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HOW AN ONLINE COURSE COMPARES

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ABSTRACT

Student satisfaction with and performance in an online agrisales course is compared with that of students enrolled in a simultaneously-taught classroom course. Assessment tools are developed for both sections. Online and classroom students were equally satisfied with the course and the instructor using most measures, but had different motives for course enrollment. Overall student performance did not differ. However, online students tended to do better on exams and homework assignments while classroom students demonstrated a greater ability to apply course concepts to a practical setting. Results suggest instructors be well-prepared to handle unique learner situations prior to marketing an online course and work to ensure students are motivated to complete online course components.

KEY WORDS: agricultural sales, assessment, curriculum, online, teaching.

HIGHLIGHTS

INTRODUCTION / PURPOSE

An existing agricultural sales class was revised for an online environment and offered concurrently with the classroom section during the spring of 2003. Satisfaction and performance of online learners was assessed and compared to that of students taking the course in the classroom. All thirty classroom students and six of nine online students completed a course assessment. Five of the online students completing the assessment were on-campus and one was off-campus.

RESULTS

- **Motivation for Course Selection**
  - Primary motivation of students for enrolling in the agrisales course was to gain knowledge and experience in agrisales. Other noted motives included an interest in agrisales, that the course filled an academic need, a recommendation, and course scheduling.
  - Among factors influencing the decision to enroll in the course, an interest in the subject was the most important.
  - The average level of assigned importance was only different between the classroom and online sections for time of course offering (online students considered it more important).
  - Very important in motivating students to specifically choose the online section were the fit of the course in their schedule, time investment, and flexibility.

- **Satisfaction with Course**
  - Classroom students were more satisfied with the instruction in the course, although there was no difference otherwise in perception of the instructor or her performance.
  - In general, there was no difference in how students in the two sections perceived the course, or their change in interest in the subject during the course.
  - The average online student was neutral whether distance learning was an effective format for the class. Students tended to agree that the course made good use of technology and that Blackboard® was an effective tool for accessing PowerPoint® slides, homework assignments, exams, and announcements. However, they did not agree that it was effective for accessing presentations with audio. Online students agreed that there was an appropriate level of student–instructor interaction, although in reality such was minimal.
  - Students in general reported that they were comfortable using the Internet and enjoyed learning online.
  - Students did not believe they learned better independently than in the classroom.

- **Activities**
  - Audio-accompanied PowerPoint® presentations for online students replaced instructor- and professional salesperson-led lectures for classroom students. A common textbook was used for both sections.

- Classroom students attended a far greater percentage of lectures on average than students listened to online lectures. Online students relied heavily on the PowerPoint® slides without the audio presentation. The most common reason self-reported by online students for not listening to the audio presentation was that it was unnecessary to succeed in the class.
- Classroom students assigned a moderately favorable level of usefulness to the instructor and speakers, while online students found the instructor less useful and found the online lectures for the most part not to be useful.
- Online students relied more on the textbook, although neither section found it particularly useful.

- **Course Performance and Perceived Learning**
  - There was no difference in the overall performance of classroom versus online students. However, grades on individual activities differed between the groups.
    - Online students received higher grades on individual homework assignments and exams. They also tended to follow more carefully the example and homework instructions than their classroom counterparts.
    - Classroom students demonstrated a greater ability to apply course concepts to a practical setting.
  - There was no difference in students' self-reported understanding of course content between the sections or their level of agreement that the course built an understanding of concepts and principles.

CONCLUSIONS

- Be prepared to answer any possible inquires about a new course and about course enrollment and participation. Do not publicize the course until you are prepared.
- Students enrolling in the online section of a class may not be motivated by its appeal to their preferred learning style. Select your target audience well and work to understand your target audience.
- Results do not support and in part refute the hypothesis that the learning styles of those enrolling in an online course are more conducive to independent learning.
- Communication expectations of online students appear to be different than those of their classroom counterparts. Online students did not appear to expect instructor to student communication beyond basic instructions necessary to complete activities unless they specifically requested it. Know what students' expectations are.
- Develop and use an assessment tool that extends beyond measuring student perceptions and performance. Include queries that address student expectations and what motivates their participation and effort.
- Address the what, but also the why, to help facilitate course revisions.
- Students may not be motivated to fully participate in online course activities unless required or otherwise motivated to do so.

HOW AN ONLINE COURSE COMPARES

Cheryl J. Wachenheim*

INTRODUCTION

Land-grant universities serve a wide audience of learners. In the Northern Plains, this population includes a substantial number of individuals from remote areas, many uncomfortable with the technology associated with distance education. In spite of these challenges, the land-grant mission includes identifying and implementing methods to improve the quality and availability of instruction to stakeholders. North Dakota State University has expressed a desire to become a technologically engaged institution. Creating courses with content that is accessible to students around the state is a cornerstone that was defined in 2000 by the North Dakota University System's Roundtable (Roundtable for the North Dakota Legislative Council).

