Virtual Learning Design and Delivery

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1. Introduction to Virtual Learning Design & Delivery

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Introduction

A review of what factors make up online, blended and technology enhanced learning, and approaches that improve student retention, engagement, and motivation.

Chapter Outcomes

After reading and reviewing this chapter, learners should be able to:

1. Define virtual learning.
2. List key factors of quality online learning.
3. Outline the pros and cons of online learning.

4. Know what is successful online learning.
5. Identify components of high quality online learning.
6. Understand importance of connections in successful learning moments.

Chapter Sections

1. What is Virtual Learning
2. Facilitating Quality Online Learning
3. 21st Century Digital Learner
4. End-of-Chapter Resources

Section 1: What Is Virtual Learning?

Video: Why is Online Teaching Important?

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Virtual learning

Virtual learning *is defined as learning that can functionally and effectively occur in the absence of traditional classroom environments (Simonson & Schlosser, 2006). In a publication which examined the quality and extent of online education in the United States, Allen and Seaman (2003) defined a* **blended learning course** *as "having between 30% and 80% of the course*

content delivered online" while they considered an online course as having "at least 80% of the course content delivered online" (p. 6). In both definitions, it necessitates instructors having a clear understanding of the role of an effective online instructor, one which differs greatly from that of their face-to-face counterpart.

In their report, Transforming Higher Education (1995), Dolence and Norris assert that one of the consequences of what they view as the fundamental transformation from the Industrial Age to the Information Age is that social institutions – among them higher education – will also be transformed because of a change in "both what people need to learn and how they can and should learn." Table 1 shows the different learning characteristics associated with both the Industrial and the Information Age as identified by Dolence & Norris.

Table 1-1. Synopsis of Industrial Age Learning vs. 21st Century Learning

Industrial Age	**Information Age**
Instructor centered	Learner centered
Set times and places for learning	Individualized self-paced learning that could take placeanytime, anywhere
Information infrastructure as a support tool	Information infrastructure as the fundamental instrument of transformation
Technologies used independently of each other	Integrated technologies in a dove-tailed approach
Traditional programs and course structures	Pick and choose learning as needed
Continuing education	Life-long learning
Fragmented learning	Fused and integrated learning

Table Source: Adapted from Dolence and Norrice, 1995, p. 4

The characteristics described in Table 1-1 show the need to address the different instructor roles and requirements of students in distance and online learning. This is not always an easy task, and merely replicating the face-to- face methods online does not allow the learning experience to be maximized to full potential. Some fail to "make a transformational shift in their approach to teaching from one of disseminating information to one of creating learning environments where students co-construct knowledge through interactions" (Vaughan, 2010, p 61).

This transition from face-to-face to a blended or online method of creating a suitable learning environment for students challenges the instructor on a professional level and many are concerned about the change in roles and responsibilities, use of technology, relationships, presence, and a perceived lack of prestige (Redmond 2011).

Pelz (2004) outlined three main principles of effective online pedagogy. The first principle is centered on the fact that the instructor must give way to student-led learning in an online course due to the distance between the instructor and the student. The instructor can adjust the curriculum to be more student centered via letting students take charge of leading their own learning. Pelz mentioned several ways this can be done:

1. Student led discussions
2. Students find, discuss, and share web resources
3. Peer assistance and teaching
4. Peer grading and review
5. Case study analysis as a group where students can learn from each other

The second Pelz (2004) principle of effective online pedagogy is that interactivity is the key to quality online learning. Students must have a way to connect with each other and to interact with the instructor, other students, and the learning materials.

The final principle is the need for presence. In an online course, the distance between the student, instructor, and learning materials can lead to higher rates of dropouts and less motivated learners. Through integrating approaches to increasing both student and instructor presence in the online course, students will be more engaged in the learning process. There are several different kinds of course presence that Pelz (2004) outlines:

Social Presence: It is essential that the instructor create an online learning community where each student can express their online personality, can feel welcome to share questions and ask for help, and can feel that they belong.

Cognitive Presence: Students need an environment where they are free to construct meaning through discussion and a community of inquiry.

Teaching Presence: Students need an expert's guidance, and while online teaching requires students to become more autonomous, they will still need to feel that the instructor is present to answer questions, guide discussions, push learning, and manage the virtual classroom.

The communication strategies utilized in the blended or online course are vitally important to the overall success of the course, for student motivation and retention, to create instructor and student presence, and to offer connections in the virtual learning community.

In a study by Smith, Ferguson & Caris (2001), a number of instructors were interviewed regarding their online vs face-to-

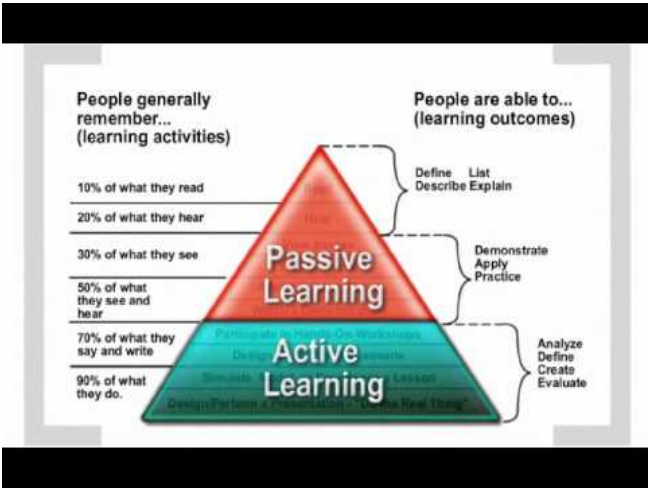
face teaching experiences. The educational opportunities and advantages of the web environment over traditional classes (p. 3) were mentioned as being of great benefit to students and instructors. Instructors said that in an online course they could assign readings from the Web, and electronic resources were integrated into the class with ease. Another rich learning experience is the ability to host guests from a distance, providing students with the ability to interact with experts in their field. Instructors also felt that threaded discussions lead to a deeper level of thinking, as they felt students think more deeply and profoundly when they have to write their thoughts, particularly for their peers. While not a favorite with students, an added advantage for instructors was that students in the online experience were responsible for their own learning. Many of these benefits come with potential challenges in a distance or online course. These challenges can be identified by the instructor in advance and can be discussed in the introductory stage of the course. For example, the ability to use online resources to deliver a course provides added value to the learning experience, but students require specific skills to filter useful and factual information from that which is less than reliable. In addition, while threaded discussions may lead to deeper level thinking, the reliance on written submissions may not appeal to all students. Anonymity in a blended or online course is often identified as an advantage which ensures equality among students, and between the students and the instructor, but it can also lead to misunderstandings which should be addressed by the instructor in a timely manner.

Tweet Chat: #govldd

Tweet one way you feel instructor presence in an online course can be effectively achieved.

Section 2: Facilitating Quality Online Learning

Video: What is Active Learning?



A YouTube element has been excluded from this version of the text. You can view it online here: http://oer.ed-beck.com/virtuallearningdesigndelivery/?p=34

By: Mark Trego, NICC

> "No Signigicant learning can occur without a significant relationship." Dr. James Comer, Yale University

Many experienced instructors can find themselves in completely unknown territory when they first make the move from face-to-face to blended or online teaching. According to Bonk & Dennen (2003), without the necessary preparation and training, many instructors attempt to replicate existing course design and pedagogical practices when they make the transition. Yet what worked in the face-to-face venue will not work in online learning. Different approaches and techniques need to be learned in order to build an online learning community and to have effective connections and communication with online students.

In online courses or course components, presence is of vital importance to facilitate high quality learning. Anderson, Rourke, Garrison, & Archer (2001) define presence as "the design, facilitation and direction of cognitive and social processes for the purpose of realizing personally meaningful and educationally worthwhile learning outcomes." They identify three key roles in teaching presence, and provide indicators for each category. These are presented in Table 1-2 below.

Table 1-2. Online Learning Components

Categories	Components
Instructional Design and Organization	Setting the curriculumDesig
	Making macro-level comme
Facilitating Discourse	Identifying areas of agreem contributions
	Setting the climate for learn Drawing participants, and
	Presenting content/questio
Direct Instruction	Confirming understanding Diagnosing misconceptio Injecting knowledge from

Table 1-2 Source: Adapted from Anderson, Rourke, Garrison & Archer, 2001

Instructor presence may be visible to students in the form of direct communication, in facilitating discussion, providing feedback and encouragement, addressing individuals who may not be fully engaged in the process, or it may be unseen in the form of the planning, management, and structural decisions made in advance of, or during the course delivery. Planning a blended or online course with these indicators in mind will ensure that students are presented with a high quality experience which will meet their needs.

Enhance Engagement and Motivation

The National Survey of Student Engagement (NSSE) was developed as a "lens to probe the quality of the student learning experience at American colleges and universities" (2007, p. 3). In defining student engagement as "the time and energy students devote to educationally sound activities inside and outside of

the classroom, and the policies and practices that institutions use to induce students to take part in these activities," decades of research was considered and five properties were identified. Effective educational practice provides properties for active and collaborative learning; student interactions with faculty members; level of academic challenge; enriching educational experiences; and supportive campus environment.

In a significant learning experience, Fink (2003, p. 6) suggests there is a process and an outcome; students will be fully engaged in their learning, with a high level of energy associated with the learning experience, and the meaning from this experience will be result oriented. He describes the characteristics of significant learning experiences below:

Table 1-3. Characteristics of Significant Learning Experiences

A well-designed and well-managed course, combined with an instructor who communicates and interacts effectively with students, and who delivers good quality learning experiences, can lead to increased learner motivation and facilitate increased student engagement in the course. In a study linking student engagement and course redesign, Vaughan (2010) found that when one faculty member redesigned the two major assessment activities to provide students with greater opportunities to collaboratively construct their own knowledge frameworks about key course concepts, student success and retention increased. In a follow-up with open-ended survey questions, students identified the sense of community which was developed through the redesigned assessment activities as the most effective aspect of the course (p. 65). While further study is needed in this area, it appears that redesigning all or parts of a course to foster increased levels of active and

collaborative learning could potentially lead to increased student success and retention.

In her paper on the transition from face-to-face to online teaching, Redmond (2011) presents a chronology of different researchers' views on the role of the online instructor. She notes that despite different labels used by the researchers, "the process of facilitating discussion appears to be a key role when teaching in the online space" (p. 1053). In blended or online courses, successful social interaction can lead to a breakdown of barriers, open communication, collaboration among learners and between learners and instructor, and as we have seen, allows students to become actively engaged in the learning process.

Redesigning a course to incorporate more active learning has the potential not only to solve the student boredom problem, but also to increase the quality of student learning (Fink 2003, p. 24). Gilly Salmon has researched a five stage model on increasing student motivation and engagement in online learning:

1. **Access and Motivation:** Create easy to retrieve materials, and a welcoming and encouraging environment
2. **Online Socialization:** Connecting through messages, and providing content that is relevant to students lives
3. **Information Exchange:** Connecting learners to resources and supporting learning
4. **Knowledge Construction:** Through lectures, readings, assignments, and facilitated learning students build and construct new knowledge
5. **Development**: Through responding and offering outside resources students develop their learning outside the course

Source: **Five Step Model of Online Learning:** http://www.gillysalmon.com/five-stage-model.html

In a blended or online course, active learning experiences are vital to increase motivation and engagement, which in turn can reduce student attrition. Instructors who are active communicators with their students, whether through individual feedback, a 'gentle nudge' for those who are not fully engaged, or bringing a discussion to a rounded conclusion, will ensure that the instructor presence is replicated in the effort expended in preparing and structuring their course.

Tweet Chat: #virtuolearn

Tweet an approach that could support one of the Five Steps of Online Learning.

Section 3: 21st Century Digital Learner

Video: The Unique Challenges of 21st Century Learners

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By: MacArthur Foundation

There is one key concept that online instructors should always keep in mind: **Equivalency**.

An online course should be managed as the equivalent to a face-to-face course. If there was a group activity in the face-to-face course, then there should be an online group activity. If the instructor explained the final project in detail, then they should in the online course as well. If there were lectures on critical or

complex topics in the face- to-face course, then the same should be offered in the online course. **The online and face-to-face courses should offer equivalent experiences.**

In this section you will learn about some of the key skills an online instructor can use to support the learning of virtual students. We will look at some of the most common challenges online teachers experience and cover various tactics and approaches to managing online learning communities. Some of the topics covered will be:

- **Virtual Instruction**: How to manage instruction, tutoring, and lecturing in an online course
- **At Risk**: Connecting with at-risk students to offer support
- **Learning Communities**: The importance of building a strong learning community
- **Communication**: Communicating with students
- **Feedback**: Providing detailed feedback on work in an efficient and product way
- **Efficiency**: Use efficient tactics that offer great support on limited time
- **Be Choosy**: Cognitive overload and cognitive underload of student

Though the online teacher may never meet their students in-person, there are still many ways that an online instructor can connect with students and offer tutoring and instruction on the course topics. With advances in video, webinar, chat, and other Web 2.0 tools online, instructors have a wide variety of tactics at their disposal towards creating rewarding, engaging and interactive online learning experiences that can be equivalent to face-to-face learning.

The following are examples of various instructional strategies:

- **Video Screencasting**: There are many free screencasting and video recording tools available to instructors. They can use them to screencast their own computer screen and show students how to do something online, talk about PowerPoint slides, give a lecture, or video tutorials on a whiteboard. Using video and screencasting technology offers the online instructor a great opportunity for providing lecture materials and concept support just as they would in a face-to-face classroom. In fact, to put a PowerPoint into an online classroom without any lecture notes or a screencasted lecture to go with it is akin to standing in the back of a classroom and flipping through the slides without saying anything about them to the students. That is not teaching in a face- to-face course, and it is not teaching in the online course either. Use the many tools online to offer screencasted lectures of the PowerPoint slides to the online students, and then this offers the equivalent learning experience as they would get in the face-to-face course. An example tool:
    - Screencast-o-matic (http://screencast-o-matic.com/)
- **Webinar Tools:** Instructors can use webinar tools to host virtual synchronous tutoring sessions with students, or to give a synchronous lecture to a class. These tools often have interactive whiteboards and video function as well. An example:
    - Zoom (http://www.zoom.us/)

- **Instant Chat: T**here are many different types of instant chat tools available on the web now. They offer a chance for students to ask questions real-time, and to get immediate feedback. Providing 'office' hours in a chat tool, or in a synchronous webinar tool (see above, such as Zoom), is not only a great way to connect with your students, but a great way to give them direct feedback and help on the course content. Some examples:
    - Facebook chat
    - AIM chat
    - Google Talk chat
    - Skype chat
- **Digital Learning Objects:** There are now countless Web 2.0 tools on the web that can be used to create more interactive learning objects in online courses. This type of learning is much more engaging and interesting for students. Just a few examples:
    - Voice Thread – Asynchronous discussions with video (https://voicethrcom/)
    - ThingLink – Make your images interactive (https://thinglink.com/)
    - Popplet – Mind mapping and project planning (https://poppcom/)
    - Quizlet – Create fun study tools for students (https://quizlet.com/)

These are just a few of the ways that an instructor can create more interactive and engaging online learning experi- ences for students.

Online learning can have less personal connections and instructor guidance than face-to-face learning. For this rea- son, some students feel more disengaged from the learning, and online learning sees higher dropout rates than face- to-face

learning does. Online instructors should create a plan of communication to connect with at risk students, and help them get back on track. Following are some tactics:

- **Keep Track:** Keep track of failing students, or a list of students that are behind on their work, and then call them and email them to connect and ask if they need help on the course topics.
- **Office Hours:** Offer 'office hours' to help struggling students. This can be as simple as being online in a chat tool or webinar tool (see last section) to allow them a chance to ask questions and get help.
- **Virtual Office Forum:** Have a 'Virtual Office' discussion forum in the online course, a place where students can ask questions and get guidance.
- **Good Directions:** Have detailed directions, grading rubrics, and tutorials in the course that students can access for help on completing course work.
- **Be available:** This does not mean you should have to answer an email at midnight, but it does mean logging in and checking for questions at least 4x a week.

Read the chapter in this eBook about **Online Learning Communities**, as it covers this topic in greater depth. In short, building a strong online learning community in which students feel connected to the instructor, their peers, and the content goes a long way to keeping students motivated and engaged in completing the course. There are many tactics one can utilize to build strong learning communities.

This topic will be covered many times throughout this eBook, as it is such an important aspect to quality online instruction. In a face-to-face course the instructor will be there in front of

the students several times a week to remind them of upcoming due dates, to answer questions, and to guide the students. Remember our key concept, Equivalency. This should also be done in the online course for students. This can be emulated in the asynchronous course through weekly announcements in the course, via email, and information posted in the Virtual Office of the course. Through email and the forums instructors can have regular communication with students to help keep them on track, just like in a face-to-face course.

A part of good feedback is having a detailed grading rubric for students. In a face-to-face course instructors can go over requirements during lecture, but in an online course the equivalent solution would be to have a grading rubric. Through use of a grading rubric the students can see exactly what will be expected of them on the assignment. Next, the instructor should give detailed feedback on student work. For example, in a paper the instructor should use editing tools to provide in-line comments and suggestions. This, on top the grading rubric, gives the student clear guidance on how to improve on their skills. Offering chances to fix mistakes and resubmit work is also a fantastic way to encourage a reflective learning cycle among online students. Students also like to have instructors reply to their discussion posts as they want feedback on their work. Through interactive feedback an instructor can create a strong learning experience for students.

Efficiency

Online teaching can quickly become overwhelming. Finding ways to offer detailed and quality support, learning, and feedback, but through efficient and time-saving methods, will mean higher quality learning for less instructional time. For example, save all the course announcements, as they can be

reused time and again. Create files of all tutorials and guidance videos, which can be used over and over. We will continue to discuss time-saving strategies throughout this eBook on each of the main topics covered.

In this book we will stress over and over that being choosy is the key to offering quality online learning design and delivery. Choose the right tools, for the right job, for the right need, for the right content. Choose the right teaching approaches, for the right learning needs, for the right learning content. Be choosy. If an instructor has too many tools in a course it can create cognitive overload of the students, who become overwhelmed and then they are learning to use tools rather than learning the course content. On the other hand, having too few means boring learning materials and few connection methods, and that loses student interest and dedication as well. Try to choose the right amount of tools for the needs of a given course and its topics. For example, giving the students ten ways to contact the instructor via ten different chat tools is too much. Just choose one. By making smart and efficient choices then the tools work for the course and students rather than the other way around.

Tweet Chat: #virtuolearn

Tweet about a tool that can be used to enhance student engagement, success, or motivation.

End Of Chapter Resources

Critical Thinking

1. Look up equivalency theory online. What is it? How is equivalency defined in this chapter? How is it important to the design of high quality online learning experiences?
2. Consider your experience in the classroom and identify the main challenges to ensuring students are engaged in the learning process. How do you ensure students have the opportunity to be fully engaged in the online environment? How do you deal with students who are not engaged?
3. Use the Internet to find different definitions of online learning, distance learning, eLearning, blended learning, virtual learning, and mobile learning. What are the similarities and differences between them? Are any critical factors are missing? Why or why not? What would be your definition of virtual learning?

Chapter Task

Student engagement in the classroom is a priority for all instructors. Reflecting on your prior learning experiences, what do you perceive as the challenges associated with student engagement? As an instructor, how would you ensure that students are engaged in the online or blended learning environment?

- Create a list of five effective online teaching skills
- Create a list of five effective skills for successful online learners
- Compare and contrast the two lists

Recommended Resources

Five Step Model of Online Learning: http://www.gillysalmon.com/five-stage-model.html

Vocabulary

- **Virtual Learning**: learning that can functionally and effectively occur in the absence of traditional classroom environments (Simonson & Schlosser, 2006)
- **Blended Learning**: Allen and Seaman (2003) defined a **blended learning course** as "having between 30% and 80% of the course content delivered online" while they considered an online course as having "at least 80% of the course content delivered online" (p. 6).
- **Equivalency**: the online course should offer an equivalent learning experience to a face-to-face course. Not the SAME learning experience, but equivalent

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2. Online Learning Communities

MICHELLE ROGERS-ESTABLE, CATHY CAVANAUGH, MICHAEL SIMONSON, TRIONA FINUCANE, AND ANDREW MCINTOSH

Introduction

A review of key considerations and tactics for building strong online learning communities.

Chapter Objectives

After reading and reviewing this chapter students will be able to:

1. Describe how instructor presence in a course is key to student satisfaction.
2. Design for engagement and motivation keeps students interested in the course.
3. Foster good communication strategies helps keep online students on track.

Chapter Sections

1. Connecting with Online Students
2. Building a Learning Community
3. End-of-Chapter Resources

Section 1: Connecting With Online Students

There are many tools which can be used for connecting with students in a blended or online course. Making use of programs such as Skype, Google Hangouts, Blackboard Collaborate in the Blackboard Learning Management System (LMS), or other virtual meeting programs can replicate a face-to-face meeting. Using asynchronous methods such as discussion forums, wikis, blogs, email, or other social media tools such as Facebook, Edmodo, YouTube, Twitter, Google+, and social bookmarking encourage active and collaborative learning among students and instruc- tors. For the online instructor, the time investment can prove to be quite a challenge as the instructor presence must be felt on a regular and consistent basis. Students need to know that the instructor is available regularly and participates actively in the course – that he or she is *present*.

Once logged on to the course or course social media tool, an instructor can spend numerous hours dealing with various course management issues such as contacting students, providing feedback, addressing student concerns, drawing

attention to misunderstandings, participating in discussions, and monitoring and grading assessments and assignments. To avoid unrealistic expectations, the students must be provided with specific information regarding the instructor's availability and role in the online environment. As with any course resources, there are practical considerations which need to be addressed when delivering an online or blended course. Students and instructors may experience some issues with internet access, individual devices etc. These issues can often be solved by the instructor or the institution with relative ease.

