INFORMING HYBRID COURSE DESIGN DECISIONS: A COMPARISON OF STUDENT REACTIONS TO ONLINE COMPONENTS OF A HYBRID TO A WHOLLY IN PERSON COURSE

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ABSTRACT

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In this time of budget crisis, educational institutions are striving to find more innovative and efficient means to deliver a quality educational product. Students are looking for convenient and technology-rich learning opportunities that will give them an edge when it comes time to enter the job market. Idealists hope technology can enhance the quality of teaching and learning. Thus, many institutions are exploring the hybrid model as an alternative to the traditional model where classes are delivered wholly in person.

This project documents the design and delivery of a hybrid course. It measures student perceptions of the utility of course enhancements commonly available in online Learning Management Systems (LMS) and of custom learning objects. The project takes a course taught in person and converts chosen components identified through student surveys into the online environment. Working with the instructor of the Advanced Video Design and Production course, students were surveyed about their needs and expectations for the course. Key goals identified as a result of the survey include: increased interactivity and accessibility in course content, increased communication among students and instructor, expanded opportunity for self-directed study and continuous quality of experience with a larger class size.

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TABLE OF CONTENTS

LIST OF FIGURES

Graphs

Screenshots

Introduction

Discuss hybrid classes these days and you will likely receive many varied responses. Many people outside, and even some inside, academic circles are unfamiliar with the concept. Those that have heard of hybrid or blended courses fall into one of two mindsets. The first group has taken a class online, or knows someone who has, and has very strong opinions. Negative feelings towards technology-assisted learning in the form of online classes, or partially online classes, are generated by poorly designed courses. It takes a great deal of thought and careful planning to deliver a quality learning experience regardless of the mode of delivery. The challenge, as stated by Schrum and Hong, is to understand the relationships among users, technology, instructor and participants. They point out that "learners expect interactivity and close to "traditional" classroom based education."[1] Unfortunately many of the instructional techniques employed in traditional in-person courses do not translate well to an online experience without modifications. It can be difficult to know how to transition an in-person course to a successful online experience, and as Schrum and Hong also note, "Much uncertainty exists about the conditions that are essential to create a successful venture for both learners and educators."

Those who advocate online learning are pioneers who are eager for an educational experience that is available regardless of time or location. Many institutions are looking for ways to capitalize on resources and are interested in finding ways to deliver quality

[1] Schrum, L. and Hong, S. *Dimensions and Strategies for Online Success: Voices from Experienced Educators.* JALN, July 2002; Vol. 6, Iss. 1; pg. 57, 11 pgs. http://www.aln.org/publications/jaln/v6n1/v6n1_schrum.asp

education that is meaningful to students. Ever since the beginning of the widespread use of microcomputers, educators have been interested in using technology for teaching. In more recent years, the blended or hybrid model has begun to gain popularity, and has brought forth the Learning Management System (LMS) as a means for instructors to organize and deliver their content. While these systems do not magically make an online course good, with careful planning and preparation, they provide a framework for instructors to organize content. Many of them integrate evaluation and communication tools that facilitate an ease of exchange among the students.

ABOUT HYBRID COURSE DESIGN

Ideally, the design of a hybrid course should allow students to customize the experience to meet their goals and complement their personal learning style. Leonard and DeLacey draw two observations from an Adult Learning Workshop held at Harvard Business School that are very useful to keep in mind when designing hybrid courses: 1) students who already know the power of a classroom experience will not easily abandon that model for something new; 2) because humans have "certain, predictable preferences and capabilities in learning", some principles of learning span different academic methods. They offer seven simple, yet valuable ideas that should be incorporated into the design of hybrid courses:

> Learning is a social activity. Group activities and communities aid in the effectiveness of the learning experience because of the basic nature of human beings as social creatures.

Integrate learning into life. Making connections to a student's work or life outside the classroom is critical because it provides a context in which the acquired knowledge can be used.

Enable learning by doing. Practice is the best way for a student to truly gain mastery of a subject or concept.

Encourage learning by discovery. Research indicates that people retain information longer when they are given the opportunity to realize ideas and solutions from their own understanding.

Remember that individuals have different mental receptors for material. Coherence of new material somewhat depends on what a student may already know. This can both help and hinder learning, and an instructor needs to be cognizant of this fact when delivering material.

Make it fun. Students who are engaged and involved are obviously more open to the learning experience. Fun is not just for children because a playful non-threatening environment also helps adult students benefit from the experience.

Build in assessment, but don't delude yourself into thinking you can measure learning. Quantitative assessment becomes more difficult with increased content complexity. Also, some learning may take time to digest and is not accurately measurable within the temporal course. [2]

GOALS

[2] Leonard, D. and DeLacey, B. *Designing Hybrid OnLine/In-Class Learning Programs for Adults.* c.2002; http://hbswk.hbs.edu/docs/hybrid.pdf

The goal of a hybrid class is to blend the best features of in-person instruction with technology-enriched online experiences to create an educational atmosphere that promotes active participatory learning. By supplementing traditional in-person methods with web-based activities and resources, the course is made more accessible and interactive and cultivates increased student interest and self-exploration.

Integrating my own passion for design, my project goal was to harness the power of technology to advance educational quality in the online delivery of material. This project researches what constitutes a quality hybrid experience, integrating student input. By surveying a group of students, a list of needs and goals was generated that would enable the course to be mutually beneficial to both instructors and students alike.

Hybrid Courses and the Course Management System

Hybrid courses are a hot topic in the realm of educational technology today. In a competitive environment where budget and quality conscious educational experiences are crucial, institutions are looking for cost-effective and innovative solutions to delivering engaging courses. Kettleborough of Corollis published an article that supports the hybrid model. He notes that, "Blended Learning is not this year's fad; rather it is a return to solid application of learning." He goes on to provide his view of why this model is appropriate for reasons such as the available diversity of learning styles and modes, allowance for greater engagement that this model afford, the balance it provides between in-person and online, and possibly the cost savings to institutions and students.[3]

WHY THE HYBRID MODEL?

Hybrid courses are beneficial to students, instructors and administrators alike. For students, the hybrid course combines the best of two worlds. According to Weisenberg and Hutton, three major challenges can be identified for the designer to consider: increasing delivery of the course, creating a sense of online community, and encouraging students to become independent learners.[4] Others also support the importance of communication in a course. Woods and Ebersol assert that "Successful online instructors realize that building a sense of "community" in the classroom is necessary for successful online outcomes." and also that "…community doesn't just happen but is

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[3] Kettleborough, J. *Blended Learning; fad, fantasy or future?* Inside Learning Technologies, Summer 2002; http://www.corollis.com/article_blended.htm

[4] Schrum, L. and Hong, S. *Dimensions and Strategies for Online Success: Voices from Experienced Educators.* JALN, July 2002; Vol. 6, Iss. 1; pg. 57, 11 pgs. http://www.aln.org/publications/jaln/v6n1/v6n1_schrum.asp

created through a variety of verbal and nonverbal communication cues."[5] The online component builds a sense of community and increases communication through chat sessions and message boards. Online collaboration opportunities offered in a hybrid course simulate the real-world environment and give more introverted students an opportunity to participate freely in online discussions. In advocating community among students, authors at the Concord Consortium explain that, "When group-based learning is implemented online, inexpensive asynchronous technologies (typically, threaded discussion groups) are not only satisfactory, they are superior to synchronous ones". But they also point out that in order for this approach to be effective, the instructor must be proficient at facilitating online conversations.[6] The case for using message boards and other types of online communication is only strengthened by Cillay's observation that "Although the delivery of content is key to the course, the discussion of that content brings it alive."[7]

Since online content is accessible at any time, from anywhere, this added convenience accommodates the schedules of busy students and instructors alike and could also positively impact transportation and parking issues. Students acquire useful technology and computer skills that are reinforced through use of the online media. These skills are

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[5] Woods, R. and Ebersole, S. *Becoming a "Communal Architect" in the Online Classroom - Integrating Cognitive and Affective Learning for Maximum Effect in Web-Based Learning.* http://www.westga.edu/~distance/ojdla/spring61/woods61.htm

[6] Haavind, S., Rose, R., Galvis, A., and Tinker, R. *Online Courses that Work and Some that Don't.* The Concord Consortium, Winter 2002; Vol. 6, No. 1. http://www.concord.org/newsletter/2002winter/online_courses.html

[7] Cillay, D., *Multi-Modal Delivery and Diverse Interaction in an Instructional Design Course.* The Technology Source, May/June 2003. http://ts.mivu.org/default.asp?show=article&id=1000

readily transferable to other areas of study and professional development. Self-initiated learning experiences help promote improved responsibility and time management skills necessary to survive in today's professional environment. Special media features are designed to make learning engaging and fun.