Fewer than 650,000 people live in the state of North Dakota**.** The isolation of many inhabitants and the long distances they must travel to a collective point of instruction (e.g., an institute of higher education) results in the unavailability of courses and experts in many subject areas to rural learners. By successfully beginning the task of providing distance-taught courses to our constituency, not only will more residents have access to a broader array of subject matter and experts, but they will become more experienced in, and comfortable with, the technology associated with this learning environment.

Our objective is to improve the quality, effectiveness, and cost efficiency of our teaching program by developing an existing agricultural sales course for an online environment. If successful, this effort will diversify and expand the audience for this and other individual courses. Off-campus learners can be included, and their costs and those to the university lowered, and on-campus students will gain more flexibility in scheduling. These goals have not only become increasingly important, but also increasingly achievable with advances in distance education technology.

Online learning may also improve the quality of future distance teaching programs for individual learners. Many rural residents are unfamiliar or uncomfortable with various technologies employed in distance education. Enrolling in an online course will increase their awareness of, and comfort level with, these instructional methods. From their experiences will come recommendations to revise the online agrisales course and for use in the development of additional courses. Offering of the online agrisales course, assessment of the satisfaction and performance of online learners, and comparison of such to those reported by students taking agrisales in the classroom can provide the data necessary to evaluate the effectiveness and impact of a web-based course. This is the objective of this paper.

In effect, the success of this online course in reaching rural residents and students on campus will serve as a feasibility study for the potential viability of online learning as a tool to expand the audience for other courses within the College of Agriculture, Food Systems, and

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Natural Resources. It will help us answer the question of whether the addition of online sections of existing courses is a good idea for North Dakota State University, North Dakota, and states with similar demographic challenges.

Why AgriSales?

The need for a course in agrisales was identified during an audit of the Agricultural Economics curriculum at North Dakota State University in 1998. Agrisales was identified as a void within the department based in large part on numerous inquiries from and recommendations by industry leaders throughout North Dakota and surrounding states and our own students and alumni. Approximately 12 percent of departmental graduates accept a job in agrisales; 25 percent accept a job in agrisales or marketing. Although estimates are not available from every department, informal feedback indicates that a large number of students from other departments throughout the College also accept internships and positions in the area of agrisales.

Agrisales was first introduced as a temporary course for the spring of 2000 and was approved as a permanent course in 2002. With a permanent course designation and three successful years of offering as indicated by students, alumni, and participating agrisales professionals, the department sought to reach a wider audience. Distance education was a natural option. Farmers, business professionals, and students requiring flexibility in course scheduling, those enrolled in institutions not offering a course in agrisales, and those majors enrolled in the University's new John Deere dealers' option were all part of the target audience for the online course.

METHODS

Course Design

An existing agricultural sales class was revised for an online environment and offered concurrently with the classroom version during the spring of 2003. The original course was developed by revising materials provided by Dr. David Downey at Purdue University. With his permission, these materials, including PowerPoint® presentations and written materials such as the course syllabus, homework assignments, and descriptions of course projects, were revised for the online environment and for an eight-week (versus a traditional sixteen-week) course. [It was assumed that students facing the shortened presentation time necessary to adapt to an online presentation (versus lecture) format would increase their use of and reliance on the textbook and one-on-one communication with the instructor.] Voice-overs were prepared and applied to correspond with each PowerPoint® presentation.

Sixteen topical areas covered in the class were converted to online presentations with audio. One presentation covered the introduction and course syllabus, activities, and expectations of the course. The course section on communication, which traditionally covers three 75-minute class periods, was offered to online learners in three presentations of lengths 15, 7, and 17 minutes. One presentation was developed for each of the remaining topics. Each topic is traditionally covered in one 75-minute classroom period. Resulting online presentations ranged from 7.6 to 30.2 minutes. The average presentation length was 18.4 minutes.

Presentations required RealTime Player® software for viewing and a computer with speakers for audio. All materials were available to enrolled students using Blackboard® accounts provided by the university. Online students requesting such were also provided with a CD with the PowerPoint® presentations with audio. The counterpart for the online presentations was traditional classroom lectures provided by the instructor, augmented with in-class activities, and presentations by professional salespeople. [During the spring semester of 2003, nine class sessions were presented by professionals.]

