Assessing the quality of online courses from the students’ perspective

Andria Young *, Chari Norgard 1

University of Houston-Victoria, 3007 N. Ben Wilson, Victoria, TX 77901, United States

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Abstract

The purpose of this study was to develop a survey based on the findings in existing research regarding students’ perceptions and preferences related to online course delivery. Researchers have found that the following areas are important for student satisfaction with online instruction, interaction among students, quality and timely interaction between student and professor, consistent course design across courses, technical support availability, and flexibility of online courses compared to face-to-face. The student survey, once developed, was used to assess the quality of online course delivery by the faculty at a small upper level university in Texas. Results of the survey indicate that faculty at this institution are delivering online classes that meet the students’ needs in regard to interaction with professors and classmates and course content. Results also indicate the need to develop a consistent course structure across classes and to provide extended technical support hours.

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1. Introduction and background

Online student enrollments are growing at an increasing rate. In a recent study, Entering the Mainstream: The Quality and Extent of Online Education in the United States, 1.6 million students were studying online in fall 2002 (Sloan Consortium, 2004). The authors of the study predicted online enrollments would increase by 20% by fall 2003. Those predictions were surpassed according to results from the schools surveyed in 2004 by the Consortium, which showed a 22.9% growth rate of roughly 1.9 million students taking at least one online course. Researchers within the Sloan Consortium and the National Center for Education Statistics predict the rate of growth will continue to increase (Sloan Consortium, 2004; National Center for Education Statistics, 2003). As the number of courses delivered online increases so does the need to examine the quality of the online courses and to determine what, if any advantages, online courses have over face-to-face courses.

The brief literature review that follows contains an examination of the reasons students take online courses and the factors that students say make for effective online course delivery (Daugherty & Funke, 1998; Lao & Gonzales, 2005;
Northrup, 2002; O’Malley & McGraw, 1999; Swan et al., 2000). Daugherty and Funke (1998) questioned both graduate and undergraduate students taking courses offered fully and partially online about their experiences with using the Internet for learning. The students reported that they found web-based learning to be more convenient than face-to-face, as it offered flexibility and allowed for a certain degree of self-paced study. Students also reported that they found web-based learning opened up for them a whole world of information not available in a textbook.

O’Malley and McGraw (1999) were interested in whether students thought that online course delivery was as effective as traditional face-to-face course delivery. They reported students found that online courses offered an advantage over face-to-face courses in that they fit in better with students’ schedules, they saved students’ time, and they enabled students to take more hours than they would if they were only taking face-to-face courses. However, O’Malley and McGraw found that students did not believe they learned more in online courses. Students also were concerned about how to contribute to class discussions in online courses vs. face-to-face. Interestingly, students expressed a preference for face-to-face courses but wanted to take more online courses. Apparently, the convenience of online courses outweighed the concerns about online courses.

Lao and Gonzales (2005) found that graduate students believed that, for online courses to be effective, those courses need well-developed online learning communities, the professors must be available to the student, and students must have the right equipment and technology. The authors argued that being aware of students’ perceptions of online course delivery will help faculty tailor courses to meet the needs of the typical student.

Northrup (2002) queried students to determine why they take online courses. Not surprisingly, they reported that they take them for the convenience and flexibility. Northrup was also interested in students’ preferences for interaction in online courses. Interaction was defined as interaction with course content, conversation and collaboration, interpersonal/metacognitive skills, and need for support. In terms of the course content, Northrup found that students agreed that interaction with course content is important. They indicated a preference for innovative course delivery, such as case studies, readings followed by discussions and structured games. Students demonstrated a preference for collaboration through ongoing interaction with peers and instructors. Students also reported they liked discussion and feedback from their instructors. In regard to metacognitive/interpersonal skills, students indicated that it was important for them to be self-regulated by having the ability to monitor their own progress and by having structured assignment due dates. Finally, students reported that timely support in the online course is crucial to success.