The hybrid model is also an excellent return on investment for the instructor as well. An instructor can benefit from a class's increased interaction, learning opportunities and retention.

WHO IS USING THE HYBRID MODEL?

Many institutions are already using the hybrid model. Hybrid courses are becoming popular in many nations around the world, especially in regions where accessibility to a traditional classroom is limited. American institutions such as the University of Wisconsin-Milwaukee (UWM), the University of Central Florida, Maricopa Community Colleges, the University of Colorado, George Mason University, Ohio State University and Arizona State University have all devoted significant resources to researching and developing hybrid courses.

Central Florida University currently offers about 100 hybrid courses that meet half of the time in classrooms and the other half online. Fairleigh Dickinson University in New Jersey has instituted a requirement that all of its students take at least one course online each year. It has been estimated that 80- to 90-percent of classes will sometime become hybrids.

The power of the hybrid course model is its flexibility and pedagogical effectiveness. Because it emphasizes active learning techniques, it increases student interaction with other students and the instructor. One of the most significant accomplishments of the Hybrid Course Project tested at UWM was its impact on the participating instructors. They stated that the hybrid experience would change their approach to all of their future teaching, whether in a traditional, hybrid or distance education class. This demonstrates that it is possible for hybrid courses to accomplish general faculty development goals and provide new and exciting teaching experiences for instructors and students. This theory is also supported by the Concord Consortium in the article Online Courses that Work and Some that Don't, which states that, "Online activities can be designed to foster authentic, embedded collaboration among participants, whether they are students, teachers, or employees. The resulting learning is powerful and memorable." [8]

CONSIDERATIONS WHEN USING THE HYBRID MODEL

An important consideration in designing any learning experience should be that the designer account for the different types of intelligence that potential students may have. Meacham states that, "The best way to ensure that you're engaging as many learners as possible is to use as many different ways to appeal to those multiple intelligences as the technology will allow." [9] This can be easily accomplished in a hybrid course with careful

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[8] Haavind, S., Rose, R., Galvis, A., and Tinker, R. *Online Courses that Work and Some that Don't.* The Concord Consortium, Winter 2002; Vol. 6, No. 1. http://www.concord.org/newsletter/2002winter/online_courses.html

[9] Garnham, C., and Kaleta, R. *Introduction to Hybrid Courses.* Teaching with Technology Today, March 2002; Vol. 8, Num. 6. http://www.uwsa.edu/ttt/articles/garnham.htm

considerations of how to use the available technology. For example, students who have a strong visual/spatial intelligence may benefit from a demonstration of key points with graphics or visual effects, or viewing a video that pertains to the course. Those who lean towards kinesthetic intelligence might enjoy game-like activities that require hand-eye coordination or quick reflexes, or projects that allow them to create something and share it with class. With some creative thought, exercises that focus on the eight types of intelligence would greatly enhance the student experience.

Success of hybrid courses relies on many factors. In an article on the successes and failures of certain hybrid models, Haavind, Rose, Galvis and Tinker remark that designs that fail do so because they fail to take full advantage of the technology. While this may be fundamentally true, others have pinpointed more specific criteria for the design of a successful hybrid course. [10]

Richard Voos of Babson College published an article in the Sloan Consortium newsletter indicating that some of the key factors to success are; "faculty development for design of blended programs, technology and instructional support in the design phase and faculty and student preparation (development) for success in teaching in and learning in blended programs, and technology support in initial roll-outs of blended programs." [11] Another

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[10] Haavind, S., Rose, R., Galvis, A., and Tinker, R. *Online Courses that Work and Some that Don't.* The Concord Consortium, Winter 2002; Vol. 6, No. 1. http://www.concord.org/newsletter/2002winter/online_courses.html

[11] Voos, R. *Blended Learning - What is it and where might it take us?* Sloan-C View, February 2003; Vol. 2, Iss. 1; pg. 3, 3pgs. http://www.aln.org/publications/view/v2n1/blended1.htm

article by Garnham and Kaleta identify the key to success by stating that "instructors must reexamine their course goals and objectives, design online learning activities to meet those goals and objectives, and effectively integrate the online activities with the face-to-face meetings." [12]

[12] Garnham, C., and Kaleta, R. *Introduction to Hybrid Courses.* Teaching with Technology Today, March 2002; Vol. 8, Num. 6. http://www.uwsa.edu/ttt/articles/garnham.htm

The 442 Course: Advanced Video Production and Design and Student Perceptions in the Wholly In-person Class

TC 442: Advanced Video Production and Design is an elective course in the curriculum for both undergraduate and graduate students studying Digital Media Arts and Technology in the Telecommunications Department at Michigan State University. The course goal is to teach the principles of design and creation of effective media messages, with an emphasis on electronic video production and editing. Key topics include: Project Planning, gaining familiarity with the Sony DV Camera and related equipment, lighting and image control, Media 100 and AVID editing systems, visualization, continuity, editing, content and storytelling, quality, production technology and ethics.

The course is offered every academic term and students are required to apply for enrollment due to high demand for the class and the limited number of seats available. The instructor is seeking a means to increase class size without compromising academic quality.

SURVEY RESULTS FROM THE FALL 2003 STUDENTS

An initial survey of students taking the traditional in-person offering of the course in Fall 2003 revealed many interesting attitudes and feelings regarding the class, structure and online learning.

Of the thirteen students surveyed in the Fall 2003 offering of Advanced Video Production and Design, the majority were undergraduate seniors (77%). There were only 3 graduate students. There were more male respondents (68%) than female respondents, with all but one student being a native English speaker. The majority of students in the class held a grade point average above 3.0. Students in the fall class rated their previous experience in video production at an average of 3.15 and almost all of them agreed that the course taught them a great deal about video production and design, with an average rating of average was 4.5, where 5 is strongly agree and 1 is strongly disagree.

Many of the projects in this course require a group effort. When asked about their previous experience with groups, over half of the students reported that they had worked in groups frequently, but less than half of the class stated that they really enjoyed their group experience. While most students seem to understand the importance of learning to work on groups, several commented on the difficulties of group work, stating "group projects are often frustrating because passion, talent and work ethics [among members] are at different levels". Another response stated that group projects could sometimes be a "burden depending on the quality of the group". Several students also pointed out schedule conflicts as a problem when dealing with group projects.

When asked about their thoughts regarding the use of technology for learning, the average rating was distinctly positive, 3.83 on a scale from 1= strongly dislike the idea to 5 = like the idea very much. When asked about using more online content specifically in the Advanced Video Design and Production class, all student responses were at least 3

on a scale from 1 = strongly dislike the idea to 5 = like the idea very much. The average response to this question was almost identical to the positive response for using technology for learning in general, 3.89. Curiously enough, only nine out of the thirteen had any experience with a course using online content.

Further exploration into the students' feelings about the course content revealed that the demonstration of the video camera used to shoot projects was a helpful component of the class. Several commented that it was "very informative" but it is difficult to retain much of the information because of the complexity of the device.

Students also overwhelmingly reported the importance of class critiques as an essential part of the learning experience in the course. Several stated that it would be helpful if there were more time for detailed feedback. Discussions with the professor confirmed that class critiques often had to be cut short due to time constraints.

Most of the students surveyed felt that the class lectures were satisfactory, although several advocated putting the content online and making the content more interesting with the addition of examples.

The survey also requested comments about their favorite part of the class and how students felt the course could be improved. Students overwhelmingly sited the projects as their favorite activity, while also mentioning in-class discussions and critiques as something they enjoyed. Several suggested that the course be bumped to five credits

instead of four due to the required workload, as well as making group work optional. A few students would like to see lecture notes and quizzes available online. Curiously enough, those same students rated it lower importance when asked if more of the class should be online.

