Student Expectations and Preferences of Distance Course Delivery Methods

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Abstract

Students in five courses offered with a variety of distance and on-campus delivery methods were surveyed to determine student expectations and post-evaluation of courses; student demographics; and student experiences and preferences with technology and course delivery methods. The response group was primarily degree seeking upperclassmen, taking a required course, equally split by gender and by delivery location. All students preferred a live class delivery method but videotape delivery appeared to have a higher student satisfaction level than satellite. On-campus students found simultaneous satellite delivery distracting but not detrimental to their learning experience. Students consistently misjudged the content and workload of courses.

Introduction

Distance education has rapidly evolved from something delivered by postal mail through the delivery channels of television, videotapes, satellite links, and various forms of computer storage to completely web-based. The education and technology revolutions have merged to form the new and flourishing distance education format. Assessing whether these distance education offerings are successful has many facets. Institutional evaluation often looks at the financial efficiency (enrollments, cost, revenues) of technology modes and individual course offerings, as well as the ubiquitous and fairly standardized course evaluation statistics (Ehrmann; Strauss; Twigg; Williams and Paparozzi). Faculties often evaluate distance course offerings by the time required for course development and revision and institutional rewards offered to faculty and departments for these endeavors (Daugherty and Funke; Lindner, Murphy, and Dooley; Steel and Hudson; Wingenbach and Ladner). Students evaluate these courses by considering access, quality of content and teaching effort and their own performance and reward (Monteith and Smith; Najjar; Sammons).

Recently, faculty in the Agricultural and Resource Economics Department at OSU began offering several classes in a variety of distance and on-campus methods and they became interested in analyzing student perceptions of these different delivery methods. Offering the same course in a variety of methods, sometimes synchronously, gave us the unique ability to test student perceptions of access to delivery modes, teaching and learning quality, preference of delivery modes, and overall satisfaction with courses.

Studies of students who have taken courses with a high portion of technology have produced mixed results (Smith and Woody). The results likely reflect the varying combination of technology, student learning styles and faculty teaching styles. In Sammons and in Smith and

Woody students ranked the organization, legibility and attraction of lectures based on technology very highly. However, students ranked lower the ability for technology to increase their learning or memory. Students working with synchronous express dissatisfaction with chat rooms but scored discussion boards highly. The 'chattiness' and spontaneity of chat rooms moved from being useful dialogue to "a waste of time" quickly, whereas discussion boards solicited more thoughtful responses (Williams and Paparozzi). Monteith and Smith's extensive 'virtual campus' study found that student were not afraid of the technology and reacted positively to its increased use. However, students consistently revealed a desire to have face-to-face contact. In addition, those students in the classroom may feel their own learning is hampered by the technology itself (Spence). Overall students are growing up with technology and therefore the use creates few barriers but the need for personal contact is still required for a complete and successful educational experience.

This study's specific objectives were to determine: student demographics in these courses; familiarity with and preferences for technology (in and outside the classroom) and distance education delivery methods; and finally student expectations and post-evaluation of courses offered both on-campus and distance.

Survey Method

Data was collected from 2001 through 2003 from five different courses, taught by two faculty in the Department of Agricultural and Resource Economics at Oregon State University. All courses were supported by a website using Blackboard Learning System TM (Release 6) but the tools used on each site varied by course and instructor. One large introductory course and two smaller upper-division courses were offered through an assortment of delivery methods: on-

campus, simulcast satellite to various locations, live and archived web-cast, and videotapes. One upper division course was available on videotapes prerecorded for distance delivery but offered concurrently with an on-campus course; off- and on-campus students used the web site jointly. The final upper division course was offered on-campus and on videotapes in 2001-2002 but was the distance section was changed to strictly web content in 2003 with no audio-visual component.

