

## Techniques to engage the online learner

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### **ABSTRACT**

A survey conducted by the Sloan Consortium in Fall 2007 revealed 3.9 million students were enrolled in online classes which is a 12 percent increase over the number reported in 2006 (Allen & Seaman, 2008). The current economic downturn has also created a positive impact on the numbers of online learners. To effectively serve these students, educational materials must be developed, structured, and distributed using pedagogy that best supports online learning.

This paper is a review of the recent literature regarding electronic pedagogy – the term for preparing materials for the online learner. A list of twenty reported components for success is identified and then augmented with what the authors have learned during seven years of teaching online WebCT and Blackboard classes. Examples of course pages that illustrate the application of selected concepts are included as well as suggestions for how to implement these concepts. Implications for future online instruction, based on the evolving electronic pedagogy are also provided.

Keywords: online learning, electronic pedagogy, distance education

## INTRODUCTION

The National Center for Education reported over 56% of higher education institutions in the United States offered distance education in the 2000-2001 academic school year with 90% of the institutions using asynchronous internet instruction (Natriello, 2005). In 2003, 1.9 million students were enrolled in online classes with institutions projecting 2004 enrollment to exceed 2.6 million students (Saba, 2005). A survey conducted by the Sloan Consortium in 2007 revealed 3.9 million students were enrolled in online classes which is a 12% increase over the number reported in 2006 (Allen & Seaman, 2008).

There are a numerous learners whose only feasible way to obtain information or higher education courses is from online sources. The emergence of online learning enables us to reach audiences that previously were hard to serve. Cooperative Extension and higher educational institutions see e-learning as a way to expand their offerings to those who would otherwise not have access (Naidu, 2003). It is also thought that with the economic downturn, higher fuel costs and unemployment may cause more students to opt for online courses. Online learning allows students more workshops or classes to choose from and results in a greater flexibility in personal scheduling. In order to best serve these audiences educational materials must be prepared that are developed, structured, and distributed using pedagogy that targets effective online learning.

As in the traditional classroom, it is important for instructors to be knowledgeable and responsive to the needs of learners, developing an understanding and appreciation for their students. When creating online materials, it is particularly important for instructors to understand the pedagogical differences that exist between face-to-face and online learning situations. Learning should move away from a teacher-centered to a student-centered approach using inquiry and project-based learning activities (Lowes, 2005). Online learning should involve three types of interaction: 1) learner to learner 2) learner to content and 3) learner to instructor (Misanchuk & Anderson, 2001).

The goal of an online program should be to provide an environment which actively engages students in the learning process and promotes independent learning where students take ownership of their work. The role of instructors shifts, placing more emphasis on facilitation where the instructor provides the structure for the course with scheduled assignments and due dates, and guidelines on how to complete assignments (Lowes, 2005).

## WHAT IS KNOWN ABOUT ONLINE EDUCATION INSTRUCTORS

Some of the same things that make for successful face-to-face instructors also apply to successful online instructors. These things include good communication and organizational skills as well as the ability to use questioning strategies which promote critical thinking skills in students (Davis & Roblyer, 2005). However with online teaching, instructors need to be able to interpret students' needs through nonverbal cues since verbal cues are unavailable. One means of accomplishing this task is to watch for changes in the level of student participation. Initially some students may experience difficulty getting started with a course. These difficulties can discourage them significantly. Instructors who anticipate these difficulties will be able to better assist their students and enhance the online learning experience (Palloff & Pratt, 2003).

Successful instructors find ways to get students involved by using facilities such as chat rooms or threaded discussions on a discussion board. Instructors can pose questions that require students to use higher order thinking skills (Junk and Culbertson, 2004) and then post responses

to students' postings that challenge students to further explain their viewpoint. Posing questions that are open-ended in nature can encourage higher level thinking such as evaluation, analysis and integration.

One of the most important determinants of the quality of student experiences and learning outcomes in an online program is the quality of interactions between the students and instructor. When instructor involvement is low, outcomes are not as positive as in a face-to-face course. However, when the instructor's interaction level is high, this can enhance the student's learning experience. Learning outcomes are more likely to be reached with a high level of interaction (Zhao, Lei, Lai & Tan, 2005). One indicator of quality of student experiences is the course evaluation scores from student evaluations. Some find that online course evaluation scores are higher than face-to-face courses (Junk and Culbertson, 2004).

The online instructor assumes four roles in the teaching / learning process. The first role is pedagogical. In addition to being a content provider, the instructor also becomes the content facilitator (Bonk & Dennen, 2003). The instructor asks questions, encourages students, and designs instructional activities. The second role is a social role. The instructor needs to provide a friendly, nurturing and safe environment, which enhances communication through discussions and feedback. The third role is a managerial role, where the instructor coordinates assignments, specifies due dates and expectations, and responds with timely feedback. The instructor should inform learners of their role and responsibility before the course begins, making sure that students are familiar and comfortable with using the required technology (Patsula, 2001). While it is important for the instructor to challenge the learner, create curiosity, and to help learners achieve personal learning goals, it is essential to avoid information or assignment overloading for the sake of the student and the instructor (Patsula, 2001). The fourth role is technological, providing tutorials or information regarding the use of technology contained on the web site (Bonk & Dennen, 2003).