The 442 Hybrid Course Design: Planning and Integrating Student Feedback

Common features of a hybrid course, as well as common elements of the ANGEL system include delivery of the syllabus, lectures, readings and assignments on web pages; discussions and presentations through online messageboards, e-mail and chats, interactive tutorials and labs; and online assessments or any combination of these.

This project outlines methods for designing an online learning experience that will complement the traditional methods of teaching the TC 442 course. The goal is to promote active independent learning while taking advantage of current technology. This hybrid course seeks to provide a flexible learning environment, an entertaining venue and reinforced understanding of current media through frequent hands-on use.

NEEDS ASSESSMENT

After analyzing the comments collected from the first student survey and discussions with the professor, the following needs became evident:

> Optimize in-person class time with supplemental online activities that facilitate effective discussions, since this seems to be an integral portion of the learning process for this particular course.
>
> Project critiques are an essential exercise for a course of this nature, but are sometimes rushed and therefore not as in-depth as they could be. This is a perfect opportunity to make use of an online component to display the

projects and offer feedback. Message boards would be an ideal place for students to post feedback on their classmates' work.

Group activities are key to developing the skills needed to function well in "real world scenarios". They can also be a source of great anxiety for some students who find themselves dealing with group members with varying work strategies. It would be advantageous to create an interactive experience that draws attention to the finer details of an effective group project such as compromise, motivation, brainstorming and conflict resolution.

The video equipment students are using for their productions is somewhat complex, costly and sometimes difficult to obtain. Students need to be quite familiar with the equipment early in the course in order to begin producing projects. A demonstration of the equipment is often offered during class, but due to time constraints and the amount of information to be digested, a supplementary tool that could be accessed by any student at any time would be beneficial.

Students seem to accept quizzes and exams as an "academic fact of life", but might also welcome the opportunity to practice and assess their own skills without risk. Many commented on memorization of specific details as a difficult undertaking that would be of little use later on. Ungraded practice quizzes offered online might be a good opportunity for students to study independently.

Flexible organization of content is always a necessity for any course, whether it is taught online or in-person. The course management system, ANGEL, offers a simple and effective means of housing course content with the necessary resilience in terms of adjustment for course schedule. A syllabus and course calendar can be used to remind participants of activities and due dates as the course progresses. The simple navigational structure offers convenient access to course content online for both students and the instructor.

OTHER CONSIDERATIONS

The students come with a broad range of experience and varying levels of technical expertise. The hybrid experience should be designed with all levels of experience in mind. Focus is placed on creating meaningful interactive elements that support the concepts taught in class. Concerted effort should be made to make the activities as user-friendly as possible, with technical help documents and support built into the course.

In addition to the specially designed multimedia components, the ANGEL course management system itself allows students and the instructor added tracking capabilities. Students can track their own attendance, grades, notes and progress all in one convenient place. The instructor also has access to students' use and progress reports throughout the course.

The hybrid components proposed for TC 442 require a professional and clean, yet distinctive look. The visual design of the class site should carry over into the lecture materials in the form of a PowerPoint template to aid in visual continuity. The structure for the online components focuses on usability and reinforces the principles of good design taught in the course.

An important goal of this project is to overcome initial reluctance from student perspectives regarding the increased use of online content in the TC 442 course. Hopefully, this project will demonstrate how technology can be used to enhance even a traditionally “hands-on” class.

The Hybrid Course Design: Production and Design Decisions

Once the preliminary needs and goals were determined, production ensued. The first phase of production was to discuss the treatment for the components needed for the course. The ANGEL course management system provides for a customizable structure and look to be integrated for the desired effect. After initial discussion with the TC 442 instructor, we decided on the look and feel of the course. A custom banner for the course space was designed to reflect the nature of video design and production. Custom icons were then created for the main topics under the Lessons heading to make the content easily identifiable for students. Topics included: an Orientation, the Course Calendar, About Bob, Video Toolbox, Class Topics and Lecture Notes, Self-Assessment Quizzes, a Projects folder, Gallery 442, Group Message boards, and added later were a folder for Chat Logs and one for Grade Sheets.

ORIENTATION

In addition to an in-class orientation to the hybrid concept and ANGEL, a folder was placed online for students to access help documents and instructions on how to use many of the features available in the course management system. The documents were made available from a Global Resource Library created by the Virtual University Design and Technology group at Michigan State University. Often online course offerings make review of the orientation folder a requirement for accessing further content by placing a short quiz that must be completed before continuing though the course. Since an in-person orientation was also provided to students, the quiz was bypassed.

SYLLABUS / COURSE CALENDAR / ABOUT BOB

The instructor for TC 442 already had a web site created to house some of the documents that students would find necessary. Included on that site were the syllabus, a course calendar and information about the instructor. In a sense, TC 442 already had the roots of a hybrid course. At this point it was decided to forego ANGEL's calendar system and post the link to the web page that contained all the information. The instructor expressed an interest in easy access to adjusting the calendar as needed. The syllabus and About Bob pages were simply adjusted to fit within the context of the ANGEL system.

VIDEO TOOLBOX

The toolbox contains several items that can be of assistance to students.

In discussions with the instructor, a list was devised to assist students in preparing for a shoot. It included reminders of what was discussed in class, both technically and aesthetically on how to pull everything together for a productive shoot. Links were provided to the Equipment Request Form and more information on compression for the convenience of the students. A page is available within the course content with step-by-step instructions on how students can make their work web-ready. This is an additional skill outlined that was not covered in previous offerings of the course. The 3D Camera Demo was also placed in this folder.

3D CAMERA DEMO

The Sony DSR300 DV cameras used in the production of projects for this course are somewhat complex and require students to understand the finer functions of the equipment very early in the course to produce quality projects. A demonstration is provided in class by the instructor detailing the functions and features of the camera, but due to the complexity, students would benefit from the ability to review what the instructor covers on their own. Therefore, a 3DVR enhanced model of the video camera and its peripheral devices is offered to students online for independent study. The camera demo includes a searchable list of terms and allows the student to rotate the virtual camera to access information on all of its various parts and functions. The required design iterations with the instructor to make sure all the information was accurate made this learning object rather time consuming to create. It was produced in Flash and could also be deliverable on any web page for use in other courses that make use of the camera.

CLASS TOPICS AND LECTURE NOTES

Through discussions with the instructor, it was determined that making the PowerPoint lecture notes available to the students online would be beneficial to diligent students. Students who come to class could be better prepared with the ability to view and print the notes before class. This provides a framework for making their own notes in the context of the lecture itself.

ONLINE SELF-ASSESSMENT QUIZZES

The exercises will be designed to reinforce memorization of the concepts and will aid in the students' retention of significant, yet cumbersome data. The TC 442 instructor still wanted to use graded quizzes in person based on the lectures, but offered that we could do separate self-study quizzes based on supplemental online material. He said he would use some of the online questions on the final exam and inform the students as such.

PROJECTS FOLDER

In an effort to save time on in-class discussions and offer more opportunities for students to give feedback on projects, the project folder was stocked with a dropbox and message board for each of the course assignments. Within the folder, all information needed to complete the assignment is also contained within the folder for easy access. Students are expected to upload their projects and other students can view them and comment on them. This allows students to organize their thoughts and should assist in in-class discussions.

GALLERY 442

Former projects are available for students to view at their convenience. They are able to review any or all projects to get ideas on what other students have done for the assignments in the past. To aid in ease of recognition, custom icons are made from screen shots of the projects.

MESSAGE BOARDS

In order to better facilitate communication among the students, the decision to use ANGEL's message board tool was made. Message boards are available for each of the projects assigned allow the students to post feedback on their classmates' work. After students have posted the projects and feedback, comments can then be compiled and discussed more concisely in the face-to-face class. This exercise could also add incentive to completing projects on time in order to receive more detailed critiques.

CHAT

It was decided a few weeks into the semester to try to take advantage of ANGEL's chat program. First, a poll was posted, giving students the opportunity to choose between several possible times and topics for the chat session. The poll yielded a student preference for Reality TV as a discussion topic and was to take place on a Thursday at 9pm.