One survey was administered during the first two weeks of the course ("Expectations Survey") and a second during the last two weeks of the course ("Post-evaluation survey"). The surveys were voluntary and posted on the course web site in MS Word and Adobe Acrobat formats for students to download and return. In the first survey information was requested on students reasons for taking the class, familiarity with all delivery methods, expectations of the chosen delivery method, technology, course content and instructor, and demographics such as age, gender, class standing and working status. The second survey directed students to a set of questions evaluating the delivery method for their particular course. Expectation questions from the initial survey were repeated and students were asked to score their actual experience as "less-more-about the same" as their expectations. Students also evaluated their use of specific course web site tools.

Response rates for the surveys were relatively low (Expectation Survey N=173, 23%; Post-Evaluation N=112, 15%) but evenly distributed among on- and off-campus students (Expectation Survey 53% and 47%; Post-Evaluation Survey 40% and 60%, respectively). Paired response data was limited by the voluntary nature of the survey; only 29 student's responses could be used for the paired analysis.

Results

Preliminary analysis of the data focused on the demographics of the student respondents and simple analysis of the total sample. Further analysis was conducted by sorting the data based on class standing, course, and delivery mode, and individual student. Results sorted by class standing were sorted into underclassmen, juniors, seniors, and grad students. Due to the lack of observations, freshmen and sophomore results were combined into an underclassmen category for analysis and grad student results were not included in most analysis. Sorting of results by course was done based on responses from the two largest courses: a lower division, introductory level course and an upper division course. Results sorted by delivery modes were based on live (with satellite broadcast), videotaped/web video, and satellite broadcast. Individual student results were sorted based on the last 4 digits of the security number supplied by the respondent.

Student Demographics and Previous Experience

The demographics of the total sample population revealed that the respondents were equally divided between on and off-campus students, 92% were seeking a degree form OSU, evenly split between genders, 85% were seniors or junior, and 79% percent of respondents were taking the course as a requirement. Twenty-one percent of respondents worked full-time and 39% part-time. Seniors had the highest number of responses reporting that they worked part time with 54%. However, when it came to working full time, underclassmen and juniors each had the highest number of responses for working full time (30 plus hours per week) with 29% each. Seniors had less with only 20% of seniors reporting they worked full time. It was also expected that seniors, non-degree, and graduate students would report the highest percent of responses for primary family caretaker. However juniors reported the highest with 11%.

A majority of students had extensive Internet access and experience but few had ever been exposed to the satellite or video delivery modes (figure 1). When sorting their responses by class ranking, seniors had the highest level of experience with these delivery methods with 20% reporting previous experience with satellite broadcast, 29% with videotape, and 60% with web supported/based courses. Underclassmen (freshmen/sophomores) had the lowest experience with web supported/based classes with only 43% reporting prior experience. It is important to note that no freshmen had any prior experience with these distant delivery methods. Sophomore level students accounted for all YES responses in the underclassmen category. While many students did not have experience with distance delivery methods, roughly half of all students had previous experience with web-supported courses. When asked to evaluate the course web site support, the majority of the students found the syllabus, assignments, discussion and grade posting to be useful. Very few students found announcements, and web links to be helpful.

Course Delivery

Receiving the course via satellite individually was the least preferred delivery method. The most preferred was a live course; while a satellite link viewed with a group of students was ranked a distant second. When responses were sorted by class standing, a few differences from the overall population's ranking on preference of class delivery mode emerged. When sorted by class ranking, it appears that as students progress in their educational career they prefer to receive and participate in distance courses individually rather than in a classroom setting. Underclassmen (freshmen/sophomores) prefer videotape (common site) to individual videotape thus indicating a preference for group interaction. Graduate students and non-degree students'

preferences were for individual web and videotapes (independent) and had less preference for satellite and videotape (common site) than the general population.

Roughly half of all the students regardless of delivery mode felt they had ample opportunity to ask questions and the majority of students had their questions answered via email. Eighty percent of students taking the course video or web video, 67% of satellite students and 22% of the live delivered courses had their questions answered by email. Other sources of answers included instructor in class (40%), other students (23%) web announcements (22%), 8% of students questioned went unanswered.