In addition to the academic requirements of the course, the technical requirements should be very clear to students in advance of the start date. This will ensure that, except in extreme circumstances, all students will be able to fully participate in the course and meet all course requirements and expectations.

Work Smart, Not Hard

Social interaction in online courses should always be handled carefully and the instructor must be the role model and the moderator of such interactions. Use of humor can be problematic as students cannot see facial expressions or hear nuances of voice, so may not realize that humor is intended. For a similar reason, cultural sensitivity is vitally important and an instructor will have to be aware of the potential for disagreements to take place and how to deal with them swiftly. Additionally, from an instructor's point of view, those who are used to seeing certain cues in a face-to-face context, such as confused expressions to indicate lack of understanding, have to rely on the students themselves to identify difficulties in understanding in the online environment.

Learning to communicate online effectively, clearly, and politely is often termed as 'netiquette.' Learning proper

netiquette is one of the key online teaching and learning skills that both students and instructors will want to acquire. Learning to manage time effectively is also important, as online teaching and studies can easily take over one's life. In an effort to communicate with everyone, an online instructor can begin to feel overwhelmed by the number of posts in their inbox or the discussion forums. Where possible, think of strategies to efficiently communicate that won't take up all your time.

Web Resource

EURODL – European Journal of Open, Distance and eLearning: A free open journal on online teaching and learning practice and research: http://www.eurodl.org/

Tweet Chat: #virtuolearn

Tweet one comment on how education in the 21st Century has changed.

Section 2: Building A Learning Community

The key to building connections and a warm learning environment online is simple: make it personal. Students want to feel that the instructor notices them, cares about them, and

is there to support them. Following are some key tactics in creating strong online communities with students:

1. **First Names**: Every time you address a student, in the discussions, by email, anywhere online, always use first names.
2. **Personal Notes**: At the start of the course note a few facts about each student (Mark, Colorado, likes parks, wants to manage a wildlife refuge). Then, when relevant, integrate a personal fact into a comment you make (Nice work, John, on your discussion review of this nature preserve, which I expected since you would like to work in managing such areas after you graduate.). This takes very little effort or time on the instructor's part, and makes the student feel like an individual who is valued and respected and will encourage them to feel more connected to and motivated in the online classroom discussions.

3. **Include Everyone**: Make an effort to respond to students whose posts still have no replies, so that they will feel included and more motivated to participate as well.
4. **Make Communication Channels Clear**: The instructor should set regular office hours, or give students multiple means of contacting them (phone, a special discussion forum, office hours, online chat-hours, email). At a minimum, an announcement of the week's due dates and work should be sent out on the first day of the week. It is recommended to send at least two updates a week to keep students on track. A variety of regular communication methods with the students helps them to feel like they are part of a connected community.

5. **Allow Small Talk**: Sometimes some discussion threads will break down into irrelevant chit-chat. Do not discourage this, as this allows the students the time to build stronger social connections that are important in keeping them motivated to participate in the online course. The instructor can reply and note the topic (Happy Birthday Sue!), and then gently guide them back onto the course topic with an interesting resource, fact, or question.
6. **Explain Netiquette**: Some people have the wonderful knack for clear communication skills online while others do not. At the start of the course give students an outline of what netiquette is, and how to employ it. Here is a quick review of netiquette:
    1. Explain that disagreement is wonderful, but should be done politely. Give the students examples of polite disagreement (I respect and understand your views Jane, but I have a different experience I would like to share. . .).
    2. Outline what emoticons are and how to use them to exhibit body language, meaning, and tone in the online format.
    3. Explain that ALL CAPITALS is equivalent to YELLING at someone.
    4. Tell students to refrain from sarcasm and even some jokes, as it is too easily misunderstood online.

7. **Manage the Personalities:** Most blended and online courses will have the same array of student personalities that the face-to-face course will contain; the bully, the dominate, the timid, the unmotivated, the struggling, the high achiever, the demanding, and so on. How these personalities interplay online will be different from course to course. The timid may need to be encouraged less since

it is online and they may feel less shy than in face-to-face sessions. On the other hand, a bully is less likely to be rude or inappropriate in the classroom where the instructor is present but may be more trouble in the online discussions. It is important to bring in the shy and struggling while managing the difficult so that bullies do not ruin the learning experience of other students.

- **Example**: Rude, inappropriate or offensive comments should be addressed directly and quickly to stop the behavior immediately. If a student posts something rude, never ignore it. It will only get worse if you do not put a stop to it. If necessary, delete the offending post. If the offended student emails you complaining, don't commiserate (Yeah, that was rude of him!), and don't say how you will deal with the other student (I will email and tell him to get his act together), as that could violate student privacy laws if you do this. Just explain that you have heard their concern, and will deal with the situation. Next, contact the rude student right away. Explain that you had to delete the post (if it was bad enough to delete).
    - **Important:** Do not be too harsh or judgmental on the first offense. Give the student a way to save face so that they will be motivated to stop the behavior and so that the situation is less likely to escalate or get worse. In some cases they really did not realize how inappropriate or rude something was and will stop if given the chance to learn from their mistake.

There may be something else going on in the student's life to make them be rude in the forums (*sick one at home, death in the family, financial or familial stress*). In most instructors' experience a personal, but polite and kind, email to them will put a stop to the behavior. In rare cases it may not, and then a more strict email may be warranted. If that does not stop it, then the situation may need to be escalated to the Academic Dean.

Web Resources

- **Emojipedia:** The meanings of emoticons: http://emojipedia.org/
- **Rutgers Netiqutte Guide**: https://onlinelearning.rutgers.edu/faculty-resources/netiquett

Tweet Chat: #virtuolearn

Consider the key tactics for building a learning community. Tweet one comment on which you think is the most important and why.

End-of-Chapter Resources

Critical Thinking

1. Think about the ways, methods, and tools you could use to create connections between and with your online students. List the techniques you might use to build a strong online learning community in which the students feel connected to each other as well as to the professor.
2. Interaction and engagement in the online classroom helps learners develop a variety of perspectives on a given topic. Select a learning activity from one of your recent courses. Find a technique that could be applied to the learning activity that would help increase student interaction and engagement. Why would this particular tool help achieve that goal?

CHAPTER TASK

Scenario:

- Bob posts in the discussion forum on the difficulty

he had in staying home to take care of his mother while she had cancer. He was referring to how hard it was to see a loved one who is sick, but his wording isn't clear.
- Jane misunderstands, and thinks he is saying he didn't like taking care of a relative and doesn't like seeing sick people. She feels offended, so she replies to his post telling him that he is uncaring and selfish.
- Bob is distressed by Jane's reply and emails the instructor to complain about Jane.

How would you reply to Jane and Bob in both the private and public forums? Construct your responses to help mediate this conflict and re-establish civility in the classroom.

RECOMMENDED RESOURCES

- **EURODL- European Journal of Open, Distance and eLearning:** A free open journal on online teaching and learning practice and research:
- **Emojipedia:** the meanings of emoticons: http://emojipedia.org/
- **Rutgers Netiqutte Guide**: https://onlinelearning.rutgers.edu/faculty-

resources/netiquette

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3. Planning the Perfect Online Course

MICHELLE ROGERS-ESTABLE, CATHY CAVANAUGH, MICHAEL SIMONSON, TRIONA FINUCANE, AND ANDREW MCINTOSH

Introduction

The purpose of this chapter is to present best practice ideas for teaching the distance learner.

Chapter Objectives

After reading and reviewing this chapter, you should be able to:

1. Explain why it is important to plan ahead when teaching at a distance.
2. Describe a systematic design process for instructional design.
3. Discuss the literature dealing with “best practices.”
4. Design a course using a systematic design model that attends to best practices.

Chapter Sections

1. Signal Fires
2. Why Plan for Teaching at a Distance?
3. Introduction to Principles of Instructional Design Systems
4. Issues to Address in the Planning Process
5. Models for Designing Online Courses
6. Best Practices in Course Design for Distance Education
7. Recommendations for Distance Delivered Instruction
8. End-of-Chapter Resources

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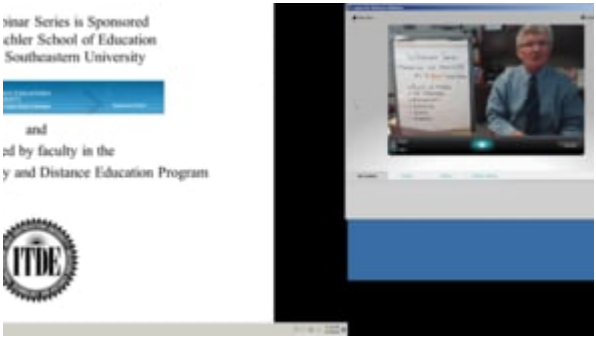
Section 1: Signal Fires

Video: The Perfect Online Course:



A Vimeo element has been excluded from this version of the text. You can view it online here: http://oer.ed-beck.com/virtuallearningdesigndelivery/?p=38

By Dr. Michael Simonson

Introduction

In one of the greatest Greek tragedies, Agamemnon, Aeschylus begins his drama with word of beacon fires carrying news of the fall of Troy and the return of the king—news that set in motion Clytemnestra's plan to kill her husband in long-delayed revenge for his slaying of their daughter. These signal fires would have required a series of line-of-sight beacons stretching 500 miles around the Aegean Sea. Line-of-sight communication, as signal fires would require, has a long history. Most broadcast television

applications require line of sight; even communications satellites orbiting in the Clarke Belt thousands of miles above the equator are "in sight" of the uplinks and downlinks on Earth.

Communication with someone you can see has a visceral element that is missing when that person or group of people is not "in sight." Certainly, considerable communication in distance education does not involve face-to-face instruction. The heart of distance education is the concept of separation of teacher and learner. Many say the meeting of students with teachers will soon be a relic of the past, like signal fires. This group touts the convenience of "anytime, anyplace" learning and the power of modern communications technologies to unite learners with instructional events no matter when they are needed and no matter where students may be located.

Others advocate the need for face-to-face instruction. This group stresses the importance of seeing and being seen, and the personal nature of the teaching/learning environment. Some even say that you cannot really learn some topics without being in a specific place with a select group of collaborators.

A third position is advocated by others who say that education should occur using a combination of instructional strategies. Schlosser and Burmeister (1999) wrote about the "best of both worlds," where courses and programs would have varying percentages of face-to-face and distance-delivered learning experiences. Blended or hybrid approaches are probably the most widespread applications of distance education (Orellana, Hudgins & Simonson, 2009; Daffron & Webster, 2006; Epstein, 2006).

To date, however, no clear and verified process for determining whether face-to-face instruction, distance instruction, or a combination of the two is best. Most instructional designers and instructional technologists know that Richard Clark was correct when he said that media are "mere vehicles," but when courses

are designed and instruction delivered, what are the templates, the processes, the approaches to be used to determine whether a module, course, or program should be delivered face to face or online? Or, what percentage of each is "best"? Where is the research? Certainly, decisions about how a course is to be delivered should not be based solely on the "beliefs" of the instructor or the mandates of administrators. Signal fires told of the fall of Troy probably because that was the most appropriate technology available. Today, many technologies are available for instruction of the distance learner. Instructional design processes help the instructor make informed decisions about technology use.

Tweet Chat: #virtuolearn

Tweet one method of keeping in contact with students in an online course.

Section 2: Why Plan For Teaching At A Distance?

Just like other kinds of teaching, distance education requires planning and organizing. However, teaching at a distance, whether synchronous or asynchronous, requires that greater emphasis be placed on the initial planning phase.

On October 25, 1965, downtown St. Louis stopped in its tracks and thousands watched as the last piece of the mammoth Gateway Arch was being put into place. The weight of the two sides required braces to prevent them from falling against each

other. Fire hoses poured water down the sides to keep the stainless steel cool, which kept the metal from expanding as the sun rose higher. Some horizontal adjustments were required, but when the last piece was put into place and the braces released, it fit perfectly, according to plan, and no one was surprised (Liggett, 1998). The thousands of onlookers applauded as the sun reflected off the bright span. The architects and engineers who were also watching smiled and went back to their offices.

Just like the Arch, distance education requires a careful process that includes systematic design before implementation. Success is almost guaranteed if all the pieces of the plan receive the same attention as the most obvious. The base sections of the Gateway Arch required more engineering savvy and study than any other component. The last and most visible span that connected the two halves received the most attention from the thousands of onlookers, but success was directly related to how the original supports were positioned.

Design is the fundamental element of effective instruction. Many think that the traditional systematic models of instructional design are not relevant to the online teaching. Some claim that the traditional models of design such as the Dick, Carey, and Carey's model (2011), and its derivative the ADDIE model, cannot be readily applied to instruction that is delivered to distance learners. Some claim that systematic planning is not important or even needed when learner-centered instruction is developed.

In spite of claims, the evidence remains clear that the key to effective instruction is the concept of design, defined by Seels and Richey (1994) as:

> "the process of specifying conditions for learning. The purpose of design is to create strategies and production

at the macro level, such as programs and curricula, and at the micro level, such as lessons and modules." (p. 30)

At the root of most widely practiced and classic design approaches is the concept of systems. The idea of systems used in instruction is derived from Bertalanffy's General Systems Theory (1968), and Banathy's Instructional Systems (1991; 1968), usually called instructional systems design. This process has served as the intellectual technique of those in the field of instructional technology and distance education for decades.

Instructional designers, the engineers of quality instruction similar to the construction engineers and architects who designed the Gateway Arch, are on the front-lines of distance education implementation. Certainly, modern interpretations of the ADDIE model, such as the Unit-Model-Topic approach have been proposed to clarify and simplify the approaches for the systematic design of distance delivered instruction. However, any approach that makes claims about quality but that does not have the systems approach at its foundation should be considered suspect.

Tweet Chat: #virtuolearn

Tweet one comment about why course design matters.

Section 3: Introduction Principles Of Instructional Design Systems

Systematic Process

Instructional Design for online and blended courses will be covered in more detail in the next two chapters. Here we present an introduction to the topic.

The process of systematic planning for instruction is the outcome of many years of research (Dick, Carey, & Carey, 2011). An analysis of the application of this process indicates that when instruction is designed within a system, learning occurs. The process of instructional design is a field of study. Instructional design is considered the intellectual technique of the professional who is responsible for appropriate application of technology to the teaching and learning process. In other words, instructional design is to the instructional technologist as the rule of law is to the lawyer, the prescription of medicine is to the medical doctor, and the scientific method is to the chemist—a way of thinking and solving problems (Thompson, Hargrave, & Simonson, 1996).

A critical part of the process is to consider the components of a successful learning system (Dick et al., 2011). These components are the learners, the content, the method and materials, and the environment, including the technology. The interaction of these components creates the type of learning experience necessary for student learning.

The components must interact both efficiently and effectively to produce quality learning experiences. There should be a balance among the components—none can take on a higher position than the others. The attempt to keep the components equally balanced while maintaining their interaction effect is

essential to planning quality instruction. Simply stated, a series of activities alone cannot lead to learning; it is only with the careful planning for their balance and interface that learning is the result.

Another critical part of the process is evaluation. For successful learning to take place, it is vital to determine what works and what needs to be improved. Evaluation leads to revision of instruction, and revision of instruction helps secure the final outcome of helping students learn (Smaldino, Lowther, & Russell, 2012). Because of an emphasis on planning and revising, well-designed instruction is repeatable. This means that the instruction can be applied again in another class. For example, instruction designed for a televised, multisite class can be used again with a new group of students at different sites. Because it is "reusable," the considerable initial effort is well worth the time and energy.

Planning for Instruction at a Distance

The process of planning and organizing for a distance education course is multifaceted and must occur well in advance of the scheduled instruction. One "tried and true" approach for planning instruction is to model others. One excellent resource is Pina and Mizell's book *Real-Life Distance Education: Case Studies in Practice* (2014). This book provides research-based case studies about distance education. This book helps to eliminate trial-and-error preparation. Additionally, distance learning faculty should:

- Keep in mind that courses previously taught in traditional classrooms may need to be retooled. The focus of the instruction shifts to visual presentations, engaged learners, and careful timing of presentations of information.

- In revising traditional classroom materials, consider ways to illustrate key concepts or topics, using tables, figures, and other visual representations.
- Plan activities that encourage interaction.
- Plan activities that allow for student group work. This helps construct a supportive social environment. For example, the instructor could present case studies related to theories and concepts covered in the course, and then groups of students could discuss case study questions and reach consensus on a solution to the problem.
- Be prepared in the event that technical problems occur. If synchronous equipment fails, it is important for students to have projects and assignments independent of the instructor and alternative means of communi- cation (e.g., fax, phone, e-mail). Discussing alternative plans with students ahead of time in case there is a technological problem will eliminate confusion and loss of productive class time when a problem occurs (Orellana, Hudgins Simonson, 2009).

In addition to considerations related to planning for instruction, there is also a need to examine issues associated with the separation of instructor and some or all of the students. Time constraints for class delivery, lack of eye contact, visualization of the materials, and planning for interaction require a reconsideration of classroom dynamics. Often instructors use visual cues, such as student facial expressions, within the traditional classroom and conversations with students after class to decide quickly to adjust the instructional approach for a course. These cues give instructors insights that help them personalize the instruction for the students and ensure a quality learning experience for all.

In an online course it is more difficult to acquire visual cues

from and about students. Even when using desktop conferencing technologies, the visual component provides limited information to the instructor. Teaching at a distance eliminates many of these cues. Alternative approaches to ongoing evaluation of instruction must be incorporated. If instructors ignore this area of preparation, planning to teach as they always have, they may feel frustrated. Likewise, students may become alienated and may begin to" tune out" the instructor. The instructional development process must be based on the unique characteristics and needs of students, meshed with the teaching style of the instructor and the course goals and content. Interaction must be maximized, the visual potential of the medium must be explored, and time constraints must be addressed.

Tweet Chat: #virtuolearn

Tweet one consideration on the importance of planning for distance education.

Section 4: Issues To Address In The Planning Process

Who are the Learners?

There are several reasons for bringing students together in a distance learning setting. Students can be pooled into classes of sufficient size to create a critical mass. Students can aggregate for advanced courses in subjects that might not otherwise be

available on-site. Distance education can be an important approach to responding to the growing pluralism of learners' backgrounds, characteristics, or unusual learning needs that may require or benefit from specialized instruction. One reason profiles are so important in social media is because people want to know their "friends", or at least know about them. Distance learning students want to "know" their instructor and to be known by their classmates.

Taking the time to learn about the learners in the class yields a more productive learning environment. Knowledge of general learner characteristics can inform the instructor of the nature of the students at local and distance sites. This knowledge can aid the distance education instructor in overcoming the separation of instructor and students.

Along with the general information about the learners, an instructor needs to know the number of students in the class. In video-based distance education classes, knowing how many students are at each site and the number of sites involved in a synchronous distance education class can influence the level of interactivity. For example, in an on-line class with a large number of participants, it is likely that some students will fail to interact in discussions. Thus, an instructor needs to know his/her students and what technologies are available to them to plan effectively for interactive learning. Also, it is essential to know the nature of the audience. Are students from urban areas? Rural areas? What is their age range, grade range, and educational background? All this can have a marked impact on the levels of interaction among students. The instructor may have to plan more carefully for the types and levels of interaction to ensure a quality learning experience for all members of the class. The cultural, social, and economic backgrounds of the students also constitute important information for the instructor. In addition, educational expectations of learners can also influence the

quality of the learning experience. The attitudes and interests students bring to the class will impact the learning environment. Thus, an instructor who wants to create a quality learning experience for all members of the class, with the ultimate goal of learning as the outcome, will be certain to account for these variables in planning.

Analyze the General Abilities of the Class

Analysis of the cognitive abilities of the class allows the instructor to observe how students relate to the content of the lesson. Such issues as clearly defining the prerequisite knowledge or skills for the specific learning experience are important to ensure a successful learning experience. The students' prior experience with similar types of cognitive tasks is important.

Further, learning styles have once again become an important area of consideration. With the introduction of Gardner's multiple intelligences has come the resurgence of an examination of learning styles (Gardner, 1993). How students approach learning is as important as how well they can function in the classroom. So knowing more about how students interact with information is important in creating a valuable learning environment.

An instructor can determine students' general knowledge and ability in a number of ways. Pretests and portfolio reviews can provide information about learners' abilities. Because students are coming to the class from a variety of backgrounds and learning experiences, they may be underprepared for the content intended for a particular course, and thus will be frustrated and even unsuccessful in the learning experience. Or, conversely, they may already be familiar with the content and will be bored and uninterested in participating in the class.

By knowing more about students, the instructor can develop

supporting materials to individualize instruction. Varying the presentation of materials to match different learning styles (e.g., animation, text, verbal descriptions, visual messages) can also ensure the greatest potential for reaching all learners.

The instructor can present complex cognitive content in ways that give learners clues, scaffolds, for understanding fundamental concepts, and thereby reach a wider range of individuals. People can remember complex material better if chunks of information are grouped into spatially related locations. Placing similar ideas in a logical sequence can aid retrieval of information at a later date.

Analyze Potential for Learner Interactivity

Students who are less social may find the distance education environment more comfortable for them. Students may become more expressive because of the perception of privacy and the informative nature of mediated communication. They may perceive the increased and varied interactivity and immediate feedback as a positive input to their interface with the learning experience.

Additionally, students can benefit from a wider range of cognitive, linguistic, cultural, and affective styles that they would not encounter in a self-contained classroom. The emphasis should not be on the inherent efficiency of the distance learning, but on the values and services offered to students through their exposure to others (Herring & Smaldino, 1997). Relationships can be fostered, values can be expanded, and shared purposes or goals can be developed. Distance learning experiences can serve as “windows to the world” by providing extended learning experiences.