Palloff & Pratt (2003) found that in order to keep learners engaged, a typical online class will require an average of 18-19 hours per week of instructor activity. How much time it takes varies with the number of credits or sessions, how many students are participating, and how much commitment to the course the instructor is willing or able to make. Much of this time will be spent making personal contacts with students, either via threaded discussion or by email. By printing student's postings from the discussion board, the instructor can then read them away from the "instant response" mode of the threaded discussion. This gives the instructor time to reflect on the student's thoughts and ideas. When responding to a discussion post, it is effective to formulate it in a text document, spell-check it, and then cut and paste it onto the discussion board. While this process can be time consuming for the instructor, it is vital in modeling professional writing for the students. Keeping the threaded discussion flowing engages the learner to look forward to checking postings to see who has responded. It builds connections when students get a timely response – they know someone is "out there" and while it is not as quick a response as face-to-face the teacher can "wow" the student "customers" with instructor reaction time (Junk and Culbertson, 2004). Providing this type of quick response means that an instructor and their students can work 24/7 – the Web is always accessible.

## **WHAT IS KNOWN ABOUT ONLINE EDUCATION STUDENTS**

For students to be successful online learners, they need to be self-motivated, well-organized, and capable of being independent learners who are reflective and critical thinkers

(Lowe, 2005; Patsula, 2001). Students who are open-minded and willing to share information regarding their lives, work, and educational experience are more able to connect with other students as well as apply new knowledge to their past experiences. When they encounter a problem or lack clarity with an assignment, they must be willing to communicate with the instructor. Students need to commit time to course studies on a weekly basis and not assume the online version will be easier than a face-to-face course – a common misconception. Since collaboration is an integral part to quality online courses, students must be able and willing to work with other students. Finally, students need to be internet and computer literate, and willing to become familiar with the tools used on the course web site (Palloff & Pratt, 2003).

The online learner needs continual reassurance that they are on-track with postings and assignments. They want clear instructions and course expectations. Students need to feel comfortable discussing with the instructor, any problems they may be having. It is important to avoid information overload, by assigning a reasonable workload. Online learners especially appreciate prompt, personalized, specific, feedback from instructors (Lowe, 2005).

Most institutions allow students to enroll in online courses without questioning how well an online class fits a student's learning style and circumstances (Palloff & Pratt, 1999). In 1999 a study was conducted with 166 online learners in 21 courses. Regardless of their learner preference style, the students' grades were similar to those taking the course face-to-face. Most students were independent learners, preferred working alone, and were confident about their abilities to achieve their academic goals (Johnson, 2003).

Isolation can be reduced by building a sense of community among the online learners (Fisher, Thompson & Silverberg 2005). The instructor's role in developing collaborative work, asking open-ended questions for students to answer on the discussion board, and requiring student participation in discussions can help build a sense of community (Hill, 1997).

Among the most common difficulties expressed by online learners is feeling isolated from the other students and instructor (Hill, 1997). The lack of social outlets in a virtual classroom can lead to isolation of students (Fisher, Thompson & Silverberg 2005). According to sociocultural theory, social interaction is vital for cognitive development. Higher order thinking skills develop from relationships. It is important for the instructor to develop strategies to build these relationships, reducing isolation (Gunawardena, 2004).

## **TECHNOLOGY CONSIDERATIONS**

Today, access to adequate high speed network communications is more of an issue than basic network and computer access. The issue of network speed, particularly in rural areas, means that materials that load slowly on a dial-up connection should be limited. Students may get frustrated waiting for things to load and give up. On the other hand, tailoring material for slow connections may make the material seem boring and unimaginative. Course developers must balance the need to service learners on slow connections against the opportunity to enrich the course material with items requiring considerable bandwidth. The old saying of "A picture is worth a thousand words" is very applicable to online learning. At the far extreme, some students may not possess the skills or knowledge to use the technology, which may discourage them and lead to their dropping out of the online program or course (Naidu, 2003).

## **IS DIFFERENT PEDAGOGY USED FOR ONLINE LEARNERS?**

Pedagogy for online education is unique and requires using techniques not generally employed in the traditional classroom environment. The instructional design must be tailored so as to build a community of learners through collaboration, discussion, and reflection. These are the same aspects of design used in successful face-to-face instruction, but are accomplished in different ways. Online course pedagogy is often termed electronic pedagogy (Natriello, 2005).

