

# Saving Your Sanity When Teaching in an Online Environment: Lessons Learned

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## Abstract

To address critical shortages of special education personnel in rural areas, institutions of higher education are using the Internet to bring personnel preparation programs to prospective and practicing teachers in rural communities. However, often instructors of such courses receive little to no training on how to design and implement a course in the online environment. While learning management systems may differ at various colleges and universities, there are many helpful strategies that can make the processes of course development and implementation easier for the novice and experienced online instructor. In this article, four instructors from two different universities with substantial distance education experience offer practical tips for creating and managing online courses.

Personnel preparation programs in special education struggle to address teacher shortages in the field that are becoming ever more urgent in response to the new requirements established by the No Child Left Behind Act in 2001 and the reauthorization of the Individuals with Disabilities Education Act in 2004. Today, many special education programs are attempting to address these shortages, especially in low incidence disabilities and the early intervention, via distance education (Ludlow & Brannan, 2001, dated 1999; Ludlow, Conner & Schechter, 2005).

Although the shortages are seen across the country, they are particularly high in rural schools (Menlove & Lignugaris-Kraft, 2004). New technologies for distance education have allowed school systems to hire interested individuals already living in a rural area and provide them with access to personnel preparation programs (Menlove & Lignugaris-Kraft, 2001).

Institutions of higher education have used a variety of technologies such as satellite broadcasts, interactive television, audio conferencing, and the Internet (Skylar, et al., 2005) for distance education. However, as the capabilities of the Internet have improved, more colleges and universities are choosing this as their mode of delivery. The United States General Accounting Office (2002) reported that 84% of four-year institutions in the United States offered online courses to some 1.5 million students. In 2006, around 3.2 million students took one or more online courses, with 96% of institutions with enrollments of 15,000 and over offering online courses (Sloan Consortium, 2007).

The Internet, however, is not without its limitations. Some rural areas offer only dial-up connections with old phone lines that offer even less than the 56K speed as the only option to access the Internet. (Rural Assistance

Center, 2007). This option, though generally adequate for email and discussion boards, is less than optimal for other applications often employed in distance education (e.g., video streaming, desktop conferencing) that require broadband access. Rural participants sometimes can access higher speed connections to the Internet at the community's public library or their local school system (Rural Assistance Center, 2007). These sites, however, present issues of firewalls and filters that block access to certain web sites or file types. Still, more connection options such as satellite and cable Internet access are rapidly becoming more available in rural areas. As this occurs, more personnel preparation programs may choose online courses and programs as a viable delivery system in rural service areas.

As distance education technologies change, so must pedagogy and instructional methods. Use of the Internet as an instructional delivery system is still in its infancy. In this article, we share with you some simple ways that online courses and programs can be made better and easier for all stakeholders involved in the process (i.e., instructors and learners) based upon our collective experience of 25 years in online developers and instructors at West Virginia University and the University of Kentucky. Even though you may use different technology formats or a different learning management system, we offer these recommendations in the hope that you can benefit from the lessons we have learned about how to survive (and thrive!) when teaching in the online learning environment.

## Delivery of Online Instruction

The array of technology formats that are available for delivery ranges from completely asynchronous (multimedia modules, email, discussion boards, quiz

forms and assignment dropboxes, and blogs and wikis) to synchronous (text chats, voice chats, real time media streaming, and desktop conferencing—both audio and video). You can determine the best application(s) for your program and your learners by considering the institutions capabilities, the learners' access, and your own technology skills. Here are some suggestions that may help.

### *Developing Current Video for Asynchronous Online Streaming*

The use of audiovisual (AV) media in an online course can simulate face-to-face delivery for distant learners even in an asynchronous delivery system. Video and audio segments that explain and elaborate on content can accompany bulleted points on graphic materials (e.g., presentation slides), thereby eliminating the need for the instructor to spend hours writing text to accompany them. In addition, these segments have the advantage of allowing learners to hear vocal inflections and see facial expressions that convey meaning in addition to providing demonstrations that may illustrate key concepts or skills. For useful information on creating online video, please consult Collins and Keramidas (2006) and Collins, Schuster, Ludlow, and Duff (2002). Here are some basic suggestions for using streaming media.

*Keep video techniques simple.* The easiest (but perhaps not the best) method of creating video is to record lectures as you teach them in a face-to-face course. Technical support persons can digitize the recorded lectures, synchronize it with the presentation slides, and post it to a streaming server for learners to access it. This process requires a team of professionals working together to get the video content online in a timely fashion but may require updating the next time the course is offered. You may prefer to pre-record the lectures, using a single assistant to videotape brief lectures (20 min or less) in a classroom setting or in a faculty office without participants one semester in advance. Although this eliminates comments and questions, it allows more time to prepare and post the video segments and avoids the time crunch when everything must be done while the course is underway. You may choose to use new video editing software (i.e., Apreso) that automatically synchronizes video content with slides and is simple enough to learn and apply. Your institution may make "smart carts" available for faculty to use when producing video/audio content synchronized with slides (e.g., Camtasia software). These are compact units with laptop, microphone, software installed, and a detailed instruction booklet that explains the process from initial "audio checks" to saving files for streaming. If you produce your own video clips you can solicit feedback from technical support staff or the learners themselves and you can also experiment with

production quality and instructional design variables until you get a "look" that works for you.