When special efforts are made, distance education actually can enhance learning experiences, expand horizons, and facilitate group collaboration (Dede, 1990). Students can have

more direct experiences with the information (e.g., close-up viewing of an experiment is possible). Time for reflection is possible before responding to the prompts presented, and the ability to work with peers or experts enhances the potential for learning. One of the most effective techniques to promote interaction in distance education is the threaded discussion—instructors post questions related to reading, viewing, and/or listening to assignments, then students post comments in a discussion area. Wade, Bentley, and Waters (2006) have identified 20 guidelines for successful threaded discussions. One critical guideline is the division of large classes into subgroups of 10 to 15 students so that discussions are manageable. A rule of thumb for the instructor's involvement in threaded discussions recommends that early in a course, the instructor should post once for every 4 or 5 student postings, then as students take more responsibility for their own learning later in the course, the instructor might post once for each 10 to 12 student postings—primarily to keep the discussions on track (Simonson, 2007).

Understand Learner Characteristics To be effective, it is necessary to understand the learners in the target audience. Willis (1994) suggested that the following questions should be asked prior to development of distance learning environments:

- What are students' ages, cultural backgrounds, interests, and educational levels?
- What is the level of familiarity of the students with the instructional methods and technological delivery systems under consideration?
- How will the students apply the knowledge gained in the course, and how is this course sequenced with other courses?
- Can the class be categorized into several broad subgroups,

each with different characteristics?

These questions are not easy ones to answer. An instructor should attempt to find the answers prior to the first class meeting. Asking a few well-chosen questions of individual students will help the instructor understand their needs, backgrounds, and expectations. Additionally, students will feel they are important to the instructor. In an online environment, it is often more difficult for the instructor to get information about students; thus it is essential that the instructor plan a way of inviting students to share information about themselves. Be careful to respect their right to privacy, while trying to learn as much as you can about them.

Help Learners Understand the Context of the Learning Experience

Morrison, Ross, and Kemp (2013) refer to three types of context: orienting context, instructional context, and transfer context. They suggest that the learners need to grasp the intent of the instructor when participating in various types of learning experiences. When the learners have an understanding of the reasons why they are participating in a particular type of instructional activity, they are better able to use that experience to expedite their own learning.

Each of these contexts serves a particular purpose for the learner. The orienting context refers to the students' reasons for being in a course. These reasons vary among the students. For example, a student may be participating in a course for credits toward a pay raise. Or, a student may wish to change positions within a company, which is dependent on completing the particular study area.

Instructional context addresses the learning environment. Scheduling a course to meet at a certain time and location or specifying dates for completion of assignments also impact the

manner in which the student interacts with the class. Knowing how convenient it is for students to access the resources or to rearrange their own personal and work schedules is important when planning instruction. The third context, transfer context, refers to the way in which the knowledge will be used by students. It is critical when planning that the instructor considers what information is important so the students will apply it to work or school applications. Students will value that information they perceive as useful. Knowing the students and their interests or needs will help the instructor plan useful learning experiences to ensure transfer of learning.

What Is Essential Content?

The content of a course needs to reflect where this content relates to the rest of the curriculum. It is essential to examine the nature of the content, as well as the sequence of information. In any synchronous distance learning environment, one particular issue, that of time constraints, impacts other planning areas. Time constraints refer to the actual online time for delivery, which is often limited and inflexible. The issue of limited time makes it necessary to closely examine the essential elements of the course content. The instructor needs to balance content with the limited time for learning activities and possibly remove extraneous, nonessential information.

Generally speaking, the scope of the content for a course needs to be sufficient to ensure the entire learning experience will lead to the desired outcomes. Concepts, knowledge, and specific skills need to be identified (Dick et al., 2011). Supporting information or knowledge is important to the scope of content analysis. Follow-up and applications of the content should be considered.

The instructor's time is best spent on content analysis if the

content is organized within a hierarchy. Starting with the general goals, followed by more specific goals and objectives, the nature of the structure of the content can be made to fall into place. The resulting framework of information about content helps the instructor decide the value and importance of specific information to the total instructional package. It is important to remember that no matter which media formats are used in distance education, the trend is to reduce the "amount" of information delivered and to increase the "interactive value" of the learning experience. Thus, the instructor may need to remove content that had been included in a traditional presentation of a course. Or, the instructor may need to consider delivering information through alternative means, such as additional readings or booklets designed specifically for tasks.

The instructor also needs to examine the sequencing of information. A number of variables—for example, characteristics of the learners, their prior knowledge, content, time, and number of sites involved—are critical when deciding the order of presentation of information. Because the instructor and some or all of the members of the class are separated, the material must be sequenced in a logical fashion for the students.

Goals and Objectives for Instruction

The challenge of education is to match the content of the subject to the needs of the learners. Broadly stated goals are a helpful starting place for the instructor. The instructor must decide what is appropriate for a group of students and for the individuals within that group. Each instructor constantly must face the challenge of adapting instruction to the student who is expected to learn it. Although content is important, instructors

should remember that their focus is on the students. This is critical when establishing goals for any course.

The traditional approach for writing objectives is also effective for distance education courses. Specifically, objec- tives should state the conditions under which learning should occur, the performance expected of the learner, and the standard to which the performance will be matched.

One way to write objectives is as follows:

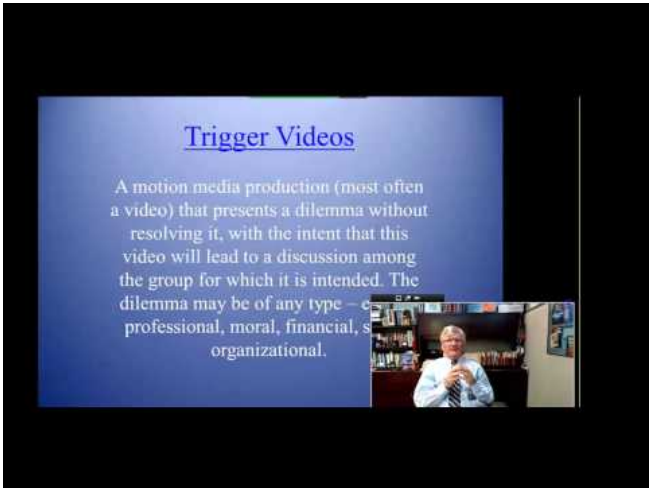
TABLE 3.1:

Given:	The conditions under which learning occurs
The learner will:	meet some predetermined level of performance
According to:	a minimum standard

The objectives of a particular lesson may not necessarily change simply because an instructor teaches at a distance. Good instructional goals should form the basis for instruction, regardless of the medium used. Instructional goals and objectives always should be shared with the students, helping both the origination and remote-site students to focus on the parameters of the instruction. This information may be included in course outlines, presentation handouts, or materials presented at the beginning of the course.

What Teaching Strategies and Media Should Be Used?

Video: The Seven Virtues of the Online Instructor



A YouTube element has been excluded from this version of the text. You can view it online here: http://oer.ed-beck.com/virtuallearningdesigndelivery/?p=38

By Dr. Michael Simonson, Nova Southeastern University

Students can provide insight into the design of the learning experience. They can give feedback in lesson design and instruction delivery. Using a simple feedback form, students can describe or indicate in some other way their expectations and perceptions of the class structure and the delivery mode. The instructor can examine information students provide to determine if the mode of presentation was effective. Evaluating these responses, the instructor can gain an understanding of how the learners perceived the class experience. An instructor's personal philosophy will influence the approach to teaching at a distance. An individual's philosophical belief will affect selection of goals and curricular emphases, and influence how that

individual views himself or herself as a classroom instructor. The instructor who thinks in the philosophical arena of realism, idealism, essentialism, or perennialism will see the instructor as the central figure in the classroom, delivering knowledge and modeling to the student, an instructor- centered approach. On the other hand, the instructor who advocates the philosophies of pragmatism, existentialism, progressivism, constructivism, or social reconstructionism thinks that the student is the central figure in the class- room. The instructor is viewed as the facilitator of learning by guiding, rather than directing the students, thus modeling a student-centered approach.

Although the dynamics of a philosophy will not predict an instructor's success in the distance education classroom, successful teaching at a distance places the recipients' needs before organizational convenience and at the center of planning and decision making. The individual needs of the learners are brought to the forefront in education that uses electronic technology because separation of learners from the instructor requires students to take more responsibility for learning. Consequently, the learner's opinions and needs play a more important role in decision making than is usual in an instructor-centered environment (Macfarlane & Smaldino, 1997). It is oversimplified to suggest that there is one best way to teach at a distance. In any given content area, there are several potential ways of providing a quality learning experience for the students (Smaldino, Lowther, & Russell, 2013). However, the one thing that has been repeatedly demonstrated through research is that lecture, or the "talking head" approach, is the least successful strategy to employ in distance education. What is essential in deciding which strategy or strategies to employ is the issue of engaging the learner.

The instructor should focus on selecting instructional strategies that engage all the learners in active learning. To do

this, the instructor may need to de-emphasize the "informative" part of the instruction for more "discovery" of information. The emphasis on keeping the learners engaged in learning ensures that students will be in tune with the class.

Media Selection

Several models are often used in selecting media (Dick et al., 2011; Holden & Westfall, 2006). The common theme among these models is the learning context, which is the content, the intended outcome, and the nature of the students. Practical considerations such as available resources for creating media and the technologies for delivery of instruction also play a hand in the selection process. Mainly though, the goals and objectives will influence the selection of media. McAlpine and Weston (1994) have come up with a set of criteria for selecting media, whether they are commercial media or media developed specifically for a particular course. The first criterion is to match the medium to the curriculum or content. Other criteria include the accuracy of information, motivational quality, engagement quality, technical quality, and unbiased nature of material. These should be considered in selecting media in order to match student needs to the strategies employed.

Media that are "off the shelf" are often considered sufficient for a quality learning experience in the traditional classroom (Heinich et al., 2002). However, in a distance learning environment, the "ready-made" materials may need to be adapted or modified to accommodate the technologies involved in instructional delivery. Some materials may need to be enlarged or enhanced to be seen by students at a distance. With others, the digital format may need to be changed.

Because of the nature of distance learning and the separation of the instructor from the students, it is essential that the

instructor begin to think visually. Too often, instructors do not place enough emphasis on designing and using quality visual materials. Taking the time to develop good visual media will enhance the quality of the learning experience (Heinich et al., 2002).

Visualizing Information

Visuals provide a concrete reference point for students, especially when they are engaged in an asynchronous learning experience. Even if the visuals are lists of concepts and ideas, they can help students. Visuals also help learners by simplifying information. Diagrams and charts often can make it easier to understand complex ideas. A visual that breaks down a complex idea into its components can show relationships that might be otherwise confusing to students. Also, visuals that serve as mnemonics can assist student understanding. Visuals help students in their study as well. They can use the visuals to prepare for tests and other means of assessing their learning.

What Is the Learning Environment?

Educators are familiar with classroom settings; they are comfortable with using the space available to enable learning to take place. It is when the classroom shifts into a distance learning setting that the environment often becomes a challenge to the instructor. Several important elements must be addressed within the distance learning environment.

Technology

The type of setting, be it place- or time-shifted, will influence planning decisions. Environments that are place- shifted are

those that are synchronous but are not in the same location (e.g., a live, video-based distance class). Those that are time-shifted are asynchronous, where students access the class at different times. Assessing the use of technology in a distant setting is essential. In any distance learning environment, the technology becomes an element of concern for the instructor. The instructor must become familiar with the hardware and the nuances of the technology to use them effectively. The instructor needs to balance concern for the operation of the equipment with effective teaching. Once the technology becomes transparent in the educational setting, the instructor can reflect on the lesson quality, the outcomes, and the plans for subsequent lessons.

Several issues are associated with technology when teaching in a distance learning mode. First is the basic operation of the equipment. In a televised distance learning setting, switching between sites is usually a simple procedure, but it does require instructor time to acquire the finesse to operate the switching buttons smoothly—to manipulate cameras, to control sound levels and to change graphic images. Second, using additional cameras in the classroom can create some concern for the instructor. The overhead camera needs to be focused and materials lined up to ensure that learners in all sites can see the material. Third, the instructor should always consider what the student should be viewing during the lesson. Is it better to see the instructor, the visuals, or other students? When an instructor has had experience teaching with the equipment, these decisions become automatic, making learning the foundation for the decisions made (Herring & Smaldino, 1997).

In an online learning environment, the instructor needs to be concerned with the layout of the courseware and the types of resources available to the students learning at a distance. The instructor needs to be certain the material is designed in a way

that is intuitive for the various types of learners who may be interacting with it. The instructor also needs to be concerned about student access to the appropriate hardware and software to be successful in connecting to the courseware, and that the students can complete the tasks expected of them. Finally, the instructor needs to be certain that the students understand the terminology being used. Today, at a minimum, the typical distance student needs only a computer with a modern monitor to view course materials.

It is essential that the instructor be prepared with alternatives in case of technical problems. What will the students do during a synchronous class being delivered using desk top video such as ZOOM (a proprietary videoconferencing software system) if the technology is not operating properly—or at all? Preplanned contingencies should continue the learning process even though the technology is malfunctioning. Alternative lessons must always be ready but, it is hoped, never needed. Students need to be prepared to know what to do with those materials. The materials must be designed to be used without instructor intervention. Recording of synchronous sessions is almost always a good idea.

Resources

The second element to consider in the instructional environment is the resources available to students. What materials will they have at hand? What materials will be available in libraries and laboratories? Will students have access to resources for easy communication with the instructor?

These are the types of concerns that an instructor needs to address when thinking about the learning environment. It is difficult to plan for a particular type of learning activity if the room cannot be adapted or changed in any way. For example, if

the instructor plans a group activity in which students will need to communicate to one another, how will this be accomplished?

Planning to Teach at a Distance

Much of what has been suggested in the planning process is not specific to a particular type of distance technology or delivery mode. Rather, the instructional design process is relatively open to any instructional setting. But, when planning to teach on the Web, an instructor needs to address some essential considerations. One very important issue is that the instructor is "ready" for the course to begin. It is frustrating for students who begin an online course only to find that all the materials are not prepared or not accessible at the time they need them. It would be advantageous for the instructor planning an online course for the first time to consider working 3 to 5 months in advance of the beginning date. This will ensure that the materials will be planned and prepared in a timely fashion. Another important issue when teaching online is that of establishing the communications framework. All too often, instructors of online courses "complain" that students expect them to be available all the time. If you as instructor do not intend to check your course materials daily, indicate that with the initial materials that are distributed. Tell students they can expect a response within a day or that you intend to be online checking the course on specific days of the week. That way both students and faculty will not be frustrated by the interrupted communications process.

Instructors have found that to ensure quality and promptness with online coursework, it is necessary for the students to know exactly when assignments are due. A calendar or timeline is very important. Providing students with rubrics or guides for how to complete assignments well is also very important. The more

information students have about completing assignments, the fewer problems the students and instructor will experience during the course.

Finally, when planning to teach online, advise students (and this is a good piece of advice for the instructor as well) to set aside specific periods of time during the week to work on the course. It is so easy to let it slide that often the complaint is that there is never enough time to get all the work done. This usually results from someone letting the work pile up before getting to it. With an online course, it is best to plan several shorter periods per week, rather than one longer one. This helps to check things out, do work offline for a period of time, and then to finish up before the time period is up. Part of the initial materials presented to the students should provide guidelines for students to ensure a successful learning experience. When it is noted that a student is falling behind in the work or is not participating at an acceptable level, the instructor should contact that student privately, either by e-mail or by phone, to see if there is a reason for non-participation. This takes time, but the instructor will find it beneficial for a successful distance learning experience.

Tweet Chat: #virtuolearn

Choose one of the issues addressed in this chapter section and tweet a best practice related to it.

Section 5: Models For Designing Online Courses

Traditionally, there are four approaches for the instructional design of courses that are to be delivered asynchronously using the World Wide Web. The four approaches are not entirely new. Two are based directly on the individualized instruction movement of the 1950s and 1960s. The four models are:

1. Linear-designed instruction
2. Branched-designed instruction
3. Hypercontent-designed instruction
4. Learner-directed design

Although these four design models are different in approach and use, they have several similarities. First, instruction is divided into units. Different instructional designers use terms such as units or blocks instead of modules, but all refer to a subdivision of a course's content. Generally, a three-credit college course would have about three units divided into 12 modules, each taking about a week to complete. Designers further divide modules into topics that directly relate to the module.

Linear-designed instruction is based on linear programmed instruction. First, major subdivisions of a course are identified—usually three for a three-credit college course. Next, a content area such, as distance education foundations, is divided into important ideas. These ideas are called modules. Modules of instruction are divided into topics. Each topic has instructional events, or learning experiences, followed by some kind of an assessment. Before students are permitted to continue to the next topic within a module they must successfully complete the assessment. If the assessment is an objective test, they must

pass the test. The sequence of topic-related instructional events followed by assessments continues until all topics in a module have been studied. Often, a module-ending assessment must be completed before the student moves to the next module. Similarly, there are often mid-course assessments and end-of-course assessments that require the student to synthesize learning that is related to many modules.

Linear-designed instruction is sequential. Students move in the same path through the concepts, topics, and modules, and complete the same assessments and tests.

Branched-designed instruction is similar to linear with two major exceptions. First, assessments are more sophis- ticated in order to diagnose a student's progress and understanding of concepts and topics. If a student shows a propensity for topics in a module, it is possible to skip ahead, or branch forward. Similarly, if a student has difficulty, the assessment process will require that the student branch backward, or to remedial instruction, before moving forward in the lesson.

The second distinguishing characteristic of branched-designed instruction is the use of alternative instructional events or learning experiences. In other words, students may interact with different instructional content depending on the results of assessments. Just as a human tutor might decide that an algebra student needs more practice with mathematics, a branched-designed lesson might require a student to complete a drill-and-practice lesson on long division. Branched-designed instruction is difficult and time consuming to effectively produce, and is not often used in distance education.

Hypercontent-designed instruction also has units, modules, and topics. First, modules are identified and organized into units of similar content. Next, topics related to the module are identified and learning experiences are designed and produced. These topics are presented using text, audio, graphics, pictures,

and video. Finally, a module assessment activity is developed. This assessment is designed to determine if a student has successfully completed and understands the module satisfactorily. If so, the student moves to the next module in the sequence of modules.

Within the module, there is little instructor-determined sequencing of topics. Rather, the topics and corresponding learning experiences are studied in an order determined by the learner. In other words, the student has control and topics can be studied in a random, nonsequential manner, or in a hypercontent order. Often a course-ending assessment such as a major paper, presentation, or product is required. This design approach is the most common model used.

The final design module is the learner-directed design. For this approach, the instructional designer identifies units, modules, and topics, including learning experiences, but places no sequence or order on the topics within modules, or among the modules themselves. Learners decide what order of topics are studied, and sometimes even the topics themselves. Learners construct their own instructional strategies and even their own instructional design. Students move through modules in any order they choose. Few, if any, requirements are placed on the student by the instructional designer.

To be successful, this approach requires considerable talent and effort on the part of the learner. Direction is given to students by module goals and by outcome assessment activities. Some constructivists who advocate learner-directed design procedures ask students to construct their own outcome assessments.

Instructional design models for online instruction are evolving. These four approaches draw on the experience and research of the programmed instruction efforts of the past. Some teachers mix and match the four approaches into amalgams of design

procedures. The four approaches just described are something of a starting point for course design. Next, literature dealing with what is commonly referred to as “best practices” will be reviewed.

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Read about the design types in this section then tween your thoughts about one or tweet which is most suited to a particular subject area.

Section 6: Best Practices In Course Design For Distance Education

One key to effective distance education is correct instructional design, a systematic process that applies research- based principles to educational practice. If the design is effective, instruction will also be effective.

Distance education has been practiced for more than 150 years, passing through three phases: first, correspondence study, with its use of print-based instructional and communication media; second, the rise of the distance teaching universities and the use of analog mass media; and third, the widespread integration of distance education elements into most forms of education, and characterized by the use of digital instructional and communication technologies. Peters (2002) has suggested that “the swift, unforeseen, unexpected and unbelievable achievements of information and communication technologies” will require “the design of new formats of learning

and teaching and [will cause] powerful and far-reaching structural changes of the learning-teaching process" (p. 20). Peters' views are well accepted, but there is also consensus that the most fruitful way of identifying elements of quality instruction may be to re-examine "first principles" of distance education and mediated instruction.

Perhaps the first of the first principles is the recognition that distance education is a system, and that the creation of successful courses—and the program of which they are a part—requires a "systems" approach. Hirumi (2000) identified a number of systems approaches but noted a concept common to all: that "a system is a set of interrelated components that work together to achieve a common purpose" (p. 90). He described a system that involved the efforts of faculty, staff, administrators, and students, and consisted of eight key components: curriculum, instruction, management and logistics, academic services, strategic alignment, professional development, research and development, and program evaluation.

Bates (in Foley, 2003) proposed twelve golden rules for the use of technology in education. These rules offer guidance in the broader areas of designing and developing distance education:

1. Good teaching matters. Quality design of learning activities is important for all delivery methods.
2. Each medium has its own aesthetic. Therefore professional design is important.
3. Education technologies are flexible. They have their own unique characteristics, but successful teaching can be achieved with any technology.
4. There is no "super-technology." Each has its strengths and weaknesses; therefore they need to be combined (an

integrated mix).