When presenting content online, it is best practice to follow the age old advice “don’t assume anything.” Since instructors are not able to see the student’s confused look as they would in a face-to-face classroom, it is extremely important to make sure directions and expectations are very clear and explicit. Assignments and their due dates posted on the web should be double checked in order to avoid any errors or discrepancies that may confound the students. Course goals and objectives should be clear and concise (Hosie, Schibeci, & Backhaus, 2005).

The online instructor should post updates to any web pages and remind students via an email to check the course web site for the updates. Since some students equate technological skill with intelligence, it is vital that the instructor is familiar with the content and technology of the web site. Experts suggest giving students an introduction to the course website, exploring both the navigational aspects and content, during the first week of the course (Sudzina & Sudzina, 2003).

The course should be organized in such a manner as to promote a sense of continuity (Hill, 1997). The web design should include attractive instructional features, since studies show aesthetics are as important as content and maximize student learning (Abbey, 2000; Cornell & Martin, 1997). Using a uniform style of font, as well as appropriate and consistent spacing, resolution and layout throughout the course will enhance the online pedagogical approach. Web pages should be easy to read and not require the student to scroll down the page to read the content. The icons should be easy to identify and intuitive. Use high quality images but make sure the graphics can be downloaded within a reasonable amount of time (no more than 30 seconds) to avoid slowing down the learning process and frustrating students. It is recommended to hyperlink readings located on other web sites (Hosie, Schibeci, & Backhaus, 2005). Be sure to check that the links are still active. Make the pages look like they were designed for an online course and not just text reused from an existing conventional course.

In addition to course content and the organizational aspects of an online course, instructors should carefully consider how they will encourage interaction among students as well as interaction between the students and instructor (Patsula, 1999; Procter, 2002). Interaction can be categorized either as asynchronous or synchronous. Asynchronous interaction takes place when students post discussions at various times as opposed to synchronous when all students interact online at the same time within a “chat room” environment. In other words, the goal is to develop a community of online learners who interact with the instructor, the course content and other students (Palloff & Pratt, 2003).

Instructors can promote interaction through discussion by modeling the type of participation that is expected, and by setting clear guidelines related to when students should post and how long postings should be (Bonk & Dennen, 2003). Junk and Culbertson (2004) suggest contacting students by e-mail if they are not participating in discussions to determine if they are experiencing a problem with the course. When posting reactions to students’ assignments, consider that other students will be able to read the comments. Keep anything that could be

critical, embarrassing, or private out of the posting and instead send those comments directly to the student via an e-mail.

Students need feedback, both informative and acknowledgment. Informative feedback includes responding to performance on assignments and discussions as well as letting students know how they are progressing in the class. It is important for students to be reminded about deadlines and with what criteria evaluation will be formed. Acknowledgement feedback includes responding to students when they submit assignments or send an e-mail of inquiry. When students send the instructor an e-mail, it is considered best practice to respond within 24 to 48 hours (Palloff & Pratt, 2003; Johnson, 2003).

It is vital to encourage communication among students to build a sense of connection and camaraderie. One method used to help connect students is to create a site with students' pictures and brief biography. Students are able to "put a face" to the name of their peers, which helps to build relationships (Sudzina & Sudzina, 2003). There are privacy issues when posting pictures or biographies of students, so this should be optional.

The online learning environment flourishes when instruction moves from a teacher-centered approach to a learner-centered approach. With this shift, students cooperate and collaborate with other students on assignments. However, it is important not to pack assignments too closely together. The students and the instructor need to have "breathing room" between assignments (Sudzina & Sudzina, 2003).

The best assignments are innovative, contain clearly designed performance outcomes, and use interactive instructional strategies. It helps students if there are examples of "good" assignments for them to view. It is imperative for students to have prompt feedback regarding their assignment performance (Hosie, Schibeci, & Backhaus, 2005). The instructor should also have a space where students can access their grades on assignments at any point during the online course (Lowe, 2005).

In creating online course materials that motivate students, use sensory stimuli such as aesthetically pleasing web design, well organized materials, and graphics that garner attention and stimulate curiosity. Photos and graphs make information easier for the student to understand. In narratives, use active voice and action verbs in moderate length sentences (Fernández, 1999).

Participants need to feel a sense of accomplishment. This may be in the form of descriptive praise or encouragement from the instructor, doing well on a project, or achieving a good grade. Above all the instructor's participation, interaction, and enthusiasm are vital in motivating students (Cornell & Martin, 1997).

In summary, the key components that lead to success in the online learning environment as identified in the literature are:

1. Engage the student.
2. Invite the student to contact the instructor when needing assistance.
3. Provide online course materials that are well organized and visually pleasing.
4. Post the class schedule or timeline containing clear due dates for assignments and discussion postings.
5. Provide clear learning outcomes or objectives.
6. Create presentation slides and activities that reinforce learning outcomes.
7. Develop assignments that reinforce learning outcomes requiring students use higher level thinking to analyze and apply what they are learning, including requiring posting reactions to others' assignment postings.