*Do not date content.* When recording lectures live and even when pre-recording lectures, you will be tempted to refer to required course readings, time-specific events, software, web sites, and other material that quickly dates course content. It is generally preferable to make more general overview statements in discussing such topics; for example, you can present an overview of the importance of interactions in distance education courses without referring to a particular learning management system or identifying specific articles on the topic. You will find it helpful to provide a general overview of each module topic and then refer learners to the updated course readings for current content.

*Study the professionals on television.* Guest lectures or interviews with educators or families can enliven the video segments. These can be recorded in a television studio using a production team, which may result in a "talking head" discussing a variety of topics. Or, you can follow the lead of award-winning interview shows and record lectures or interviews in a classroom or other natural setting with a simple but more interesting background (e.g., color, texture, plants). The camera (operated by a single assistant) should first focus on the course instructor who introduces the topic, then shift as the instructor turns to begin the interview, and finally focus slowly on a close-up of the face of the person being interviewed with only a partial glimpse of the instructor's back to the side. Not only does this make the process of conducting and completing these video interviews simplified but it also results in a more relaxed atmosphere for both the instructor and the guest. In addition, the elaborate (and generally expensive) process of scheduling a television studio and the personnel involved has been eliminated in favor of booking a smart classroom and assigned staff already identified for distance learning production.

*Avoid heavy editing responsibilities.* Lengthy recording demand lengthier (and quite tedious) editing sessions. If you make long, continuous recordings on a topic, you will need to view it to mark beginning and ending points for smaller segments that will be easier for students to download and do not require them to sit passively in front of the computer for long periods of time. You will also want to edit extraneous material from the recordings, including mistakes and mispronunciations, undesirable noises (e.g., coughs) or extraneous comments. However, you can avoid the need for time-consuming editing sessions by recording content in short segments (i.e., less than 20 minutes) that are focused on a single content topic presented by an instructor or a guest.

*Use comparative interviews with the same or different speakers.* As time passes, you will find that you want to

record additional lectures or interviews on the same topics. Instead of replacing initial interviews with subsequent interviews, you may want to introduce video segments by informing learners that the interviews demonstrate how perspectives or practices have evolved over time. This prevents you from having to re-record information that has not changed (e.g., program descriptions) while highlighting the dynamic nature of the field. Older interviews are kept and dated for historical context so that learners can compare these to more updated interviews with the same or different experts.

*Consider accessibility during development.* The Americans with Disabilities Act requires instruction to be accessible to individuals with a variety of disabilities; institutions vary in their policies as to who is responsible for ensuring accessibility of online courses and programs. If you do not address accessibility in the planning stage and/or during recording, you may find yourself facing considerable time and expense to retrofit video segments to meet accessibility guidelines and you may or may not get assistance from technical support staff. Various accessibility techniques (e.g., making transcripts of video and audio lectures or interviews, adding closed captioning, using audio to describe video segments showing visual techniques) are available, but you should adopt principles of universal design in the development phase since it is less costly and time-consuming in the long run. In addition, you may want to review your institution's policies on the fiscal responsibilities of making online courses accessible prior to development.

### *Promoting Participation in Asynchronous Discussions*

Most online courses rely heavily on the discussion board for both instruction and interactions. Because discussions are often integral to the learning process in online courses, we now share some strategies to increase the quantity of posts and the quality of responses. Again, we refer you to Collins and Keramidas (2006) and Collins et al. (2002) for additional information.

*Make expectations clear for participation.* It is not enough impetus for participation to post a discussion question and assume learners will participate because they want to interact with others in the course in a way that facilitates learning. Learners need to know on the first day that they enter a course that they will be required to participate in a discussion as part of their course grade. In addition, they need to know how the instructor plans to score discussions. For example, course requirements may specify that learners will be expected to both post a strand in response to the discussion question and to reply in the strands posted by classmates. In the announcement section of the course, a statement outlines that each discussion is worth 5 points with the following requirements for earning points: (a) 5 points =

high quality post and multiple responses across several days, (b) 4 points = high quality multiple responses across several days, (c) 3 points = high quality post and multiple responses only on single day, (d) 2 points = high quality responses only on single day, (e) 1 point = minimal quality post and minimal quality responses across days or on single day, and (f) 0 points = no participation. When grading discussion participation, you will find it helpful to first read discussions all the way through as a continuous strand, posting your own comments when appropriate, then use the learning management system to group posts by individual learners to assign points.

*Set timelines for discussion.* In addition to knowing how the instructor will grade the discussions, learners need to know when discussions begin and end. You can control the beginning of a discussion by revealing the question on that day. You should make clear that late posts are not accepted and that classmates will not be expected to respond to late posts. In the event that a learner has a legitimate excuse for not participating (e.g., family crisis, illness), you may choose to allow him/her to work individually on an alternate assignment (e.g., posting an analysis and summary of the discussion). You may find it helpful to establish a separate deadline each week for discussion board questions: one for a response to the instructor's original post to which every learner must respond and the second for responding to classmates—which typically comes later in the week. This gives learners time to post their original response, review other postings, and formulate considered and articulate responses to their peers' ideas.

*Establish a separate discussion for off-topic comments.* To keep discussions focused on the topic, you should create an alternate discussion board (titled something like "Student Café") where learners can interact on topics not related to the course, thus building a sense of community that would occur before and after a face-to-face class session. As instructor, you may choose to refrain from regular participation in this discussion, unless you feel a response is warranted to a specific topic. Topics posted by learners will include such items as asking for (and receiving) support from others in a family crisis or locating information for addressing problems with a family pet. They should also feel free to voice occasional frustrations with the course (e.g., getting technology to work, keeping up with fast pace) that allow you as the instructor to make appropriate adjustments.

