience needs to know, and presenting it in a way that's logical and compelling (Carliner, 2002). In order to make the course interesting, the instructor might want to include online guests in their classes, authors of articles, or experts in the field, who may reside at a distance yet participate in online, threaded discussion (Smith, Ferguson, and Caris, 2001).

When designing the course, it is best to focus on a problem-based approach. Instructors will need to aid the learners with resources and expertise that will help them solve problems. Conferencing accessibility will assist with this approach. Using e-mail, teleconferencing, Web databases, and audio- and videoconferencing will help increase interaction among the participants. Through these tools, learners will be able to solve problems in a creative way.

You are now ready to deliver your course.

Delivery

As we have discussed, instructors must manage online courses differently from the way they do it in a classroom. When delivering the course, their role has to change to accommodate the needs of online participants. Instructors may have to pay attention to cues that are different in an online atmosphere. The instructor is a vital part of the success of the distance learning event and needs to think of delivering training as a collaborative way of supporting the needs of the learners (Mantyla, 2000).

Challenges. Initial delivery challenges in the online environment include but are not limited to (1) having better listening and tracking skills, (2) asking more questions, and (3) spending extra time and effort engaging and enhancing the dialogue among the learners.

Other challenges lie within the synchronous online learning environment:

- The tool-set changes from flipcharts and LCD (liquid crystal display) projectors to interactive white boards, chat rooms, and application sharing.
- Short program times of one to two hours minimize an instructor's ability to make adjustments when the class strays from the schedule.
- The languages of eye contact and body movement are eliminated, and new cues fight for the instructor's attention, including chat between participants and private off-line questions sent to the instructor, as well as participants' white board activity, application sharing, and Web browsing.
- Participants rely on trainers for help with technical problems, from determining why content isn't synchronized to resolving computer crashes (Hoffman, 2001).

Instructor-to-student feedback may be the greatest challenge of online instruction delivery. As an instructor, one should focus on providing an environment that encourages feedback. This is a vital part of online delivery because often learners can feel isolated and detached due to the lack of face-to-face time and the absence of nonverbal signals.

A final challenge in the delivery of online instruction is staying organized throughout the course. Keeping the master course schedule updated, managing due dates, holding online office hours, and communicating with your support staff are key challenges that must be met to ensure a successful experience for your students.

Strategies. There are a number of strategies one can use to meet delivery challenges. Communicating with your support staff during the instruction is a key delivery strategy. Debriefing the weekly experiences is vital to the instructor-assistant relationship. After a live event, share notes about what was successful and what could be improved. This formative assessment of the course will sustain continued improvements. Make sure you

document lessons learned for different instructors and assistants who may support the class in the future (Hofmann, 2001).

During delivery, while the instructor is teaching the course, the support staff's main function will be to troubleshoot; this will keep the flow and agenda fluid. An assistant could support learners getting logged in to class, administrative concerns, and technical difficulties (Duckworth, 2001).

This assistant can help transform synchronous time into trouble-free, fast-moving, interactive events that keep learners involved and the instructor on track. Other key tasks for an assistant might include handling technical questions and problems and managing messages in the chat room.

Quite a bit of crucial interaction can occur in the chat and message areas that must be captured and archived. For example, often after an instructor posts a question, five to ten different participants start sending questions at the same time, and the instructor cannot answer all of them. The support staff can help the instructor choose the most relevant inquiries and move forward. The assistant can watch for signals from participants, answer questions, and alert the instructor if his or her involvement is needed. The assistant's role can include scribing on the white board and warming up the participants before class begins. In short, the instructor can stay focused on content while the assistant takes care of everything else (Hoffman, 2001).

Another delivery strategy is to use new applications that may be different from the traditional classroom tools. Discussion boards, such as Web-Board, provide a forum for both synchronous and asynchronous discussions and are an essential tool for exchanging ideas. A discussion board helps students get their questions answered. Divide your discussion board into a weekly forum, such as Week 1, Week 2, and so on. Providing structure to the board can eliminate confusion and help learners organize their work.

According to Fredrickson, Clark, and Hoehner (2002), the critical components of the discussion board include instructor-directed threads, participant participation, graded participant participation, participant behavior, and instructor participation.