8. Interact with students in a conversational narrative making reference to assigned learning materials.
9. Choose graphics, such as photos, video clips, or presentation slides that take a reasonable amount of time to download.
10. Include hyperlinks to websites students must access and a brief description of site content, verifying that links are active prior to student access.
11. Provide frequent and descriptive feedback to students.

The following are additional items that were found to lead to success for the online learner (Junk and Culbertson, 2004).

12. Rather than just meet student expectations, exceed them. Wow the student with great “customer” service. Reply quickly, checking and responding to postings and e-mail at least once a day.
13. Provide a link for support with the online course software – this support is critical for the comfort level and confidence of those who have never taken an online course or program before.
14. Make the web pages easy to navigate, with each course or program by an instructor of similar layout so students will build comfort and confidence with the technology.
15. Prepare an online video welcome so the student can click on it and hear and see a short streaming video welcome by the professor.
16. Have students post a message about themselves so they can get to know each other and their professional background.
17. Provide a discussion board where students only have access. This way they can ask each other questions or make comments without worrying that the instructor will see their posting.
18. Clear assignment directions are particularly important for the online learner since they do not have the opportunity to ask questions in person. Provide sample “good” assignments so students will know what to expect.
19. Find links to interactive questionnaires or audio or video clips that illustrated course concepts to “mix it up” a bit and relieve potential boredom with on-screen text, also appealing to a variety of learning styles.
20. Encourage students to complete an anonymous online evaluation of the course, and use that feedback to improve the course. Some of the questions should be open-ended. In addition, let students know that instructors appreciate hearing suggestions or telling how things are found confusing while the course is being taught, in addition to being told at the end of the course.

## **METHODOLOGY**

As was just presented, a literature review was performed to identify key concepts that lead to success for online learners. Then these components, along with what one of the authors have learned through seven years of developing and teaching online classes were then incorporated into class modules. Some of the components were already in the modules, because intuitively, they were likely to increase student involvement and success. Some were added to achieve consistent best practice. Examples were selected that illustrate effective application of the concepts in online course materials.

## APPLICATION OF CONCEPTS TO ONLINE COURSES

The following figures illustrate application of these concepts using course web pages developed for courses taught by two of the authors and delivered to students using WebCT or Blackboard.

### Engage the Student

In Figure 1 students click on ① “Introduction to the Course” to listen to the instructor’s streaming video welcome, click on ② “Meet Your Classmates” and see photos of class members, and click on ③ “Discussions” to post a bit about themselves.

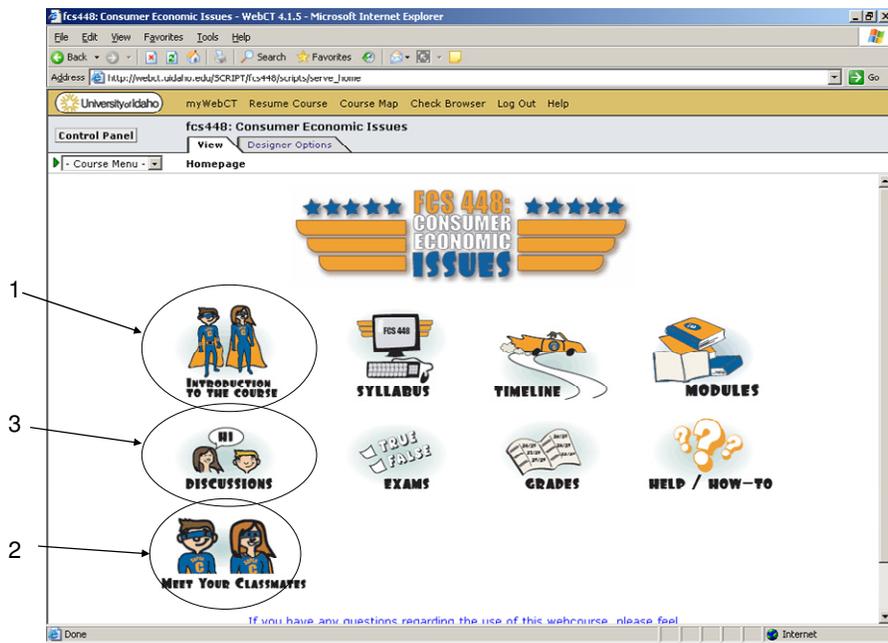


Figure 1. Engage the student.

In addition the following assignment encourages connections:

“To start our class with five extra credit points, place a posting on the “Main” discussion board telling us a bit about yourself including: (1) Your consumer and work experience, (2) What particular aspects of consumer issues most interest you, (3) Your motivation for taking this class. Is it required, did your advisor suggest it an elective, or if not these how did you hear about it? and (4) Anything else you would like us to know about you or about what you want to learn in our class.”