The structure for student-instructor communication and online delivery of assignments and performance measures (e.g., exams) was rudimentary during this initial course offering. Blackboard® accounts available to each student allowed them access to presentations and course materials. Announcements were regularly posted and would appear whenever students accessed their accounts. Email messages were also frequently used by the instructor and the support individual coordinating registration, course communication, and material distribution to communicate with students. On-campus online students could and did regularly stop by to ask questions of the instructor or to submit and pick up graded assignments and exams. Of the five on-campus students, only one regularly submitted assignments and exams by email; the remainder most often submitted such in-person. One off-campus student submitted assignments via fax, and the remaining off-campus students emailed them as attachments. The instructor was also available to talk to students by telephone.

There was no initial face-to-face meeting for students in the online course. This was primarily because student sign-up was staggered throughout the initial two weeks of the semester. Most course orientation was accomplished by the instructor during individual office visits by on-campus students, while the course coordinator handled registration and the orientation for off-campus students.

The online course schedule was prominently presented in the syllabus to cover a seven-week course. The length of the course was chosen to accommodate a one-week delay in beginning the course, as details of the registration process and access to course materials for individual students in Blackboard® were reconciled, but to end the course prior to Spring Break as initially scheduled. Although a strict schedule was followed in the classroom section (e.g., late assignments were discounted), materials submitted by online students at any time were accepted as 'on time.' Required flexibility was much greater than anticipated for these students because it was unclear to the instructor and coordinator if instructions, particularly due dates, were clear to students and because several students registered for the course after it had begun.

A final meeting of the on-campus online students was necessary for "Ready Set Sell" night. This activity is designed to allow students to demonstrate their mastery of course content by making a formal sales presentation to a professional salesperson. They do so together because it allows students not making the presentation to learn from the efforts of the other students, and so it is not necessary to bring a sales professional to campus multiple times. The "Ready Set Sell" activity was scheduled so that four of the five online on-campus students were at the appropriate place in the class to make the presentation (i.e., they had completed all the assignments leading up to the presentation). The fifth student also participated. The plan for

coordination of this activity for off-campus students was to bring those in the same general area together for one night. However, because of the small number of participating off-campus learners, we decided to have individual student presentations to local sales professionals videotaped and sent to the instructor for evaluation.

Course Enrollment

Thirty students completed the traditional classroom section (classroom) and six completed the online section (online). Original enrollment in the classroom section was forty. One student was allowed to switch to the online section and eight dropped the course during the term. Nine students were originally enrolled in the online section, five by regular registration and four by audit. All five regularly enrolling were on-campus students. Of those enrolled in the online section by audit, one individual has nearly completed the course (this individual has only to complete their day with a salesperson and their final sales presentation and the associated papers). Two began the course but have completed less than two-thirds of the requirements (one withdrew because they left the employer who encouraged and paid for their participation). The final student never actively participated.

Course Evaluation

Information was collected from students in an anonymous survey instrument administered at the end of the course. Information collected included student demographics, their motivation for enrollment and satisfaction with the course, and their participation in course activities.

Students were asked to indicate those factors (noted on the survey instrument) that motivated or otherwise influenced their decision to enroll in the course and indicate the importance of each. Factors included that the course fit a category of electives for their academic program, they had an interest in the subject, time of course offering or the instructor was important, and that the course had been recommended. Online students were also asked to indicate those factors which influenced their selection of the online version of the course and to indicate the importance of each.

Students were asked about their satisfaction with the course, the instructor, and fairness of evaluations. Rubrics to measure student satisfaction were based heavily on existing instruments used by the Department of Agribusiness and Applied Economics at North Dakota State University and the sourcebook *Peer Review of Teaching* (Van Note Chism). Open-ended questions requested students' suggestions for improvement in course delivery, how often and when meetings should be held (online), homework and activities, exams, and communication. Online students were also asked about the effectiveness of the course and their level of comfort and experience with the Internet. They were queried about the level of enjoyment and learning they associate with online courses, and whether they would take another online course.

Students were asked about their level of participation in class activities including attending (or listening to online) lectures and reading the textbook. Online students were asked

on what they relied to complete their exams. All students were asked to rate course components by degree of usefulness to their overall level of learning in the course.

Student performance was measured including overall class grade and percentages obtained on several activities comprising such. Students were also asked to assess their understanding of course content and the amount they learned about agrisales from the class. To allow student responses from the anonymous survey instrument to be compared with student performance, each student was asked to assign themselves a four digit number. The number was written by the student on the first page of the survey and on a separate page which also included their name. Students were informed that their identity would be known only by a member of the support staff (and not by the instructor), and that this information would be used only to allow information about their course performance to be included in the analysis.