5. Make multiple media available to teachers and learners. Print, audio, video, and computers should all be available.
6. Balance variety with economy. Using many technologies makes design more complex and expensive; there- fore, limit the range of technologies in a given circumstance.
7. Interaction is essential.
8. Student numbers are critical. The choice of a medium will depend greatly on the number of learners reached over the life of a course.
9. New technologies are not necessarily better than old ones.
10. Teachers need training to use technology effectively.
11. Teamwork is essential. No one person has all the skills to develop and deliver a distance learning course; therefore, subject-matter experts, instructional designers, and media specialists are essential on every team.

A number of these guidelines are overlapping. Three of them (1, 2, and 11) address course and program design. Any examination of first principles should first examine instructional design. While it has been noted that instructors, even those new to distance education, can learn to adapt courses and create materials for online delivery (Ko & Rossen, 2010), and the author-editor model has long been an element of correspondence study programs, "what is strikingly missing in these arrangements, usually, is an instructional designer and many good features of the instructional design approach" (Moore & Kearsley, 2012, p. 101). The team-based approach to distance education course development is generally regarded as more likely to result in high-quality materials, experiences, and, hence, more satisfactory teaching and learning experiences (Hirumi, 2000).

Bates's triumvirate of subject-matter expert, instructional

designer, and media specialist is the standard core of the course design team, which may be expanded—one source (Hanna, Glowacki-Dudka, & Conceicao-Runlee, 2000) has suggested as many as eight members—based upon the particular needs of the program and the media employed. No single approach to course design is ideal; as Moore and Kearsley (2012) noted, the course team approach results in "materials [that] are usually much more complete and effective. Furthermore, [it] tends to emphasize the use of multiple media in a course" but is "very labor-intensive and therefore expensive, and it involves a lengthy development period" (p. 101-2). Of the two approaches, "the author-editor approach is the only one that makes economic sense if courses have very small enrollments or short lifetimes, while the course team approach is justified for courses with large enrollments and long-term use" (p. 102).

Foley (2003) has noted "there are general principles of good design that can be applied to all distance learning activities" (p. 831), but noted the following influences:

- The target audience of the activity
- The content of subject matter to be delivered
- The outcomes or objectives desired (p. 831)

Other considerations having "profound effects on the design of the learning activities" (p. 831) include:

- The cost effectiveness of the system
- The opportunity costs of alternative systems and methods
- The availability of technology to the provider and to the learners
- The geographical location of the learners
- The comfort level of the learners with any technology that is used (p. 834)

Foley notes that these factors apply equally well when designing instruction for any given audience, from children to adults. When designing the World Bank's Global Development Learning Network, "results of more than 30 years of research on adult learning were applied to the distance learning programs" (p. 832). The criteria included:

1. They are based on clearly established learning needs and built around succinct statements of outcome.
2. They are based on a variety of teaching and learning strategies and methods that are activity based.
3. Effective distance learning materials are experiential. . . they address the learner's life experience.
4. Quality distance learning programs are participatory in that they emphasize the involvement of the learner in all facets of program development and delivery.
5. Successful distance learning programs are interactive and allow frequent opportunities for participants to engage in a dialogue with subject-matter experts and other learners.
6. Learner support systems are an integral part of any successful distance learning program. (p. 832)

The Indiana Partnership for Statewide Education (IPSE, 2000) proposed "Guiding Principles for Faculty in Distance Learning":

- Distance learning courses will be carefully planned to meet the needs of students within unique learning contexts and environments.
- Distance learning programs are most effective when they include careful planning and consistency among courses.
- It is important for faculty who are engaged in the delivery of distance learning courses to take advantage of

appropriate professional developmental experiences.

- Distance learning courses will be periodically reviewed and evaluated to ensure quality, consistency with the curriculum, currency, and advancement of the student learning outcomes.
- Faculty will work to ensure that incentives and rewards for distance learning course development and delivery are clearly defined and understood.
- An assessment plan is adapted or developed in order to achieve effectiveness, continuity, and sustainability of the assessment process. Course outcome assessment activities are integrated components of the assessment plan.
- Learning activities are organized around demonstrable learning outcomes embedded in course components, including course delivery mode, pedagogy, content, organization, and evaluation.
- Content developed for distance learning courses will comply with copyright law.
- Faculty members involved in content development will be aware of their institution's policies with regard to content ownership.
- The medium/media chosen to deliver courses and/or programs will be pedagogically effectual, accessible to students, receptive to different learning styles, and sensitive to the time and place limitations of the students.
- The institution provides appropriate support services to distance students that are equivalent to services pro- vided for its on-campus students.
- The institution provides its students at a distance with accessible library and other learning resources appro- priate to the courses or programs delivered via technology. It develops systems to support them in accessing and using these library and other learning resources effectively.

- It is important to provide the appropriate developmental experiences for faculty who are engaged in the delivery of distance learning experiences.
- The institution implements policies and processes by which the instructional effectiveness of each distance learning course is evaluated periodically.
- Timely and reliable technical support is vital to the success of any distance learning program.
- It is recommended that a system of faculty incentives and rewards be developed cooperatively by the faculty and the administration, which encourages effort and recognizes achievement associated with the development and delivery of distance learning courses.
- The institution will communicate copyright and intellectual property policies to all faculty and staff working on distance learning course development and delivery.
- The institution complies with state policies and maintains regional accreditation standards in regard to distance learning programs. (www.ihets.org/learntech/principles_guidelines.pdf)

Commonalities between these principles and those suggested by other authors and organizations may be readily perceived. For instance, careful planning and the need for teacher training are cited by Bates (in Foley, 2003), and the emphasis on the unique needs of students in a variety of contexts is mentioned by Foley (2003). The IPSE principles make an important contribution by highlighting the need for consideration of copyright law and policies, intellectual property ownership, faculty incentives, and state policies and accreditation standards.

Because education (including distance education) is a system, each of its elements interacts with other elements, making

difficult the isolation of elements. Interaction (its type, quantity, quality, timing, etc.), for instance, cannot be separated from instructional philosophy, choice of media, and other factors.

Whatever media are selected to facilitate instructor-student and student-student interaction, it should be recognized that these forms of mediated discussion should not completely replace the face-to-face element in courses. As Peters (1998) noted, those who think that new, digital media will "supply the interactivity and communication lacking in distance education. . . cherish a hope here that will prove to be serious self-delusion" (p. 155). Peters's comments on the topic (in the context of videoconferencing, a relatively rich, "high-bandwidth" form of communication), trenchant and incisive, are worth quoting at length:

Communication mediated through technical media remains mediated communication and cannot replace an actual discussion, an actual argument, the discourse of a group gathered at a particular location. Mediated communication and actual communication stand in relationship to one another like a penciled sketch and an oil painting of the same subject. What takes place in a discussion between two or more people can only be transmitted in part electronically. . . .A virtual university that does without face-to-face events by referring to the possibility of videoconferencing can only ever remain a surrogate university. . . .There is no doubt that to a certain extent [videoconferencing] will improve the structure of communication in distance education—but it cannot ever take the place of personal communication in distance education. (p. 155)

Peters's views on virtual communication have not been significantly modified with time.

They reduce, surround, parcel out, spoil or destroy experiences gained at school or university. For this reason, it may be

concluded, learning in virtual space will never be able to replace completely teaching in real spaces. (p. 104)

The effective use of a variety of media to facilitate communication, combined with critical quantities of well-structured face-to-face instruction and learning, have characterized many distance-delivered programs. They are two key elements of the model of distance education what has been called "the best of both worlds"—a combination of face-to-face and online instruction (Schlosser & Burmeister, 1999).

As important as is the appropriate selection and use of technologies of instruction and communication, technologies are not critical elements in shaping students' satisfaction with their distance courses. Rather, satisfaction is deter- mined by "the attention they receive from the teachers and from the system they work in to meet their needs. Those needs, "what all distant learners want, and deserve" include:

- Content that they think is relevant to their needs
- Clear directions for what they should do at every stage of the course
- As much control of the pace of learning as possible
- A means of drawing attention to individual concerns
- A way of testing their progress and getting feedback from their instructors
- Materials that are useful, active, and interesting

At the same time, it should be noted that frustration with the use of complex, inadequate, or malfunctioning equipment, as well as perceptions of emotional distance engendered by the use of distance education technologies, have negatively affected students' attitudes toward—and, in some cases, achievement in—distance education.

Bates's seventh golden rule, that "interaction is essential," is

well accepted by the field, and is a central element in most definitions of distance education (see, for instance, Keegan, 1996, and Schlosser & Simonson, 2012). Keegan (1996) noted that distance education must offer "the provision of two-way communication so that the student may benefit from or even initiate dialogue" (p. 44). Initial provisions for interaction were primarily for student-instructor interactions, but with the availability of expanded communication technologies in the 1990s came an increasing emphasis on additional forms of interaction. Three forms of interaction are widely recognized by the field: student-content, student-instructor, and student-student. It is this third form of communication, reflecting, in part, andragogical and constructivist perspectives, that has increased dramatically with the rise of online education.

Concurrent with the expansion of online education and the diffusion of new communication technologies, there arose the mistaken belief that if interaction is important, "the more interaction there is in a distance education class, the better" (Simonson, 2000, p. 278). As Simonson (2000) has noted, early research in the field had "demonstrated clearly that the provision for interaction was critical" (p. 278), but later research indicated as clearly that "interaction is not a magic potion that miraculously improves distance learning" (p. 278). Indeed, "the forcing of interaction can be as strong a detriment to effective learning [as is] its absence" (p. 278).

When quantifying and qualifying student-teacher and student-student interaction, perceptions may be less than reliable. In a study comparing distance students' perceptions of interaction (as compared with observations of their interaction), Sorensen and Baylen (2000) noted that in a videoconference class with several sites students accurately noted that across-site interaction was very low, within-site interaction was very high, interaction changes with instructor

location, remote site students participate less, and group activities increase interactions. However, students perceived that less interaction occurred over time (when, in fact, interaction increased), and that technology inhibits interaction when, more accurately, it seems to create different patterns of interaction (p. 56).

Although Sorensen and Baylen (2000) examined interaction in the context of an interactive television course, their findings have implications for other distance education modalities. The researchers concluded that a sense of community formed among students at the distant sites, but interaction increased when the instructor was present at a given distant site. Sorensen and Baylen noted that "varying activities and including hands-on exercises and small and large group discussions were instructional methods appreciated by the students" (p. 56). Students in the Sorensen and Baylen study expressed satisfaction with the "distance learning experience," but suggested that the course include "at least one opportunity for students to meet face-to-face" (p. 57).

Distance teaching institutions (and their students) have a wide variety of instructional and communication media from which to choose. These two categories (instructional and communication) may be, to some extent, addressed separately, but they are often one and the same. Bates's fourth golden rule, that there is no "super-technology," is well accepted and understood by experienced instructional technologists and distance educators, but often less so by those new to the field (and many, many of today's practitioners fall into this latter category). For this reason, it is important to invoke the findings of Clark (1983) explained in an earlier chapter, who noted, two decades ago, that "media do not influence learning under any conditions" (p. 446).

If, as Clark (citing hundreds of studies and decades of

research) maintains, the application of any particular medium will neither improve student achievement nor increase the speed of learning, what criteria might a distance teaching institution apply in the selection of media for the delivery of instruction and the facilitation of communication? Cost (to both the institution as well as to the student) is an obvious criterion. Less obvious, perhaps, are the culture of the institution and expectations of students (or potential students).

At a very practical level, Ko and Rossen (2010) suggested that, prior to selecting media and instruction for online education, the institution's resources should be assessed and the following questions should be asked:

- What's already in place (what, if any, courses are being offered online; who is teaching them, etc.)?
- What kind of hardware and operating system does your institution support?
- What kind of network has your institution set up?
- What kind of technical support does your institution provide? (p. 19)

As Ko and Rossen noted, "the tools an institution uses and the support it offers very much influence the choices [the instructor will] need to make" (p. 18).

Other guidelines for selection of media for synchronous communication, in the context of one best practice in distance education—collaborative, problem-based student work groups—have been offered by Foreman (2003). Foreman noted the usefulness of a wide variety of synchronous technologies: chat, telephone conference, Web con- ferencing and application sharing, voice-over-IP, virtual classrooms, and

videoconferencing. Of the technologies at either end of the spectrum—chat and video conferencing—"neither works especially well as a tool for collaborative teamwork" (para. 5) because chat is slow and awkward, and because videoconferencing is expensive, is frequently of low technical quality, and often fails to capture many of the visual cues so helpful for communication. Modern desk-top systems, such as ZOOM, have significantly reduced these problems.

Telephone conferencing, however, "is highly effective for organizing small-team distance learning experiences" (Foreman 2003, para. 6), as it "provides immediacy, a high rate of information exchange, and complex multi- person interaction facilitated by a familiar audio cueing system." Foreman recognized that telephone conferencing can be expensive but counters that significant savings may be realized through inexpensive three-way calling op- tions—which, "despite its name, four or more people can use. . . at once" (para. 7)—available through most telecom providers and cell phone companies.

In the end, all of the criteria just mentioned are considered and, frequently, a pragmatic approach is adopted. As Bates recommends in his fourth golden rule, "each [medium] has its strengths and weaknesses, therefore they need to be combined (an integrated mix)" (Foley, 2003, p. 843).

The literature abounds with guidelines for distance education and identified best practices of distance education. Sometimes these are based on careful research but are, in the overwhelming majority of cases, the products of practitioners relating practices that have proven successful for that author. Still, some common threads have emerged.

Graham, Cagiltay, Lim, Craner, and Duffy (2001) offered seven lessons for online instruction:

1. Instructors should provide clear guidelines for interaction with students.
2. Well-designed discussion assignments facilitate meaningful cooperation among students.
3. Students should present course projects.
4. Instructors need to provide two types of feedback: information feedback and acknowledgment feedback.
5. Online courses need deadlines.
6. Challenging tasks, sample cases, and praise for quality work communicate high expectations.
7. Allowing students to choose project topics incorporates diverse views into online courses. (http://ts.mivu.o rg/default.asp?show+article&id=839)

In his eighth"golden rule, Bates notes that "student numbers are critical." While this observation is made in the context of cost and media selection, student numbers are, indeed, critical in at least two other respects: class and working- (or discussion-) group size. Distance education has been embraced, in some quarters, as an opportunity to reduce costs by increasing class sizes. The literature clearly indicates that there are practical limits beyond which the quality of instruction and learning are compromised. As Hanna, Glowacki-Dudka, and Conceicao-Runlee (2000) noted, "demand for interaction defines the size of face-to-face classrooms and the nature of the interactions within those classrooms; the demand for interaction has a similar effect upon online classrooms" (p. 26). Palloff and Pratt (2003) suggest that experienced online educators can "handle" 20 to 25 students in an online course, while "instructors who are new to the medium, or instructors teaching a course for the first time, should really teach no more than fifteen students" (p. 118). Orellana (2009) has reported that the optimum class size for an

online class with one instructor is about 20, if optimum levels of interaction are desired.

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Tweet one rule or best practice for planning online instruction.

Section 7: Recommendations For Distance Delivered Instruction

These recommendations are based on the current literature of the field of distance education (Simonson, 2005; 2008). These recommended guidelines are intended to provide ways to organize courses and be guiding principles that will make courses with equal numbers of semester credits equivalent in terms of comprehensiveness of content coverage, even if these courses are offered in different programs, cover different topics, and are delivered using different media.

Assessment Guidelines

Assessment is defined as the determination and measurement of learning. Ultimately, assessment is used for grading. Assessment is directly related to learning outcomes.

- 1 major assignment per unit
- 1 minor assignment per two to three modules

A typical three-credit course has the following assessment strategy:

- 1 examination
- 1, ten-page paper
- 1 project
- 3 quizzes
- 3 small assignments (short paper, article review, activity report)
- graded threaded discussions, emails, and chats

Learning Outcome

A *learning outcome* is observable and measurable. Learning outcomes are a consequence of teaching and learn- ing—of instruction and study. Often, learning outcomes are written with three components: conditions under which learning is facilitated (instruction), observable and measurable actions or products, and a minimum standard of expectations. Often, there is one learning outcome for each course topic. For example, a learning outcome for a topic dealing with the median might be:

After studying the text, pages 51-53, reviewing the PowerPoint with audio presentation on measures of central tendency, and participating in synchronous chats, the Child and Youth Studies student will satisfactorily complete the objective test dealing with measures of central tendency at the 90% level.

Content Guidelines

Traditionally, instructors have offered content by making presentations during face-to-face instruction. Additionally, readings in textbooks and handouts are required of students. Flipped classes, a currently popular approach, expects students

to access all course materials, including pre-recorded lectures or presentations, as homework. Classes are then devoted to discussions and interactions in the classroom or during live, synchronous sessions.

In distance teaching situations, readings in texts, handouts, and information placed in the course management system are often used to deliver content. For high-quality courses, there should be an emphasis on the use of various forms of visual media to offer instructional content. Videos, visual presentations with accompanying audio, and other graphical representations of important topics are important to the well-designed course. A variety of delivery systems for content should be considered, including the use of compact discs, electronic files posted to Web sites, and streaming (Blackinton, 2013). Content is organized into topics for students. Topics are combined into modules of similar topics, and modules are used to form units (Figure 5-6).

Modules might have three to five topics presented in the following ways:

- Readings in the text or other written materials
- Videos
- Audio recordings of speeches or presentations
- Recorded presentations using PowerPoint with prerecorded audio
- Synchronous chats with content experts

Instruction/Teaching Guidelines

The pace of instruction for learners is a critical concern to the distance educator. Because many distance education students are employed full-time, it is important to offer instruction in a way that complements their other responsibilities. These

guidelines relate to the pace of instruction and the need for continuing interaction between instructors and students in a typical college semester:

- 1 module per week
- Instructor e-mail to students each week
- 1 synchronous chat per week
- 2 to 3 threaded discussion questions per module
- Instructor comments on discussions as part of threaded discussion board
- Progress reports (grades) submitted to students every week or two

These course design guidelines are based on the literature of distance education and are derived from an analysis and review of quality courses delivered at a distance.

The simplicity of the Course Unit (also referred to as the Carnegie Unit) has made it the standard for course design, primarily because it is easy to apply. The Course Unit requires 750 minutes of class time for each semester credit, which translates into 15, 50-minute class sessions. A three-credit college course would meet three times a week for 15 weeks, according to most interpretations of the Course Unit. It is easy to count class sessions in order to determine if a course measures up. If traditional students are in class for 3 hours per week, they probably spend about 6 hours per week outside of class doing homework, reading, completing assignments, and viewing course materials. Thus, a typical student might be expected to be involved in a typical college three-credit course for somewhere between 100 and 150 hours, or 5 to 10 hours each week in a 15-week semester. This rule of thumb is also explained in Chapter 7. The Unit-Module-Topic approach to course design can be used to meet this “time standard.”

It is essential that the instructor take the time to plan and organize the learning experience when engaged in teaching at a distance. The instructional design process provides the framework for planning. Instruction must be at a standard that is acceptable in all venues. The students should be engaged, and the instructor should be satisfied. Planning makes the difference in a successful learning environment.

Best Practices for a 3-Credit Semester Course

Table 3.2

Structure	**Content**	**Artifacts of Learning**	**Unit Contents**
Instructor time: ~120 hours	Syllabus	3 Major Graded Assignments	Introduction to Unit

Tweet Chat: #virtuolearn

Tweet about a best practice in online delivery of learning.

End-of-Chapter Resources

CRITICAL THINKING

1. Of the four models listed, which is best for a project-based course? A science course? A math course? Outline what topic you are going to teach and decide which model best suits the learning needs.
2. What is equivalency theory, and how does it relate to the design of quality online learning experiences? Why does equivalency matter?

CHAPTER TASK

Create a list of learning activities completed in your face-to-face course. Then create a second column of equivalent learning experiences that could be applied in the online course. Remember that equivalent does not mean equal. Some learning activities done in a class might not be done in the online course, but an equivalent learning experience should be designed for the online course to take the place of the one completed in the face-to-face course. Students should receive the

same level of quality learning opportunities regardless of delivery format of the course.

Some examples to get you started:

1. A face-to-face course has a group field trip to a park. An online course asks the students to visit a local park and take photos of ecosystem indicators and then post them to a discussion forum and talk about what they learned and observed.
2. A face-to-face course has a guest speaker. The online course could still have an interview with the guest speaker as a video, or have the guest speaker present in a webinar format to the students.
3. A face-to-face course has a live debate or role play. The online course could have a debate or role play in the form of a discussion thread.

https://vimeo.com/77512842

RECOMMENDED RESOURCES

- Teaching and Learning at a Distance: Foundations of Distance Education , 6th Ed, 2015, by Simonson, Smaldino, and Zvacek.

VOCABULARY

- **Virtual Learning**: learning that can functionally and effectively occur in the absence of traditional classroom environments (Simonson & Schlosser, 2006)
- **Blended Learning**: Allen and Seaman (2003) defined a **blended learning course** as "having between 30% and 80% of the course content delivered online" while they considered an online course as having "at least 80% of the course content delivered online" (p. 6).
- **Equivalency**: the online course should offer an equivalent learning experience to a face-to-face course. Not the SAME learning experience, but equivalent

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4. Instructional Design Principles

MICHELLE ROGERS-ESTABLE, CATHY CAVANAUGH, MICHAEL SIMONSON, TRIONA FINUCANE, AND ANDREW MCINTOSH

INTRODUCTION

An overview of the SAM instructional design model for planning and developing high quality blended or online courses.

CHAPTER OBJECTIVES

After reading and reviewing this chapter, learners should be able to:

1. Define different delivery types.
2. Understand the fundamental similarities between different design models.
3. Outline the steps in the SAM instructional design (ID) model, with the support of Backwards Design approaches.