### Well Organized, Visually Pleasing Web Page

Figure 2 shows icons developed for a Research Foundations Course. These icons support the theme of the course – in this case research foundations focuses on students as discoverers of

knowledge, hence the “Indiana Jones” type theme. Icons are kept to a minimum with Course Menu links on the left for ease in navigation.

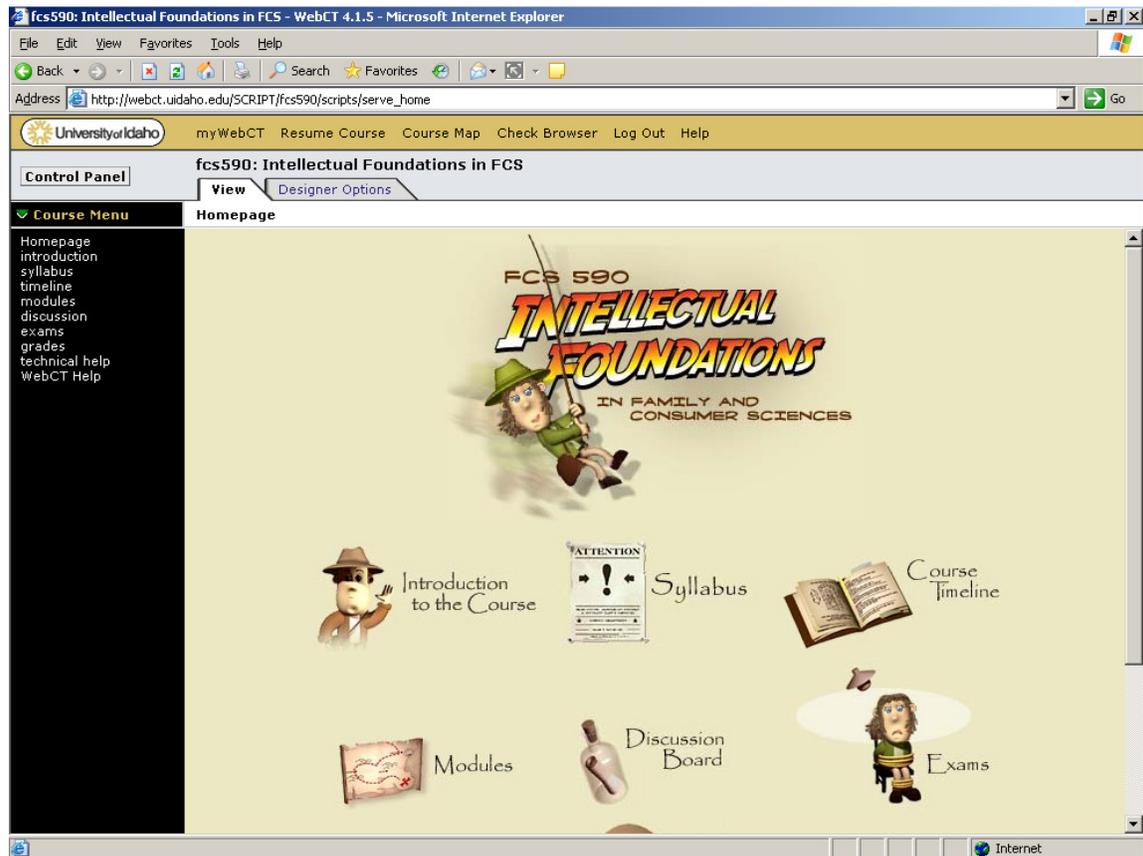


Figure 2. A well organized, visually pleasing web page.

### Clear Timeline Including Assignments and Due Dates

Figure 3 shows an example of a page from a housing course accelerated over six weeks in the summer. Because it is accelerated, it is particularly important that the module activities and assignments dates are clearly presented. Students can see how long any DVD segment is and how many websites they need to visit, planning their time accordingly.

