# An Analysis of Student Perceptions of the Quality and Course Satisfaction of Online Courses

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*The purpose of this study is to determine if age, gender, major, number of online courses taken, and classification are related to student perceptions of the quality of learning and course satisfaction of online courses. Over 350 students were surveyed and asked to answer questions relating to online and face-to-face courses. Contingency table (chi square) analysis was used to analyze the data. The results indicate that student perceptions of learning in online classes vary by all of the demographic variables considered except gender.*

## INTRODUCTION

As colleges and universities continue to increase their offerings of online courses and degree programs, the potential for online learning also increases. It is important to understand how students perceive many aspects of online courses.

### Purpose of the Research

The purpose of our research was to answer the following questions: Do students feel that they learn as much in an online course as they do in a face-to-face course? Are students' perceptions of learning in online classes the same for all students regardless of age, gender, major, number of online courses taken, and classification? To help answer these and other questions, students were asked to complete a survey. The results are presented in this paper.

### Review of the Literature

There is a plethora of literature claiming to identify quality characteristics of online education. McGorry (2003) emphasized that a quality online course should include flexibility, responsive-ness and student support, self-reported (perceived) learning, interaction, perceived usefulness and ease of use of technology, technical support, and student satisfaction. Means, Toyama, Murphy, Bakia, and Jones (2010) found that including multiple media was related to quality online instruction when the student was able to control the media. Their study also found that student reflection was critical for student success in an online learning environment. Herrington, Herrington, Oliver, Stoney, and Willis (2001) found that pedagogies, resources, and delivery strategies were crucial for quality in online education.

Some educators and administrators believe that learning outcomes through online education are the same or superior to those in traditional FTF classrooms (Allen & Seaman, 2013). However, critics argue

that due to intrinsic differences, online education does not duplicate the learning that occurs in the traditional classroom (Bejerano, 2008).

The differences in perceived learning between an online and face-to-face (F2F) environment have been discussed for several years (Batts 2008, Atan, et al., 2004). However, much research exists showing that there are no significant differences between the *effectiveness* of well-designed online learning compared with well-designed face-to-face learning (Fortune, 2006, Clark, 1983; Russell, 1999). As online education continues to expand its offerings and technology continues to evolve, research on student perceptions in the online learning environment continues (e.g. Allen & Seaman, 2013; Fish & Snodgrass, 2014, 2015; Perreault, Waldman, Alexander & Zhao, 2008; Tanner, Noser, and Langford, 2003; Tanner, Noser, Fuselier & Totaro, 2004a; 2004b; Tanner, Noser, Totaro & Birch, 2006; Tanner et al., 2009).

Online courses from the student's perspective offers several benefits such as flexibility, better use of time, and fitting in with their life styles (Astani, Ready, & Duplaga, 2010). Differences exist in the way students perceive their online experiences during learning. Research suggests that there are both favorable and unfavorable student perceptions of online learning. If students' perceptions are negative regarding their past, present, or future online learning experiences, the students' perceptions may contribute to such outcomes as higher dropout rates (Carr, 2000), low motivation of students to learn (Maltby & Whittle, 2000), and lower student satisfaction with the learning experience (Kenny, 2003). Still, these outcomes are not true for all students, in all situations, and at all times. What causes individual differences in outcomes for online learners?

What factors contribute to student satisfaction in online classes? Opinions on what constitutes student satisfaction vary across the discipline. Lee (2010) claimed that timely feedback from instructors is essential to student satisfaction in an online learning environment. Social presence is another factor emphasized as leading to higher student satisfaction in online education (Abdous & Yen, 2010; Richardson & Swan, 2003). Support services have also been characterized as a predictor for student satisfaction in online courses (Lee, 2010). McGorry (2003) indicated that student satisfaction is affected by the flexibility in a course, social presence, technical support, and course technology. Lorenzo and Moore (2002) declared that student satisfaction is a product of responsive, timely, personalized services and. support; high-quality learning outcomes; academic and administrative support services; and learner interaction and collaboration.

There are not many research studies that examine students' perspectives on issues such as the quality of learning in online courses based on gender and age (Astani, Ready, & Duplaga., 2010). The analyses showed that gender, age, and prior online courses taken were nonsignificant to student perceptions of overall satisfaction of their online course (Simpson, 2012). The review of literature supported the researcher's finding by indicating that age was non-significant to student satisfaction. Richardson and Swan (2003) found that age was not significant to students' perceptions of an online course. Thurmond et al. (2002) found that age does not help predict a student's level of satisfaction. Hong (2002) also found no relationship between student age and student satisfaction in an online course.