Swan et al. (2000) found that students reported they took online courses because of the distance they had to travel to campus and because they had commitments on their time that made online courses more convenient and accessible. The authors also queried students about their preferences within online courses. They found that students placed a strong emphasis on student and instructor interaction. Additionally interaction between students within a class was important. Above all, a high level of activity within the class resulted in greater satisfaction. The authors found overall that students were most satisfied with online courses when the design of the course was consistent and the course was easy to navigate; there was consistent and frequent interaction with the instructor; and learning communities were built and maintained through active discussion with classmates and instructor.

Online instruction in higher education is here to stay. Students can take courses online or in face-to-face settings. However, at many institutions, programs are only offered online. Consequently, faculty and staff within institutions offering online courses must assess the quality of their courses by asking students what they find helpful and what they find to be a hindrance to online learning. Researchers have found that the following areas are important for student satisfaction with online instruction, interaction among students, quality and timely interaction between student and professor, consistent course design across courses, technical support availability, and flexibility of online courses compared to face-to-face (Lao & Gonzales, 2005; Northrup, 2002; Swan et al., 2000).

The purpose of the present study was to take the information obtained from the research literature on students’ perceptions of their online courses, synthesize it, and develop a student survey. Since the inception of online course delivery in 1999 at this upper level university in southeast Texas, the number of courses offered online has risen to 40%. Over 95% of the faculty teach online. There has not yet been an institutional effort to formally query students about their experiences with online courses. Consequently, the researchers were interested in determining what students felt about the institution’s online courses. The researchers were also interested in determining if students had a preference for online courses vs. face-to-face courses. Finally, the researchers were interested in whether or not the students’ perceptions would be consistent with those reported in previous studies. A survey was developed to determine students’ perceptions and preferences regarding online course content and design, interaction, technical
support, and preference for online courses vs. face-to-face courses. The information obtained from the survey was summarized and offered to faculty and staff who deliver courses online.

2. Methods

2.1. Participants

Undergraduate and graduate students at an upper level institution located in the Coastal Bend region of Texas were invited to take part in an online survey in the Fall of 2004. Faculty members granted permission to the researchers to link to the survey in their online courses. There were 913 students enrolled in the courses in the fall semester. In the last month of the semester, students were asked to anonymously complete the survey by clicking on the link within their online course. Of those 913 students, 233 completed all or part of the survey for a response rate of 25%. The students who responded were primarily Caucasian and female who had taken between one and six classes online. The student respondents typically worked 30 or more hours a week and took anywhere from 7 to 12 h per semester. See Table 1 for complete demographic information. The most common reasons students reported for taking online courses had to do with work and family obligations that made online courses more convenient. Additional reasons for taking online courses were that students lived far from campus or that classes needed were only offered online.

2.2. Survey

The survey was developed using Survey Monkey (http://www.survey.monkey.com), an online survey tool. Student perceptions about online courses in the areas of course design, interaction among course participants, course content, technical support, and the benefits of online vs. face-to-face course delivery were obtained. Questions were based on a four-point Likert scale with response options ranging from strongly agree to strongly disagree. Students were also provided space to make comments after each question. Demographic information regarding student characteristics was also obtained.

A pilot study of the survey was conducted in order to clarify the wording of the questions and to remove irrelevant questions. The survey was piloted on 10 students who were employed as student tutors. Students were instructed to answer the questions as if they were taking the survey. They were also asked to write comments about the questions’ relevance and wording. Information from the pilot study resulted in the rewording and deletion of several questions.