*Use questions to link to updated content.* The discussion board allows you to easily adjust the course each semester to keep content from becoming outdated and to focus attention on new content covered in the course readings. For example, you could pose a question about making courses accessible to students with disabilities and learners could discuss new technologies

presented in the course readings. You can also require each learner to “link back” to knowledge content during each weekly discussion board posting, for example, by specifying that s/he include at least one cogent reference to the weekly module readings, video clips and/or web sites to receive full points.

*Use group activities within discussions.* One way to make discussions more manageable is to place learners in groups. You can appoint (and rotate) leaders who are responsible for posting a summary of the group’s discussion for the rest of the class; questions can be the same or different across groups. In setting up groups, consider equalizing groups; for example, each group can pair experienced learners with less experienced learners or forcing reluctant learners to serve as leaders. In addition, try to create as much diversity within the groups as possible (e.g., avoid putting learners together who are already in a program cohort or who work together in the same school or agency; group students together from different parts of the home state, from different states, from different disciplines, and from different career perspectives. This type of grouping, in and of itself, is educational and moves people out of a “comfort zone” into a more dynamic learning environment.

*Be creative in discussion formats.* Discussions do not have to be limited to a question, so you should experiment with various formats, such as assigning learners to opposite sides of an issue in debates, having them engage in role-playing, and assigning a problem with a group outcome (e.g., designing a course syllabus).

### *Techniques and Strategies for Developing Research and Information Skills*

All courses need to emphasize the lifelong importance of developing and maintaining research and information acquisition skills as part of the course experience—and online courses are no different. The explosion of electronic and information resources, the challenge of evaluating and effectively applying the same, and the changing and evolving electronic world of databases create and sustain the need for instruction in information literacy for all learners. Here are some ideas for accomplishing those goals in an online course.

*Consider team-teaching with library faculty.* A number of universities have established the position of distance learning (DL) librarian to provide equitable services for both distance education faculty and learners. The DL Librarian may be responsible for engaging in multimedia course design consultations; managing, along with valuable team members, copyright and electronic reserve needs for distance learning faculty and learners; and creating bibliographic instruction workshops or modules for distance learning cohorts. In some instances, you may even be able to insert the library into your online course by incorporating a special section

or web link or email contact. Using a team-teaching format within the online environment presents learners with more than one perspective and also provides a valuable professional resource for you and for them.

*Build information resources as a team.* Many courses require learners to identify and abstract one or more refereed articles and one or more scholarly/professional web sites that are relevant to the topic being discussed. To successfully accomplish this throughout the semester, learners may be required to participate in an introductory bibliographic instruction session in Module I on how to access electronic resources on distance education. The DL librarian may compile and present the session using multiple formats including video streaming, relevant links, resource definitions/examples, and tips/hints for searching. The session may be made available on demand or delivered in real time; in some cases, it will be generic and applicable across all courses and programs, while in others it may be designed for a specific course or program.

*Provide a “comfort zone” for orientation and initial submissions.* It often helps to schedule the first two weeks of the semester for learners to learn to successfully engage in the learning management system environment (Blackboard in this case), complete the bibliographic instruction session, and complete the first assignment for resource building. You should consider asking learners to utilize their newly-gained knowledge in an *ungraded* exercise: searching for and identifying one article and one web site on the Module I topic. Learners may be required to submit the article citation and abstract to a separate database link within the online course and to submit the web site URL and abstract to a different separate database link within the online course. You may also want to have learners submit their article and web site choices to the DL librarian for review and critique. This allows learners to go through one complete cycle of the Building Information Resources assignment and receive valuable feedback from the DL librarian on the soundness and validity of their resource choices prior to receiving a grade for the remaining module assignments. Learners typically appreciate the opportunity, if necessary, to refine their search strategies and resubmit the assignment without any link to points or a grade.

*Value of assignment on multiple levels.* After an initial ungraded activity in Module I, learner article and web site submissions for the remainder of the course may comprise as much as 30% of the total grade. These requirements can result in a significant impact on learners’ research skills and abilities, recognition of the value of the DL librarian and the multiple services provided, and ability to access valuable resources on a variety of course topics compiled by themselves as a team. You will find it helpful to include the requirement that no article or web site posted can duplicate a previously posted submission or a course content article

or web site. This ensures that each resource submitted is unique and adds value to the overall group product. At the end of the course, every learner will have contributed to extensive annotated bibliographies and webliographies on course topics that will be useful to them throughout their program and study and their professional careers.

### *Delivering Content Through Multiple Resources*

A face-to-face class session typically relies primarily on the instructor as the mode of delivery, perhaps supplemented by the occasional video segment or guest. However, online courses should not merely duplicate the traditional classroom delivering course content but should capitalize on the multiple formats available in the online learning environment, especially the ability to hyperlink to content within and outside of the course. Using a variety of modes to deliver course content ensures that learners stay engaged with the materials and activities as well as their classmates. Here are some tips for more effective and interesting content delivery.

*Make synchronous content easy to access.* Asynchronous modes, because they are delivered on demand, can be accessed at any time and from any location determined by the learner. Synchronous modes, because they must be delivered in real time, offer the immediacy of a live class session, but not the convenience of on demand learning. To remedy this, you can provide supports to help the learner during the class session, such as an outline (e.g., a copy of the presentation slides or a full text outline or one with missing keywords) of the information to be covered, reducing the need for note taking and fostering greater attention to what is occurring on screen. If possible, you should also provide an archive of the class sessions so that learners who miss the class or those who would like to review the information have the ability to do so.

