# Teacher Candidate Students' Perception toward Online Course Quality

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**Abstract**

This study determined teacher candidate students' perception of online course quality and factors impacting on their course satisfaction and perceived learning. The results showed that facilitation and instructional strategies were significant factors, and there were positive relationships between self-efficacy and students' course satisfaction and their perceived learning. The findings indicated that facilitation is an urgent area of the online course that needs to improve to enhance the quality of online education. Our research also revealed that organization, facilitation, and instructional strategies significantly affected student course satisfaction while facilitation and instructional strategies significantly impacted their perceived learning. Regarding online learning self-efficacy used as a predictor for students' course satisfaction and their perceived learning, our findings showed that confidence level positively influenced student course satisfaction and perceived learning.

## Introduction

In the U.S. higher education, 29.7% of all students are taking at least one distance course. The total distance enrollments are composed of 14.3% of students (2,902,756) taking exclusively online courses and 15.4% (3,119,349) who are taking both distance and non-distance courses (Allen & Seaman, 2017). With the demands of online learning, almost 40% of administrators plan to increase their budgets in the next year, and 73% of schools decide to offer online programs based on the potential student enrollment (BestColleges, 2019; Venable, 2018). However, the rapid growth of online learning in higher education requires quality control issues (Andrade, 2015; Venable, 2018). Thus, numerous research findings pointed out areas for future investigations related to the quality of online education including the nature of course designs and design aspects (Boling, Hough, Krinsky, Saleem, & Stevens, 2012; Holzweiss, Joyner, Fuller, Henderson, & Young, 2014; Kuo, Walker, Belland, & Schroder, 2013; You, Hochberg, Ballard, Xiao, & Walters, 2014); online community and student engagement and instructional techniques (Holzweiss et al., 2014); technologies use, faculty support (i.e., knowledge, skills, and pedagogical strategies) (Boling et al., 2012); online scaffolding, quality of interactions, and instructor feedback (Rourke & Coleman, 2010). There is a lack of researches conducting the teacher candidate students regarding their perception of the quality of online courses.

Recently, the College of Education, Texas Tech University developed the Quality of Online Education (QOE) framework to guide instructors to develop quality online courses based on current online course standards and guidelines. The framework focuses on the interaction among instructors, students, and contents, and it includes six core actions between the agencies to provide meaningful learning experiences.

- ***Action 1 - Organization***: refers to an organization of the course structure and information presenting through the course (e.g., syllabus, schedule, modules, assessment, etc.) to ensure that the course is presented in a consistent way in terms of aligning course objectives, learning activities, and assessment and is to minimize barriers to students understanding and confusion.
- ***Action 2 - Instructional strategies***: refers to all teaching approaches and methods that an instructor may take to engage students in the learning process (e.g., activities, assignments, and assessments). to foster student learning and aid them in mastering their learning process.

- ***Action 3 - Assessment****:* refers to designing and creating types of assessments by using a variety of methods to assess student performance during the learning process to ensure that they achieve learning objectives and meet teaching expectations.
- ***Action 4 - Materials****:* refers to providing accurate, current, and relevant contents using a variety of media (e.g., PowerPoint, Videos, online articles) that effectively delivers important knowledge and skills and visually appeals to students.
- ***Action 5 - Facilitation****:* refers to actively monitoring students' learning progress and scaffolding their learning using a variety of available resources and technology.
- ***Action 6 - Interaction****:* refers to effective communications and collaboration between an instructor and students by using a variety of available resources and technology to construct knowledge, provide constructive feedback, and build a sense of community that appreciates multiple perspectives and supports each other's learning.

The College of Education's QOE framework represents the interrelated actions among three main agencies (i.e., faculty, students, and content) in online education environments to facilitate the faculty's implementation of quality online courses. The framework focuses on interrelations among three agencies (i.e., faculty, students, and content) that play important roles in online education. It also provides a systematic approach to the interdependent nature of online environments with a graphical representation (Agency – Action - Component [What-is] - Method [How-to]). The framework provides various practice examples for the college's instructors, and it emphasizes the importance of context (e.g., discipline, students, setting, or system) that affects learning goals and activities in online courses. However, there is a lack of research on the differences of online course quality between instructors' and students' perceptions. Also, the relationships among the six actions have not been investigated yet.

## Purpose of the Study

The study determined students' perception of online course quality and factors impacting on their course satisfaction and perceived learning. It allowed us to identify online course quality discrepancies and improving areas and define factors affecting student learning and satisfaction as well as figure out define factors contribute to their outcomes. With the increasing numbers of students enrolled in online higher education settings, we saught meaningful implications on both practice and research in designing online courses through this study. Research questions include:

1. Which areas of online courses need to be improved?
2. What are predictors for student satisfaction and their perceived learning in an online course?
3. What are the relationships between online learning self-efficacy and their course satisfaction and perceived learning?