The review of the literature regarding gender as a predictor for student satisfaction in an online course was varied. Richardson and Swan (2003) found gender to be positively related to student satisfaction in an online course. Neither Hong (2002) nor Lim (2001) found a statistical significance between gender and student satisfaction in an online course. The literature mostly indicated that the number of prior online courses taken was non-significant to student satisfaction with online education (Richardson & Swan, 2003; Thurmond et al., 2002); although, Arbaugh and Duray. (2002) argued that students with more experience in online learning showed a positive relationship to student satisfaction with an online course.

## THE SURVEY AND DATA

Surveys were administered to over 350 students at a regional university in the southwest. Information was collected regarding major, classification, gender, number of online courses taken, and age. Students were presented several statements and asked to indicate their agreement to the statement with the following choices:

1. Strongly Disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly Agree

Four of the survey items related to student perceptions of learning in online classes relative to learning in face-to-face classes. Table 1 provides these questions.

**TABLE 1**
**QUESTIONS ON PERCEPTIONS OF LEARNING**

| Question |
|---|
| 1. I feel I learned as much in my online courses as I have in my face-to-face courses. |
| 2. I feel I have learned more in online courses than I have in my face- to-face courses. |
| 3. I feel I have learned more in face-to-face courses than in online courses. |
| 4. In my opinion, I feel that a student learns more in a face-to-face course than in online courses. |

The first three statements relate to perceptions on a personal level, whereas the fourth item relates to the perception of learning for all students in online classes.

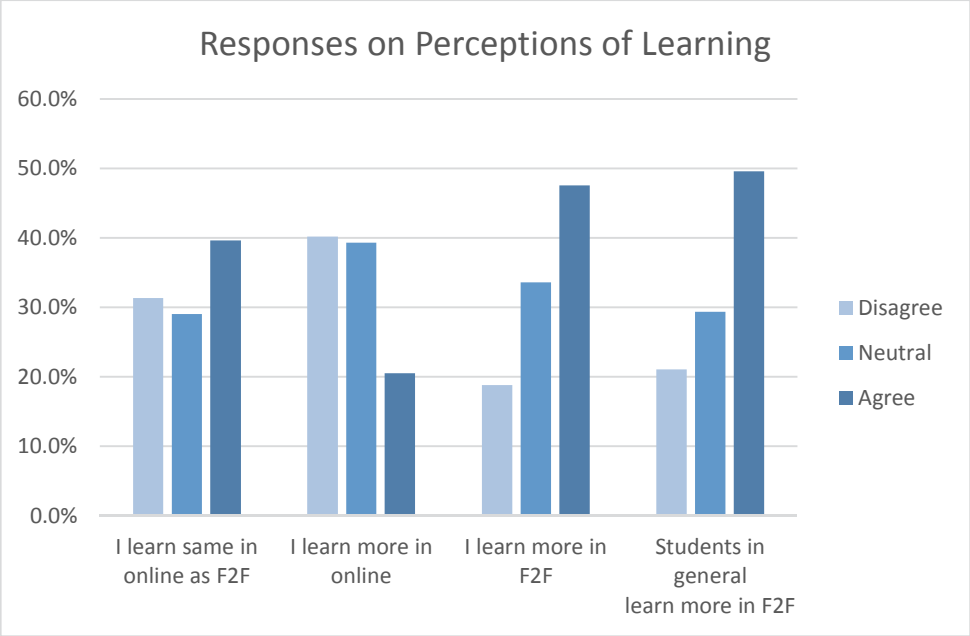
Before the analysis was begun, it was determined that some specific categories were too small to provide meaningful analysis. To alleviate the problem, two things were done. First, responses of Strongly Disagree and Disagree were combined into one category, while Strongly Agree and Agree were combined into one category. Thus, there were only three categories (Disagree, Neutral, and Agree) instead of five.

The second adjustment that was made to allow better analysis of the results was the combining of some of the demographic categories. For example, the questionnaire asked the students to indicate their ages by selecting the appropriate category. These categories were 18-24, 25-34, 35-44, and 45 and over. The last two age categories were combined and became 35 and over. Similarly, some categories of major were combined. The demographic variables were gender, age, classification, number of online courses taken previously, and major. All business majors were represented and there were a few Engineering and Science majors who participated in this survey.

### Data Analysis and Survey Results

The results for the four survey items related to perceptions of learning are illustrated in Figure 1 below.

**FIGURE 1**
**STUDENT RESPONSES ON PERCEPTIONS OF LEARNING IN ONLINE VS. F2F CLASSES**




As seen in Figure 1 above, the first item, "I feel I learn as much in my online class as I have in my face-to-face class" had almost 40% of the students agreeing, while only about 31% disagreed and about 29% were neutral. Thus, only about 31% felt that online learning was not as good as face-to-face learning.