4. Understand the sub-steps and analysis considerations of each step of the SAM ID model.

CHAPTER SECTIONS

1. Introduction Definitions
2. Instructional Design Models
3. SAM Overview
4. SAM Step 1: Evaluate
5. SAM Step 2: Design
6. SAM Step 3: Develop
7. Interview with an Expert: Michael Simonson on the U-M-T model
8. End-of-Chapter Resources

Section 1: Introduction

When starting an online course design project, it is critical that course developers have a clear understanding of what constitutes quality online learning and an approximate amount of time required to design and develop an online course. Some institutions use a rubric to help guide quality instructional design such as the Quality Matters (QM) rubric. The QM rubric consists of eight general standards that range from course

overview and introduction criteria to accessibility and usability criteria.

This eBook will use two instructional design models to guide the learning:

- Successive Approximation Model (SAM), by Michael Allen (1993)
- Backward Design (BD) Model, by Grant Wiggins Jay McTighe (1998)

Both of these models highlight the importance of starting with the end first. They design backwards from the learning objectives to ensure that all content is directly aligned to the course learning goals. These models start with analyzing and clarifying what competencies and course outcomes are desired, and then mapping back so that all learning content and assessments directly support those end goals. This means that the course developer should begin the design process with measurable and clearly written course-level outcomes that will be mapped or aligned to all assessments, instructional materials, activities, and/or technologies utilized in the course. By knowing where we want learners to end we can thus design the best pathways for getting there.

Definitions

In this chapter, the following definitions will be used:

- **Blended-learning** – A delivery model where a portion (40%-60%) of the course contact hours are face-to- face (f2f) and the remaining are conducted via online eLearning activities and Learning Management System (LMS) software. Synonymous with: Hybrid Learning, sometimes

called a form of distributed learning.

- **Instructional Design (ID)** – An organized procedure for developing instructional materials, classes, or pro- grams. Synonymous with: Instructional Design Systems.
- **Educational Technology –** The study and ethical practice of facilitating learning and improving performance by creating, using, and managing appropriate technological processes and resources (according to the Associ- ation of Educational Communications and Technology [AECT]).
- **Electronic Learning (eLearning)** – Use of electronic media and devices through networks or interactive telecommunications systems to connect learners, resources, and instructors at varying levels of technology in- tegration and delivery formats including distributed learning, blended-learning, synchronous or asynchronous online courses, digital collaboration, Web 2.0 integration, and Knowledge Management. Synonymous with: Internet-based training, online learning, distance education, CBT, WBT.
- **Online Learning** – A class where 40% or less of the course hours are f2f, with the greater portion of the course hours being delivered via online asynchronous or synchronous eLearning activities and LMS software.
- **Technology Integrated Face-to-Face (TIF) Learning** – A term for face-to-face (f2f) instruction utilizes technology and/or web-based electronic media to support teaching and learning processes. Synonymous with: Distributed learning.
- **Learning Management System (LMS**) – LMS is a term used for any learning management system an educational program uses, and can include, but is not limited to: Moodle, Blackboard, Sakai, and Canvas.

Delivery Types

The three main delivery types are defined in the following Table and Figure.

Table: eLearning Delivery Modes

Table 4.1

Delivery Mode	Definition
Technology Integrated f2f Learning	Face-to-face (f2f) instruction that integrates eLearning (technology-based) educational experiences. In this model, classroom teaching is still the main essential component and makes up 80% or more of the course hours. A course is created to host the eLearning resources so as to supplement this teaching. Traditional f2f courses can implement a variety of LMS tools, including quizzes, assignments, communication tools (such as discussion forums), and group project work.
Blended Learning:	A hybrid/mix of face-to-face instruction and distance instruction where a portion of the course hours are conducted online either asynchronously (different time and different places) or synchronously (same time but different places). From 20% up to 60% of the course hours can be online, while at least 40% of the course hours must remain face-to-face. Hybrid courses can also implement a variety of LMS tools, including quizzes, assignments, communication tools (such as discussion forums), and group project work.
Online Learning	Online learning is where >60% of the course instruction is online using eLearning technologies and an LMS. There is minimal face-to-face interaction between the student and teacher, and all learning material is hosted in the LMS. The teacher and students communicate via the discussion forums, chat rooms, instant messaging, by phone and with email. The entire course is orga- nized in such a way that students are able to learn at their own pace yet respecting the deadlines for course deliverables.

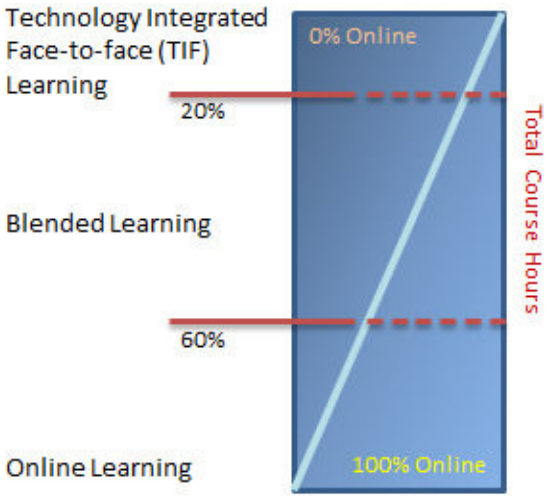

Figure: eLearning Delivery Modes

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Tweet a thought about one of the definitions outlined in this section.

Section 2: Instructional Design Models

Instructional design approaches should attend to the following important factors:

- **Equivalency** – Designing for equivalent learning experiences is one of the most important concepts of high quality instructional design. A student should have an equivalent learning experience in an online course as to what they would do and learn in a face-to-face course (Simonson, Smaldino Zvacek, 2015).
- **Quality** – The blended learning or online course should allow for high-quality learning experiences that attend to the **4 M's; measurable, motivational, meaningful, and memorable** (Allen Sites, 2012).
- **Success –** The blended learning or online course should be designed in such a way that students can guide their own learning to successfully achieve the learning goals and competencies.
- **Reputation** – As student schedules get busier they demand more online learning opportunities. Having a sound instructional design process ensures that the program will maintain its reputation for high-quality learning regardless of the delivery format.

There are many Instructional Design System (ISD) models used in different contexts and fields. Following are just a few of the most commonly used models:

- Successive Approximation Model (SAM)
- Understanding by Design (UbD) Framework (Backwards Design)
- ADDIE

- Dick and Carey Design Model

All of these models have the same main factors in common:

1. **START WITH – Goals and Context Analysis Step**: Start with the goals: what do we want to achieve? Where will the learning take place? With what tools?
2. **NEXT EVALUATE – Assessment Determination Step:** Analyze or design how the student will prove they have achieved the learning; what will be assessed, thus leading to the assessment strategy or required performance criteria.
3. **THEN CREATE – Design Step**: Determine the most important learning content, delivery platform, and tools, so as to achieve these previous two items.
4. **FINALLY – Develop and Implement (including revision)**: Create the learning objects, and use them with participants, and through feedback revise, redesign/ develop, and improve as needed.

Successive Approximation Model (SAM)

This eBook will focus on the SAM Model, though recognizing that all the models listed above have similar function and basic factors, so aspects of the other design models mentioned make their way into the descriptions of each SAM step since they all cover much of the same design criteria.

The simplified **SAM model** follows the following three main steps, and a discussion in greater detail will follow

Key Concept: Be choosy when deciding on tools during the design process.

The flexibility afforded by eLearning makes it possible to include the latest technological developments accessible online.

Among these are Web 2.0 tools such as wikis, blogs, social groups, RSS, video, podcasts, tagging and other socially-generated media on the Internet. But it is important to make the right tool choices for the right needs and for the right context. Do not use any tool just for the sake of using a tool. Make smart curriculum-based tool choices that fit into the instructional design and that map back to the learning goals to directly support student learning.

Tweet Chat: #virtuolearn

Tweet why being choosy matters or about one of the important factors in the design process.

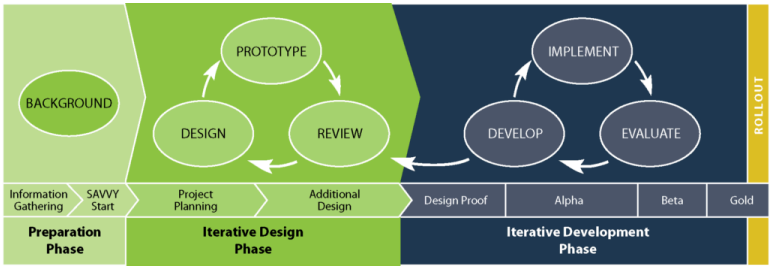
Section 3: SAM Overview

The SAM model follows some of the proceeding main concepts: Learning is not static, therefore neither should instructional design methods be. Learning is never a linear path. “Boring instruction is costly, damaging, ineffective, and wasteful” (Allen & Sites, 2012, p. 4). Learning should be a circular process that is always repeating, analyzing, and improving. It should allow for agile creativity throughout the process such that, based on feedback, the teacher can easily improve the process and products without having to start over. The steps used are secondary to the quality of the learning result. Media, delivery format, and educational tools are a means to an end, learning achievement. Defining learning achievement is difficult as it varies from person to person, school to school, topic to topic,

culture to culture, and country to country. For the sake of this eBook, learning achievement is described as context-based relevant skills useful to the student's life, interests, and environment. The learning product and format is less important than learning achievement, which is based on the learning goals, processes, and results.

SAM is an evolution of ADDIE. Allen outlines the need for a new model that can be more agile and that allows for more creativity in the process, where one should analyze the learning product desired before defining the process for obtaining that product. "The goal is always about performance. What can people do with their new knowledge? What skills are necessary for success?" (p. XX). Like the last two models analyzed, this one focuses on the goals before designing the learning materials. It "begins with the end in mind" since "It is impossible to define the best path to traverse if you don't know where you are going" (Allen & Sites, 2012, p. XX). As advertised, the SAM model is a modern and agile process allowing for quick creativity on the fly

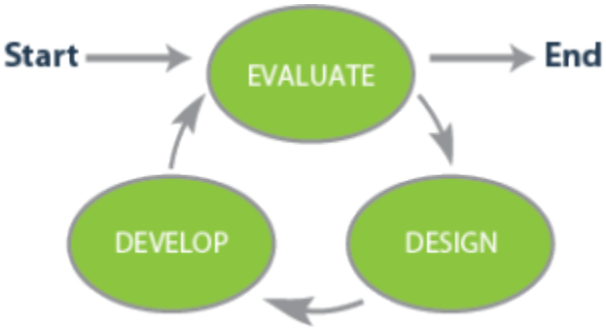
The following figure is the full SAM model:



View this image at http://www.alleninteractions.com/sam-process

This model, however, is a more complex cycle of phases more in-line with professional instructional design programs. Instructors can use the more simplified SAM model to apply to individual courses, a model that breaks the design process down into three main steps.

The following figure is the simplified SAM model for that instructors can use to guide their instructional design projects:



View this image at http://www.alleninteractions.com/sam-process

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Tweet one thought about the importance of using a design model.

Section 4: SAM Step 1: Evaluate

The first step is to evaluate the needs, goals, required competencies, context, content, and learners, and to determine how the learners can show proof of learning acquisition. Following are some questions to ask during this step:

- Who is the target audience?
- What are the learning needs?
- What is the learning context?
- What will be the delivery type?
- What are the learner technology skills? What technology help will they require?
- Will there be prerequisite skills to provide? What tutorials will be needed for them to be successful with the technology or tools used in the course?
- What type of Internet and course access will the learners have?
- What should students be able to DO as a consequence of the learning?
- What should students be able to KNOW as a consequence of the learning?
- What should students be able to UNDERSTAND as a consequence of the learning?
- What types of assessments will show proof of achievement?

Organizational Considerations

In addition to measurable and appropriate course-level outcomes, online course developers need to consider a design that is consistent with either a developer's other online

course(s), with other departmental courses, and/or courses within the same division. Working towards a common design template can aid students when discovering the purpose and structure of online courses. If structure and organization are at least similar across different courses, then students need not waste additional time re-learning such things as course navigation and can focus on what is important – the course content (Simonson, Smaldino, & Zvacek, 2015).

Learning Outcomes

The course developer should begin the design process with measurable and clearly written course-level outcomes that will be mapped or aligned to all assessments, instructional materials, activities, and technologies utilized in the course (Allen & Sites, 2012; Simonson, Smaldino, & Zvacek, 2015). When drafting course-level outcomes, it is helpful to review Bloom's Taxonomy for appropriate and measurable learning outcomes verbs. It is important to write course-level outcomes that are not only measurable, but that are also suited to the level of the course. This means that course-level outcomes that use verbs such as "assemble" or "synthesize" are often not suitable for a low level introduction course.

Learning Outcome Verbs and Associated Methods

Learning Outcome Verbs and Associated Methods

Bloom's Understanding	Action/Verb	Learning Method	Assessment
Creating	assemble, create, design, develop, write, organize, synthesize	case studies, debates, discussions, creative projects	discussion, student, presentations, debates, lead tutorials
Evaluating	appraise, argue, defend, select, critique, rank	plan development, interviews, research,	design and build model, portfolio, student presentations,
Analyzing	compare, contrast, criticize, examine, test	case studies, simulations, discussion, labs	essays, portfolio entries, compare and contrast questions
Applying	choose, demonstrate, employ, illustrate	case studies, scenarios, procedures	video with self-evaluations, problem set
Understanding	classify, describe, explain, translate	readings, demonstration, discussion	student presentations, short-answer questions
Remembering	define, duplicate, list, recall, recite, state	lecture, memorization, video, web information	student recitations, labeling graphics

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Tweet one learning method, activity, or assessment type that is well suited to a particular level of Bloom's Taxonomy.

Section 5: SAM Step 2: Design

This step is where all the learning processes and products are designed. The story boards for videos and screencasts are created. The types of assessments and assignments are outlined. The overall course organization, layout, and order are visualized. You create the design of your course, unit, or module.

Some important factors in the design stage are:

- Chunking of content
- Organization of the course content into the online course
- Planning the learning processes vs products
- Creating story boards of videos and screencasts
- Determining how student learning will be assessed
- Finalizing the order of the course topics

And some important design considerations are:

- **Technology Considerations:**
    - **File Types:** Try to use universal file types that people can open on any device, such as a PDF file type or the eBook file type
    - **Prerequisite Skills:** Design in tutorials and guides for any skills students need to do the course assign- ments.
    - **File Size:** From the evaluation step, know what type of Internet access students will have, and make sure that file sizes are not too large for them to download. If possible embed or stream items already on the web, making learner access easier as they do not have to download the content at
    - **Accessibility**: Think about not only learning challenge access to the course content, but also about different

learning
    - **Second Language Learners**: Think about the understanding of second language learners and make sure that directions are accessible for all.
    - **Mobility:** Learners like to be able to access their content from multiple devices and locations. Think about ways to make the content more mobile-ready.
- **Interactivity Considerations:**
    - **Peer-to-Peer:** Design in ways for the students to connect, share, and help each More peer-to-peer sharing will lower dropout rates and improve student satisfaction.
    - **Peer-to-Professor**: Design in multiple ways for the students to connect with the instructor for
    - **Communication Strategies**: Design in ways for students to get announcements, tutoring, help, and information about the course on a weekly
    - **Multiple learning Approaches:** Design in ways for the students to learn the same topics in different ways so as to attend to different learningInteractivity Considerations:
    - **Tool and Method Substitution**: Have a backup plan for tools and software so that if one is not working, another can be introduced in its place.
- Layout Considerations:
    - **Chunking of Content:** Make sure that the directions, rubrics, videos, and content students need to complete a given task or assignment are all chunked and organized together. Do not make them go searching around the course to try and find what they
    - **2-3 Clicks:** No content in a course should be more than 3 clicks down. At that point it is too deep and will be very hard for the learner to Content that can be 2 clicks

or less to get to from the main page is much easier for learners to locate.

- **Learning Nuggets**: Break learning topics down into “bite-sized” learning nuggets. An hour long video can be broken down into 10-minute subtopics, or a lecture can be broken down into 15-minute And make it easy for students to mark where they have left off, and return to it later.
- **Colors:** Think not only about Universal Access when choosing colors in a course, but also about eye strain. Red-on-black might seem like a good idea but learners will not thank you for
- **Flow:** Think about the organization, ordering, and layout of the content. Items should be in logical places, and topics organized in a reasonable flow of content. In a face-to-face course the instructor can guide the learning through the content and manage the flow of content, but in the online course the student must be able to do that
- **Scrolling:** Avoid the long page of never-ending scrolling. It is too hard for learners to find what they need. Concise, short, simple to read, follow and find content is the
- **Autonomy:** Design for learner autonomy. This is essential! The instructor is not present to help guide student learning in the online course, so students need to easily be able to do it They should have access to all they need to be successful.

- **Quality Considerations:**
  - **Equivalency:** This eBook will repeat this important factor time and again because it is a key All online and blended learning should have equivalent learning experiences to the face-to-face course.

- **Hands-On:** Design in ways for students to get hands-on experiential If the face-to-face course took a field trip to a National Park, then have them go to one on their own or with their family, and take pictures to share in a discussion forum. There are many ways to design in personal learning experiences for the students.
- **Real Learning:** Remove fluff and filler. That is the reason this eBook advocates the backwards design approach. Start with the elearning goals and map all learning experiences, assignments, and assessments directly to the learning outcomes and required competencies. This way learners are not wasting their time.
- **Community Connections:** This eBook has an entire section dedicated to building strong online learning communities which, in turn, support student success and help reduce dropout
- **Avoid Plagiarism:** The best way to avoid cheating is to create assignments and assessments that are so interesting and personalized that students cannot cheat. Good design prevents plagiarism.

Online Course Organization

When considering the organization of a course, it is helpful to know what options are available to course developers within the LMS. If it is clear that the instructor will be providing a significant amount of content that isn't from a textbook, then various LMS objects could be used to better organize and present the information beyond simply uploading individual files. Providing alternate means of accessing the same information will also meet quality elearning standards regarding accessibility and usability criteria.

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Tweet your thoughts about one important design consideration.

Section 6: SAM Step 3: Develop

In this step the designs from step 2 are created, implemented, piloted, tested, and then redesigned as needed. This is where the **processes vs the products** will be produced.

Table 4.3

Products	**Processes**
Videos	Inquiry based learning
Handouts	Peer-to-peer interactivity
Podcasted audio lectures	Project based learning
Digital flash cards	Discussion requirements
Interactive images	Project methods

Tweet Chat: #virtuolearn

Tweet one product that is well suited with one process.

Section 7: Interview With An Expert

Dr. Michael Simonson: U – M – T Design Approach

Dr. Simonson is a program professor in the Instructional Technology and Distance Education program with Nova Southeastern University. Here he shares his preferred design approach for a university level 3-credit semester course:

In the traditional university, the 50-minute class session is the building block for courses. Usually, 15 classes are offered for each semester credit, and a 3-credit college course would have 45 class sessions in a 16 week semester. Distance delivered courses often do not have class sessions. It is proposed that the topic be the fundamental building block for instruction. Topics are organized into modules that are further organized into units that are roughly equivalent to a semester/course credit traditionally offered using 15, 50-minute class sessions (Orellana, Hudgins & Simonson, 2009).

When courses are planned, the designer might want to use the Unit, Module, and Topic approach or model (UMT approach), as explained next. Unit, Module, Topic Guideline:

- Each semester credit = 1 unit
- Each unit = 3-5 modules

- Each module = 3-5 topics

A typical three-credit course has 3 units, 12 modules, and 48 topics. Working definitions of **unit**, **module**, and **topic** are as follows:

- **Unit.** A unit is a significant body of knowledge that represents a major subdivision of a course's content. Often, one unit of a course would represent 4 or 5 weeks of instruction, and would be equivalent to a semester credit. For example, a unit in an educational statistics course might be Descriptive Statistics.
- **Module**. A module is a major subdivision of a unit. A module is a distinct and discreet component of a unit. Generally, a unit such as Descriptive Statistics might be divided into three to five major components, such as Statistical Assumptions, Measures of Central Tendency, Measures of Variation, and the Normal Curve. Modules generally are the basis for several class sessions and are covered in about a week of instruction and study in a typical 15 week college semester.
- **Topic.** A topic is an important supporting idea that explains, clarifies, or supports a module. A topic would be a lesson or an assignment. Topics in a module on Central Tendency might be Median, Mode, and Mean. These three terms can be used in a variety of ways. Of importance is the idea that topics form modules, modules form units, and

units are the main subdivisions of courses.

End-of-Chapter Resources

CRITICAL THINKING

1. What course product types (videos, handouts, quizzes, learning objects, etc) are best suited to which learning processes (Project based learning, inquiry based learning, etc)? Are some products the best choice for a given learning process?
2. Take a learning outcome for your course and look at the Bloom's Taxonomy graphic and table in this chapter. What action verbs are used in your learning outcome? What level of Bloom's Taxonomy is expected of the students? What types of activities or assessments would suit the learning level?
3. What learning processes best suit your course? Which products would you choose to use?

CHAPTER TASK

Begin designing one learning unit for your blended or online course. It should contain elements and considerations from each step of the SAM model, which are outlined in the sections of this chapter. There are also key considerations of the planning and design process in the **Planning the Perfect Online Course** chapter as well.

Those two chapters walks you through the planning and design process.

As you complete this task, keep some of these (though not limited to) important considerations in mind:

1. **Media selection:** what tools will best suit the learning outcomes.
2. **Blooms Taxonomy:** what level are students expected to achieve. How will your students get to that level? Will you scaffold activities or lessons to achieve that level? What learning methods, activities, and assessments will you use for that plan?
3. **Interactivity**: How will you design in ways for students to have peer-to-peer connections, learning opportunities and communication? How about peer-to-instructor?
4. **Pre-requisite Skills:** What skills do students need in order to successfully complete this unit?
5. **Design considerations**: does the unit

plan address design considerations as discussed in this chapter.