Through instructor-directed threads, an instructor can lead the conversation and ensure that all topics are covered. Student participation is a critical component because it requires regular and frequent participation by both the students and the instructor. The instructor can facilitate and ensure that a high degree of participation and activity will occur. Graded student participation requires regularly posting productive comments that advance the knowledge of the learning community. Participant behavior involves having the group develop some boundaries around dialogues on the discussion board. Instructor participation is vital to the success of the online course, but instructors' comments should not exceed 15 percent of the total postings for the course.

In addition to discussion boards, other components that are vital to the delivery strategy are an online syllabus or master schedule, listservs, rosters, a technical assistance center, curriculum map, an announcements area, and

a clear course structure. The syllabus or master schedule serves as a contract for students, as well as a guide that provides them with links to access other course features. Every instructor should have a listserv that the instructor and the students can use to send e-mails to each other and to the class. A roster or teams-people page allows students in the class to obtain photos, e-mail addresses, current work backgrounds, and educational history. Personal information is optional but recommended, particularly for the programs that are 100 percent online, to help foster a virtual team environment. Technical support information can be posted on a Web site to assist students in obtaining help in the event of technical difficulties. This page should be updated frequently and include a “Top/Recent Issues” link.

Announcements need to be posted somewhere for students to see—on a home page, an intro page, or a discussion board conference. Announcements should also be updated regularly. Even when the instructor does not have an announcement, participants can preview upcoming classes, suggested readings, and reminders. If instructors use the announcement section regularly, participation in the course increases (Fredrickson, Clark, and Hoehner, 2002).

E-learning delivery must include a clear course structure. Chunking information into manageable modules will provide for the greatest amount of learning. Weekly lessons provided to the student should include asynchronous audio lectures, graphic slides, and a transcript. The lecture notes can provide links to reference materials, activities, notes, outlines, lesson assessments, additional readings, and an evaluation survey (Meyen, Tangen, and Lian, 1999).

The final delivery strategy is attending to the challenge of timely and specific feedback. Feedback provides guidance to learners on ways to improve their performance. Feedback can be delivered via e-mail, on a discussion board, or within a student tracking and grading system. From the very beginning of the course, the instructor should foster a high-quality feedback environment by establishing an expectation around the importance of instructor-student and student-student feedback. Open communication is important for the learners because they need to be supported in receiving answers to their questions via e-mail in a timely manner. The instructor needs to plan on checking and responding to e-mail on a regular schedule that is posted for the participant (Orde, Andrews, and Awad, 2001). E-mail, if not managed properly, can become overwhelming in a short period of time, particularly for an online course. One strategy that can help manage feedback is to set up a Frequently Asked Questions (FAQ) page. A FAQ page can facilitate self-direction for the learner in answering their questions.

Follow-Up

There are many advantages to online instruction once a course is completed. The content can be stored, retrieved, and disseminated anytime-anywhere,

as opposed to the face-to-face course in which such interactions are time- and place-dependent and perishable.

Challenges. “If you develop your courses properly, including give-and-take with users, you will have made some basic decisions about critical issues such as screen design that you can leverage in future projects” (Carliner, 2002). Although this is true, prior to the design, development, and delivery of your online instruction, you do not want to adhere to what one faculty member has loosely termed the “in-the-can” syndrome.

In-the-can syndrome can be defined as allowing your course to remain unchanged as you continue to teach it over time. This is a major challenge to online instructors. It is very easy for an instructor to fail to revisit their online content. Lectures have been recorded, assignments have been set, exams have been programmed, and content has been archived; it is easy for the instructor to simply change the dates and teach it again. The gain for the instructor comes when the course is actually delivered.

Strategies. Once again, the most successful online learning experiences that some of the coauthor’s students have shared with him are of the instructors who choose to avoid the in-the-can syndrome by consistently renewing their course. Using summative feedback and personal evaluation, the instructor should make adjustments to the learning content each time it is taught. Maybe the students found that the introduction lecture was weak, the guest speaker in Week 5 did not hold their attention, the midterm exam when translated to online format was too short; many improvements can be made through basic evaluation principles. Instructor evaluations can be administered online. Continuous student-to-instructor feedback will create a stronger learning environment and support the needs of the student for future instruction.

Conclusion

Instructors are faced with many new challenges when teaching in the online learning environment. There are key strategies one must follow during the design, delivery, and follow-up of instruction. We have discussed potential pitfalls and some ways to strategize within the new medium. As technology changes, we will be faced with new hurdles in the online teaching arena. Embracing these changes and understanding the strengths, weaknesses, and differences in online instruction will lead to successful learning for your students in a relevant anytime-anywhere format.

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