2.3. Procedure

The researchers asked faculty who were teaching online in the Fall 2004 semester for permission to send an email to the students enrolled in their undergraduate and graduate online classes. The email to students explained the purpose of the survey and had instructions for accessing the link to the survey. A total of 21 faculty teaching 50 online courses...
### Table 2
Student perceptions of online courses

#### Online course design
- I prefer all online courses follow a consistent structure so that navigation does not change from one online course to another.
  - Strongly agree: 60.4%
  - Agree: 31.3%
  - Disagree: 6.1%
  - Strongly disagree: 2.2%
- I prefer my online courses to be very structured with set due dates similar to face-to-face courses.
  - Strongly agree: 43.9%
  - Agree: 41.3%
  - Disagree: 10.9%
  - Strongly disagree: 3.9%

#### Online course interaction
- My online courses are set up so that I can interact with my classmates.
  - Strongly agree: 41.0%
  - Agree: 46.4%
  - Disagree: 10.8%
  - Strongly disagree: 1.8%
- Interaction between the instructor and students is essential to online learning.
  - Strongly agree: 61.2%
  - Agree: 29.5%
  - Disagree: 8.9%
  - Strongly disagree: 0.4%
- The quality of discussions in my online courses is high.
  - Strongly agree: 28.4%
  - Agree: 50.2%
  - Disagree: 16.9%
  - Strongly disagree: 4.4%
- The lecture material in my online courses is valuable to course discussions.
  - Strongly agree: 46.5%
  - Agree: 47.5%
  - Disagree: 4.6%
  - Strongly disagree: 1.4%

#### Online course content
- The materials in my online courses support the course goals.
  - Strongly agree: 45.4%
  - Agree: 51.4%
  - Disagree: 2.3%
  - Strongly disagree: 0.9%
- The assignments in my online courses help me master course content.
  - Strongly agree: 34.7%
  - Agree: 59.8%
  - Disagree: 3.7%
  - Strongly disagree: 1.8%
- The exams in my online courses provide an accurate assessment of my knowledge of course content.
  - Strongly agree: 28.2%
  - Agree: 58.6%
  - Disagree: 10.0%
  - Strongly disagree: 3.2%

#### Online course support
- The hours of technical support provided by online support technicians (M–F, 8 a.m.–5 p.m.) meet my needs.
  - Strongly agree: 15.0%
  - Agree: 45.1%
  - Disagree: 32.4%
  - Strongly disagree: 7.5%

#### Online vs. face-to-face courses
- I think I learn more in online courses than in face-to-face courses.
  - Strongly agree: 11.2%
  - Agree: 30.4%
  - Disagree: 43.5%
  - Strongly disagree: 15.0%
- I prefer online courses to face-to-face courses.
  - Strongly agree: 28.2%
  - Agree: 28.7%
  - Disagree: 27.8%
  - Strongly disagree: 15.3%
granted permission for students to receive an email about the survey. Information about the survey was sent out in December 2004, just before finals week. The survey was available for 3 weeks.

2.4. Data analysis

The researchers were interested in obtaining information regarding students’ perceptions of online courses in the five main categories mentioned above. Additionally, the researchers were interested in what, if any, student characteristics affected perception. Consequently, a series of one way analyses of variance were performed, with each student characteristic being the independent variable and response on each question being the dependent variable. For those analyses proving to be significant, Dunnett’s T3 post hoc multiple comparison tests were performed to determine which specific subgroups of a student characteristic proved to be significant.

2.5. Survey limitations

There are some limitations to this study. The small sample may not be completely representative of the majority of students taking online classes. Related to the small sample size, only 21 of 74 faculty granted permission for students to receive the survey in their online courses. Additionally, the survey was made available near the end of the fall semester when many students may not have been available to participate due to final exams and holiday plans.

3. Results

For a summary of students’ perceptions, see Table 2.

3.1. Online course design

Students were asked if they preferred online courses to follow a consistent structure so that navigation does not change from one online course to another. Approximately 92% of the students queried agreed that a common structure across all online courses would be helpful to them. The following student comments support the need for consistent structure across classes. “Organization of the classes should be consistent and not made up by the individual instructors.” Furthermore, the majority of students, 85%, agreed that online courses should be very structured with set due dates similar to face-to-face courses. There were no significant effects between student perceptions and student characteristics in this area of inquiry. Additionally, students like structured due dates to facilitate their progress through the semester.