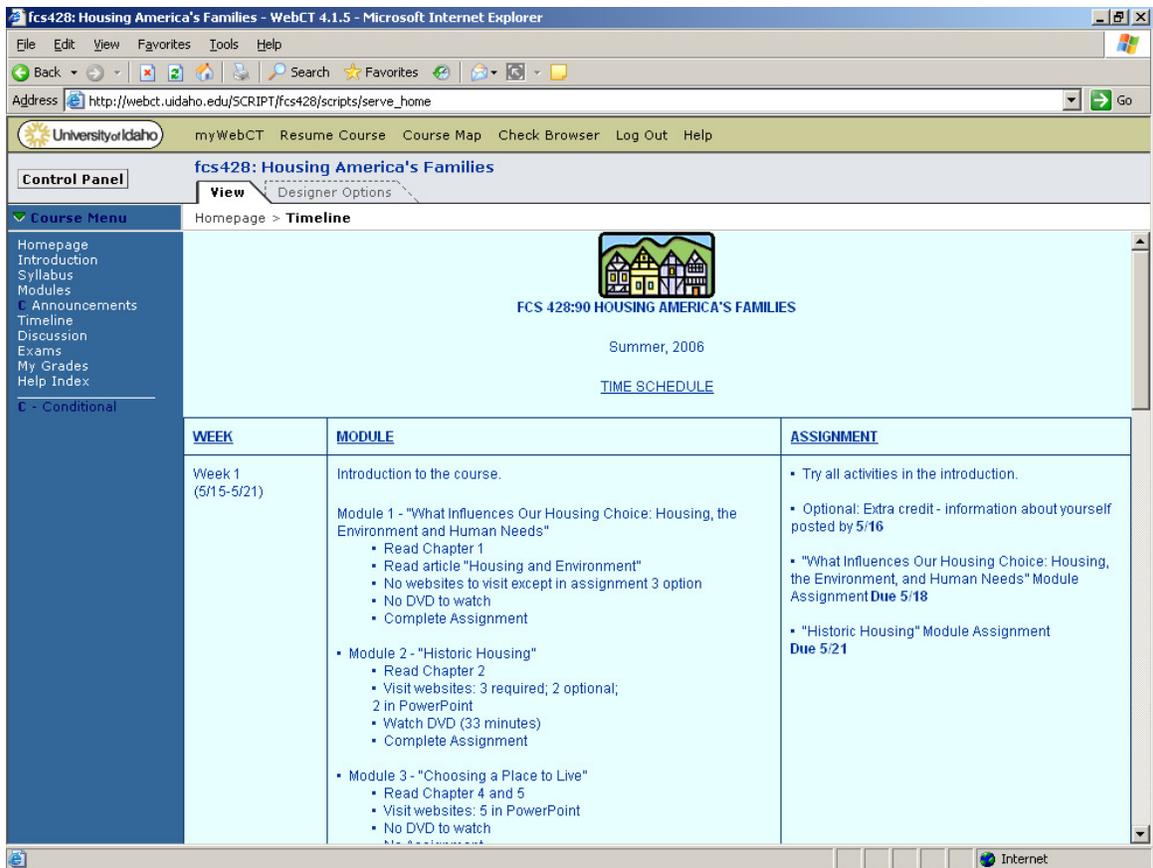


Figure 3. A clear timeline with assignments and due dates.

### Have Students React to Each Other's Postings

Figure 4 shows the threaded discussion board available in WebCT for a housing class. The board allows students to post their assignments and to read and react to the assignments of others, fostering teamwork. Each assignment has its own discussion board. The instructor can readily see any postings which they have not yet read and responded to. It is a good idea to build into each assignment a requirement that students post reactions to other's postings.