*Offer asynchronous content.* Another way to deliver course content is through learning modules; modules are asynchronous, multimedia and interactive materials and activities. A module can include a webquest where learners go to particular web sites to seek information and respond to questions posed by the instructor, allowing them an opportunity to review current research information and conflicting points of views on the same subject, while giving them their resources they can refer to when working in the field. A module can include text and images and/or audio or video recordings that illustrate particular points or demonstrate critical skills, accompanied by commentary by the instructor. Finally, a module can include interactive exercises that require learners to engage in critical thinking, experimentation, or practical applications of course content.

*Case studies simulate the real world.* Online programs often successfully employ case studies within their

courses (Dennis, 2003; Hayward, & Cairns, 2001; Phillips, 2005). Case studies allows a learner to apply and practice content in multiple meaningful contexts, providing an anchor experience (Bransford, et al., 1990) that can foster individual understanding or group discussion that helps learners to see various perspectives and potential solutions.

*Information is there on the Internet—use it!* All course management systems and most desktop conferencing tools allow the instructor to “send” learners to identified web sites for exploration of text, images or media segments prior to or during online discussions. You can incorporate this feature into asynchronous and synchronous discussions, individual and group assignments, and even quizzes and exams. Just remember to check the web sites every semester to confirm that they remain active and that the original link is still working.

*Guests add variety and meaning.* Many instructors in face-to-face courses use guest instructors or panels to offer additional expertise or perspectives; you can also “bring” guests into online courses, using them either asynchronously (via recorded segments) or synchronously (via access to the text or voice chat or audio or video conferencing tool). A panel of parents and/or teachers (or even children or adults with special needs) addressing the topic of autism can make abstract topics come to life and heighten learner motivation.

### *Building An Online Learning Community*

One drawback to an online course is that learners can feel isolated, especially if all interactions are individual and asynchronous. Unlike face-to face class sessions where side conversations, study groups, and professional relationships develop naturally among learners, the online learning environment must be deliberately designed by the instructor to build community.

Some simple ways to promote learner interactions and relationships are outlined below.

*Create a learning community area.* Instructors should consider creating an area within the course where learners post a personal entry, generally as one of the first assignments within the course; the entry should include a brief narrative of professional and personal information outlining where they are in the program (e.g., I am in my 3<sup>rd</sup> semester in the early intervention special education program), identifying where they live and/or work (e.g., I am a special education teacher in Jones Elementary School in Jonesville), and listing some background and perhaps a few hobbies and/or interests (e.g., I am married with 2 wonderful kids and we all love to camp and hike). You may also want to ask them to attach a digital photo to their entries so that you and their classmates can visualize them when interacting online. This Learning Community area can be designed as a

discussion board that all course participants can access, but individual web pages and blogs would produce the same effect. As instructor, you should read the entries and review the photos and also encourage other learners to learn more about their peers and look for professional and personal interests in common to simulate the casual conversations that occur during time spent before and after a face-to-face class session.

*Discussion does not have to be "whole class."* Some online courses have too many learners to have only a single discussion group; you will find that focused and substantive discussion of content is more likely to occur when each group consists of 6-8 students. With more learners, the discussion becomes cumbersome, and with fewer, the discussion tends to be sparse. You may assign learners to discussion groups based on their professional interests, prior experiences, or career goals, asking them to express choices on a parameter such as age/grade level (e.g., infant/toddler, preschool, elementary, secondary) if you want learners with similar backgrounds and interests to discuss issues in relation to a particular group of individuals with special needs. Learners do not have to be assigned to the same group across multiple courses or semesters, since they generally benefit from exposure to different perspectives. If your course has learners with varying levels of experience with online learning, you will find it desirable to mix inexperienced with experienced learners in the discussion groups, so new learners may learn by example to recognize what is a quality posting, how often to post, and when to request help and encouragement from the instructor or peers.

### *Monitoring Academic Integrity in the Online Environment*

Critics of distance education often cite issues related to academic integrity as a main concern in distance education courses and programs (Baron & Crooks, 2005); however, acts of academic dishonesty such as plagiarism and cheating occur as often in the face-to-face classroom as they do in the online environment and they must be addressed by instructors in much the same manner. Since most interaction in an online course occurs through written word via text chats, discussions, assignments, and assessments, the instructor should become familiar with the writing style of the learners. This practice, along with new tools and techniques available, will assist you in monitoring the integrity of all learners. Here are some strategies you can try.

*Establish an integrity policy and apply it!* The first step you can take to ensure that learners maintain the desired level of integrity is providing a statement of the academic integrity policy for the course. Many, if not all, institutions provide a student handbook that outlines their academic integrity policies, but many students do not read this document. If you provide the statement on

the syllabus or other required reading, you can guarantee that learners have opportunity to read about what the institution considers plagiarism and dishonest practices. By having a statement within the course that the student types and submits with their name as a "signature," the students become responsible for the policies. If you also require students to sign a form that they have read and will comply with the statement or ask them to include such a statement such as "I have not copied, plagiarized or otherwise cheated" with *all* submitted work, you will not only remind them of the policy but also have evidence that they were aware of it should you find a violation.