DEVELOPMENT TIMELINE

In all, the course development took place heavily in the month preceding the start of the semester and continued development well throughout the first month. After that the production pace slowed to more of a maintenance mode, with adjustments being made as the course flowed. By the fourteenth week on the semester, the instructor had logged a total of 34 hours and 53 minutes in both the development and actual course spaces. Serving as a producer for the course, I logged 141 hours and 46 minutes within the combined course space. These figures only reflect logged minutes within the course

management system itself, and do not reference the many meetings and development/production time spent outside of the system. A conservative estimate of the time spent in meetings is approximately 18 hours, with time spent producing the external elements estimated at about another 80 hours.

Results: Reactions to the 442 Hybrid Course

Two methods can be used to help assess the usage of TC 442 as a hybrid course. General statistics can be mined from the data captured within the ANGEL system itself regarding who has accessed specific components. Unfortunately, this information does not offer a great deal of insight into what students actually think about the course experience. So students in the hybrid session of TC 442 were given a survey similar to the one administered in the fall session two weeks before the end of the course. Combining the access statistics and feedback from the students gives a more accurate picture of the elements that worked well, and those that could use improvement.

SURVEY RESULTS FROM THE SPRING 2004 STUDENTS

According to the people who answered the survey, spring semester students were less likely to be native English speakers or graduate students, and overall had more video experience prior to the class, and as a group had a higher GPA than the fall students. Nineteen students of the twenty-four enrolled were present to complete the survey. An overwhelming amount of them, 95%, were seniors, with only one graduate student among them. The respondents also consisted mostly of male students, with only 31% being female students. A majority of the class, 79%, were native English speakers although this percentage was lower than the fall class.. No student in the spring session reported under a 3.0 GPA. The self reported entering video experience was higher in spring (3.71) than fall (3.15).

On a whole, the class average for logging in to the TC 442 Angel site was 69.5 times during the first 13 weeks of spring semester. Seven of the 24 students enrolled in the class surpassed the class average by a remarkable number. Two students achieved an extraordinary 298 and 223 logins, surpassing even the instructor's tally. The class average of time spent logged into the course was about 9.5 hours. Nine students significantly surpassed the average, while one student only spent a total of 45 minutes on the course site throughout the entire semester.

On average, students surveyed in the spring semester rated their level of previous video production experience at 3.71. The students also agreed that the course taught them a great deal about video design and production, although the numerical average response to this question was lower in spring than in fall.. When asked how much they agree that "this course has taught me a great deal about video production and design," the spring student average was 4 and the fall student average was 4.5, where 5 is strongly agree and 1 is strongly disagree. This may be due to Fall students being surveyed at the very end of the semester and students were surveyed in week 13 of 15 weeks. Also, spring students had higher entering video experience, so in that sense they had less to learn. In any case, average agreement is very high that the course taught them a great deal.

Neither fall nor spring students were enthusiastic about the coursepack. On a scale from 5 being very useful and 1 being not useful at all, the fall average was 2.77 and the spring average was 2.84.

The students were also asked to rate various elements of the course according to how helpful they felt the elements were to their learning experience. For consistency, the same scale was used to rate the elements; 1 to 5, with 5 being “very helpful”.
Three of the elements were aspects of the class consistent between fall and spring. However the ratings were not at all consistent. Lectures were rated 4 in fall and 3.79 in spring. Critiques were rated 4.69 in fall and 3.5 in spring. And group work was rated 4.38 in fall and 3.32 in spring. In terms of rank order, these three items were reversed between fall and spring. In fall critique was most valued, followed by group work and then lecture. In spring, lecture was top rated, followed by critique and then group.

The ratings in spring on all items were lower than in fall.

Looking within the different online elements asked about for spring, students liked the online gallery best of the online content items (average rating 3.5). The 3D camera demo was also positively received (3.21), and the message boards (3.26) were better than neutral on average. Online quizzes (2.68) and chat (2.26) were not popular.

Many of the students said that the gallery was very helpful. Some students commented that the gallery was “a great place to see old projects” and “a good idea generator”. One student remarked that “the online gallery confused me a bit as to the nature of some assignments”. Some commented that the links and other information available here were “helpful to have in an easy to find place” and “convenient and well-written”. Another student suggested that they would rather have the material in paper form and

provided in the course pack. Actual usage of different online elements of the hybrid course varied among students and components. A total of 17 different students visited the various works available in the online gallery. Fourteen students accessed the page that detailed how to compress video for the web. Only about a quarter of the class used the Shoot Checklist and Equipment Request Form link.

Many of the students thought the interactive Camera Demo was an effective enhancement. Two of them stated that it was a vast improvement from the manual pages that were available in the course pack, and in general, some commented that it was "quite useful, cool, impressive, and a good refresher". Still others commented that they didn't use it because they felt they "already had a good knowledge base of the camera" or that it was "not as helpful as actually taking out a camera and looking at it". Although the interactive camera demo was intended mainly to supplement the in-class demonstration and serve as a resource to refer back to, only 15 of the 24 students actually looked at the file according to user statistics available in the ANGEL course space.

Sadly, only one student actually tried all four of the online quizzes available. Quiz one had five users, and quiz 3 had two, so while the surveys rated the online quizzes moderately useful, many students did not actually use them. Some of the comments regarding the quizzes said they were helpful or useful, but others offered reasonable suggestions for making them more effective. One student offered that they were too

easy while another suggested that there should be more of them, and that they should be "focused on lectures".

There were four students who consistently took advantage of the lecture slides posted online. The access statistics for the lecture notes only spiked for the lectures on the first lecture on Crew Tasks and Structure and the fifth lecture on Quality, with 9 and 16 users respectively. Online critiques were required by the instructor for the Interview and Drama Projects, so the groups complied with the mandate. Several groups continued to use the dropboxes for feedback on their Montage and Final Projects, although there were no discussions posted in the message board regarding these assignments. From feedback gathered from the surveys, students prefer the in-person critiques of their work to the online counterparts. Participation was cited as a problem in that some students didn't provide input, while others "barely know what they are talking about". A dispute arose in an in-class critique when the content of a piece was called into question. Several postings in the online message board reflected a continuation of the issue. It was more an issue of certain students taking offense to criticism of their style and design choices, than an online versus in-person issue. It was an unexpected twist to see the message board used to air opinions about the critique process itself. One student remarked on the survey that "sometimes I feel like we get sidetracked on issues over style instead of technical issues. "

COMMUNICATION

Only three of the groups used their message boards somewhat frequently, and this was reflected in the comments on the survey. A couple students said the message boards were “very useful particularly [for] file attachments that allowed group work to be done more easily online” and called them an “irreplaceable tool” while others remarked that e-mail and phoning group members was more sufficient for communication. A few didn’t like aspects of how the message board in ANGEL functions stating that they should be “simplified” and they need to “show which ones have new messages”.

The chat session was not a popular form of communication either. One session was held in which nine of the students participated. A few cited insufficient notice or poor timing for their inability to participate, while others remarked that “people didn’t take it seriously enough”, the topic was poor, or there wasn’t enough “debate”. Only three students accessed the log of the chat when it was posted.

GROUP EXPERIENCE

Students were also asked about the group experience in TC 442. The majority of respondents reported that they had frequently worked in groups prior to taking this class. It was interesting to discover that the students on average rated their previous reported group experience at 4.32 and their enjoyment of the TC 442 group at 4.16. Despite the better perception of group work among the Spring session in comparison to the Fall session, common themes still emerged reflecting in the comments. Several students mentioned that they took issue with members who didn’t “pull their weight”, and another said that “conflicting schedules” continued to be a problem. Many did

comment however that they enjoyed working with others and “learning from each other”.

TECHNOLOGY AND LEARNING

Based on the responses obtained from the two surveys, the students in the Spring class have had significantly more experiences with classes that were offered with online content. About 38% of the respondents in the Fall class reported that they had never taken a course that used online content, as opposed to only 10% of the Spring class who had not taken any class other than TC442 which had an online course component. In fact, 16% of the spring students had taken four or five other classes which used online content.

When asked about their thoughts on using technology for learning, the Spring session students’ responses were noticeably more receptive to the general idea of using technology for learning than the Fall session responses. The average rating for fall students was 3.83, and for spring students, 4.08, on a scale from 1= strongly dislike the idea to 5 = like the idea very much.

Fall students were asked how they felt about the idea of using online content as part of future TC442 classes. No student responded less than 3 on a scale from 1 = strongly dislike the idea to 5 = like the idea very much. The average response was 3.89.