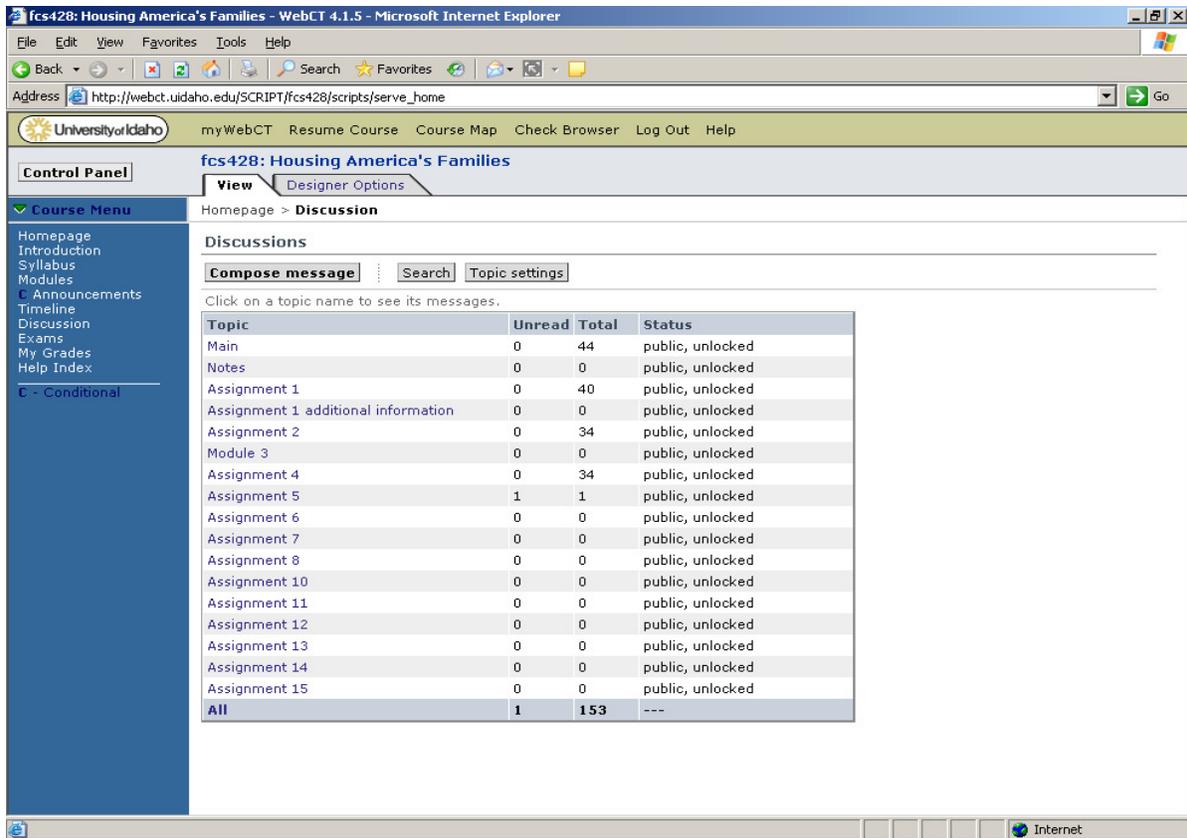


Figure 4. Require students to post reactions to other student's assignments.

### Provide Clear Outcomes and Interactive URL Links

Figure 5 shows sample ① outcomes and ② required websites. All the websites are hot links so the student can click on the link and go directly to the site. This increases the possibility they will visit the site by making it easy to accomplish. It's important to check the validity of links before students access them. This can take a considerable amount of time. Those links that are streaming videos or interactive are costly for site sponsors to maintain, and so may be eliminated. This happened in the above housing class when the AARP website discontinued video tours of homes built using universal design. A General Electric site was then found that has good photographs of universal design features in a kitchen. Another option is to utilize a free web-hosting site so the instructor can incorporate video clips and hot link them to the site.

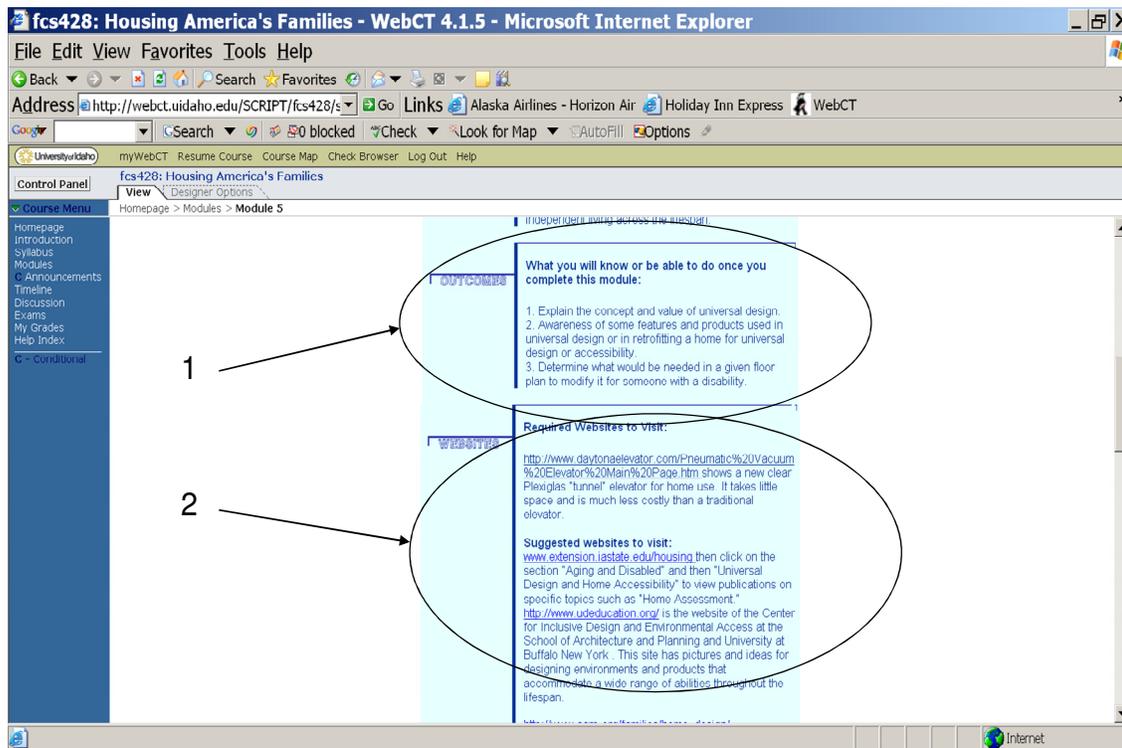


Figure 5. Provide clear outcomes and interactive URL links.

## Welcome the Students

In Figure 6 the bolded items in the text are hot links provided to ease student navigation. The first link ① is an online audio welcome with the instructor's photo. If the student's internet connection is slow they can click the words "Read the Professor's Welcome..." ② to read a textual welcome. The bulleted items link them directly to key course information and these same items are also icons on the homepage of the course.