RESULTS

Respondent Characteristics

Five of the online students completing the survey were on-campus students and one was the off-campus student nearly completing the course. The off-campus student was enrolled only in this course, works a full time job, and is 60 years old. All of the remaining online students were majors in the Department of Agribusiness and Applied Economics as compared to 53 percent of classroom students. The remaining classroom students represented majors from a variety of departments within the College of Agriculture, Food Systems, and Natural Resources, including Agricultural Systems Management (13 percent), Crop and Weed Sciences (17 percent), Animal and Range Sciences (3 percent), and others (23 percent). All online students were seniors as compared to 73 percent of classroom students. [All but one of the remaining classroom students were juniors (23 percent).] All online students were male as compared to 77 percent of classroom students. Age and grade point average did not differ between on-campus online and classroom students. All online students were 22 years old, and the age range of classroom students was 20 to 24.

Online students worked more hours per week outside of school (24.7 versus 14, $p = .034$) and were enrolled in more credits (17 versus 14, $p = .043$) than their classroom counterparts. Five of the six online students worked at least 20 hours per week as compared to 36 percent of classroom students (one online student did not work at all).

Motivation for Course Selection

Twenty percent of classroom students indicated the course was required for their major or minor. It was not noted as an academic requirement for any of the online students. Most frequently mentioned by students as their primary motivation for enrolling in the course was to gain knowledge and experience in agrisales, with several students also mentioning this to be a career goal. Thirty-five percent of students provided this open-ended response. Nineteen percent each noted they were interested in the subject matter or that the course filled an academic need (all classroom students). Fifteen percent of students noted a recommendation as their

primary motivation. Other motivations included course scheduling and that it was not a difficult course. There were an insufficient number of responses by online students to identify any existing difference in primary motivation between online and classroom students.

Among factors influencing the decision to enroll in the course, all were considered at least moderately important, with an interest in the subject assigned the highest importance rating overall. The average level of assigned importance was not significantly different between the sections for any of the factors except time of course offering. That noted by online students was 5.6 (where 1 = not important and 6 = very important) versus 4.2 for classroom students ($p = .004$). A recommendation was more important for online students (average of 5.0 versus 3.8 for classroom students) but the difference was not statistically significant. Those most frequently recommending the course to students were friends or fellow students (60 and 66.7 percent of recommendations to classroom and online students, respectively). Recommendations also came from the instructor or from the student's advisor. The off-campus online student received a recommendation via a story in their local newspaper. All off-campus students who enrolled in the course cited information provided from the media as their source of knowledge about the class. The instructor and the course coordinator received a high volume of correspondence from throughout the Midwest, including email and phone calls, from the initial press release. However, as a result, only four individual off-campus students enrolled. Each was from rural North Dakota.

Online students were asked to indicate those factors which influenced their selection of the online version of the course and to indicate the importance of each (Table 1). Very important were the fit of the course in their schedule, time investment, and flexibility. For four of the six students completing the evaluation, but presumably for all the online students, it was the only option available to them because of their distance from campus or their work or class schedule. The four off-campus students all lived beyond a reasonable driving distance to campus. Four of the five on-campus students had a direct course or work conflict and the fifth student joined the course well-after the semester (and classroom section) had begun. Students found moderately important that they prefer learning independently and were not motivated by the idea they would learn more online.

Table 1. Importance of Factors in Online Course Selection

Factor	Average (std. dev.)	Response Range
Schedule (e.g., time conflict)	5.7 (0.52)	5 to 6
Anticipated number of weeks to complete	5.7 (0.52)	5 to 6
Anticipated overall time investment to complete	5.5 (0.55)	5 to 6
Prefer learning independently	4.8 (1.30)	3 to 6
Thought would learn more online	2.7 (1.50)	1 to 4
Flexibility	5.7 (0.52)	5 to 6
Only option available to student	5.7 (0.50)	5 to 6

Likert scale response where 1 = not important and 6 = important.

Satisfaction with Course

Student satisfaction with the course and the instructor, and the fairness of evaluation were measured and compared between the classroom and online sections (Table 2). Classroom students were more satisfied with the instruction in the course, although there was no difference in mean perception of the performance of the instructor as a teacher, whether she cared about students or her level of interaction and communication with students. In general, there was no difference in how students in the two sections perceived the course or their change in interest in the subject during the course. Exceptions were that online students were less likely to consider course material intellectually stimulating and rated lower the quality of the course, but considered grading procedures more fair, although these differences were not statistically significant.