*Design assignments and exams that discourage cheating and plagiarism.* Through careful design of assignments and exams you can also assist learners in maintaining academic integrity. Assignments that require contact with real individuals, families, or classrooms and exams that require responses to hypothetical cases place less pressure on students to cheat or plagiarize than do timed, objective tests based on the textbook or term papers on stock topics easily purchased from individuals or services. Real and hypothetical cases are much harder to copy and instances of academic dishonesty are more easily detected because answers submitted that are too similar are readily noticeable to anyone grading them and essay responses make it easier to recognize a match or mismatch to a learner's typical writing style. For those who like to use objective tests, many learning management systems provide tools for the instructor to create large pools of questions on different topics that can be randomly selected and/or presented in a random order for each individual exam.

*Do not ignore that "funny feeling."* No matter how carefully you design a course to promote integrity and discourage dishonesty, some learners will still engage in academically dishonest practices because they have used them successfully in the past or because they are under pressure to perform. Whenever you notice any wording of phrases that is not typical of the learner, any time what is submitted makes little sense, or if you get a feeling of something "being off", it should prompt you to investigate further. Keep in mind that work taken from multiple sources may vary in person, tense or grammar between sections, while information copied from HTML pages or PDF files will often have unusual fonts, wide margins, or extra characters.

*Use new tools to detect dishonesty.* The Internet is an excellent resource for checking for plagiarism, as are the full text databases of published work available through the institution's online library. The Google search engine allows you to type in words or phrases, sentences or titles, or author names; if these phrases are on the Internet, the search will list the web site where they can be found. Google Book Search, which requires registration but is available at no cost, is another web site

that allows you to search numerous digitized books, chapters, and articles on various subjects, listing all materials that contain the phrase with the page number on which it appears. If your institution subscribes to Turnitin! or another plagiarism detection service, learn how to use it or teach learners to use it. As an instructor, you can submit learner work to be compared to published text as well as to work submitted by other learners; or, you can require learners to submit their work along with documentation that it has been reviewed in this program and no evidence of plagiarism was found.

*Follow policies and document, document, DOCUMENT!* The only way to ensure academic integrity is to insist on it. Having all the tools is not enough—you must follow the guidelines and procedures set forth by your institution when academic dishonesty is detected, and make all learners aware that you will and do follow the policies, especially those related to timelines for reporting incidents and penalties for infringements. When academic dishonesty is suspected, documentation is imperative. You should make multiple electronic and print copies of the suspected work and any supporting artifacts (e.g., peer's work that may have been copied, the texts, articles or web sites that contain copied phrases, etc.) and store the evidence in a safe and secure location.

## Implementation of Online Instruction

The need to develop and deliver an online course is now a requirement for almost every faculty member at every institution of higher education. Online instruction improves access for learners and increases enrollments for the institution, but it also creates more work for faculty (Kearsley, 2000): a higher number of learners to oversee, interact with, and grade as well as a greater volume of contacts with individuals rather than groups. To compensate for the additional workload, many institutions set lower course caps (10-30 students per course) than for face-to-face courses (Vilic, 2004) or provide teaching assistants or other instructional supports for larger enrollments (Moore & Kearsley, 2005). Online learners also spend more time in online courses since they must not only learn course policies and content but also master technologies that may be unfamiliar to them (Gilbert, 2001). Poorly designed online courses may result in learner overload that can contribute to poor performance, higher attrition rates, and dissatisfaction with online learning (Palloff & Pratt, 2003). As an online instructor, you not only face the many challenges associated with technology-mediated instruction, but also bear the burden of responsibility for implementing an online course that sets reasonable expectations for yourself and for your learners, yet still results in high quality teaching and learning experiences for all.

## Challenges and Issues in Online Course Implementation

Instructors have stated (and research backs them up) that teaching online requires more time and effort than teaching face-to-face in a classroom. Online instructors generally spend more time in both the development phase and the delivery phase; during development, they must plan and prepare course materials in advance (Meyer, 2002), while during delivery, they need to respond promptly to multiple individual contacts by learners (Boettcher, 2004). Some reports suggest that both development and delivery may require as much as 2 to 3 times as much time as face-to-face teaching (Palloff & Pratt, 2007). This may be due in part to *design considerations* or the need to prepare materials well in advance to upload them to the course (Simonson, Smaldino, Albright, & Zvacek, 2006), in part to *management considerations* or manipulating the technology formats for effective and efficient instruction (Ko & Rossen, 2004), and in part to *delivery considerations* or addressing the increased frequency of contacts with individual students (Palloff & Pratt, 2003).

Most colleges and universities have adopted a learning management system (LMS) to simplify the work of developing and delivering courses (Dabbagh & Bannan-Ritland, 2005). So most likely you will be using a system such as Blackboard, WebCT, or eCollege that provides an integrated system of tools for creating instructional formats (such as modules, assessments, assignments) and managing instructional routines (such as mail, discussion boards, grading rubrics and grade books). Other institutions provide online support systems such as instructional designers, media producers and/or Web developers to assist instructors in developing online courses (Moore & Kearsley, 2005). If you are fortunate, you will have access to talented individuals with adequate time to help you design your online course and prepare dynamic instructional materials for it. But the reality is that, like most instructors, even with all this help, you will find yourself largely responsible for designing and managing your own course. A few simple tips are all you need to help you feel satisfied and successful rather than anxious and overwhelmed as an online instructor.