Spring students were not eager to have more of TC442 online than had already been implemented in the hybrid course. The average rating was 2.47 on a scale from 1 = definitely not to 5= definitely yes. The question showed strong differences between students. 21% of the spring students said definitely not. 21% responded by picking 4 out of 5, close to definitely yes. 26% were neutral. Overall, slightly more than half of the students (53%) did not want more of the class to be online than had been implemented in spring.

Similar to the Fall session survey, responses to the question regarding their favorite part of the TC 442 class yielded many of the same responses from the Spring Session. Most students site the "hands on" projects and the interaction of critiques as the most enjoyable aspects in the class. When given the opportunity to offer suggestions for improvement, many of the responses were also similar. Many students made reference to feeling pressure to complete projects within a small timeframe and sited using more time for projects and less time for lecture. A couple mentioned the size of the class as being a problematic issue, while a few others wanted to learn more about technique such as editing and effects. These responses are not surprising considering the involved nature of the course.

INSTRUCTOR FEEDBACK

When asked about his impressions of the spring offering of the course, the instructor of TC442 echoed the students' comments about the size of the class being too large. Overall, his comments were quite positive and he indicated that he would continue to

use many of the components in future offerings of TC 442 after some adjustments based on this experience. Developing the redesign of the course was more time consuming than offering it only live, in person, but he felt that the hybrid course "accelerated the online portions of the course to do things it didn't do before" and was a worthwhile investment of time.

In his view, some of the most successful components were the dropboxes, the 3D camera demo and the online gallery. He sited that the dropboxes allowed for easy organization and access of student work, but would have been even more effective had the class used them more consistently. He remarked that the 3D camera demo was a positive tool that allowed the students the ability to go back and review details of the equipment at their convenience. Both students and instructor remarked that the online gallery was great because it also was convenient for students to review former students' work at their leisure.

When asked about his perceptions of the students' performance and communication in the spring course as opposed to previous courses, he said it would be difficult to determine, since it is impossible to measure the frequency of other forms of communication such as phone and e-mail interaction. He also pointed out that "the essence of the class really can't be communicated online. It needs to take place in person through the critiques and discussions."

In retrospect, the instructor suggested that more advance planning, better navigation in the ANGEL and more aggressive use of the tools available would make future offerings of the course even better. He expressed an interest in utilizing the quiz and gradebook features of ANGEL if the tools were made to be more reliable and secure.

Conclusions: Measuring Success and Future Enhancements

So do students really understand the potential for a "hybrid" course? The survey results from the Fall and Spring sessions indicate an increase in the students' experience with online courses, and also an increase in the acceptance of the use of online course material. The lack of interest in online content in the Fall session students could possibly be due to a lack of understanding or misinterpretation of what could be offered using multimedia. Many students didn't take full advantage of the online components and some saw them as more of a nuisance.

SOME ISSUES WITH THE 442 HYBRID

The spring TC442 did implement a lot of online features. It may be that students were satisfied with the amount of online content. Thus when asked, they were not eager for more. It also seems like it depends upon the particular student. Some students did want more online. Others did not. The overall attitude about computers and learning was more positive in spring than in fall. So, we can assume TC442 did not turn them off to computers and learning.

Spring students mostly did not find the online message boards and chat useful for communication with the class. The average rating was 2.44 on a 1 to 5 scale. 84% of the spring students were neutral or lower in their assessment of Angel messenging in TC442. This finding is consistent with TC 841 student displeasure with Angel message boards and chat (Heeter, 2004). The Angel system needs to improve to become more

potentially useful to students.

Another issue that seemed to be common of students in both sessions of TC 442 is that the course is predominately a hands-on class, and many students seem to expect that there will be not much more to the course than learning how to go out and shoot video. The instructor blends the principles of aesthetics, quality and ethics into the mix and according to some of the feedback on the surveys, there is a certain group of students who are only interested in the technical aspects of video production.

FUTURE ENHANCEMENTS AND ASSESSMENT

One area that this project did not address is the issues related to group dynamics. Since working in groups is an important aspect of employment beyond schooling, it is necessary to provide students with the skills to function well within a group regardless of the personalities that prevail. This opens up an area for further exploration within this course and several others offered in the Telecommunications Department and beyond. An engaging group training simulation would be a beneficial component that could be used as an online activity. From data taken from the surveys, students who reported having more experience working in groups also reported that they enjoyed working with their TC 442. If an effective simulation could increase the awareness of its participants, group work may not be such a trial.

General measurements can be taken from the ANGEL system to determine how often students in the course access various tools and exercises. Final exam and grade averages

can also be compared between the traditional fall offering of the course and the hybrid spring offering.

While there is no empirical data to support a correlation between success in the course and logins and time spent in the online course space, it is reasonable to assume that those who did spend a considerable amount of time with the online portions were quite dedicated to the class as a whole. While the surveys were conducted anonymously and it is impossible to match the respondents to their ANGEL course statistics, hopefully the students who invested their time in the online components found them rewarding and worthwhile.

It was truly an enlightening experience to work closely with the professor and students during the course of this semester. It allows for future insight on how planning and preparation can help yield the best possible outcomes. As stated earlier, the more familiar an instructor and designer are with the technology tools available and the ways in which students learn, the better the product will be. I believe we have all gained some valuable knowledge about the hybrid experience that we can carry into future endeavors.

Appendix A: Survey given to Fall '03 Students

1. **How would you rate your previous experience with video production concepts before taking this course?**

   very little 1 2 3 4 5 quite a bit

2. **To what extent do you agree with the following statement? This course has taught me a great deal about video production and design.**

   strongly disagree 1 2 3 4 5 strongly agree

3. **How useful did you find the coursepack for the class?**

   not useful 1 2 3 4 5 very useful

4. **Please rate the following exercises and elements of the TC 442 class according to how helpful they were to your learning experience (how well did these learning activities help you learn and remember key information):**

   Camera demo:
   not helpful 1 2 3 4 5 very helpful

   Group activities:
   not helpful 1 2 3 4 5 very helpful

   Quizzes and exams:
   not helpful 1 2 3 4 5 very helpful

   Class critiques:
   not helpful 1 2 3 4 5 very helpful

   Class lectures:
   not helpful 1 2 3 4 5 very helpful

5. **Please comment on strengths and weakness of the exercises and elements of the TC 442 class if you'd like to:**

   Camera demo:

   _____
   _____

   Group activities:

   _____
   _____

   Quizzes and exams:

   _____
   _____

Class critiques:

_____
_____

Class lectures:

_____
_____

6. How often had you worked in groups or teams before this class?

never 1 2 3 4 5 frequently

7. Did you enjoy working with your group in TC 442?

did not enjoy group 1 2 3 4 5 really enjoyed group

8. How many other classes which use ANGEL or other online content have you taken? _____

9. What is your general attitude about using computers for learning?
strongly dislike the idea 1 2 3 4 5 like the idea very much

10. How do you feel about the idea of using online content as part of future TC442 classes?
strongly dislike the idea 1 2 3 4 5 like the idea very much

11. Do you think more of the class should be offered online?
definitely not 1 2 3 4 5 definitely yes

12. What was your favorite part of the class?

_____
_____

13. How do you feel the TC 442 class could be improved?

_____
_____

Just a few more questions to use in statistical analysis…

14. Are you a: JUNIOR SENIOR MA STUDENT OTHER

15. Are you: FEMALE MALE

16. Are you a native English speaker? YES NO

17. What is your approximate GPA?
LESS THAN 3.0 BETWEEN 3.0 and 3.4 3.5 OR ABOVE

Appendix B: Survey given to Spring '04 Students

1. How would you rate your previous experience with video production concepts before taking this course?

very little 1 2 3 4 5 quite a bit

2. To what extent do you agree with the following statement? This course has taught me a great deal about video production and design.

strongly disagree 1 2 3 4 5 strongly agree

3. How useful did you find the coursepack for the class?

not useful 1 2 3 4 5 very useful

4. Please rate the following exercises and elements of the TC 442 class according to how helpful they were to your learning experience (how well did these learning activities help you learn and remember key information):

Online gallery and links (shoot checklist, equipment reservation form, etc.):
not helpful 1 2 3 4 5 very helpful