Table 2. Satisfaction with Course

Statement	Average		Significance of Difference
	Classroom	Online	
INSTRUCTOR / INSTRUCTION			
Satisfaction with instruction[a]	4.8	4.0	.057
Instructor as teacher[a]	4.8	4.7	.725
Instructor cared about students[b]	5.4	5.5	.834
Instructor was available for assistance/ consultation[b]	4.7	4.7	.911
Appropriate level of interaction between instructor and student[b]	5.1	5.2	.802
COURSE			
Course material was intellectually stimulating[b]	4.4	3.8	.226
Course built an understanding of concepts and principals[b]	4.9	5.0	.722
Syllabus and course material was well designed[b]	4.9	4.8	.882
Performance was evaluated fairly[b]	4.8	5.0	.578
Fairness of grading procedures[a]	4.4	5.0	.271
Course effectively challenged thinking[b]	4.5	4.3	.718
Quality of course[a]	4.7	4.2	.191
Would recommend course overall[b]	5.1	4.8	.545
Increase in interest in agrisales[c]	1.2	1.0	.793

a. Likert scale where 1 = very poor and 6 = very good.
b. Likert scale where 1 = strongly disagree and 6 = strongly agree.
c. Difference in Likert scale response to questions 'My interest in agrisales at the current time' and 'My interest in agrisales prior to this course,' where 1 = very poor and 6 = very good.

In responses to open-ended questions, students from both the classroom and online sections agreed that the homework assignments were somewhat repetitive. And, although the online students were satisfied with the number of assignments, the classroom students in general thought there were too many. The number of assignments for each was the same. Difference in perception may come from the number of times an individual student had to submit homework assignments or from differences in how the role of the assignments in the class was perceived. In the classroom section, assignments were generally due individually (e.g., one per day) while online students tended to submit multiple assignments at the same time (e.g., several were due and submitted together each week).

Online students were also asked to indicate their level of agreement with statements about the effectiveness of the online course and their level of comfort and experience with the Internet (Table 3). They were asked to indicate the level of enjoyment and learning they associate with online courses and whether they would take another web-based course and on what this depended.

Table 3. Effectiveness of Online Course

Factor	Average (std. dev.)[a]	Response Range
Distance learning format effective for this course [a]	3.6 (0.55)	3 to 4
Course makes good use of technology [a]	5.2 (1.17)	3 to 6
Blackboard® effective tool for accessing PowerPoint® slides (without voice-overs) [a]	4.8 (1.47)	3 to 6
Blackboard® effective tool for accessing PowerPoint® slides (with voiceovers) [a]	3.8 (2.14)	1 to 6
Blackboard® effective tool for accessing homework assignments and exams [a]	5.2 (1.17)	3 to 6
Blackboard® effective tool for accessing announcements [a]	4.8 (1.47)	3 to 6
Instructor is considerate of online learners [a]	5.2 (0.75)	4 to 6
Interaction between instructor and student is at an appropriate level [a]	4.7 (1.03)	3 to 6
Level of comfort using the Internet[b]	5.3 (0.82)	4 to 6
Level of experience using the Internet[c]	4.7 (1.51)	2 to 6
Enjoy learning online [a]	4.8 (0.75)	4 to 6
Learn better independently than in the classroom [a]	3.0 (1.67)	1 to 5
Likeliness of taking another online course[d]	4.5 (1.38)	3 to 6

a. Likert scale response where 1 = strongly disagree and 6 = strongly agree.
b. Likert scale response where 1 = not very comfortable and 6 = very comfortable.
c. Likert scale response where 1 = none and 6 = substantial.
d. Likert scale response where 1 = not very likely and 6 = very likely.

The average student was neutral on whether distance learning was an effective format for the class. Students tended to agree that the course made good use of technology and that Blackboard® was an effective tool for accessing PowerPoint® slides, homework assignments, exams, and announcements. However, average level of agreement that Blackboard® was effective for accessing presentations with audio was lower and responses covered the range. Online students again in general agreed that the instructor was considerate of online learners and there was an appropriate level of student–instructor interaction, although in reality such was minimal.

Students in general reported that they were comfortable using the Internet and enjoyed learning online. Students said their level of enjoyment with online learning depends on their time, their access to a computer with the appropriate software, and the quality of the class. Students in general did not believe they learned better independently than in the classroom. Most would be likely to take another course online if they, e.g., were not graduating. One student indicated that it would depend on his previously existing knowledge. If he had some prior knowledge of or experience with the topic, he would be more likely to take an online course.