## Methods

A quantitative approach was used to collect students' perception about their online courses to describe trends and compare groups using statistical analysis and interpret results to answer the research questions (Creswell & Creswell, 2018).

**Sample.** 246 undergraduates, 25 to 35 years old at the COE, the Southwestern University voluntarily took a survey. The participant was taking a course "*Application of Technology in Education*" which is to help them develop instructional skills associated with the use of technology as an educational and assessment tool for instruction.

**Instruments**. The online survey collected data from students' perception and experience in their online courses. It includes demographic information, experience, course satisfaction, perceived learning, six actions (i.e., Organization, Facilitation, Interaction, Instructional Strategies, Materials, and Assessment), online learning self-efficacy, challenges, and suggestions. The survey items used Likert scale (from 1- Strongly Disagree to 5- Strongly Agree) related to online teaching-learning aspects and open-ended questions to gather their perception about their online course. It took about 15-20 minutes to complete the survey. The survey was created, distributed, and recorded responses by using the Qualtrics system.

**Data collection procedures and analysis**. After obtaining permission from instructors and students, the survey link was distributed to participants through a course that they are taking. They completed the survey online, and their responses automatically recorded in the Qualtrics system. Next, the pseudonymization technique was performed to maintain students' unidentified personal identifiers. All raw data was assigned to each response in a database using SPSS 25.0 for analysis. After cleaning the database to check for data entry errors, data was recorded and computed new variables (e.g., Facilitation, Organization). It was explored to inspect trends in the data and check for the normal distribution of all constructs. The correlation and multiple regression were used to identify the

relationship between six actions and online learning self-efficacy affecting students' satisfaction and perceived learning.

## Results

Regarding improving areas, the results revealed that the organization (M=4.17) was the highest ratio among the QOE six actions while facilitation was the lowest level (M=3.74) (See Table 1). This finding indicated that facilitation referred to an area to improve.

*Table 1.* Mean Scores of Students' Perception

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| Organization | 264 | 2.50 | 5.00 | 4.1711 | .60564 |
| Facilitation | 264 | 1.17 | 5.00 | 3.7462 | .79419 |
| Interaction | 264 | 1.40 | 5.00 | 3.9205 | .72071 |
| Instructional strategies | 264 | 1.20 | 5.00 | 3.8803 | .83054 |
| Materials | 264 | 1.00 | 5.00 | 3.9545 | .76975 |
| Assessment | 264 | 1.00 | 5.00 | 4.0019 | .71246 |

Multiple regression analysis was conducted to test if the six actions significantly predicted participants' ratings of course satisfaction and perceived learning. For the course satisfaction, the results indicated that the set of independent variables explained 56.5% ($p$ = .001 ) of the variance in the course satisfaction with three of six variables: organization (β = .234, $p$ = .001), facilitation (β = .268, $p$ = .001), and instructional strategies (β = .272, $p$ = .004 ) having a significant influence on student course satisfaction (See Table 2). As a result, organization, facilitation, and instructional strategies had the greatest impact on course satisfaction. Interestingly, although interaction, materials, and assessment were predictors to the quality of online education (Yang & Durrington, 2010), they did not play essential roles in making students satisfied and in providing students with the authentic learning experience in their online course.

*Table 2.* The Results of Multiple Regression Tests Regrading Course Satisfaction

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | -.434 | .284 | | -1.525 | .129 |
| | Organization | .366 | .109 | .234 | 3.345 | .001 |
| | Facilitation | .320 | .099 | .268 | 3.243 | .001 |
| | Interaction | .073 | .094 | .056 | .775 | .439 |
| | Instructional strategies | .311 | .107 | .272 | 2.901 | .004 |
| | Materials | -.003 | .107 | -.002 | -.027 | .979 |
| | Assessment | -.006 | .116 | -.005 | -.055 | .956 |

a. Dependent Variable: Course satisfaction

To perceived learning, the regression results revealed that the set of independent variables explained 62.1% ($p$ < .001) of the variance in the perceived learning with two of six variables: facilitation (β = .225, $p$ = .004 ) and instructional strategies (β = .250, $p$ = .005) having a significant influence on student perceived learning (See Table 3). Consequently, our findings highlighted that organization, facilitation, and instructional strategies significantly affected student course satisfaction while facilitation and instructional strategies significantly impacted their perceived learning.