RECOMMENDED RESOURCES

- Leaving Addie for SAM: An Agile Model for Developing the Best Learning Experiences
- Understanding by Design (Backwards Design): Guide to Creating High Quality Units, by Wiggins & McTighe

VOCABULARY

- **Virtual Learning**: learning that can functionally and effectively occur in the absence of traditional classroom environments (Simonson & Schlosser, 2006)
- **Blended Learning**: Allen and Seaman (2003) defined a **blended learning course** as "having between 30% and 80% of the course content delivered online" while they considered an online

course as having “at least 80% of the course content delivered online” (p. 6).

- **Equivalency**: the online course should offer an equivalent learning experience to a face-to-face course. Not the SAME learning experience, but equivalent

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5. Blended Learning Design

MICHELLE ROGERS-ESTABLE, CATHY CAVANAUGH, MICHAEL SIMONSON, TRIONA FINUCANE, AND ANDREW MCINTOSH

INTRODUCTION

This chapter covers the basic premise and definitions of blended learning, including a review of some key concepts and design considerations related to blended learning design, the importance of designing for peer-to-peer interactions and connections.

CHAPTER OBJECTIVES

After reading and reviewing this chapter, learners should be able to:

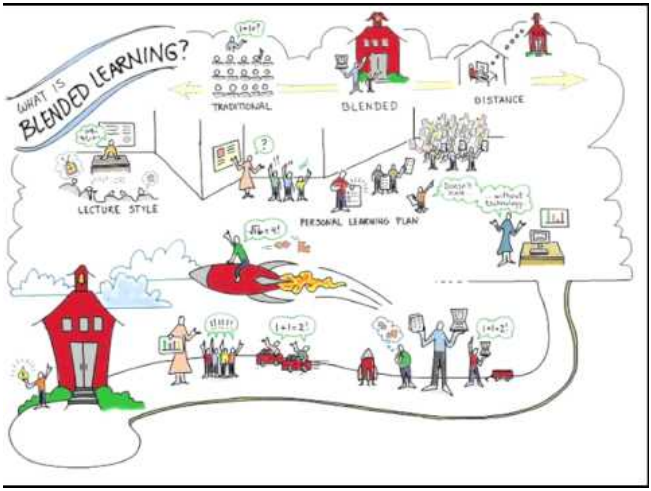
1. Understand blended-learning concepts, a design framework, and strategies.
2. Learn about tools and approaches to foster interaction and independence.

3. Analyze the need for design consistency and course alignment.
4. Distinguish blended learning from virtual (eLearning or mLearning) and face-to-face learning.
5. List examples of activities in your own teaching that are well-suited to virtual vs. classroom environments.
6. Review applications of effective design principles.
7. Plan a blended-learning experience.
8. Select and use interactive tools in blended learning designs.
9. Show an example of building learner independence in a blended learning design.

CHAPTER SECTIONS

1. Introduction to Blended Learning Design
2. Design Considerations
3. Managing Interaction
4. End-of-Chapter Resources

Section 1: Introduction To Blended Learning Design



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Video 3-1: What is Blended Learning

What Is Blended Learning

Blended learning is a mixture of face-to-face time and online time in a class. Blended learning can include anywhere from 20 to 80% of the course time online. Blended learning offers

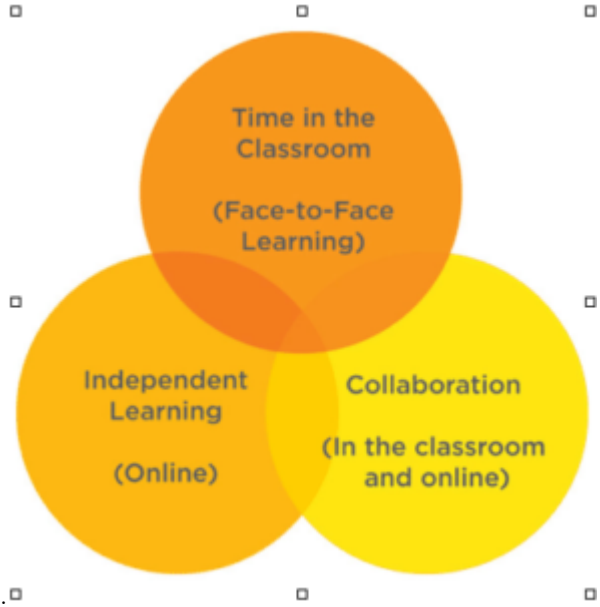
the instructor the opportunity to extend the learning outside of the classroom, thus increasing the opportunities for students to connect to each other, as well as the chance to utilize a wider array of online resources and technologies to enhance the classroom time.

Some of the common tools used to enhance a blended course:

- Videos online at services such as YouTube
- Bookmarking tools and online resource lists
- Social groups
- Course lecture and tutorials (flipped learning)
- Podcasts and interviews with experts in the field
- Interactive Digital Learning Objects (DLOs) at Open Educational Resource (OER) sites such as MERLOT

One example of this would be when faculty use online discussions to expand on discussions that started in the classroom. The instructor may use 30 minutes of one lecture to get a debate started, and then have the students continue that same discussion in an online discussion forum for the rest of the week. This allows the students an opportunity to delve deeper and longer into the topic they are discussing and to spend time looking up resources and information to enhance the quality of their points. This is an excellent blended learning tactic that helps advance the students learning in meaningful directions.

As you read this chapter, consider how a stakeholder group might view blended learning and what you might tell members of that group (in under 100 words) to help them in understanding what it is. Identify the stakeholder group who is the audience for your message (students, colleagues, families, employers, the public, leaders, officials, etc.)



The following definition of **blended learning** is provided by The Innosight Institute (2011): "***Blended learning is any time a student learns at least in part at a supervised brick-and-mortar location away from home and at least in part through online delivery with some element of student control over time, place, path, and/or pace***." Another way to think about blended learning is that it represents a shift of "school" or "college" from being a site where learning happens in specific spaces at regular times, to a flexible service in which students may engage in a great many times and places (Cavanaugh Hargis, 2010). This site-to-service shift includes several changes that are emerging as influences on the design and delivery of education, as shown in Table 3-1.

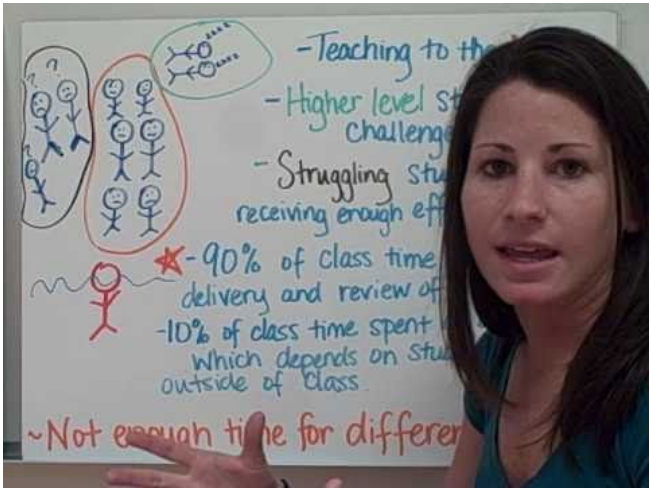
Table 5.1: Shifts from Site to Service

Shifts	Site: Campus	Service: Edu
Place	Classroom for lectures and assessments; home for practice	Campus, ho
Time	6.5 hours/day; 180 days/year between September and June	Any time, ar
Materials	Physical and virtual; owned by the institution with limited access off campus	Physical and on student d
Interactions	Instructor-directed; mostly occurring in class	Instructor-m
Assessments	Scheduled for all students according to syllabus	Given as ind

Tweet Chat: #virtuolearn

Tweet about the differences between blended-learning and traditional face-to-face learning.

Section 2: Design Considerations



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3-2 Video: Flipped Learning

The most recent models of blended learning reaffirm the proven learning design principle of a consistent vision and purpose that is reflected in consistent design, from the organization level through the lesson level (Ferdig, Cavanaugh, & Freidhoff, 2012). Key lessons from successful blended education programs are that successful blended programs have direction, were created for a reason, and all decisions about the designs in the program adhere to the overarching direction and purpose and are expressed consistently throughout a course and

program, both conceptually and visually. The internal or external benchmarks, design standards, and development templates may be adopted to ensure this consistency. Many schools use frameworks and indicators such as the Quality Matters rubric to evaluate courses for quality design components and which serve as a guide and a pointer to other established guidelines. Each element of the course must serve the course goal.

The following matrix can assist in the planning:

Table 5.2 Blended Learning Plan

Item	Example
Goals	Course Goal: What is the primary outcome of the course?
Objectives	Learning Objectives: What specific, learner-centered, measurab
Assessment	Assessment: How you will assess student learning toward this ob
Strategies	Teaching Strategies: What teaching activities you and students u
Tools	Face-to-face/Online Tools and Resources: How are the face-to-fa

Blended learning is consistently shown in research to be more effective for promoting learning than either fully online or full classroom-based approaches (Means, 2009) because it combines the strengths of both learning environments.

Classroom Learning + Online Learning = Blended Learning

There are some important considerations to think about when designing blended learning modules for a course. Here are a few of those considerations to keep in mind as you progress:

1. **Technology skills:** Make sure students know how to use any technology implemented as a part of the course. For example, if you have students create a video for a project, be sure to include directions on how to use a video editing software with guides and tutorials to actually using the

technology they need in order to complete that assignment.

2. **Technology access:** Double-check that students can access, open, download, and use any resources used online. For example, if many have slow Internet connections at home, then don't put PowerPoint slides online with a lot of photos, as it will make it a very large file size which is hard for them to download.
3. **Accessibility**: Design online learning components with universal access and different learning styles in mind. For example, on videos, include a transcript that students can read instead of listening to the video. This helps second-language learners have better access to the learning content as well.

Suitable Tasks

As in all educational design, some tasks are well suited to some learning environments, and not so much to other learning contexts. It is good to make lists of which tasks in your course will be well suited to the online portion of the blended course vs. the face-to-face portion. Be sure to consider Bloom's Digital Taxonomy and the Periodic Table of Visualization as you read this section.

The classroom environment is well suited for:

- Discussion of abstract content, brainstorming, and planning
- Guest speakers who are nearby
- Practicing interpersonal skills and presentations
- Discussion of practices and processes
- Review of assignments
- Group discussions, role play, debate, speaking practice

- Providing practice and feedback to students on complex or ill-defined tasks
- Hands-on learning requiring the use of specialized materials that are difficult to obtain or use without instructor supervision

The online environment is well-suited for:

- Reading and asynchronous discussion
- Synchronous sessions with remote guests
- Team project development in online space
- Peer review
- Video and text-based cases
- Reading and asynchronous discussion
- Video and other media
- Presentations as background for skill development
- Repeated practice with concepts and skills using tools that allow students to work at their own pace, including with interactive manipulatives, games, and simulations
- Reading, viewing and listening, followed by independent reflection
- Connecting virtually for conversations and mentoring and remove students or experts, conducing web surveys, or online book groups
- Working on multi-media projects and sharing them with a wide audience
- Learning from and creating graphic organizers
- Individualized tutoring with synchronous communication tools and cyber study groups
- Knowledge checks using quizzes with automated feedback
- Peer review of student work

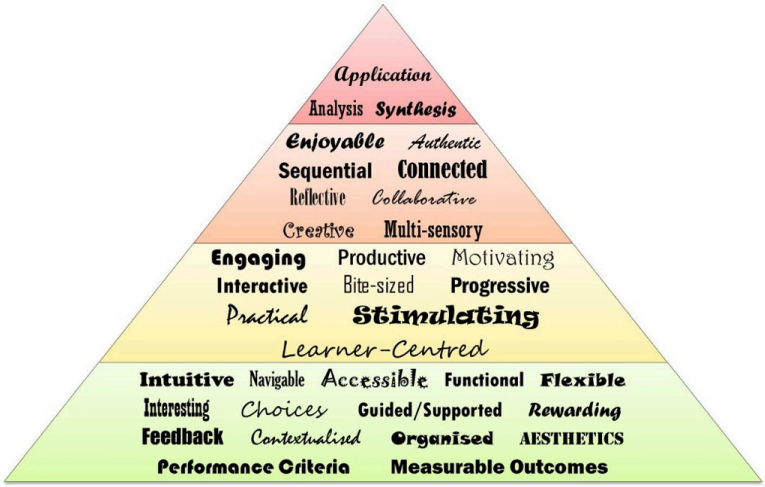
Flipped Learning

Flipped learning is a type of learning in which the instructor puts lecture videos and materials online for the students to do on their own time prior to coming to class, thus leaving the class time for the students to be able to do interactive instructor-led learning activities and group work which offer the students a chance to apply what they are learning in the class in an expert-supported environment. Many feel this is a much better use of classroom time than only having the instructor stand at the front and lecture on information that students can easily view and learn before coming to class. Flipped learning is a type of blended learning design approach that capitalizes on technology to help enhance the quality of the face-to-face instructional time.

Design Strategies

Begin with the end in mind, as with any learning design effort. Specify what a successful learner knows and can DO at the end of the lesson, unit, or course. Create a step-by-step plan for scaffolding learners from their likely entry point to the desired exit point. Align all activities and assessment along this learning pathway. Blended courses are ideally suited to alternate between rich interaction, frequent feedback, and periodic reflection on learning. Think of ways to seamlessly integrate a complete developmental learning experience using the two learning environments

Interactive DLO: Hierarchy of Online Course Development



By Peter Waters, Link: https://www.thinglink.com/scene/359584407108976640

Planning the Course

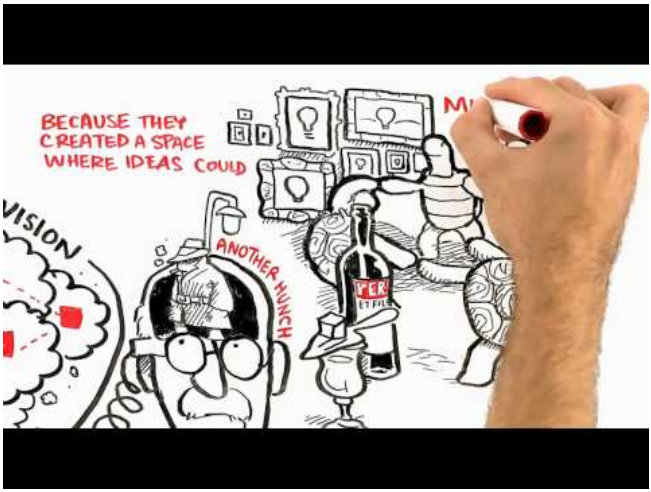
- Design sequences of activities in a continuum so that the online materials and time between class meetings support the classroom time by preparing students for classroom activities and following up on classroom activities.
- Build flexibility into timelines and activities to get the benefits of the online time between class meetings.
- Focus on the sequences and strategies that are best for learning rather than focusing on the technology. Select the appropriate technology for the learners and the learning, with a preference for technology that is simple and effective rather than flashy.
- Test online materials and run practice sessions with the synchronous technology.

- Provide an orientation or trial session for online tests, meetings, and other components that may be new for students.
- Plan each course, each week, and each session using a detailed timeline.
- Create policies and protocols and communicate them to students related to timelines for your response to their contacts and assignment submissions.
- Develop clear and consistent protocols for student participation in online discussions.
- Tightly align course goals, objectives/outcomes, materials, and assessments.

Tweet Chat: #virtuolearn

When considering technology skills, technology access, and accessibility in blended learning design, choose one concept and tweet two barriers to achievement.

Section 3: Managing Interaction



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3-3 Video: Where Good Ideas Come From

Through connections with peers in learning interactions, student knowledge can be expanded and built upon. Peer- to-peer interactions are important to help students learn from each other and to challenge their thinking in new directions.

Following are some tools you can use to enhance the interactions in your course.

Table 5.3 Tools to Enhance Course Interactions

	Web Tools and Apps	Learning ManagementSystem Tools	Media Resources
Type	Blogs, Wikis, mindmaps, social networks, project management spaces, file sharing	Chat, discussion boards, portfolios	eBooks, video, photo, sharing
Example	EduCanvas, Bubl.us, Mindmeister, Popplet, Twitter, Pinterest, Basecamp, Zoho Project, Box/ Dropbox, Google Apps for education	Blackboard, Moodle, Sakai, Udemy, iTunes U, eCollege	YouTube, Instagram, SlideShare

There are many ways to implement interactive tools into your blended learning course:

1. Focus on dialogue, interaction, reflection, and collaborative activities.
2. Strive for teaching presence in online materials.
3. Learn the methods of communication that are preferred for students in between classroom sessions so they never feel abandoned.
4. Lean toward over-communication in between classroom meetings to increase clarity and understanding.
5. Provide examples for exemplary student discussion replies, assignments, and projects.
6. Develop online tutorials as necessary.

When creating the flow of events in the course, consider Gradual Release of Responsibility (Fisher Frey, 2008). Early sessions and activities should be sequenced in smaller chunks to develop foundational knowledge and skills with more instructor leadership, feedback, and concrete examples.

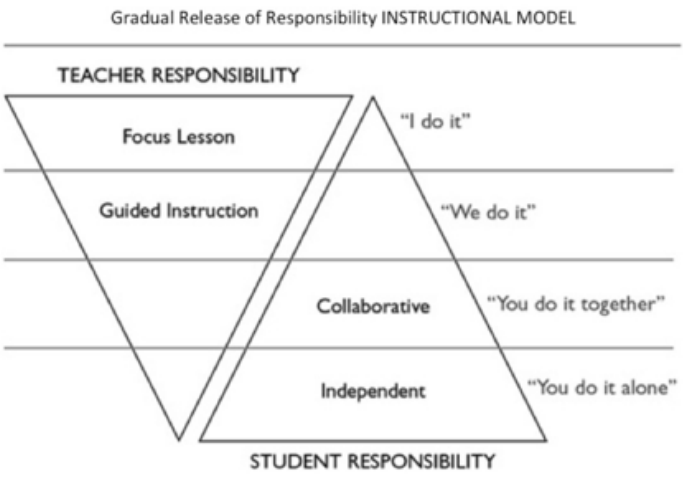

Figure 2

In effect, the learning should scaffold independence and allow for more student autonomy as their knowledge increases. As the course continues, work can become more conceptual and complex. Students can work more independently and the instructor role should transition to that of a tutor or mentor. Finally, students should lead activities and presentations as the course culminates.

Summary

Blended learning is any time a student learns, at least in part, at a supervised brick-and-mortar location away from home and, at least in part, through online delivery with some element of student control over time, place, path, and/or pace. There are

tasks well suited to blended learning design such as discussions that expand talks outside the classroom, bringing in remote guests, team work, collaboration on projects, integration of video and media, and access to online resources and tools. Use a design framework to guide the creation of the online portion of the course. Choose appropriate tools that enhance learning rather than detract. All decisions about the designs in the program adhere to the overarching direction and purpose.

Tweet Chat: #virtuolearn

Tweet a comment on your favorite web based tool or app that have you used as a learner or instructor that you feel most enhances interactions within a course.

End-of-Chapter Resources

CRITICAL THINKING

1. What is flipped learning, and how can this learning strategy be applied to your course?
2. In your course, what types of activities can easily be moved to the online delivery format, and which are best suited to the classroom time?

3. What types of interactivity can be designed into your unit plan that will provide students with opportunities for peer-to-peer learning?

CHAPTER TASK

The task is to design a blended learning lesson/unit for your course.

Consider the key concepts from the blended learning chapter, then think about your own experiences with blended learning. Choose a lesson, unit, or other component of a course that you would like to redesign systematically as a blended component. Then complete each task below after reading this chapter. Create an outline for a lesson from a class including topics, content for each topic, and teaching strategies. Decide which elements of the lesson will be face-to-face and which will be blended. Provide a brief rationale for your decisions. The readings will lead you through this design process from start to finish.

Complete the following tasks after reading each section in this chapter:

1. **Section 1:** Identify a lesson or activity in a course you teach or you will teach to redesign and add

interaction as if time and space were not limitations. Use the learning objectives and assessments to brainstorm the optimal activities that would take the students from their entry state to a high level of achievement of the objectives. What is the ideal sequence and pace for these activities? Review the table called “Blended Learning Plan” in chapter 4.1. Complete your own table with specific examples of how you will redesign the activity to fit the blended learning format.

- Once done, you have just done the basic steps of blended learning design: content analysis and the overall design of the learning experience!

2. **Section 2:** Sort the activities you named in the first task into those well-suited for the physical learning environment and those well-suited for the virtual learning environment. Refine the activities to integrate media. Develop formative assessments for key points in the activities. Remember to add details, policies, procedures, expectations, and grading rubrics. Points to keep in mind as you complete this task: Be sure to outline how you would apply the “flipped classroom concept” to the activity you identified, how you will change the activity to a blended-learning format, and how will you assess whether learners completed the activity.

- You have now added to your analysis and design by beginning the development step in blended learning design!

3. **Section 3:** Choose one or more new tools for the activities you have developed for your blended learning module. Consider how your plan may be adapted to increase student responsibility later in the lesson/unit. Write up a graduated, step-by-step, scaffolded plan for the student's learning from the start of the unit, when you will mentor and guide them more, to the end when they should be able to show more autonomy on the topics. If you will expect students to learn to use and apply a new tool, then write specific step-by-step instructions for the use of tool, and provide an example of how learners will be expected to apply the tool autonomously by the end of the unit.