3D camera demo:
not helpful 1 2 3 4 5 very helpful

Message boards:
not helpful 1 2 3 4 5 very helpful

Group activities:
not helpful 1 2 3 4 5 very helpful

Online Quizzes:
not helpful 1 2 3 4 5 very helpful

Class critiques:
not helpful 1 2 3 4 5 very helpful

Class lectures:
not helpful 1 2 3 4 5 very helpful

Chat session:
not helpful 1 2 3 4 5 very helpful

5. Please comment on strengths and weakness of the exercises and elements of the TC 442 class if you'd like to:

Online gallery and links (shoot checklist, equipment reservation form, etc.):

_____
_____

3D camera demo:

_____
_____

Messageboards:

_____
_____

Group activities:

_____
_____

Online Quizzes:

_____
_____

Class critiques:

_____
_____

Class lectures:

_____
_____

Chat session:

_____
_____

6. **Did you find the online message boards and chat useful for communication with the class?**

   not useful 1 2 3 4 5 very useful

7. **How often had you worked in groups or teams before this class?**

   never 1 2 3 4 5 frequently

8. **Did you enjoy working with your group in TC 442?**

   did not enjoy group 1 2 3 4 5 really enjoyed group

9. **How many other classes which use ANGEL or other online content have you taken?**

   _____

10. **What is your general attitude about using computers for learning?**

    strongly dislike the idea 1 2 3 4 5 like the idea very much

11. **How do you feel about the idea of using online content as part of future TC442 classes?**

    strongly dislike the idea 1 2 3 4 5 like the idea very much

11. **Do you think more of the class should be offered online?**

    definitely not 1 2 3 4 5 definitely yes

12. What was your favorite part of the class?

_____
_____

13. How do you feel the TC 442 class could be improved?

_____
_____

Just a few more questions to use in statistical analysis…

14. Are you a: JUNIOR SENIOR MA STUDENT OTHER

15. Are you: FEMALE MALE

16. Are you a native English speaker? YES NO

17. What is your approximate GPA?
LESS THAN 3.0 BETWEEN 3.0 and 3.4 3.5 OR ABOVE

Appendix C: Research Survey Consent form

Using the Hybrid Model to Create an Enhanced Student Experience Research Participation Consent Form

Principal Investigator:	Secondary Investigator:
Carrie Heeter 2467 Funston Avenue San Francisco, CA, 94116 heeter@msu.edu	Patricia Banyas 201 Wills House, MSU Campus 517.432.0711 x122 banyaspa@msu.edu

This survey is being conducted in order to help develop effective online learning experiences for a proposed hybrid course of TC 442 to be offered in the coming semester. Student reactions are a key factor in determining what material is helpful and aids in the learning of Video Production and Design principles. This study is part of a thesis project for completion of a Master of Arts in Digital Media Arts and Technology and is being conducted by Patricia Banyas and her thesis chairperson, Carrie Heeter.

Participation in the study is voluntary, and you are free to withdraw from the study at any time. The survey should take no longer than fifteen minutes to complete. All responses to the survey will be anonymous. The results of the survey will be used for comparative research and design purposes. Your privacy will be protected to the maximum extent allowable by law. Your name will not be associated with the findings. The data will be stored in a locked file cabinet and on a drive on a password-protected computer, available only to the investigators.

You will not be compensated for participating in the survey and are not guaranteed any benefits as a result of completing this survey, beyond hopefully contributing to the evolution of teaching the class.

Contact Persons

If you have any questions about this study, please contact the primary or secondary investigator:

Principal Investigator:	Secondary Investigator:
Carrie Heeter 2467 Funston Avenue San Francisco, CA, 94116 heeter@msu.edu	Patricia Banyas 201 Wills House, MSU Campus 517.432.0711 x122 banyaspa@msu.edu

If you have questions or concerns regarding your rights as a study participant, or are dissatisfied at any time with any aspect of this study, you may contact – anonymously, if you wish – Peter Vasilenko, Ph.D., Chair of the University Committee on Research Involving Human Subjects (UCRIHS) by phone: (517) 355-2180, fax: (517) 432-4503, e-mail: ucrihs@msu.edu, or regular mail: 202 Olds Hall, East Lansing, MI 48824.

Please sign and date this form below if you chose to participate. Thank you very much for your cooperation!

I agree to participate in the study under the conditions outlined above.

Print Name_____

Signature_____

Date_____

Appendix D: Interview with Instructor

Q. What are your general impressions of your experience with TC 442 this semester?
A. Class already had hybrid components by using the web for communication and distribution, The new design accelerated the online portions of the course to do things it didn't do before. The dropbox is a good idea. Thought I liked the traditional method of receiving assignments, but like the idea of having all assignments turned in in one place. The camera demo was a good thing… not quite sure how to use, definitely a positive tool. The experience was generally a plus, navigation is somewhat of a problem in ANGEL. You have to scroll to the bottom to go back.

Q. In creating this version of the course, was it more or less time consuming?
A. More time-consuming to get familiar with things.

Q. Do you feel it was worth the effort?
A. Yes, it was definitely worth the effort.

Q. Would you consider doing the class this way again if you had to do it without additional assistance?
A. Yes, and knowing what I know now, I'd tweak it some.

Q. Do you think the students in the spring semester seemed to learn differently than previous offerings of 442?
A. It's hard to say, but the essence of the class really can't be communicated online. It needs to take place in person through the critiques and discussions.

Q. What kinds of things worked well?
A. The gallery was great. We show examples in class, but this way the students can go back and look at them whenever they want to. The dropboxes for projects worked out well and helped with keeping track of what was submitted.

Q. What were some of the major problems with the spring offering of TC 442?
A. Sometimes hard to keep track of things because some students used the dropboxes, and others did not. Or they posted them in the wrong place. More direction to students, and ease the operation of the system.

Q. Looking back, what kinds of things would you change or do differently?
A. Planning should start sooner, could've used the Chat feature more. It would have been nice to do one on the topic of ethics. It lends itself well to this.

Q. Do you think the hybrid class helped increase communication?
A. It's possible, but in this manner it is hard to say because it is impossible to measure how many e-mails and phonecalls are going back and forth.

Appendix E: Orientation Outline

Welcome / Overview

- First time this class is being taught with hybrid components in ANGEL.
- A hybrid is simply blending the best aspects of an in-person class with online interactive activities, to hopefully help the students get a better understanding of the content and increased communication.
- Questions?

The ANGEL site

- How to log on, finding the course space
- Profile page: My toolbox, my settings, add photo, edit personal information
- Navigating – can use back, tabs, icons, next and previous
- How the material is organized – Tabs across top of site
    - Syllabus
    - Lessons
    - Class
    - In Touch
    - Tools

Key elements

Majority of class content is available under the LESSONS tab.

- *Orientation* contains help documents and phone numbers to call if you are having technical issues.
- *Course calendar* list of everything planned for the course and when it should take place. *__Subject to change__ depending on how things go.* Links to online modules, lecture notes.
- *About Bob* Find out more about Bob and his experience
- *Video Toolbox* Here's where you find some useful tools and information to use throughout the course
    - *3D camera demo:* based on Bob's in-class camera demonstration, use as a refresher to help remember where key functions are.
    - *Shoot checklist* Review this list to make sure things go smoothly on a shoot. Print it if you like..
    - *Equipment Request* Link to the form required for camera checkout, make sure the SA checks the reservation book as well.
    - *Making your project web-ready:* Simple instructions for compressing your video projects to post on the web.
    - *Group Project 101* An activity that explains possible personalities you might run into when working with groups, and suggestions on how to deal with them. Not available yet.
    - *Other links:* Information / links available relevant to this class.