3.2. Online course interaction

In this category, students were asked about their interactions with their classmates and with their professors, and about their perceptions of the quality of online discussions. When queried about interactions with their classmates, 87% of the respondents agreed that online classes are set up so they can interact with their classmates. Interestingly, when
further analysis was completed to determine if there was a relation between student characteristics and perceived interaction, analysis of variance yielded a significant difference ($F_{1,210} = 7.63, p < 0.01$) between the genders. Females perceived interaction with classmates more positively than did males. The following student comment reflects this view of interaction between students. “I benefit from what other students have to say. They might see things in a different way and that is valuable to others. Getting or offering help is also a great benefit of being able to talk with other students.”

Over 90% of the respondents agreed that interaction between the instructor and students is essential to online learning. Similar to the results found above, there was a significant difference ($F_{1,211} = 4.52, p < 0.01$) between males and females on this question. Females felt stronger about the need for interaction with the instructor than did males. Student comments about interactions with the instructor are represented by the following statement. “If the students are having discussions or are turning in assignments and do not receive feedback from the instructor, then how are they to know that they are successfully learning the material?”

Approximately 78% of the respondents agreed that the quality of the discussions in their online classes was high. Again, a significant difference ($F_{1,212} = 4.52, p < 0.01$) between the genders was found. Females were more satisfied with the quality of discussions than were males. Student comments indicated that quality of discussion was dependent on professor participation. “With the professor participating, the quality is high. Otherwise not.”

### 3.3. Online course content

Students were queried about their feelings regarding lecture material, assignments and exams in their online courses. Approximately 94% of the respondents agreed that the lecture material in their online courses was valuable to course discussions. There was a significant difference ($F_{1,208} = 10.47, p < 0.01$) between males and females on this question. Females felt stronger about the usefulness of the lecture material when contributing to online discussions than did males. Student comments reflect their satisfaction with lecture materials. “In some cases, I have felt that I learned more from the course materials and handouts provided in an online course than I might have in a regular lecture style class.”

Nearly 97% of the respondents agreed that the materials in the online courses supported the course goals. Ninety-five percent of the respondents also felt that the assignments in the online courses helped them master content. Again, there was a significant difference between male and female perceptions’ regarding the materials ($F_{1,207} = 7.34, p < 0.01$) and the course assignments ($F_{1,210} = 6.42, p < 0.01$). Females felt more positive about the online course materials and course assignments than did males.

Nearly 87% of those queried agreed that the exams in online courses provided an accurate assessment of their knowledge of course content. There were not significant differences in perception between the genders or on other student factors. Student comments reflect agreement on this point. “Generally, when I have had exams in online courses, they have been pretty good assessments of my course knowledge.”

### 3.4. Online course support

The question of primary interest for online course support centered around the hours technical support was available to students. Although 60% of the respondents agreed that online technical support hours met their needs, 40% disagreed with this statement. Further analysis indicated a significant difference ($F_{4,205} = 4.29, p < 0.01$) between students who have very little experience taking online courses and those students who had more experience taking online courses (had taken four and above). Those students with more experience were dissatisfied with the hours of technical support, whereas those students taking their first several online courses seemed to be satisfied with the online technical support hours. Student comments reflect dissatisfaction with the current online support hours. “The whole point of online learning for me was the flexibility in that I can log on to do my work, take my exams, etc., whenever I want. But, when things go wrong, I have no choice but to exit and wait until I can get help the next day or the next week if it happens over the weekend.”