RECOMMENDED RESOURCES

Bloom's Digital Taxonomy: choose tools that support specific learning skills students need to improve as a consequence of learning: http://edorigami.wikispaces.com/Bloom%27s+Digital+Taxonomy

Flipped Learning Network: http://flippedlearning.org

Innosight Institute, now called the Clayton Christensen Institute, on Blended Learning: http://www.christenseninstitute.org/

Periodic Table of Visualization Methods: http://www.visual-literacy.org/periodic_table/periodic_table.html

Hierarchy of Online Course Development: http://www.thinglink.com/scene/359584407108976640

Gradual Release of Responsibility Model:http://en.wikipedia.org/wiki/Gradual_release_of_responsibility

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6. Effective Online Discussions

MICHELLE ROGERS-ESTABLE, CATHY CAVANAUGH, MICHAEL SIMONSON, TRIONA FINUCANE, AND ANDREW MCINTOSH

INTRODUCTION

This chapter will provide the learner with an overview of online discussion management approaches, pedagogy, best practices, and tactics. It also looks at advanced methods of online discussions that help advance student learning to new levels.

CHAPTER OBJECTIVES

After reading and reviewing this chapter, you should be able to:

1. List benefits of online education
2. Analyze how online discussions can expand learning opportunities
3. Understand how instructor presence can affect

discussion quality
4. Evaluate a list of strategies that promote high quality online discussions
5. Analyze which strategies would work best in your own online discussions
6. Learn ways of promoting active, engaging and advanced discussions between the students
7. Evaluate methods of pushing student learning in subtle ways
8. Analyze Advanced Discussion Methods for creating unique learning experiences
9. Learn ways of promoting active, engaging and advanced discussions between the students
10. Evaluate methods of pushing student learning in subtle ways
11. Analyze Advanced Discussion Methods for creating unique learning experiences

CHAPTER SECTIONS

1. Benefits of Online Discussions
2. Instructor Presence
3. Strategies for Quality
4. Advancing the Discussions
5. End of Chapter Resources

Section 1: Benefits Of Online Discussions

A YouTube element has been excluded from this version of the text. You can view it online here: http://oer.ed-beck.com/virtuallearningdesigndelivery/?p=50

By Deakin University

Introduction

There are many benefits to having online discussions even in a face-to-face (f2f) course. From fully f2f to blended to fully online, the students can expand their learning outside the classroom through interactive dialogue with

their peers and the instructor. An online discussion is very similar to a f2f talk in that they require moderation and active management by the instructor, preparation time, and summarization of the concepts covered. In this learning guide an online discussion is defined as communication between instructors and students using interactive communication tools. These tools can take many forms, from chat sessions, to discussion forums, to video chat. The value of the online discussion is that even those students who are shy and timid can find the time to express their views, and more in-depth dialogue between students-students can occur.

Benefits of Online Discussions

- **Work Quality**. If the instructor makes the expectations and requirements clear then, given that students have time to reflect on their discussion contributions before posting, they can offer more resources and interesting facts than they could in a f2f talk on the same topic, thus increasing the quality of the discussions.
- **Preparation.** In a f2f discussion the students may or may not have prepared or read the material, but in online discussions they always have time to look up the information and study the item prior to posting a response about it, particularly useful for ESL students who may need extra time to prepare in advance of discussions.
- **Netiquette**. In the new millennium we are all faced with having to learn a whole new set of social communica- tion

skills: how to politely discuss topics in the online format. The instructor is integral in helping the students find their online voices and personalities in a polite and socially acceptable manner that is conducive to a warm and inviting learning community for all; a skill the students will use in their personal and professional lives too as technology for communication use expands.

- **Writing Skills**. If the instructor has high expectations on the quality of the writing that students post, then students will have the opportunity to improve on their writing skills. This can be an essential practice of writing for ESL students.
- **Active Management**. As the instructor follows student discussion threads, they can see misconceptions or logical errors and fallacies right as they occur and offer the information or guidance students need to stay on the right learning path in class.
- **Equal Chances.** In a f2f discussion there is limited time for everyone to talk; as soon the class discussion time is over, the discussion is over. The online format is a great place to continue the classroom discussions thus allowing all the students, even the shy or timid, a chance to have their say. This also allows students to participate at the same time in multiple lines of thought (threads) within the same discussion theme.
- **Global Connections.** Some online course discussions are conducted across different course sections at the same campus, or across several campuses, or even between the same course at two different universities in the same or different countries. These kinds of online global connections allow the students a chance to improve on their

cultural perspectives and to network internationally.

- **Expanding Classroom Learning**. A classroom discussion can only last as long as the class hours allow and may take time away from lectures and other activities that the instructor needs to give to the students. Having online discussions on the course lectures allows the instructor to continue course discussions even once the f2f time is over. It can also be a great way for students to integrate learning from classroom lectures into discussion conducted online.

Many students have said that they write their posts in MS Word first to check for grammar and spelling before posting them to be viewed by other students. When asked why, some said they don't mind making mistakes when submitting writing to the instructor as he/she is an expert in this area, so is used to seeing errors! When submitting threaded posts in the discussion forum however, they feel their writing should be as flawless as possible so their peers will think well of them. – Triona Finucane

Tweet Chat: #virtuolearn

Look over the listed benefits of online discussions. Which do you feel would most apply to your course and why?

Section 2: Instructor Presence

A YouTube element has been excluded from this version of the text. You can view it online here: http://oer.ed-beck.com/virtuallearningdesigndelivery/?p=50

A commonly held myth is that technology could replace the instructor, or that online learning does not need an instructor. In reality the instructor is as much of a requirement in online learning as in face-to-face (f2f) learning, just in different ways. The role of the instructor changes from a learning guide to a learning facilitator, and the presence of the instructor to support learning in the online delivery mode is essential to student satisfaction.

There is no one-size-fits-all approach to when an instructor should use online discussions, how often, and how much they

should interact within the discussions. The instructor should evaluate their students' needs on a case-by-case basis. For example, how often the instructor ought to reply in the online discussion forums can vary based on a great many factors, such as:

- **Level of the students:** New students and beginners may require more interaction than higher level or graduate students, who may prefer to lead the discussion themselves and to learn from each other as much as from the instructor.
- **Topic**: Some topics might require more management and guidance by the instructor than others.
- **Discussion type**: You will learn of different kinds of discussions that can be utilized, and different ones would require different levels of interaction by the instructor.

What the Research Says

Research supports two interesting results that could conflict with each other in practice; that instructor presence is key to student satisfaction,and that too much interaction and posting by the instructor in discussions can lead to reduced posting by the students (Wang and Liang, 2011).

Students claim higher satisfaction in courses that have higher instructor presence and availability (Picciano, 2002; Richardson & Swan, 2003; Shea, Li, & Pickett, 2006; Blau, 2009). On the other hand, because the instructor is considered an authoritarian figure (Rourke & Anderson, 2002), studies have found that the sooner, and more often, an instructor posted in the discussion forums, then the less frequent and shorter were the posts by the students (Dennen, 2005, Mazzolini & Maddison,

2003). Students require some time to start and to feel confident in expressing their views with each other before the instructor begins to interact with them, otherwise they will just reply to the instructor, and not to each other (Wang and Liang, 2011).

Directed Tactics

Wang and Liang (2011) outlined several methods specifically focused on dealing with this dilemma:

1. **Regulating:** The course designer can help regulate student interactions by creating and implementing clear rules and policies related to the discussion board posts and replies. This includes quantitative rules about how often to post, by when, and to whom. It also includes qualitative rules about the content and quality of the posts and replies.
2. **Inviting:** The instructor makes it clear to the student how to contact them for help, guidance, questions, and support on the discussion topics. This can be a separate online forum for building discussions between the instructor and students, which is away from the course topic discussions in which the instructor hopes the students will teach each other. This is often called the 'Virtual Office.'
3. **Summarizing:** The instructor is integral in summarizing the student discussions and going over main points and important conclusions. Putting in direct examples from the discussion is very useful and gives credit to high quality interactions. This helps the

students in summarizing their own learning, as well as lets them know clearly that they were being monitored throughout the process.

4. **Assessing**: Formative assessments and feedback help students to improve their performance during the course. Offering feedback on the quality of the posts with examples of expectations helps students to meet the instructor's expectations and to improve on the quality of their interactions with their peers.
5. **Counseling**: The instructor should let the students know they are there to support them, and be in frequent contact with the student through means other than just the discussion forums. They can send out updates by email and give students many ways to contact them, through a special instructor-student Virtual Office discussion forum (as outlined in #2) in the course, by email, phone, chat, in person-to-person office hours, and any other means of communication the instructor is able to offer students.

Avoiding Burnout

In the f2f classroom, the instructor manages 20+ students in a discussion at the same time, in one hour, and then is done. In the online discussions the conversations can go on longer,

expand and break up into multiple conversation lines, and the instructor may begin to feel overwhelmed by the number of replies they need to manage. Here are some tips and tricks to managing online discussions that avoid work overload:

- **Save save save!** If you write up a thoughtful, well supported and referenced reply on a given topic, chances are you will use it again the next time you teach that same topic and course. Save it in a file to be reused. Save anything you might reuse, and save yourself time in the future.
- **Reply to multiple students at the same time.** Do not reply to each student with the same information or weblink. Instead, try to get them onto the same thread and reply to them all there. If you wait a day or two and reply to a thread between 2-4 students, then you make one reply to four students at the same time.
    - ***Example 1***: Hello John, Jane, Mary and Susan. You have some interesting points about XX, and also about XX. Have you considered XX? What do you think?
    - **Example 2:** Hello John. I see you are discussing the same topic as I replied to Mary with some interesting facts and sources. Check that out, and reply to let us know what you think.

- **Set Work Hours**. Online discussions are always there. It can invade the rest of your life until you find you are logging into the course far too often. Set specific hours when you will login into your online course and check the discussions, and stick to that schedule. Try to not login outside those set hours to avoid burnout.
- **Quality vs. Quantity**: Replying to all students in the course with fluff and low quality replies is far less advantageous to

their learning than making a few directed, specific, and high quality replies. Make it clear to students that a reply to one student is always open to discussion by the entire class.

- **Pick Your Battles.** Don't spend hours writing up a thoughtful, in-depth tutorial, post, or help guide unless you can reuse it with other students in the future; try to find the same thing online already written and give them that link instead. Finally, don't spend hours on thoughtful feedback for a student's post where the student very clearly did not spend even five minutes writing it.

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Review the directed tactics in this section. Which do you think would be hardest to implement and why? Which do you feel would be most essential?

Section 3: Strategies For Quality

Video: Managing Online Discussions

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By The University of New South Wales

Here we provide a list of strategies and methods that help improve the quality of online learning discussions.

Make the Discussion Post Directions Clear and Concise. For example, specify the minimum words or referencing required, and clearly state the due date. Create a high quality discussion question that requires they use critical thinking to integrate course concepts in place of just listing out answers they can copy online.

Make the Value Clear. Explain at the start of the course the reason and value of the discussions, and outline the discussion

methods you will use. If students perceive the value they will make them a priority.

Make it Worth Something. If it is not graded, students are not likely to give it enough attention. Discussion can be an important and integral part of student learning and writing practice. Make both the initial posts and their participation replies an adequate percent of the total grade. Experts in the field recommend that discussion participation should equal anywhere from 10-30% of the entire grade if students are to take them seriously.

Clearly State Participation Requirements. Many instructors will specify the minimum number of replies each student should make, how many days a week posts and replies should be made on (to show attendance), and the level of quality the reply content should have (meaning replies of just 'I agree' and nothing more are not counted as participation). It is very useful to give students examples of what a high quality reply should look like. Giving students a grading rubric that outlines what is expected and how they will be graded allows them to meet the instructor's expectations.

Promote Interactive Feedback: The instructor should outline that substantive feedback is required for participation points (such as replies of 'I Agree' and nothing more will not constitute a part of graded participation). Note that not all replies will be substantive, and sometimes all we need to say is "Great job, I agree." Don't discourage this kind of positive support, just inform students that they must also have a minimum number of substantive replies as well. Giving students examples of what substantive feedback looks like can help them interact at the discussions in an advanced way. Substantive feedback usually includes one or more of the following elements:

- Asking questions about the original post
- Pointing out (respectfully) possible errors in the original

post, and offering up a source of information on the topic for further discussion

- Sharing of links, videos, and other online resources on the topic to expand further discussion
- Sharing of personal experiences relevant to the topic
- Respectfully disagreeing, and then sharing an alternative viewpoint
- Using reliable support, facts, and information to support arguments and points

Create a Permanent Discussion Schedule. A professor can schedule regular and consistent start and end dates of discussions to keep students on track. Setting early due dates on the posts allows students enough time to reply before the end of the discussions. Making the discussion schedule a permanent part of the syllabus allows students to plan their time effectively.

Lead by Example. If you expect students to make posts and replies at least three days of the week, so should the professor as the model. The instructor's posts should be high quality, referenced, and academic, thus becoming a guide of what is expected.

- **Example**: Always make the initial discussion post due on Tuesdays by midnight and the replies due on three days of the week, the final ones in by Sunday night. These permanent due dates week after week help to keep the students organized and able to meet the deadlines.

Alleviate Isolation and Distance. In blended or online learning, students may feel less socially connected to the instructor and course which can lead to higher dropout rates. See the section in this chapter on Building a Learning Community for tips on reducing this.

Encourage Dialogues. Avoid dominating the conversation or telling students 'how it is' and instead guide learning in appropriate directions through the Advancing Discussion

tactics covered in this chapter. Manage dominate students so that timid ones feel they have the space to share.

Appropriate Group Size. Research shows that groups of less than eight people will probably stagnate from lack of interaction, but so too will groups over 15 people as students feel overwhelmed by the number of posts in the forum. If the course numbers allow it, then create smaller discussion groups of 10-15 people. A good tactic is to then employ the 'Cross-pollination' method discussed in this module.

Mid and End of discussion Summaries. Halfway through a discussion post a review of general conclusions being made by students, as well as to clarify any misconceptions and to keep students on track. Post an end-of-discussion summary to wrap up all of the main points and to make important conclusions the students may not have yet realized.

Align Discussions with Learning Outcomes. Design the discussion questions such that they relate directly back to the course learning outcomes. This way the students are spending their limited time on focused and useful discussions relevant to course learning goals.

In cases where a large majority or most of the students in the course are second-language speakers, this can present a unique challenge for the instructor. The instructor may need to spend a bit more time supporting students in the discussions, or offering summaries of new words and expressions learned via email after the discussions.

The instructor can do pre-discussion work with the students to prepare them for the discussion language needs in advance, such as with a vocabulary exercise, activity, or tutorial on the required vocabulary and expressions that will be required in the upcoming discussions. These tutorials, help sheets, and vocabulary lists can also be posted online in the discussions

or learning management system (LMS) where the discussions will take place, allowing for a quick review by students when necessary. Finally, create a glossary of terms in the course, which will be essential so that students can refer often to it when unsure of the language used in the forums.

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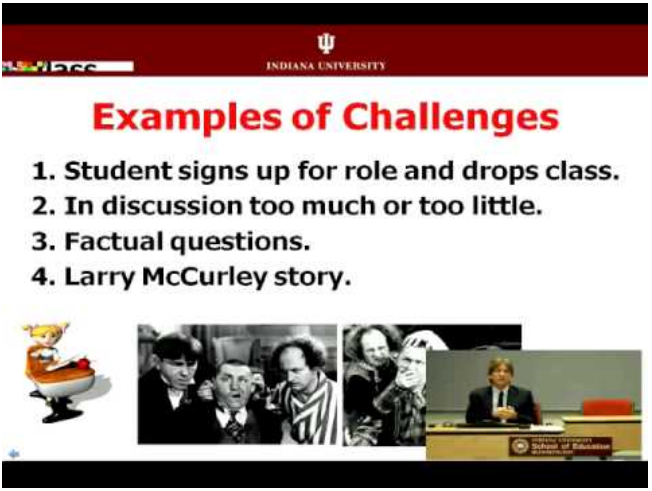
Review the strategies in this section. Which would best support student learning? How? Which are best suited to your content area in education?

Section 4: Advancing The Discussions

Video: Managing Online Discussions



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By Dr. Bonk, Indiana University

As we have read in previous sections, the instructor must find a special balance between being too interactive and not being interactive enough. Following are some indirect ways of pushing and advancing student learning in the discussions without always appearing to be directing them.

Questioning Strategies: There are a variety of questioning strategies, such as Socratic questioning, that allow the instructor to help push student learning in online courses. The idea is that through asking the students specific questions about what they say, they will eventually lead themselves to the right answer. The following research paper covers these strategies in detail.

Lead the Horse to Water: You will quickly note that some students have missed the point, missed a needed conclusion, have a misconception, or just do not know their facts. This could be due to prior learning that is a barrier to them learning new information, due to them just reading an erroneous source online, or because they did not prepare for class. It is important to catch these discussion errors and moderate them early so that other students in the same course are not also erroneously led along the same logical fallacies. The problem, though, always rests in that people do not like to be told they are wrong. If you reply "that is wrong" the student is likely to feel publicly attacked in front of their peers and will either become defensive, or close up and not post anything more. Therefore, there are more subtle and indirect ways of leading the student to the right information without directly telling them.

Example: John writes "Climate change is just a hoax propagated by crazy environmentalists that want to prohibit the smooth running of our economy."

Problems with the post: Hearsay. Unfounded. Jargon. Not academic. Claims without support. False information contrary to what experts in the field and the textbook say. The issue, though, is that climate change is a sensitive and heated subject. The professor would need to find an innovative indirect way of getting the student to learn the right material on their own because telling them is probably going to make them angry or defensive.

Ways the instructor might reply:

- Hello John. Thank you for your post. You made some claims but did not offer support or facts to back them up. Can you reply to me here with some specific facts and resources to support your points? What does our book say on the topic?
- Hello John. Thank you for your post. I would like to direct

you to pg XX in our textbook. Read that page. What does the author say on this topic? What do you think?
- Hello John. Thank you for your post. I think that NASA has some very interesting data concerning climate change. Take a look at this link and tell me what you think? http://climate.nasa.gov/

Create Connections: Reply to student threads with useful resources, information, and relevant topics that help them connect their learning.

- You wrote about X, and at this weblink/online-resource they say X, what do you think?
- This reminds me of. . .
- Did you see that X wrote on this, what did you think of his/her conclusions?
- Go view this X thread, as it relates to what you say here on X. . .
- I see you talked about X, how does that relate to X on pg X of our book?
- See this X thread/link/news as it is relevant to what you say about X. . .

Advanced Discussion Methods to Expand Learning

Following are some advanced techniques for really pushing student learning to new and higher levels of understand- ing. They help take a boring, simple discussion and make it more interesting, fun, interactive, and meaningful for students.

1. **Increasingly challenging questions:** Some instructors like to scaffold the discussions in a way that also builds knowledge from the general to the specific or from lower to higher orders of learning.

- How this works:
  - The instructor may start the students on a simple discussion question that only requires lower levels of thinking, such as knowledge (remembering) and comprehension (understanding) (Bloom's Taxonomy).
  - This starts the discussion on a lower level of learning so that students begin to build their knowledge and thoughts on the topic.
  - The instructor posts and emails a summary of that discussion.
  - Then a second discussion question, due a few days later, may demand them to integrate and apply the knowledge from the first one in a more complex way.
  - The instructor posts and emails a summary of that discussion.
  - Then a third discussion question may advance this learning strategy further, or require them to summarize, integrate, and analyze what they have learned even further.

2. **Role-play / Conference**: Some instructors assign roles or characters to students and then give them scenarios to act out in the online discussion forums. Note that these are great alternative assessment methods and help to really learn how much the students know about a given topic. An important tactic to keep in mind is in conferences and role-play scenarios, it is best

to survey the students prior to assigning roles and to purposely put the students into roles that are new or different than the student's own personal views or values. Meaning, for example, make a democrat play the role of a republican, or young person play the role of an elderly resident. This way the participants are forced to learn about new views and opposite viewpoints than they already had, thus expanding their overall learning on the topic much more than if they only debated, defended, or played a role already in-line with their current worldviews.

- Examples for Ideas:
  - **Middle East Studies Course:** The instructor assigns students to be different country leaders in the Middle East, the students study the politics of their assigned country, and then have an online 'United Nations Peace Conference' in the discussion forums concerning conflicts over land and water rights.
  - **Educational Psychology Course**: The instructor assigns students to be different famous educa- tional psychologists from different eras and/or disciplines. Students study up on the views and research of their

psychologist, and then in the forums 'acts out' that person's views on specific questions or debates.

- **Environmental Science Course**: The instructor creates a role-play about use of pesticides in a small community. Students are given different roles, such as the concerned house mom, the business owner that sells the chemicals, or the corporation manager that exports the chemicals. They then interact through questions and concerns about the chemicals and learn about different stakeholder interests.

3. **Discussions as a Data Source:** Some instructors use the discussion forums as a research area for students. Students generate resources and information, the instructor can moderate it and comment on it, and then students can use that information to formulate essays, work, or assignments.

    - How this works:
        - The instructor creates a discussion forum on a given topic, and assigns students to list one fact and one web resource on the topic.
        - A few days later, the students might then

participate in a second forum in which they summarize the information generated in the first one.
        - The students might then be required to complete a project, paper, or essay on the topic using at least three of the things they learned about during the data-driven discussions.
        - This scaffolds their learning and also ensures they use more reputable/approved sources of knowledge because the instructor had a chance to review them in advance.

4. **Web 2.0:** Many online Web 2.0 tools can be used to create fun and interactive online discussions. For example, Twitter is often used as a live synchronous 'Tweet Chat' where a question is asked and the participants respond to the hashtag with comments and thoughts.
5. **Leadership Development.:** An excellent tactic is to make students a leader in the discussions, which also attends to encouraging students to be in charge of their own learning. This tactic motivates them to learn at least one topic fully, and by teaching others they show their grasp of the subject as well as learn leadership skills.