## Design Considerations for Online Instruction

Design is an integral component of any course, but in an online course two design elements must be addressed (Ko & Rossen, 2004): *instructional design* and *technical design*. You probably already know principles of effective instructional design (Gagne, Briggs, & Wager, 2005), which uses research on learning to recommend strategies for instruction such as developing objectives to address multiple levels of learning, linking content and

assessments to objectives, and planning learning activities for engagement. But you may not be as familiar with principles of efficient technical design (Butow, 2007), which uses research on online behavior to design user interface mechanisms such as screen layouts, link and button titles, hypertext versus linear tasks, and navigation menus. Considered together, instructional and technical design imply consideration of logic in content and transparency in technology (Palloff & Pratt, 2007): logical wording and display choices assist learners in locating information, while transparent links and menus focus learner effort on learning content rather than technology. However, it is not necessary for you to take a course in online design or hire an expert consultant to plan and create your online course. Here are some suggestions to assist you in designing your online course to make it easier to manage for you and your learners.

*Use a consistent structure within and across courses.* To the maximum extent possible, design a layout for course components that is the same or as similar as possible within a course or across courses in a program. Consistency in the look, feel and use of components such as the syllabus, content modules, and learning assessments can make life easier for you and others. Your design choices may be constrained by the LMS you are required to use, which may already have standardized the names or locations or applications of certain formats and tools, but wherever you have choices, be planful in deciding upon a structure that makes sense with your course (if designing as an individual) or program (if designing as a faculty team). Label Course Requirements as such in all courses, not as Course Policies or Assignment Directions in some. Locate Course Syllabus in the first position (top or left) and Troubleshooting Tips in the last position (bottom or right), not wherever they happen to appear when you create them. If you offer multiple online courses in a single program, consider developing and using a template or shell that can be applied to every course and section. A consistent structure goes a long way to reduce time spent learning how to access all needed components and minimize stress for new (or technologically challenged) online learners.

*Organize course components in a predictable manner.* In planning the course, design a layout that makes sense even to those not familiar with online learning. Key sections can be laid out in a predictable order, beginning with the information or activities needed—put the orientation module, directions or practice exercises where learners will encounter them as soon as they enter the course since that will be most useful to them. Content or activities that are associated with due dates can be organized in a time-dated order (perhaps even with timed releases) so they are available when needed. Information can be arranged hierarchically from simple

concepts to complex ideas, modules can be listed from first week to last week, assessments or assignments can be listed in the order in which they are due (instead of alphabetically), and components accessed most frequently, such as the mail or discussion board can be located in a prominent or easily accessed location. Select a title and/or icon that makes intuitive sense and communicates clearly; the title Content Modules with an icon of multiple file folders both tells and shows what learners can expect to find in one section while the title Group Projects with an icon of people sitting around a table cues readers of the purpose of another section. A predictable organization makes it easier for everyone (including you, the instructor) to find what they need when they need it, reducing time spent searching for a specific component or contacting the instructor for assistance.

*Create elements to limit wait time.* Internet users expect easy navigation and quick response, so when preparing materials in any file format, consider the type and size of the file and how long it will take to open, review and manipulate it. Consider these aspects in creating all elements of your online course: file size; layers of content; length of pages; type of file. The size of a file (in kilobytes or KB) should be no more than 100 KB for dial-up modem access and no more than 300 KB for high speed modem access to facilitate loading into the browser window or downloading to the desktop. Layers of content should be limited to no more than 6 levels of hyperlinks to reduce repeated linking to access content. The length of a Web page should be no more than 2-3 screens of text; this limits scrolling to find specific information to about 10 seconds. The type of file for a specific application should be chosen to facilitate a specific use and minimize load time. Text documents that learners need to respond to and submit online (such as an assignment format) are best created in a standard text format such as .rtf, .txt or .doc, while those that must only be read and should not be changed (such as a syllabus) are best created as .pdf which “fixes” the pages in the desired format. Image files (such as charts, graphs, photographs) should be optimized for the Web by using .gif for drawings or animations and .jpeg (smaller size only) for photos; free image resizing software is available online at many different sites for modifying resolution (number of pixels for width and height) and quality (compression rate) to control file size. Streaming media (for audio and video segments) should be created using real time streaming protocol (RTSP) which offers immediate playback following a brief buffering period instead of a lengthy download time. Media files should be limited to short clips no more than 90 seconds for dial-up modem access and 2 hours for broadband access to ensure smooth playback with little distortion in motion or sound quality. Files that require only a few, uncomplicated actions to access, and open quickly and

easily will allow learners to stay engaged in the learning process and avoid wasting valuable instructional time.

### *Management Considerations for Online Instruction*

Management of the online course once it is underway consumes a considerable amount of instructor time. A self-study of one course found that online instruction required at least 14% more time than face-to-face instruction (Tomei, 2006). A few basic rules can help you to simplify management tasks and free up more time for instruction.

*Prepare all materials (or as many as possible) in advance.* If you can prepare all course content and activities and upload them to the online shell before the course starts or shortly after it is underway, you will reduce your own work and control one source of stress for learners. Many individuals will look through all course materials early in the course and will query you about missing materials; you will find it tedious to respond multiple times to explain why Module 10 is not yet available or the directions for the software evaluation do not appear in the list of assignments. Once the course is up and running, much of your time will be spent assisting learners in mastering technology skills as well as content, so you will be hard pressed to engage in development activities and may soon feel overwhelmed if you still need to create course components. In addition, advance preparation makes it easier to check for and correct any missing elements or inconsistencies across components, which will also reduce the amount of confusion (and anxious queries from learners) later on. Acknowledging the alliterative adage will serve you well in online courses: proper prior planning prevents poor performance.