The second item in Figure 1 shows that only about 20% of the students felt that they learned more in online classes. The third item in Figure 1 indicates that almost 48% of the students agree that they learn more in face-to-face classes, while only about 19% disagree with this. The last item relates to how students perceive learning not just for themselves but for all students. Almost 50% believe that students in general learn more in face-to-face classes. Only about 21% of the students disagree with this statement.

Based on the responses to these four questions, it appears that more students believe that face-to-face classes are better for learning than online classes. The last two items in Figure 1 relate to statements that more learning occurs in face-to-face classes than in online classes. Over twice as many students agree with these statements than disagree.

To analyze these results further, contingency table (Chi Square) analysis was used to see if any of the demographic variables were correlated with the responses to specific questions about perceptions of learning. Tests were performed on each of the demographic variables with each of the four items. The observed significance levels (p-values) for these are presented in Table 2 below.

**TABLE 2**
**DEMOGRAPHIC VARIABLES AND SIGNIFICANCE ON PERCEPTIONS OF LEARNING**

| Demographic Variable\Question | I learn same in online as F2F | I learn more in online | I learn more in F2F | Online and F2F same for students in general |
|---|---|---|---|---|
| **Gender** | 0.622 | 0.992 | 0.578 | 0.434 |
| **Age** | 0.007 | 0.003 | 0.000 | 0.000 |
| **Classification** | 0.432 | 0.002 | 0.010 | 0.059 |
| **Number of online courses** | 0.000 | 0.000 | 0.000 | 0.000 |
| **Major** | 0.003 | 0.027 | 0.076 | 0.073 |

The first demographic variable was gender. As shown in Table 2, there is no significant difference between males and females relative to the perception of learning in online vs. face-to-face classes. However, this is not true for the other demographic variables.

For the variable age, there was a statistically significant (at the 1% level of significance) difference among the different age categories on all four questions. The students in the 18-24 group tended to disagree that more learning occurs in online classes than in face-to-face classes. They agreed to a greater degree that face-to-face classes are better for learning. The older students, perhaps more mature and self-motivated, tended to favor the online classes.

For the classification variable, statistically significant results were found on all items except the first one (learning is the same for online and face-to-face classes). In further analyzing these results, the major difference was found to be between the freshmen/sophomore group and the seniors. A much higher than expected number of freshmen/sophomores agree that more learning occurs in online classes than in face-to-face classes. Similarly, a much higher than expected number from the freshman/sophomore group disagree with the statement that more learning occurs in the face-to-face classes.

The number of online courses taken in the past was also statistically significant at the 1% level. Students with little experience with online courses tended to think that online and face-to-face courses were about the same relative to the learning that occurs. However, students who had taken more online courses in the past believed that more learning occurred in the online classes than in the face-to-face classes.

For the variable major, the results were mixed. There was a statistically significant difference at the 5% level between the majors on some items, but on the items related to face-to-face classes having more learning, the significance was at the 10% level. When responding to the statement about learning just as much in an online course, the MIS majors disagreed much more than expected. On this same question, the engineering and science majors were at the other extreme and a larger number agreed that learning was the same in both types of classes. For the item about more learning in online classes, fewer than expected accounting majors agreed with this, while many more than expected other non-business majors agreed with this.

The survey item about more learning in face-to-face classes, the p-value was 0.76, which might be considered marginally significant. Responses by two majors contributed greatly to the significance. Very few accounting majors disagreed with this, but many more than expected non-business/non-engineering majors did disagree with this. For the final item about students perceiving more learning for students in general in face-to-face classes, the p-value was 0.73. Further analysis shows that the MIS majors tended to be neutral or agree that the face-to-face classes were better.

## SUMMARY AND CONCLUSIONS

What caused the differences in perceptions for online and face-to-face classes? There are logical explanations for some of the differences observed, while others are difficult to explain. Students who perceive learning as the same or better in an online course might want to take more online courses. Students who disagree with this would be inclined to take more face-to-face courses. Thus, we would expect students with more online courses to agree that learning is better online.

For the age variable, as noted earlier, perhaps the older students are more mature, more self-disciplined, and better prepared to take online courses. Younger students might need the face-to-face class to be more motivated to do the work and learn the material.

Why are the perceptions of some majors different than others? This is very difficult to determine. Perhaps it can be explained by the courses and instructors in a particular major. Perhaps it is due to the nature of the subject.

Based on the results of this study, there are statistically significant difference in perceptions of learning in online versus face-to-face classes by students with different characteristics. Due to the limited sample from one university, caution should be taken when trying to generalize. However, this does present some interesting avenues for future research.

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