Activities

Students were asked about their level of participation in class activities. Classroom students attended a far greater percentage of lectures on average (94 percent) than students listened completely (20 percent) or partially (16 percent) to online lectures. There was a wide range in percentage of online lectures listened to at least in part (3 to 83). Three students listened to only three or fewer of eighteen lectures, two students to half, and one student to 15. Reasons noted by online students for not listening to more online lectures included that it was unnecessary to listen to excel in the course (noted by three students), lack of access to a computer with the appropriate software and/or speakers (two students), and that they could not listen from home (one student). Online students relied more heavily on the PowerPoint® slides (without the audio presentation). The average number of slide presentations of 18 reviewed was 9.2 (std. dev. of 8.1), and the average number printed for reference was 14 (7.3). Two students did not access any of the PowerPoint® presentations while two students reviewed all of them. Four students printed all of them for reference.

Students were asked to rate course components and activities according to their usefulness to overall learning in the course (Table 4). Classroom students assigned a moderately favorable level of usefulness to the instructor and the speakers, while online students found the instructor less useful and the online lectures for the most part not to be useful. Online students relied more on the textbook, although neither section found it particularly useful. The fact that classroom students did not rely heavily on the textbook was not particularly surprising because the lectures covered the same material and the textbook was used heavily during lecture to provide specific examples. It was surprising that online students did not find the textbook useful because they did not otherwise appear to have much exposure to course content (i.e., they did not listen to the online lectures). When asked why they did not read more of the textbook, two-thirds of classroom students and five of the six participating online students responded. The most

common answer among both sections was that it was unnecessary to do so (noted by 45 and 80 percent of classroom and online students, respectively). Next most common was lack of time, noted by 30 and 20 percent, respectively. Other responses among classroom students were that the textbook was boring or they did not like to read (15 percent) or that they did not have access to the book (10 percent). Clearly students were not motivated to read the textbook.

Table 4. Perceived Usefulness of Course Components

Component	Percentage		Significance of Difference
	Classroom	Online	
Instructor	4.8	4.2	.209
Speakers	4.8	-----	-----
Online lectures	-----	2.3	-----
PowerPoint® slides	4.6	4.5	.890
Textbook	2.0	3.2	.029
Day with a salesperson	4.7	5.0	.452
Rating of salesperson (1 = not appropriate, 6 = very appropriate)	5.0	5.5	.231
Writing the day with the salesperson paper	3.5	4.0	.330
Ready Set Sell homework assignments	4.3	4.0	.465
Ready Set Sell activity	5.0	4.2	.133
Writing the Ready Set Sell paper	3.5	3.5	1.00

a. Likert scale response where 1 = not useful and 6 = very useful, unless otherwise noted.

The online students found slightly more useful spending the day with a salesperson and writing the associated paper, and rated their salesperson as more appropriate for the task than classroom students although the differences were not statistically significant. The slight difference may have been because the salesperson provided information to online students their counterparts received from lectures and, particularly, guest speaker presentations. Classroom students found more useful the "Ready Set Sell" activity wherein they were required to demonstrate their abilities in the sales process.

Online students were asked what they relied upon when taking exams. They were asked to assign a percentage to each available resource. Because students reported that their textbook was not particularly useful, it was surprising that the percentage this resource was relied upon for the average student was 39 percent. Perhaps the complaint of one student that the textbook was not useful because it had a poor index helps explain this result (i.e., although they did not read the textbook, they may have used it to look up responses for the exam). Half of the six students indicated they relied on the textbook for 60 to 90 percent of their work on the exam. The other three students relied heavily on the PowerPoint® slides, one almost entirely and one entirely. No student relied more than 15 percent on the online presentations with audio, and the average for such among all students was only 6 percent. This was less than that assigned to the instructor (7 percent), and, as the instructor, I know assistance on exams came from my responses to only an occasional question.

Course Performance and Perceived Learning

There was no difference in the overall performance of classroom versus online students (Table 5). However, grades on individual activities differed between the groups. Online students received higher grades on individual homework assignments and exams. [Exams for online students were open note/open book and taken by students at their own pace.] For both online and classroom students, a good example of a completed version of each homework assignment was provided in the course packet. Online students tended to follow more carefully the example and homework instructions than their counterparts (i.e., they did better on their homework assignments). However, they did not demonstrate as much ability to apply course concepts to a practical setting. They did not perform as well in their selling exercise or do as well on papers evaluating this exercise or on their experience with a professional salesperson.

Table 5. Course Performance and Perceived Learning

Activity	Percentage		Significance of Difference
	Classroom	Online	
COURSE PERFORMANCE			
Ready Set Sell activity	90.3	84.2	.011
Ready Set Sell paper	88.0	81.6	.077
Ready Set Sell total (including homework)	90.9	97.0	.026
Day with a Salesperson paper	84.4	77.9	.175
Average exam	84.1	90.3	.078
Grade (overall percentage)	89.3	88.8	.830
PERCEIVED LEARNING			
	Average Response[a]		
Course built an understanding of concepts and principles	4.9	5.0	.722
Understanding of course content	5.0	5.0	1.000
Amount learned about agrisales	4.9	4.3	.242

a. Likert scale response where 1 = not much, very poor, and 6 = a great deal, very good.