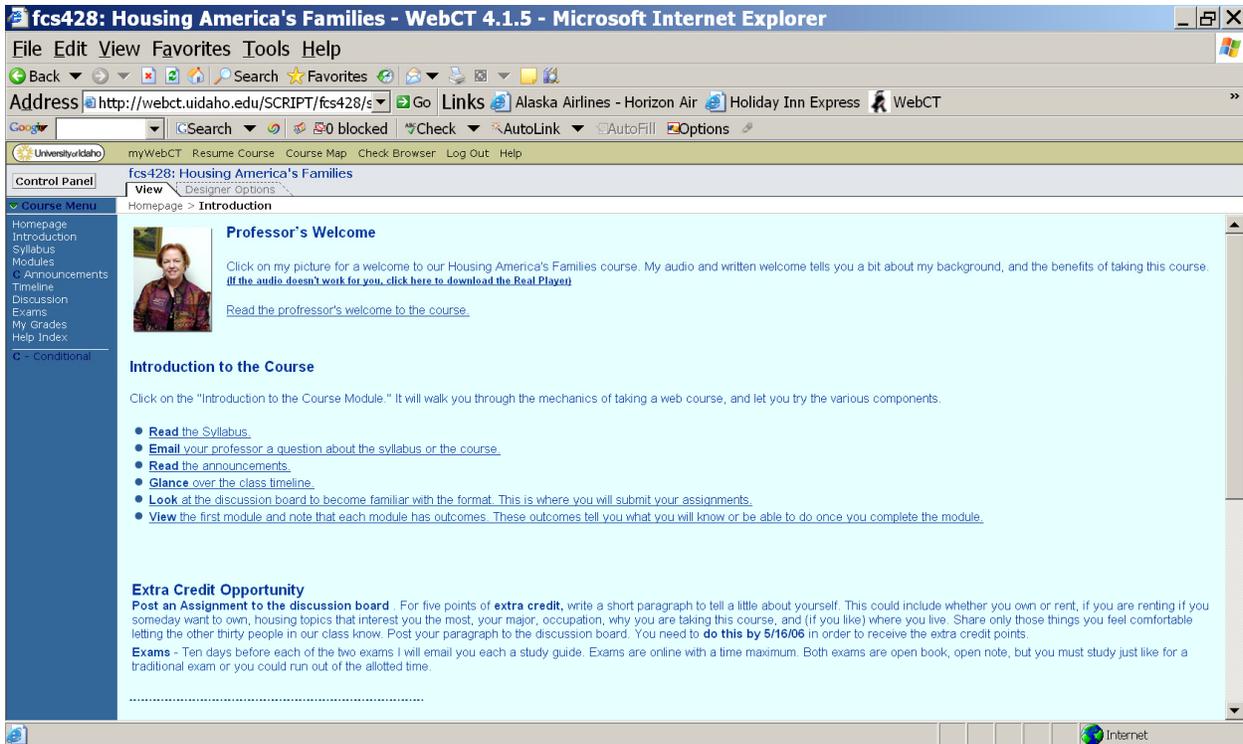


Figure 6. An online audio video welcome.

## SUMMARY AND IMPLICATIONS

It is important to recognize that there is a different communication model that drives what takes place in an online course as compared to a face-to-face course. As the demand for online learning increases, it is imperative for instructors to develop quality classes using the pedagogical methods that best support the virtual environment. While some good instructional design and methods used in the face-to-face class setting work in online courses, additional considerations are needed for the online learning environment. Instructors cannot produce effective online courses by simply repackaging existing course material for online use. To be successful many additions and adaptations are needed, and these additions take resources and support from the sponsoring institution. The authors have found it takes them around 500 hours per three-credit course to move the course from the face-to-face into an online format. One reason it takes this amount of time is because DVDs of guest speakers, student presentations, seminars, and site visits were planned and made. Students purchase the DVDs as part of their course materials. One major benefit of this approach is that it is appealing to a wider variety of learning styles by having readings, audio, and video components. Another major benefit is that the work done to polish the online version is also beneficial in changing the face-to-face version.

While it is not easy to prepare a good online course, it is always important to think about how to “astonish the customer” with the quality of what is presented. That will both provide a good experience for the participant and grow the demand for online programs. The “customers” are accustomed to being on the Internet and viewing commercial sites developed by graphic designers. As materials are developed, graphic designers, videographers, high-tech classrooms for burning presentations by guest speakers to DVD, free web-hosting sites for uploading videos,

and support in using the technology for students taking the course, as well as for instructors, are extremely important resources to teach the class.

With the increased demand for online learning opportunities comes the challenge for instructors who are developing their first virtual course. Since research supports the need for online instruction that is developed using an electronic pedagogy rather than the traditional pedagogy for a face-to-face course, there seems to be a great need for instructors to have opportunities to learn virtual best practices before creating an online course. The result will be higher quality virtual learning environments and, in the end, increased learning opportunities for the students.

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