    - How this works
        - The instructor creates a schedule of important key course topics. This could, for example, take the form of one topic per week of the

- The students then sign up during the first week to lead one weekly online
- They are given clear, concise, and precise guidelines on how to prepare for their leadership week. These directions should include a grading rubric outlining how their work and participation will be assessed.
- A week prior to their leadership week, the instructor connects with them either f2f or online to discuss their The student is in charge of designing the weekly discussion question, but the instructor should review it prior to the student posting it.
- On the prescribed week, the student posts the initial discussion question and is then the leader for that topic, helping to guide and advance the discussion. They are expected to show that they are a leader/expert in that particular
- The instructor would moderate and interact as well, but more in the backseat, leaving the student to complete their leadership
- This is an alternative assessment measurement method that can be easily and conveniently assigned to any

6. **Cross-pollination**: Cross-pollination is a discussion sharing tactic from The World Cafe . It is the idea that key concepts, ideas, and conclusions from small groups can integrate into others, all in the confines of more intimate discussions without the overwhelming feeling coming from larger group discussions. This concept is practiced by The World Café at in-person sessions, however a variation on this method can also be practiced in online discussions.

    - How this works:

- In a blended course the instructor may introduce key discussion topics in the classroom, get the discussion started, and then continue it in the online
- In the learning management system (LMS) for the course, the instructor then creates smaller groups of 5-10 people and has them start on a specific question related to the classroom discussions and lectures. The instructor may even vary the question slightly from group to group so that different people obtain different conclusions and
- Then, after a given time, the instructor changes the groups and puts students into new groups, and continues the same discussion questions, but now with slightly modified group
- The instructor may do this several times, and slowly the ideas of everyone will cross-pollinate across the groups, but done so through smaller learning sessions easier for the students to

Summary

Online discussions can just be a place to answer some questions and get some points or they can form a part of a transformative learning process for students to enhance their knowledge of the topic through social learning. In a transformative experience one is forced to question his or her thinking, to integrate new information, and to (hope- fully) create new conclusions and thinking processes that include the newly learned information. Through creating high quality discussion questions that engage students, and asking them to think beyond the normal boundaries they are used to, and then moderating interactive and substantive online discussions, the

instructor can help students achieve higher levels of learning both inside and outside the face-to-face classroom.

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Review the advanced discussion methods section from the text. Which of the techniques appeals to your teaching philosophy and why? Are some approaches best suited to some learning processes over others, such as inquiry-based learning or project-based learning? Which suit which? Why?

End-of-Chapter Resources

CRITICAL THINKING

1. Think of a topic you that would be appropriate for an online discussion. Write down the goals of the unit or activity. Then develop three questions that map directly back to the overall learning goals, and that will help guide your students to comprehensively address the topic.
2. Choose two 'directed tactics' and two 'avoiding burnout' tactics from this section, and discuss how

you might employ each in your course discussions.

3. Using the three questions you developed in the first critical thinking question, develop guidelines, policies and a rubric that would help students engage in the discussion and support learning success.

CHAPTER TASK

Chapter Task

Review the Advanced Discussion methods in this chapter. Take your work from the critical thinking questions and expand on it. Use each of the critical thinking questions to guide you though the design of one advanced discussion method to implement into your classroom.

Be sure to include the directions students would need, the grading rubric, resources required, requirements, policies, and other information the students would need to be successful.

RECOMMENDED RESOURCES

The World Cafe: http://www.theworldcafe.com/

Critical Thinking in Asynchronous Discussions: http://www.itdl.org/Journal/Jun_05/article02.htm

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7. Professional Online Lectures

MICHELLE ROGERS-ESTABLE, CATHY CAVANAUGH, MICHAEL SIMONSON, TRIONA FINUCANE, AND ANDREW MCINTOSH

INTRODUCTION

An important factor for high quality online learning is equivalency. Equivalency means that the student will have an equivalent learning experience online as they would face-to-face (f2f). This does not mean the **same** learning experience, it just means **equivalent**. If there were important lectures in the f2f course on complex topics, then the same learning opportunities should be afforded the online student. The instructor can host a synchronous (real time) online lecture or an asynchronous (everyone on their own time) online lecture. In a flipped learning (blended learning) situation, the content in this chapter can be used to create high quality lectures for students to view outside class, so that class time can be focused on interactive group exercises. Following we will cover some information, approaches, and best practices related to all of these types of online lectures.

CHAPTER OBJECTIVES

After reading and reviewing this chapter, you should be able to:

1. Understand the difference between synchronous and asynchronous online lectures.
2. Know when one type of online lecture is best suited to the learning needs over another.
3. Be able to list the best practices and considerations to keep in mind when designing and hosting an online lecture.
4. Have an understanding of various tools to use for different types of online lectures.

CHAPTER SECTIONS

1.

Section 1: Introduction

Online lecture, videos, or screencasts created by an instructor can have a positive impact on students' attitudes towards their learning experience. Students may believe that they

comprehend the content better due to hearing their instructor's voice. Students also believe they can work at their own pace because of the ability replay the recorded video. Guerrero, Baumgartel, and Zobott (2013) developed a study comparing experiences of two sections of students within a transformation of pedagogy setting that had similar traits to flipped learning. Section 1 did not view screencasts and Section 2 did view screencasts. Guerrero et al. state "Findings from instructor insights reflect many of the positive comments made by students regarding the use of online notes. Students in Section 2 seemed more aware of the content being covered each day and came to class prepared to engage with group members on the content." The screencasts allowed students to view the lecture outside of class. Students were able to gain an initial understanding and went to class prepared with questions along with applicable knowledge for the face-to-face activities. Guerrero et al. (2013) explained that students from Section 1 received more "conventional" education in which students took notes during class with hands-on learning integrated throughout the face-to-face meetings." Students from Section 1 asked more definition-based and procedural questions while students from Section 2 asked more application-oriented and conceptual questions. When students ask more application-oriented questions this is indicative of progressing towards higher order thinking skills such as applying and analyzing.

Screencasts can be utilized to explain complex concepts or for introductions. Screencasts can include a webcam that features the instructor's face along with audio commentary. Instructor presence is integral for all learning environments, but the challenges regarding interaction within online learning can be met with screencasts. Jones, Kolloff, and Kolloff, (2006) state "The introductory video can aid in communicating the organization and expectations to the students [...] Teachers provide intellectual leadership and share their knowledge of the subject matter with their students. The instructors must be able to communicate the intellectual climate of the course and serve as a model for their students" (pp. 1253-1254). Jones et al. (2006) harp on the significance of instructor-created videos because of the equivalency that can be fostered from the presence that is exuded. Instructor made videos such as screencasts humanizes the learning experience. Jones et al. (2006) state "Being able to hear the instructor's tone, humor, and see their body language helps to make the information real for the students. The participants report that they felt as if the introductory video gave them a sense of "being in class" and provided them a familiar feeling of "communicating face-to-face."

Whether a course is blended or fully online, screencasted videos created by the instructor can enhance student engagement because of the audio and visual components. Hearing and seeing the instructor on a regular basis creates a community of learners that connects students to instructors while legitimizing an educational experience that may occur globally or locally.

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Why is it important for the student to see or hear the instructor's voice in an online course? What other ways can be used to build connections in the virtual classroom?

Section 2: Asynchronous Lectures

Video: How to make Video with PowerPoint

A YouTube element has been excluded from this version of the text. You can view it online here: http://oer.ed-beck.com/virtuallearningdesigndelivery/?p=52

Link: https://youtu.be/CSHD3mrB3JI

Asynchronous lectures are online lectures that are done on the participant's own time. The instructor and student do not need to be present at the same time. This is a good type of online lecture for fully asynchronous online courses in which students are not required to attend any real-time sessions.

Effective Recorded Lectures for Online Courses

Recorded lectures for online courses provide the opportunity for explicit explanations of a concept. Instructors can use screencasting software or web conferencing software to record microlectures. Brown, Luterbach, and Sugar (2009) state "Wouter, Paas, & Merrienboer (2008) observe that the instructional methods of modeling and vicarious learning, in which experts perform problem-solving tasks for learners while explaining their actions are a good fit with teaching task performance." Screencasting offers the opportunity for instructors to record a video that captures the task performance along with audio commentary explaining the process. Brown et al. (2009) state "Screencasting technology fits well with this instructional approach in that it presents digital video of the expert's actions for the learner to see while simultaneously presenting the expert's audio commentary on his/her actions." Screencasting also supports Mayer's Cognitive Theory of Multimedia Learning (CTML). The CTML states that students learn better from words (spoken or typed) and graphics, rather than just words alone (Mayer, 2005). Screencasting provides the combination of graphics and words that encompasses the practical vision of the CTML. The words can be in the form of audio commentary or added as callouts to highlight key points during the screencast.

Recording a screencast entails structural elements and instructional strategies that can impact student learning. Sugar, Brown, and Luterbach (2010) state "Structural elements are those that describe the format of a screencast in terms of sectioning, screen recording, and general narrative elements." Sugar et al. (2010) identified three structural elements after analyzing 37 screencasts. The structural elements include bumpers, screen movement, and narration.

Bumpers are considered the introductory and concluding statements for the screencast. They identify the beginning and the ending of the screencast. Bumpers can also be utilized to provide a brief introduction of the topic being presented in the screencast.

Screen movement during a screencast can be considered static or dynamic. Dynamic screen movement follows the cursor and may zoom in to focus on particular images or text. This can be helpful when identifying key points on a document with a small font size. Static movement is when the screen does not follow the cursor. This is evident when simply presenting the content for a slideshow presentation.

Narration is the audio commentary for the screencast which can be explicit or implicit. Explicit narration explains each step such as "Click on the edit button in order to edit the site." Implicit narration could be "Edit the page then click save." Notice the implicit narration does not explain where the edit button is located because of the implication that the student already knows where the "edit" button is located. Explicit and implicit narration depends on the background knowledge for the students. A student that has limited experience with the topic will require explicit instructions compared to someone with significant experience may only need implicit instructions.

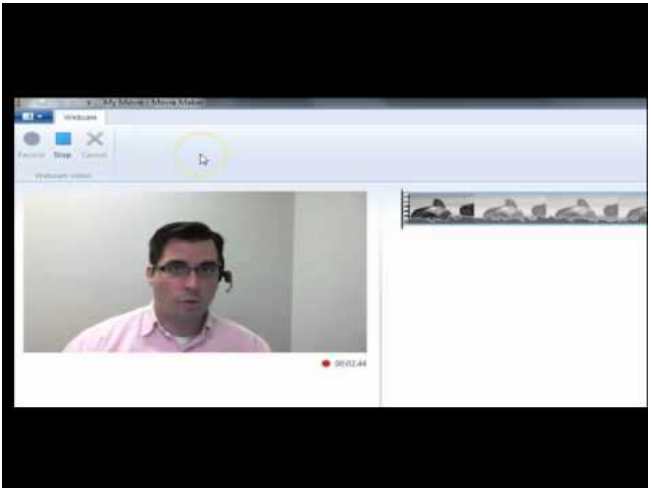
Best Practices for Creating Recorded Online Lectures

1. **Scripts**: Write a script of what you want to say, to make sure the most important things are covered. This can then be used as the transcript in the video to attend to ADA compliance.
2. **Storyboards**: Design a story board, which is just a plan of what will be said, shown, and described. This helps guide the project to make sure it covers the needed material.
3. **Learning Nuggets:** Break the topics down into bite-sized 'learning nuggets'. Keep narrated lecture videos to 15 minutes or less, with 10 minutes being the optimal time. People will not sit through longer video lectures.
4. **Colors:** Think about text and content colors to make sure they are easy on the eyes. For example, light Orange text can be hard to read.
5. **Avoid Fluff:** Keep the content tight and to the point. People are busy and do not want to waste their time. So stick to short learning videos on key topics.

6. **Images:** Choose images that are specific to the topics and that support the learning rather than are just there to grab attention but do not add value to the lecture content.
7. **Copyright:** Make sure to get permission to use all images, content, video, and music that are not your own to avoid violating copyright laws. Give credit where credit is due, and source all facts and information. Use Creative Commons free images and music where possible (see the resource list at the end of this Chapter).

8. **Content Sustainability:** Making an online video lecture or audio narrated PowerPoint lecture takes time. You want to be sure you can reuse it repeatedly. Therefore, choose sustainable topics and content that will not change. When possible, choose the foundational concepts and knowledge base that will be the same year after year and make the online lectures about those concepts.
9. **Quality Audio:** Use a headset or microphone so that the audio is clear and professional. Choose a room with little background and ambient noise. High quality audio recordings ensures the students can hear everything that is said.
10. **Shelf-Life:** Avoid mentioning things like 'this week's assignment' or mentioning current events or other things that may change so as to push out the video's expiration date.

Video: Editing a Video in Movie Maker



A YouTube element has been excluded from this version of the text. You can view it online here: http://oer.ed-beck.com/virtuallearningdesigndelivery/?p=52

By Andrew McIntosh, SUNY Delhi, Video: Link: https://youtu.be/7kZHgJfGo_A

Best Practices Related to Visuals in Online Lectures

1. **Less is More:** Too much text and photos on the same slide can overwhelm students and be hard to read. The less per slide the better.
    - The rule of thumb: 6-8 words per line, and 5-8 lines of text for each slide maximum.
2. **Font Matters:** Choose fonts that are easy to read on computer screens, such as Arial, Verdana and Tahoma.

3. **Font Size:** Try to use font size of at least 24 point size if possible, so that it is easier for participants to view and read.
4. **Color:** Choose colors that are easy to view and read. For example, do not use dark red on a black background, as this strains the eyes to view.
5. **Landscape:** using the landscape layout fits better on participant computer screens.

Tweet Chat: #virtuolearn

Tweet about one of the best practices listed and how it would apply to creating a high quality asynchronous lecture for students.

Section 3: Synchronous Online Lectures

In some virtual classes students can benefit greatly from synchronous chat sessions, office hours, or lectures with the instructor and other students. In some courses the instructor has online synchronous office hours in which students can contact them to ask specific questions real-time about content they are having trouble with. In other cases, the instructor can host online lectures covering the same material they would in a face-to-face (f2f) classroom. Some instructors host online group work and activities for students. There are many ways that a synchronous lecture session can be utilized to give online students the equivalent learning opportunities they would have in a f2f setting.

Best Practices for Hosting Online Synchronous Lectures

1. **Prepare:** Have the slides ready to share, have a list of the video links to show, and have handouts ready to email out. This way lecture time is not wasted searching about in Google trying to find that link for sharing.
2. **Check for Attention**: Make sure people are still with you. In an online lecture it can be easy to lose people and not know it. About every 10 minutes stop the lecture and do something to engage the students, such as complete a poll or ask a question. Alternatively ask them to type something in the chat box, or 'raise their hand' to contribute. This helps to keep their attention on the lecture.
3. **Check for Understanding**: About every 10 minutes, ask people if they understand the concepts so far by either clicking on the green check mark (as found in some online webinar and lecture tools), or putting a smiley face in the chat box, or some other tactic to check that they are still with you.
4. **Group Work:** Many webinar and online lecture tools have what is called 'breakout rooms'. These are sub- rooms in the online lecture room to funnel students into for smaller group work. Instructors can lecture for 15 minutes, and then put students into small-group breakout rooms for a discussion amongst themselves and then they come back to the main room to present their ideas to everyone. Having students take on some presenting and discussion management roles can increase their engagement with the online lecture process and content.
5. **Whiteboard:** Write clearly and largely on the whiteboard, to make sure that all symbols are clear to the students.
6. **Encourage Interactivity:** Where possible encourage the students to interact with the lecture content, to ask

questions, or to complete mini-exercises. This keeps them engaged.

7. **Outlining Visuals:** If you will be pointing to key features on a graphic then use the annotation tools found in most webinar and online lecture software tools to make marks, circle things, or point to specific areas. This way the instructor is sure participants know what specifically they are talking about.

Visuals Best Practices: See the section above and the best practices related to visuals.

Tweet Chat: #virtuolearn

Tweet about one of the best practices listed and how it would apply to creating a high quality synchronous lecture for students.

Section 4: Flipped Learning

Video: The Fizz Method for Flipped Learning

A YouTube element has been excluded from this version of the text. You can view it online here: http://oer.ed-beck.com/virtuallearningdesigndelivery/?p=52

Flipped learning is, essentially, blended learning. It is a course that utilizes both in-class time and online time for student learning. The focus of a flipped learning approach is to take the lectures out of the classroom time and put them online for students to view on their own time prior to class, and then using the in-class time for in-person activities that better utilize the face-to-face (f2f) time than lectures would.

Some of the benefits and reasons to move to a flipped-learning environment are:

1. **Limited class time:** There is only so much f2f time with students. Why waste it droning on about lecture topics they could easily read or view prior to coming to class? Instead

put the lectures online, and use limited class time for doing interactive student group work on the lecture materials.

2. **Checking for Understanding:** This one is very important! If you lecture for an hour, students take notes, and then leave. But how do you know they actually correctly understood the content? How do you catch misconceptions? If you put the lecture online for the students to view prior to class, then you may use limited class time to check for student understanding and application of the learning content, which in turn takes the student to a higher order of Bloom's Taxonomy.
3. **Teach Self-Efficacy:** In the modern world we must become responsible for our own progress and success. We have to learn to organize our time, and take control of our learning. A flipped learning environment teaches students to plan ahead and review content prior to coming to class. Though we do suggest a quiz at the start of class to be sure they actually viewed the lectures before coming.
4. **Better Learning Design:** Split the class up into learning that works well online, and that which is best suited to the in-person environment, so that students are getting the best use of learning time with the instructor.

Following are some tips and tools to support a flipped learning or even fully online classroom environment:

1. **Online Presentations as Lectures:** You can create online lectures using a presentation you normally use in a f2f course. However, note that taking a PowerPoint presentation and throwing it into an online course with out notes or audio to go with it is akin to standing in the back of a classroom and flipping through the slides without saying anything to the students. Throwing a PowerPoint into an online course is **not** providing a suitable online lecture material to students that is the equivalent to what they would get in a f2f course. Remember, it is about equivalency. Here are some online presentation tools you could use, and then screencast yourself speaking about each slide or image in them, and then provide that screencast of your audio lecture on the presentation as an online lecture for students.

    - Prezi (Presentations that are more dynamic than PowerPoint): https://prezi.com/
    - Sway (Interactive reports and presentations): https://sway.com/
    - Glogster (Multimedia Posters): http://www.glogster.com/#one

2. **Screencasted Lectures:** There is now easy access to many different types of screencasting tools online. This makes it easy to video record a lecture or screencast a tutorial online and then load those in the online portion of the course for students to access on their own time. Then classroom

time can used instead for checking understanding on those concepts.

- Two good possible tools to try:
  - Screen-casto-matic: http://wscreencast-o-matic.com/
  - Knovio (the free version): http://wknovio.com/
  - PowToon: http://wpowtoon.com/
  - Prezi : https://prezcom (Use screen-casto-matic to record the audio of a Prezi or PowerPoint)
  - Sway: https://sway.com/

3. **Digital Learning Objects (DLOs) as Lectures:** Online lectures can take many forms. They do not need to be videos or screencasts. There are tons of online Web 2.0 tools that can be used to create interactive learning resources, lectures, and study materials online. In using them to create the online learning and lecture content, the instructor can then use the limited in-class time for learning experiences better suited to in-person connections.

   - Here are a few tools to use for this, though there are many more online:
     - – Quizlet (quizzes, games, flashcards, and more): https://quizcom/
     - – VoiceThread (video discussions): http://voicethrecom/
     - – ThingLink (interactive learning images): https://thinglink.com/
     - – Popplet (mind mapping): http://popplcom/

Tweet Chat: #virtuolearn

What tool, resource, or tip would support flipped learning?

End-of-Chapter Resources

CRITICAL THINKING

1. What are methods that can be utilized to increase connections between the students and instructor in a synchronous online lecture? What about asynchronous?
2. How do design considerations apply to creating online lectures that are compliant with the Americans with Disability Act (ADA)?
3. List three ways that the instructor can check for understanding during a synchronous lecture? What about after an asynchronous lecture?
4. What is **equivalency** and how does it affect designing online lectures?
5. Why is just taking some PowerPoint lecture slides normally used in a face-to-face course and loading them into an online course NOT a sufficient

equivalent replacement for classroom lectures? What can be done with them to make them equivalent?

CHAPTER TASK

Chapter Task

Choose a tool, and create an online digital learning object, screencast, video lecture, or other lecture learning object. This could be as simple as setting up a video camera in front of a whiteboard, and walking through a lecture, or as simple as screencasting yourself talking about each slide of a PowerPoint or Prezi presentation.

Complete the following steps:

1. Decide on the topic and subject of the video. It should align with a learning unit in a course you will teach.
2. Create even a simple and short story board that outlines what the video, screencast, or digital learning object will include.
3. Write up the script for any audio you will lecture. If you will be creating a screencast of a PowerPoint or Prezi presentation, then write up the notes for each slide.

4. Develop the prototype.
5. Finalize based on feedback.
6. You have now created an online lecture!

RECOMMENDED RESOURCES

- How to Create a Storyboard: http://digitalstorytelling.coe.uh.edu/page.cfm?id=23&cid=23&sublinkid=37
- How to Create a 'Flipped' Video Lecture for at Home Study (PBS): http://www.pbs.org/newshour/rundown/ how-to-create-a-flipped-video-lecture-for-at-home-study-2/
- FlippedLearning.net: http://flippedlearning.org/site/default.aspx?PageID=1

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