There was no difference in students' self-reported understanding of course content between the sections or their level of agreement that the course built an understanding of concepts and principles. And, although classroom students perceived they had learned more in the class, the difference was not statistically significant.

The overall grade students received in the course was positively correlated with their level of agreement that the course built an understanding of concepts and principles (Pearson's correlation coefficient = .3274, p = .041), the amount they believed they learned about agrisales (.4583, .006), and especially their self-reported understanding of course content (.5786, .001). It was not significantly correlated with their interest in the subject either before or after the course.

The amount students reported learning in the course was also positively correlated with their level of agreement that the course built an understanding of concepts and principles (.5407, .001), their self-reported understanding of course content (.5671, .001), and with their interest in agrisales both before (.3680, .025) and after (.5140, .002) the course. Their reported understanding of course content was positively correlated with their interest after (but not before) the course (.3751, .022).

CONCLUSIONS

Online instruction and other methods of distance delivery have received increased attention as schools under tightening budgets compete for an audience of learners increasingly accustomed to flexibility. While there are few online courses in agriculture, and especially in agricultural economics, the number in this and other fields continues to grow. To date, this instructional method has largely been adopted on the faith that it is preferred by some learners and maintains the quality of instruction offered in on-campus courses. Research to support or refute these hypotheses is limited, and that which seeks to explain in depth what influences learner preference, satisfaction, and success with the relative learning styles is almost non-existent. The purpose of this paper was to provide information about an initial offering of an online course and student perceptions of the components of and their performance in this course as compared with their classroom taught counterparts. The findings provide insight into the development of rubrics by which to measure and compare student satisfaction with, and learning in, courses using different instructional techniques and provide hypotheses for further inquiry. Primary conclusions from this initial effort focus on marketing of an initial course offering, student motivation, satisfaction, performance, and course activities.

Marketing an Online Course

The online course received substantial press attention, and there were a substantial number of inquiries about the course from individuals and firms from throughout the Midwest. In spite of such, only nine students were initially enrolled. All four of the off-campus students were individuals from rural North Dakota. At the time of initial queries from a wider audience as a result of the press release, we were not well-prepared to explain the procedures associated with enrolling non-NDSU students in the course (we did not fully understand them ourselves) nor were we well-prepared to accommodate special situations (e.g., multiple off-site learners from a single firm). Although we are now better prepared to handle these details and can better explain both the benefits of the course to off-campus learners and the course procedures that will facilitate their participation, there is no certainty we will get a second chance with those who initially inquired. The lesson here is to be prepared to answer any possible inquires about the course and the course enrollment and participation processes.

Five online students were on-campus students who had heard about the course by email from the instructor. All of the on-campus students who eventually enrolled in the course were majors in the Department of Agribusiness and Applied Economics although traditional enrollment in this service course includes majors from throughout the College. One might

investigate why an online course of this nature may or may not appeal to students in other departments within the College and what marketing strategies may be effective in reaching them.

Motivation

Further emphasizing the seemingly ineffective marketing to our target audience, including those who might learn better using this alternative instructional method, was that online students appeared to be motivated by the convenience of the course rather than by what they expected to learn. While interest in the subject was the most important factor in selecting the agrisales course, four of the six responding online students identified the online version as their only option (as opposed to, e.g., that they preferred or expected to learn more online).

Student Satisfaction and Performance

Online students were less satisfied with instruction in, and the quality of, the course, and did not find it as intellectually stimulating. However, they did not perceive a difference in the instructor as a teacher, whether she cared about the students, or the appropriateness in level of student/instructor communication. Their general satisfaction with the role of the instructor was a bit surprising given the lack of instructor interaction with online students. A key concept taught in the agrisales course is that you need to meet the expectations of your prospects to maintain them as long-term customers and to do so, you need a good understanding of what those expectations are. Clearly the communication expectations of online students are different than those of their classroom counterparts, and apparently less than what we expected. Future assessments will include eliciting the form and extent of communication online students expect and desire.