*Practice efficient file management.* Any online course has many files to be managed, and yours will be no exception, so the time you spend up front in developing a file management system will pay off in less time spent during the course as you need to add, revise and refine course components. First, establish and use conventions for titling all files; a short, easily recognized code works the best, such as course number, abbreviated file content, file type (e.g., the syllabus for SPED 604 might be 603Syllabus.doc while the form for the Professional Development Plan assignment in CISP 324 might be 324PDPlan.pdf). Titling conventions like these allow you to locate files on your desktop or online quickly and make course revisions easily, replacing a prior file with a new file (with the same title, of course) by simply uploading and over-writing the existing file, often preserving existing links. Second, organize files into folders either by content (all files associated with the first module in a folder labeled Module 1) or by file type (all .gif and .jpeg files in a folder labeled Images and all document files in folders labeled DOC and PDF). Not

only does this help you to locate and revise files with less effort, but it also allows you to download files to be used in other courses and upload them by folder; for example, a folder with files containing a set of directions for using online formats could be used the following year in a different course using a basic download-upload maneuver or shared with a colleague by setting the link for the folder to allow public access by other LMS users. Time spent planning, preparing and organizing course files will allow you to use and/or change them more easily, in less time, and with less stress in every future application.

*Conduct routine maintenance.* To manage the complexity of an online course, you need to be prepared to engage in regular maintenance on a daily and/or weekly basis, followed by a general clean-up at the end of the course. Fixing problems as they occur or are noticed saves time and effort in the long run. Establish a formal routine that is followed every time to simplify the process: work through multiple courses always in the same sequence (as they appear in a list, in numerical order, by size of enrollment—whichever you find easiest) and access course components in the same order by priority (for example, reading mail, then reviewing postings, then grading submitted work). Make any corrections immediately if at all possible and notify learners quickly to prevent confusion and concern—an ounce of prevention is worth a pound of cure when it comes to online courses! If the correction cannot be made now, note the needed modification in a file for Future Changes where it can be reviewed prior to creating materials for the next scheduled offering. For management routines that you may use infrequently (such as creating and releasing an assessment form or adding individuals to a previously formed threaded discussion group), take time to prepare a set of directions for yourself that you can refer to in future applications. Discipline in course management distributes your time and energy in several more tolerable installments rather than in fewer lengthy, fatiguing sessions and goes a long way toward preventing little problems from becoming big ones.

### *Delivery Considerations for Online Instruction*

Delivery of any course, online or otherwise, represents the time during which instructor and learners come together and the acts of teaching and learning occur, usually within the context of a semester or quarter. Delivery of online instruction encompasses two elements: presentation of content and interaction with learners (Dabbagh & Bannan-Ritland, 2005). Presentation of content, whether asynchronously through recorded lectures or multimedia modules or synchronously via conferencing tools, usually occurs within controlled time frames. However, interactions

with learners in the 24-7 environment of cyberspace puts tremendous pressure on the instructor to monitor activity in online courses on a continuous basis and provide rapid responses to content questions and succinct solutions to technology problems (Cranton, 2006). Online instructors need to maintain a delicate balance between setting boundaries to protect their own time while offering sufficient contact to meet learner support needs (Palloff & Pratt, 2007). When instructors fail to establish designated times for working in their online courses with appropriate break periods, they quickly become overwhelmed and frustrated (Simonson, Smaldino, Albright, & Zvacek, 2006). Online instructors also must recognize that it is not the sheer number of interactions they have with learners but rather their ability to establish a genuine personal connection that is critical to a productive learning experience (Picciano, 2002). For asynchronous interactions, instructors should provide detailed and unambiguous instructions for activities, clear expectations and scoring criteria for performance, and well-defined timelines for responding to learner queries and submissions (Palloff & Pratt, 2003). For synchronous interactions, instructors can prepare scripts, conduct systems checks, and engage in dress rehearsals to increase their own skill and confidence in using desktop conferencing tools for interactions (Clark & Kwinn, 2007). Instructors should also encourage learners to interact with and support each other by explicit course policies and modeling of comments early in the course (Collison, Elbaum, Haavind, & Tinker, 2000). You may find some of the ideas here useful in delivering online courses that are satisfying to both instructor and learners.

*Establish policies to regulate interactions.* Online courses, especially those with large enrollments, require instructors to spend a significant amount of time reading and responding to learners in mail messages, discussion postings, and assessment or assignment submissions. To keep learners from becoming frustrated (or providing poor evaluations of your teaching at the end of the course), you need to be clear about how often you will be present online to provide an opportunity for immediate interactions as well as how often and what times you will check the course to respond to questions, comments and work through delayed interactions. You may find it helpful to be present in the course more frequently in the early days or weeks and taper off as learners become more familiar with formats and more independent in using tools. You also may prefer to check several times per day (start, middle and end of work day, for example) in short sessions rather than endure a single marathon session once a day or every few days. You must set due dates for submission of required products that distribute the workload across the course for the learners' benefit as well as your own; allowing submissions at any time or all at the end of the quarter or semester almost guarantees

inadequate performance (and lower grades) on their part and binge-grading sessions that consume precious personal and family time on your part. You should consider limits on late submissions and re-submissions of work for the same reasons; allowing an extension of a few days for a legitimate reason may be appropriate but an indefinite extension is not, while permitting a second submission to correct mistakes and bring a grade up is fair while multiple re-submissions may simply mean the instructor has done the work instead of the student. Social conventions regulate people's behaviors in many activities and settings by establishing expectations for performance and consequences for failure to meet them; so, too, should course conventions provide an outline for instructor and learner behaviors that will contribute to effective communication and appropriate relationships.