    - *Toolbox messageboard:* leave comments, feedback and questions about the items in the toolbox.
- *Lecture Topics* Powerpoint slides posted from class lectures, messageboard for general class discussion, post questions and comments from class here. (Point out not a substitute for attendance)
- *Self-assessment Quizzes* Test yourself on comprehension of online and in-class topics, helpful to review for exams, not graded and are optional
- *Projects* Assignment info and criteria, dropboxes to upload web-ready assignments, messageboards to leave comments
- *Gallery 442:* Examples of projects done by former 442 students
- *Group messageboards:* Each team will have their own messageboard to communicate with each other.
- *Class tab* list of all classmates and e-mail address
- *In touch tab* List of all messageboards available, Send/receive group or class e-mail, Online chat open to all students in the class – room is logged, logs can be archived weekly into a folder if they are used.
- *Tools* Check your activity for the course - learner profile, grades if Bob wants to post them there,

Graphs

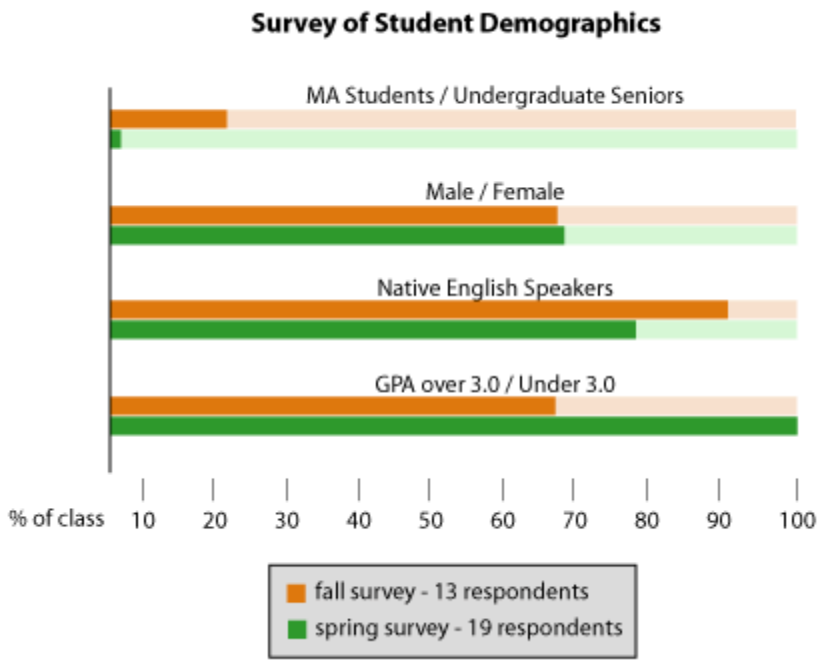

Figure 1: Survey of Student Demographics

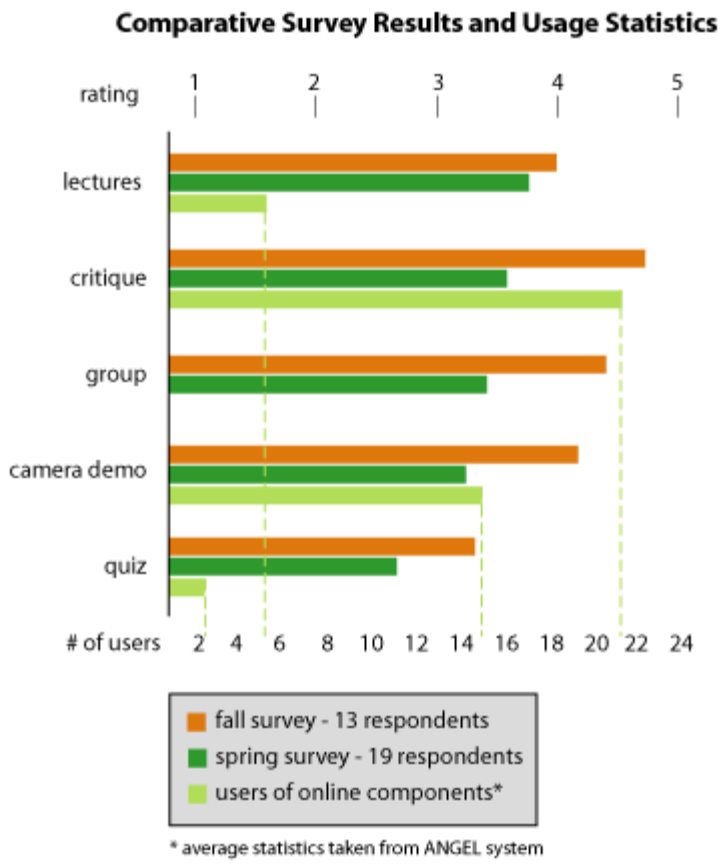

Figure 2: Comparative Survey Results and Usage Statistics

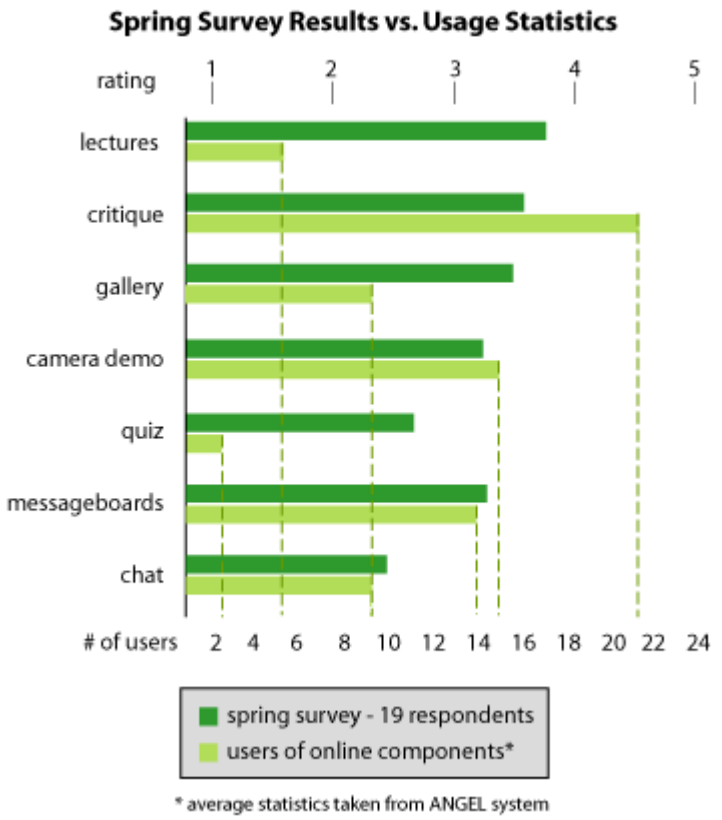

Figure 3: Spring Survey Results on Course Experiences

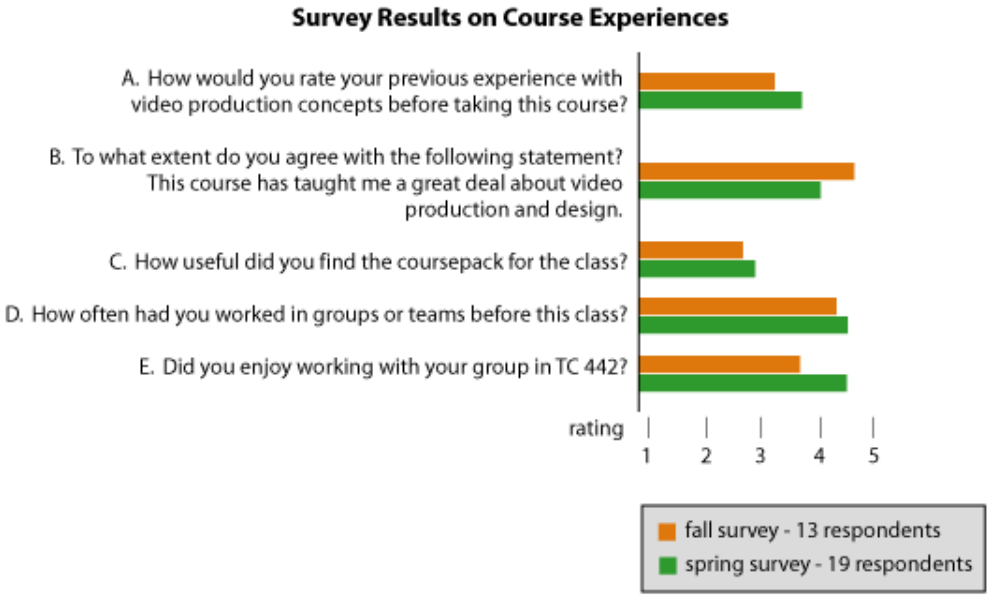

Figure 4: Survey Results on Course Experiences

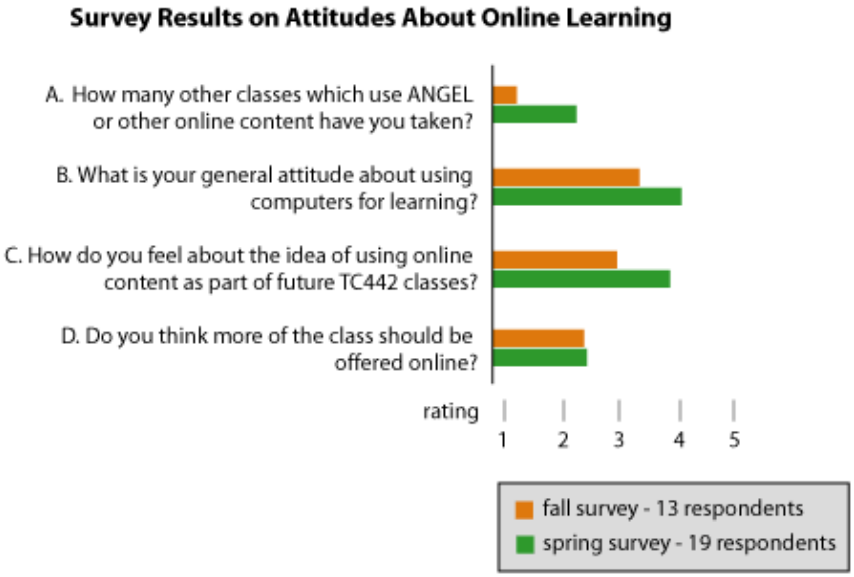

Figure 5: Survey Results on Attitudes About Online Learning

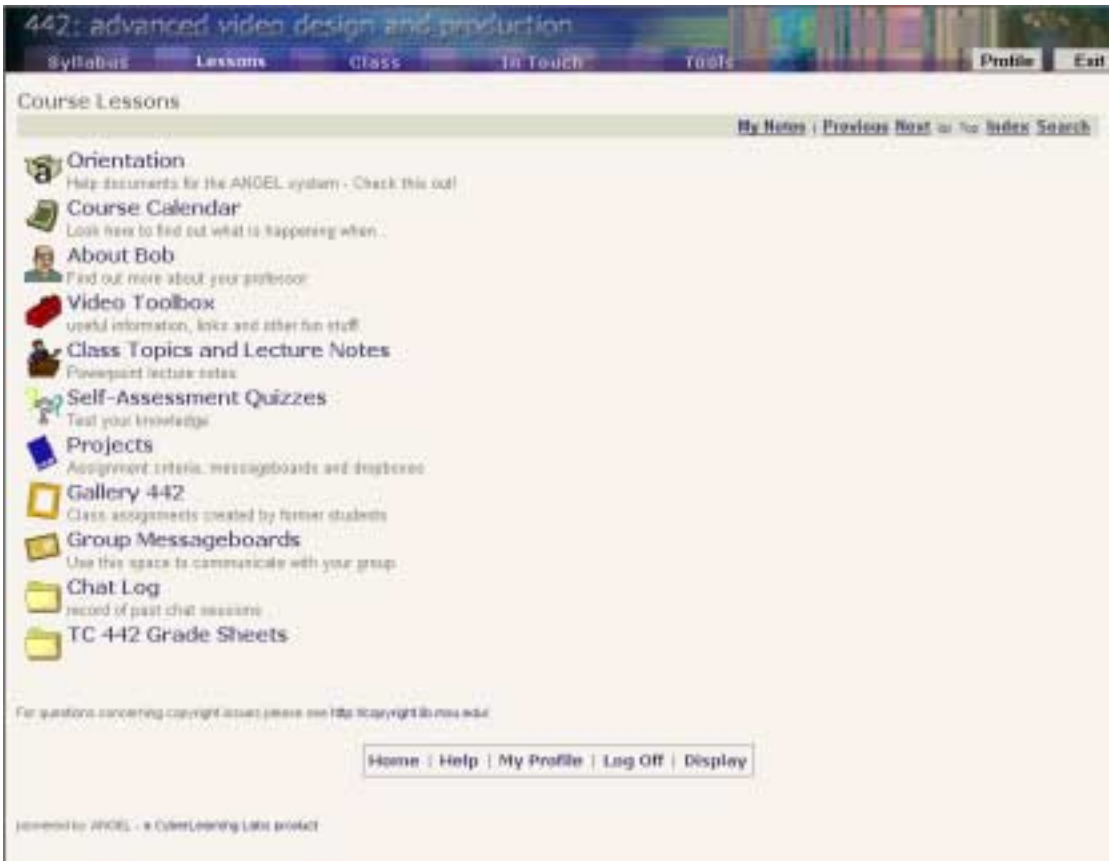

Figure 6: Lessons Page

Figure 7: 3D Camera Demo

Figure 8: Gallery

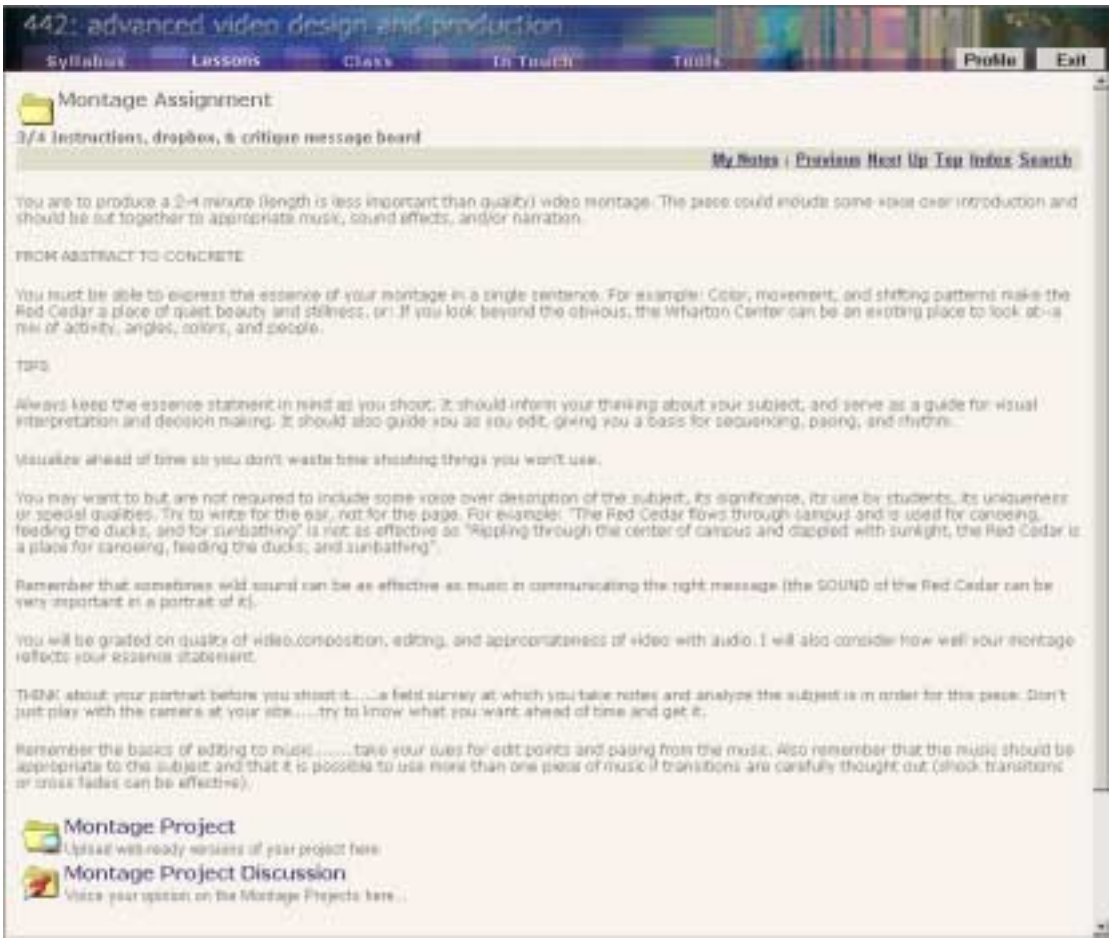

Figure 9: Project Drop Boxes and Message Boards

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