Students were asked to indicate what aspects of the course presented problems for them. Overall students had the most problem with accessing the web site (40%) and receiving materials in a timely fashion (33%) (figure 2). Less than 10% of the students experienced problems with contacting the instructor, the distance education office and obtaining proctor. When sorting the results by class rank the major problem experienced by underclassmen was obtaining written material. Fifty percent of underclassmen experienced problems with this as compared to only 17% and 9% of juniors and seniors. Accessing the website and submitting assignments also appeared to be more problematic for underclassmen as compared to juniors and seniors. Twenty-five percent of underclassmen reported difficulties with this as compared to only 13% and 18% of juniors and seniors. Underclassmen did not report any problems with registering, contacting instructor, obtaining proctor, scheduling exams/quizzes and receiving graded materials, where as juniors and seniors all reported some level of problems in these areas.

When analyzing problems experienced by delivery method, web access for satellite (64%) and in-class students (63%) was again the largest problem they encountered.

Approximately half of students in the satellite-based courses found that instructor contact was a problem.

Students taking the course videotaped had the fewest number of students that felt the delivery methods was distracting to them (28%) as compared to live and broadcasted (41%) and satellite students (47%) (table 1). Approximately a quarter of the satellite students and 10% of the videotape students felt that the delivery method was detrimental to their learning experience. None of the students enrolled in the live course felt that the satellite broadcasting of their course was distracting to them. However 23% of them did find that it was distracting to the instructors. Two-thirds of students receiving the videotaped delivery method felt that distance students received fair attention as compared to a little less than a half and a third of satellite and live students. For satellite deliver courses 80% of students found good instructor interaction and 67% found that a proctor enhanced the delivery. Fifty-eight percent of videotaped students found the videos to be well prepared. Of the students receiving the course via videotape, approximately 60 were pre-recorded and 45% were taped in class.

Student Difficulty Perceptions And Realizations

Students were questioned as to how they would describe their expectations versus the actual level of difficulty they observed with content, workload, delivery system and instructor enjoyment. Students were asked to rank their experiences as more, less, or the same level as they expected. Overall their experience at the end of the course showed that content and workload for many was even more difficult than expected, while they expected and experienced few problems with the delivery methods (figure 3). Over 50% of students enrolled in the satellite or

video/web video courses found that delivery was less difficult than they expected. A majority of the other half found the instructor less difficult than expected.

When responses were sorted by class ranking, underclassmen observed more difficulty than they expected with content, workload and delivery than any other class ranking. One hundred percent of freshmen experienced more difficulty with content than they expected and 43% had more difficulty with workload and delivery system. Seniors ranked second in their number of students reporting more difficulty with content, workload, and delivery. Overall, juniors appeared to have the most realistic expectation of the difficulty levels of their courses, as the majority found their experience to be the same as they expected. In all three groups, roughly half of the students enjoyed the instructor as much as they had anticipated.

Paired Results

Twenty-nine expectations and post evaluation survey responses were matched based on the reported social security number. Matching surveys could be used to evaluate changes in perceptions of individual students after their class experience with a distance delivery component. This allowed for the evaluation of the expectations survey and final survey responses for 4 items of interest that could be tracked to the same individual. The expectations survey questioned students on their expectations of the difficulty level of the workload, content, delivery system, and instructor for their course. The final survey questioned students about the realization of their expectations and whether or not the difficulty level was more, less, or the same as they had expected. By sorting these results based on a matched response, a better understanding of the student's final responses can be gained. If a student reported that the class was less difficult than they expected, we do not know if they were expecting it to be hard and it was not or if they

were expecting it to be easy and it was even easier than they expected. Overall population results do not tell us much about the magnitude of change in their perceptions without knowing where they started.