### 3.5. Online courses vs. face-to-face courses

In this subsection, students were asked for their perceptions of online vs. face-to-face courses in the areas of quality of learning, overall preference, comfort with discussions, study time, and level of difficulty. Students responded with
disagreement to the statement that they learn more in online courses than in face-to-face courses. The majority, 58%, of the respondents felt they learned more in face-to-face courses than in online courses. Additionally, there was a significant difference \( F_{4,205} = 3.9, p < 0.01 \) in response between those who had taken 10 or more online courses and those who had taken between one and six online courses. Those students with more experience taking online courses were more apt to agree that they learn more in online courses than those with fewer courses.

Approximately 59% of those surveyed agreed that they preferred online courses to face-to-face courses whereas 43% disagreed with this statement. Not surprisingly, there was a significant difference \( F_{4,207} = 6.18 \) in responses between those students who had more experience with online courses and those with little experience. Those students who had taken seven or more classes indicated a preference for online courses more than those who had taken less than seven online courses. Student comments indicate that preference for online courses may be related to convenience. “Usually I prefer face-to-face classes. However, given that I work, online classes are more convenient than face-to-face.”

To the statement of “I feel more comfortable participating in online course discussions than in face-to-face discussions,” approximately 55% of the respondents agreed and 45% disagreed. There was a significant difference \( F_{4,209} = 3.31, p < 0.01 \) in response between those who had taken more than seven online courses and those who had only taken between 4 and 6. Again, those with more experience with online courses were more likely to agree that they felt more comfortable with online discussions than face-to-face discussions. Student comments reflect the difference in preference. One student wrote: “I think you can be more open online than face to face because you don’t see the person’s reactions but just their words. I like it.” Another student wrote: “I feel you have greater quality of discussion face to face.” Interestingly, for this statement there was also an effect for age. Those respondents between the ages of 46 and 55 differed significantly \( F_{4,210} = 4.74, p < 0.01 \) in their response from those under the age of 25. Those under 25 indicated they felt more comfortable in online discussions than face-to-face. The 46–55 age group indicated the opposite. The difference between the age groups may be attributed to the comfort level the student has with the technology. Older students may just be learning how to use a computer and various software programs. All their attention may be focused on using the technology; thus, they may not feel they are adequately participating in discussions.

Although there were no significant student characteristics associated with questions about study time or course difficulty, researchers found that 68% of those queried agreed that online courses require more study time than face-to-face courses. One student wrote, “Absolutely, you have to learn everything yourself. You have to read everything and work through the problems yourself.” Overall, students tended to be split evenly over the subject of difficulty. Approximately 46% of the students agreed that online courses are more difficult than face-to-face courses.

4. Discussion

For the present survey, the most common reason students take online courses is the convenience. Students reported that their family and work obligations as well as their distance from campus made online learning a convenient option and one that would allow them the flexibility to continue with their education in the midst of their hectic lives. The reasons students take online courses are consistent with what was found in the research reviewed here (Daugherty & Funke, 1998; Northrup, 2002; O’Malley & McGraw, 1999, Swan et al., 2000; Yang & Cornelius, 2004; Zeng & Perris, 2004). As a result of the convenience and flexibility of online courses, online enrollments at institutions of higher education continue to increase. Consequently, in order to assure quality and consumer satisfaction, institutions and their faculty must pay close attention to their students’ perceptions of online courses and programs.

Along with previous research on student perceptions, the current study points to the value of using research based student perception surveys as part of an institution’s quality assurance process. The present findings are consistent with previous research and provide valuable assessment information for this institution.

The results of the survey indicated that students at this institution would prefer consistent course design across courses. The results here were similar to what Swan et al. (2000) and Northrup (2002) found. The majority of students prefer consistent design across courses to support ease of navigation. Yang and Cornelius (2004) reported that students became frustrated with their courses when they were poorly designed. This frustration with course design may translate into a poor learning outcome for students taking online courses vs. face-to-face courses, thus rendering online courses convenient but ineffective. Consistent course design across online courses is not something that is currently being done.
across all the schools at this university. As a result of this survey, steps will be taken to create an environment for consistent course design.