*Plan ways to reduce the volume of contacts.* The larger the enrollment, the more important to is to manage learner contacts with the instructor to focus your time on the most important instructional tasks and the ones most directly related to desired learning outcomes. If the LMS you are using has self-correcting assessments, use this feature for quizzes and exams to not only grade work but provide feedback to learners. If some work does not need to be graded, develop simulated interactions, such as activities created as .swf files in Flash that require the learner to type a response into a textbox, then hit a submit button that displays a model answer you have constructed in advance. If the class size is more than you can manage alone (15-20 is considered the maximum for an online course with no help), ask for permission to employ a teaching assistant or graders. If course requirements lend themselves to group exams or assignments, use them to reduce the amount of work submissions that need to be graded. If you use the same requirements over time, save copies of your responses to discussion postings, assignments, and exams and re-use them, adapting as needed for a specific context. Whenever possible, respond to groups rather than individuals; for example, in discussions, skim a variety of responses and prepare a summary of themes or concerns and post a single response to all members; on assignments, make notes of common strengths and weaknesses and distribute them to the whole class rather than typing the same statement multiple times in individual comments. Instructor time is a valuable commodity and need not be wasted in mindless, repetitive tasks when it could be used for more meaningful interactions.

*Offer multiple options for technical support.* Learners, especially those new to online learning in general or to a specific LMS in particular, need help in learning to use technology formats well. Even when the college or university provides technical assistance via a Help Desk, you will find that learners often contact the instructor with technical questions. To reduce the need for help

and to avoid spending much of your time providing directions and trouble shooting problems, you may want to try the following strategies. Provide detailed, step-by-step directions for course requirements that demand some technical skills; for example, in the orientation module, include an exercise in downloading and installing a plug-in program such as Apple's QuickTime to the browser for use in other course activities; in the policies and procedures for participating in discussions, include a section on how to post an original message and reply to postings by others; in the directions for completing an assignment that requires graphed data of behavior change, incorporate instructions for creating a table and converting it to a graph format in a spreadsheet program to be submitted as a .csv file. Create a discussion topic in the course titled Technology Forum or Troubleshooting where the instructor can post technology tips and respond to questions from learners and where all course participants can offer suggestions, share new information and provide moral support. Finally, provide access to the course for a technical support person (where available) whom learners can contact directly for individual assistance. Providing an array of technical supports such as these gives learners the confidence to be successful in the online learning environment and frees up your time to focus on teaching rather than troubleshooting.

### Summing Up These Lessons Learned

We hope that you will find some or all of the suggestions we have shared here to be helpful to you as you plan, prepare, deliver, and manage online courses. The strategies we have learned through (sometimes painful) trial and error over multiple courses and many years may allow you to avoid some of our mistakes and ease your transformation into an effective online instructor. As you gain more experience with online instruction, perhaps some day you too will share additional successful strategies with your colleagues in this and other journals. Here are some general guidelines we offer as a closing gesture:

- First and foremost, as with nearly all aspects of our work as faculty as well as in many areas of daily life, the most important principle for design of online courses is the KISS rule (Lynch, 2002). Simplicity can be achieved through focus on critical components, incorporation of logical and orderly organization, and transparent layout and navigation. If you create online courses that are easy for learners to use and simple for yourself to manage, you will accomplish multiple goals: promoting effective teaching and efficient learning; minimizing the stressors associated with using new technologies and learning new formats; and creating a manageable workload for instructor and learners alike. You will need to be prepared to encourage and support yourself as well as your learners to negotiate the sometimes steep learning curve that is

needed to master online technology formats and to acquire patience when encountering the constantly changing routines and frequent technical glitches that accompany implementation of emergent technologies.

- Any investment of time and effort in development pays off in a savings of time and effort in delivery (Hofmann, 2004). It is simply not possible to be too prepared or to be prepared too far in advance when teaching an online course. Spending substantial time in development not only results in a better course (and one much less likely to need revisions before the next scheduled offering), but also reduces course-related responsibilities during delivery to a level that you are more likely to be able to live with. In addition, advance preparation of all or nearly all course materials allows you to concentrate your energy during delivery on working directly with learners through presenting content, engaging in interactions, and assessing learning outcomes without being distracted by the need to create, correct, or revise materials on the fly. After all, isn't engaging in intellectually stimulating dialogue with and providing emotionally supportive feedback to learners why you chose a career as an instructor in the first place?
- Learning to use technology will always consume some time for both instructor and learners (Yannie, 2000). People typically expect technologies to make their lives easier, instead of making them harder and to require less rather than more time to complete a task. Online environments may contradict those expectations, since actively browsing hyperlinked modules may take more time and effort than passively taking notes during a class lecture or selecting radio buttons or typing responses in an online quiz form may be more complicated than circling the selected answer or jotting a sentence on a paper text.
- Finally, remember that, when it comes to the online environment, most faculty are "digital immigrants," while most learners today are "digital natives" (Prensky, 2001). As an instructor, you may struggle to adopt time-tested methods of learning and teaching based on success in face-to-face contexts into online formats, while the learners you teach, having grown up surrounded by and comfortable with new technologies, may expect courses that provide open and immediate access to multiple media with instant feedback and support. This fundamental contrast suggests that instructors need to abandon many preconceived notions and avoid making online courses woeful replicas of traditional courses to explore the exciting possibilities for teaching and learning inherent in the online environment. Take some time to understand and learn to operate within this strange and wonderful new culture—if you do, you will not only save your own sanity but also create more pleasant and productive experiences for yourself and your students.

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