Workload. Regardless of prior expectations, very few students found the workload to be easier than expected and a little over half of the students found workload to be what they expected. Of the nineteen students who were expecting the workload to be difficult, the majority of these students were correct in their expectations. Only 5% found it to be harder and none found it to be easier. Fifty-six percent of students who were expecting workload to be easy found it to be what they were expecting, while 44% found it to be more difficult.

Content Results. Approximately half of the respondents were expecting the content to be difficult and the other half was expecting content to not be difficult. Again, very few respondents found their experiences were less difficult than the expected. Of the students that were expecting content to be difficult, the majority (64%) of students found content to be even harder than they expected. Only 7% found it to be easier and 29% found it to be the same as what they expected. However, for students who were not expecting difficulty with content, 47% found their experience to be about what the expected with 13% finding it even easier.

Delivery System. Among students that were expecting the delivery system of the course to be difficult, there was a fairly even distribution of responses as to how much difficulty students actually experienced. Thirty-seven percent found it to be harder than they expected, 37% found it to be what they expected, while 25% found the delivery system to actually present fewer difficulties than they were expecting. Of the students who were not expecting to have any difficulty with the delivery system, 50% found it to be as they expected, 30% found it to be less difficulty and 20% found it to be more difficult than expected.

Instructor. Roughly half of the students, regardless of their expectations for the level of enjoyment of the instructor, found their experience to be the same as their expectations. For the remainder of the students that were expecting difficulties with the instructor, half of those found the instructor to be more enjoyable (25%) while the other half found the instructor to be less enjoyable (25%). Among the students whom were not expecting the instructor to be enjoyable, more (32%) found the instructor to be more enjoyable than expected and only 12% found them to be less enjoyable.

Conclusions

Our results support much of the previously mentioned research on student preferences for distance delivery methods and technology. A few results were not expected and have interesting implications. The demographics of student respondents revealed fewer professional or post-graduate students than expected. In addition, more juniors and underclassmen had fulltime jobs and/or were primary caregivers than expected. We cannot say whether these are traditional or non-traditional students, as age data was not collected. Instructors of distance courses must be aware of the audience to which their courses are delivered.

As the geographic and demographic characteristics of their students become more diverse, knowing the student audience may simultaneously be more important and more difficult. Courses may be taken by smaller number of professionals, post-graduates and non-degree seeking students and a larger number of degree-seeking, full-time students with scheduling conflicts or at other institutions.

All respondents felt that a live, on-campus course was the preferred method of delivery but found other delivery methods satisfactory. On-campus students found simultaneous satellite

delivery distracting for the students and instructor in the on-campus classroom but did not feel this was detrimental to their learning experience. Although students ranked satellite delivery slightly above videotapes, the results indicate that students taking videotape courses had fewer technical difficulties, less distraction and felt more strongly that they received "fair attention" from the instructor. There is also some indication that satellite delivery may require a fully participatory facilitator/proctor to become a satisfactory learning experience for the student. Juniors and seniors showed a strong preference for individual viewing of distance delivery such as streaming video on the web site rather than a group satellite link.

The number of freshmen and sophomores respondents was too low to make broad conclusions but there were trends that may deserve further study. Although freshman and sophomores had extensive Internet experience and a fair amount of web course experience (43%), they had more difficulty than juniors and seniors with simple web tasks, such as locating and submitting materials online, perhaps indicating an overestimate of their abilities and/or a need for more navigational directions on the web site. Complaints of web access may also be related to the upper division course, in which student names and passwords are not created in Blackboard as they register because they do not register through OSU but through a partner institution thus delaying their initial access to the web site.

Student difficulties in the course may also be related to their expectations versus actual experiences. Surveyed students proved to be poor judges of what to expect in these courses. The expected amount of difficulty with the delivery method and the instructor were most often judged to be the same as expected. Freshmen and sophomores were the worst judges of content and workload, as might be expected, but the greatest contrast was between courses. Students significantly found the lower division course's content to be more difficult than expected and the

upper division course's workload to be more difficult than expected. We cannot determine from this study whether the cause is misleading information about the course form other students or faculty, changes in course design or if in fact the delivery made the content and workload more difficult. Incorrect expectations of a course would no doubt detract from the effectiveness of a distance delivered course and may require faculty to be more specific about course requirements previous to registration.