Students' suggestions regarding homework assignments also reflected a difference between sections in what was viewed as important in the class. While several students from both groups noted homework assignments could be a bit repetitious at times, classroom students indicated there were too many, while online students found there to be an appropriate number. As the assignments were the same (in form and number), the reason for the difference in perception is not clear. Two potential hypotheses are that the more frequent submission of assignments by classroom students (each was submitted on a different day) versus online students (assignments were submitted and likely completed in batches) made it seem like classroom students were doing more homework and that, since the homework may have been a more important part of understanding course concepts for online students, they may have been more accepting of the work. Regardless, it emphasizes that future assessment tools should inquire in more detail about acceptability of the homework completion and submission process and about student expectations regarding the role of homework. A related issue is that online students frequently submitted homework late. Because of the uncertainly associated with their knowledge and understanding of course deadlines (because they were not as regularly reminded as their classroom counterparts), online students were not penalized for submitting course materials late. Certainly, future assessments should inquire into why an online student might not consider it necessary to be familiar with or adhere to the course schedule.

While students neither agreed nor disagreed that online learning was effective for this course, they reported a high level of comfort with using the Internet and expressed a likelihood of taking another online course. However, their motivation appeared to be to complete the course in a manner that best fit their schedule and the availability of their time rather than because they believed they could learn more online. Their responses throughout the survey do not support and in part refute the hypothesis that the learning styles of those enrolling in an online course are more conducive to independent learning. In fact, although the online students performed better on exams (which for them were taken at their own pace using whatever resources they desired), they were not as proficient as their classroom counterparts in applying course material to practical settings (e.g., "Ready Set Sell" activity) or interpreting practical settings using course terminology and concepts (e.g., writing the Day with a Salesperson paper). This was particularly true with regards to the section on communication, about which there was no information in the textbook. In other words, the online students could effectively complete the work but they did not seem to understand and be able to apply course concepts as well as their counterparts.

Course Activities

Online lectures clearly did not replace classroom time although it is not clear whether students did not listen to the online lectures because they did not find them useful or visa versa. Neither the classroom nor online students found the textbook to be particularly useful, although online students found it to be more so. The average student in each section did not read much of the textbook. Students in both sections reported this to be because it was unnecessary. The textbook was chosen to support and enhance classroom and online lectures. If it is to be useful, an alternative method of motivating students to read will need to be identified and adopted.

Surprisingly, given its apparent lack of use, the average online student reported that they relied on the textbook for nearly 40 percent of their work on the exams. Three students relied very heavily on the textbook and the other three students on the PowerPoint® slides. None of the online students relied heavily on the online presentations for exams. In fact, the instructor was identified as more important to the average student although she received very few queries by students taking their exams. Development of the online presentations was by far the most involved part of converting the course for an online offering. Clearly this effort was either not warranted or additional efforts need to be applied to either increase the ease by which students can access the lectures or their motivation to do so.

Finally, online students found their day with a salesperson slightly more useful than classroom students found this activity. This may be because classroom students were exposed to a variety of salespersons as guest speakers and received additional information from the instructor during lectures. It may, therefore, improve the online course to have students spend more time with a larger number of professionals (e.g., by spending more than one day with a salesperson, having them watch videotaped presentations by sales professionals). Another possibility is to have online students exert more effort in reflecting on their time with their salesperson within the context of course content (e.g., write a longer, more reflective paper than their classroom counterparts).

Final Comments from the Instructor

A reviewer noted that this report was incomplete without comment regarding instructor resource investment associated with course development and implementation and instructor satisfaction with the result. Developing the course involved a considerable time investment by the instructor, the vast majority of which consisted of completing essential tasks (e.g., recording audio for PowerPoint® slides) rather than learning about the development process. That is, to re-create the course precisely as it now exists would take nearly as much of the instructor's time as did the initial creation. This is because the instructor was aided in developing the course by a distance learning specialist and was aided in implementing the course by a student administration specialist. Both were already skilled in their respective areas of expertise. Working with the technician to develop the course and an administrator who handled registration and communication tasks and responded to technical questions, allowed the instructor to remain solely a subject-matter expert. The disadvantage associated with relying on these individuals so as to forgo the learning curve is that future offerings of this course, and future development and offerings of other online courses, will again rely on their expertise.

Instructor time required for course implementation was not substantial and much less than had been expected. Online students in general required less time per student than those in the classroom section.

Finally, although a fair question, it is too early in the process of learning how to successfully offer agrisales online to determine whether we are satisfied with our initial results. The course was not successful in that students self-reportedly did not engage themselves in discovering much beyond that necessary to complete the assignments and exams (e.g., they did not read the textbook or listen to online audio presentations). It is not clear whether this is a reflection of the course being online or that we simply need to better motivate them to become better exposed to available resources. In this regard, we are not satisfied. Alternatively, students' expectations appear to have been met. In this regard, some degree of satisfaction arises from the satisfaction of our student learners.

REFERENCES

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