The survey results indicate that developing a strong online community with student-to-student interaction is important. These findings are consistent with Northrup (2002), Swan et al. (2000), and Lao and Gonzales (2005). However, results from the present study indicate that this interaction may be more important to female students than to male students. The gender differences noted in the present study were also supported by the findings of Swan et al. (2000). Females in the Swan et al. study felt they participated at higher levels in the online course more so than the face-to-face course. The authors of the Swan et al. study suggest females felt free to participate in online discussions because these discussions were not typically dominated by any one person. Although the present survey indicates overall satisfaction with student-to-student interaction, the information found here will provide staff and faculty at this institution guidance for continuing to monitor and develop interactive opportunities in online courses.

Timely interaction between students and instructors was also found to be an important component to developing a strong online community. The majority of the respondents agreed that interaction between instructors and students is essential for the quality of discussions and the overall sense of community in the class. Students commented that, when instructors did not participate in a timely manner, they felt isolated and unsure if their efforts were correct. Yang and Cornelius (2004) found a similar result. Students reported negative experiences with online courses when their instructor’s feedback was delayed. Similarly, Zeng and Perris (2004) reported that students felt that a disadvantage to online course delivery was the limited interaction with the instructor. Students in the present survey indicated dissatisfaction when instructors did not participate in discussions or responded to questions within a very limited time frame, such as only on certain days of the week. This information is valuable to faculty, staff, and administrators at this institution. Faculty can be encouraged to engage their students regularly when shown research on how this proves to be a more satisfying experience for online students.

Technical support is also critical to satisfaction with online courses. Yang and Cornelius (2004) reported that students were dissatisfied with their courses when instructors were unavailable to provide technical support. Students also report dissatisfaction with online courses when they have limited technical skills and technical support is not readily available (Zeng & Perris, 2004). Within the current survey, students expressed a preference for technical support hours that are flexible and extend beyond the typical 8 to 5 work week. The technical support at this institution is provided by personnel specifically designated for this purpose. However, the support hours are limited to an 8–5 work week. The results found here will allow administrators to determine how technical support hours can be expanded to increase student support and satisfaction.

Consistent with research (O’Malley & McGraw, 1999), students do not initially feel they learn as much in online courses as they do in face-to-face courses. Zeng and Perris (2004) reported similar findings. Students new to online course delivery reported they felt more comfortable with learning in face-to-face classes. Interestingly, in the present study, students report greater satisfaction with learning online as they become more experienced with taking online courses. This finding has implications for this institution. Students who have experience with online learning have developed a certain comfort level with the medium. Consequently, this institution and others should provide opportunities for students to become comfortable with the medium before they take their first online course. This institution has initiated student orientations to address this issue. The face-to-face orientations occur the first week of classes and are widely marketed, with online support technicians from the schools attending.

Results of the current study indicate that student perceptions are valuable to institutions and faculty developing online courses and programs. Clearly, students’ comfort with online course design, level of interaction with other students and their instructor, the quality and amount of course content, technical support, and overall experience with online course delivery all impact student learning and the ultimate success of online courses and programs.

5. Future research

In the future, the goal is to refine the survey, increase participation, and administer the survey as part of an ongoing quality assurance measure. A faculty perception survey is also planned to determine if faculty expectations and perceptions of online courses overlap with student expectations and perceptions of online courses. Additionally, the results of the survey with regard to gender differences and online interaction will be further explored to determine how courses may be designed to meet the needs of both male and female students.
The results of the current survey indicated that student satisfaction with online courses was greater for students with more experience with online courses. Consequently, another area of future research will be to investigate reasons for increased satisfaction. It is hypothesized that students become more satisfied as they become familiar with the technology and as they learn to adjust the way they learn and participate to the demands of an online environment. Further research areas will involve developing a means to assess students’ metacognitive knowledge and how they apply that knowledge to their efforts in an online course vs. a face-to-face course.

References