With recent changes in course offerings and instructors we are proposing that this would be an opportune time to redesign the survey content, have the format changed to an on-line survey on the courses web sites, and expand the survey to distance classes offered in other disciplines. One change would be to collect data on student grades and drop rates (and dates) for courses as another indicator of difficulty with the delivery method or technology.

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Table 1. Percentage of student respondents who felt statement applied to their course.

	Delivery Method		
	Live On-Campus N=22	Satellite N=15	Videotape N=50
Distance delivery distracted me.	41%	47%	28%
Distance delivery was detrimental to my learning	0%	27%	10%
Students on and off-campus interacted.	23%	20%	12%
Instructor interacted with off-campus students.	18%	80%	NA
Adequate opportunity to ask questions.	55%	53%	44%
Instructor was distracted by distance delivery.	23%	13%	16%
On-Campus student received fair faculty attention.	45%	67%	NA
Distance students received fair faculty attention.	32%	47%	62%

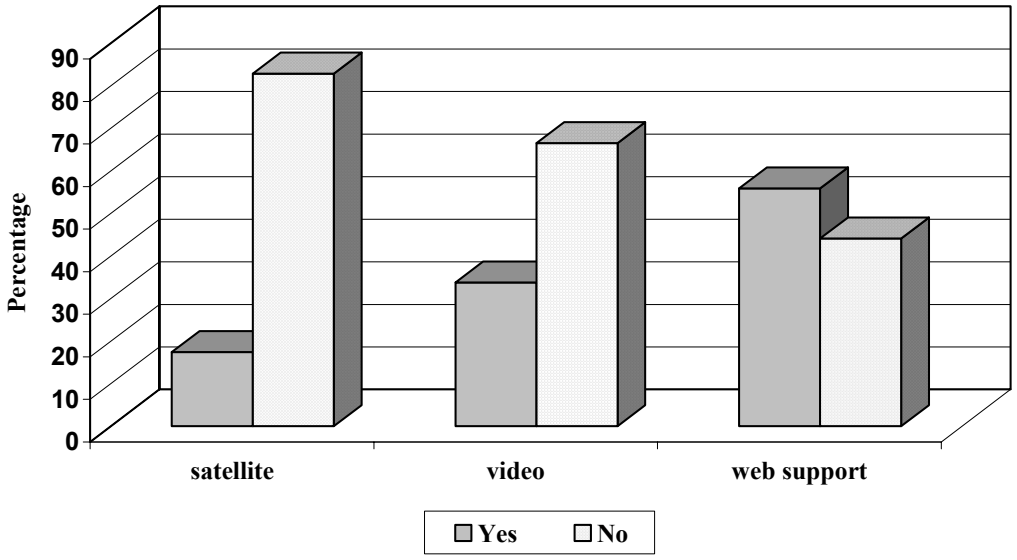

Figure 1. Previous experience with course delivery methods ($N_{satellite} = 172$; $N_{video} = 160$; $N_{web\ support} = 161$).

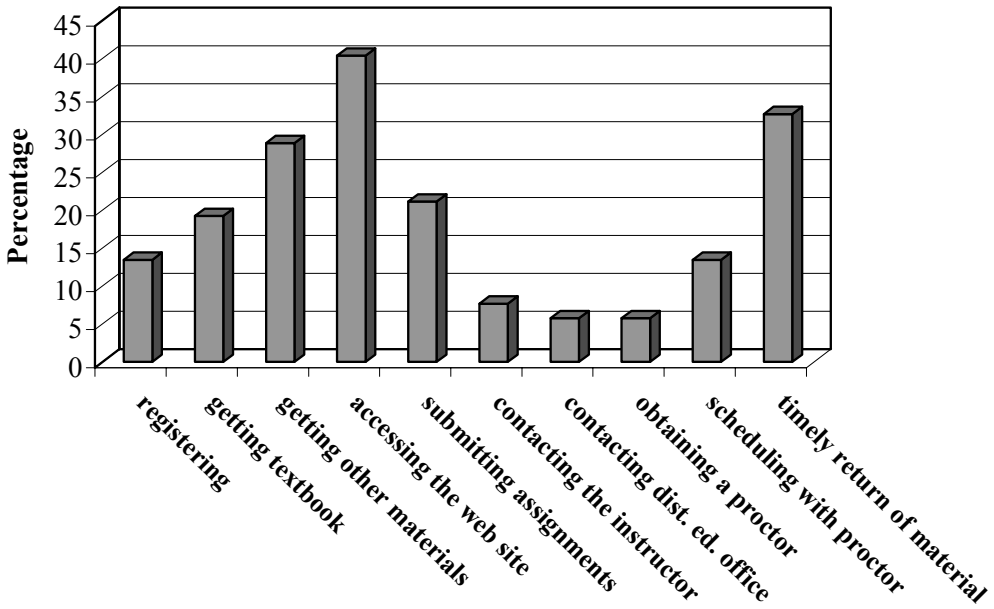

Figure 2. Problems student respondents experienced with all course delivery methods (N=52).

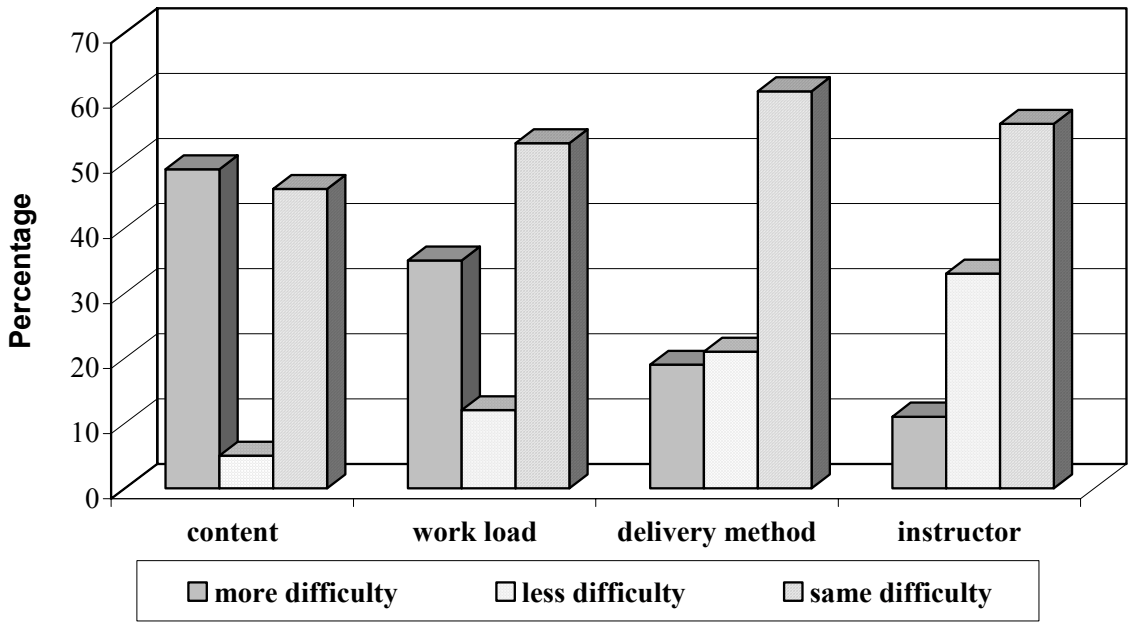

Figure 3. Student respondent post-survey evaluation of their expectations (N= 104).