*Table 3.* The Results of Multiple Regression Tests Regrading Perceived Learning

**Coefficients[a]**

| Model | | Unstandardized Coefficients B | Unstandardized Coefficients Std. Error | Standardized Coefficients Beta | t | Sig. |
|---|---|---|---|---|---|---|
| 1 | (Constant) | -.244 | .248 | | -.984 | .326 |
| | Organization | .157 | .096 | .108 | 1.647 | .101 |
| | Facilitation | .251 | .086 | .225 | 2.918 | .004 |
| | Interaction | .143 | .082 | .117 | 1.738 | .083 |
| | Instructional strategies | .267 | .093 | .250 | 2.852 | .005 |
| | Materials | .012 | .093 | .010 | .124 | .902 |
| | Assessment | .197 | .101 | .158 | 1.954 | .052 |

Dependent Variable: Perceived Learning

Regarding online learning self-efficacy used as a predictor for students' course satisfaction and their perceived learning, correlations were conducted to test if it positively correlates to student satisfaction and perceived learning. The result showed that online learning self-efficacy and course satisfaction were positively correlated $r$ =.632, $p$ <.001, and they had a positive relationship with each other (See Table 4).

*Table 4.* The Correlation Between Online Learning Self-Efficacy and Course Satisfaction

**Correlations**

| | | Online Learning Self-Efficacy | Course Satisfaction |
|---|---|---|---|
| Online Learning Self-Efficacy | Pearson Correlation | 1 | .632** |
| | Sig. (2-tailed) | | .000 |
| | N | 258 | 258 |
| Course Satisfaction | Pearson Correlation | .632** | 1 |
| | Sig. (2-tailed) | .000 | |
| | N | 258 | 264 |

For the perceived learning, the result reported that online learning self-efficacy was positively correlated, $r$ = .647, $p$ <.001 with perceived learning, and they positively related with each other (See Table 5). Therefore, our findings revealed that confidence level positively influenced student course satisfaction and perceived learning (Alqurashi, 2017; Kuo et al., 2013; Xiao, 2012).

*Table 5.* The Correlation Between Online Learning Self-Efficacy and Perceiving Learning

**Correlations**

| | | Online Learning Self-Efficacy | Perceived Learning |
|---|---|---|---|
| Online Learning Self-Efficacy | Pearson Correlation | 1 | .647** |
| | Sig. (2-tailed) | | .000 |
| | N | 258 | 258 |
| Perceived Learning | Pearson Correlation | .647** | 1 |
| | Sig. (2-tailed) | .000 | |
| | N | 258 | 264 |

## Discussion

Overall, our findings indicate that facilitation is an area to improve. The findings also show that organization, facilitation, and instructional strategies had the greatest impact on course satisfaction while facilitation and instructional strategies significantly impacted their perceived learning. Online learning self-efficacy and course satisfaction have positively relationship with each other while it also positively relates with student perceived learning.

Regarding course organization, it includes several aspects to ensure the quality of online courses involving course structure, course introduction, feedback, consistency in information delivery, relevancy, learning objectives, and technical support (Bickle & Carroll, 2003). Courses designed with facilitation increase students' performance and satisfaction by promoting interactions and collaboration. Instructors should maintain the alignments of learning objectives with the instructional methods and learning activities with the assessment. The well-organized course will reduce students' confusion.

Facilitation plays an essential role in enhancing the online course, which confirmed from previous studies (Bigatel, Ragan, Kennan, & Redmond, 2012; Ragan, 2008). It also helps students become responsible for their self-assessing and learning progress and encourages them to solve problems (Eom & Ashill, 2016; Jaggars & Xu, 2016). To increase facilitation level of student learning in online courses, instructors should provide opportunities for students to reflect on course activities (e.g., reflection journal), provide specific feedback on their assignment and activities, regularly monitor their learning progress, encouraged them to ask questions, and actively participated in online discussion by replying to students, summarizing discussion, or asking questions to students.

In terms of online learning self-efficacy, it plays a significant role in the performance of online learners (Taipjutorus, Hansen, & Brown, 2012). For example, students with a higher level of self-efficacy have better learning performance and increase their learning confidence which makes them satisfied with their learning (Taipjutorus et al., 2012). Moreover, students with higher self-efficacy are more likely to perform well and persist in online courses. The level of self-efficacy increases when they successfully complete their activities (Alqurashi, 2017). To increase students' online learning self-efficacy, instructors can build up student self-efficacy with supportive communication and constructive feedback to guide them through the tasks and activities and motivate them to through challenge projects to boost their best effort to achieve the learning goal. They are also positive and supportive to students to continue participating in the online course.

## Conclusion

The study determined students' perception of online course quality and factors impacting on their course satisfaction and perceived learning. The research findings showed that facilitation is an urgent area of the online course that needs to improve to enhance the quality of online education. The findings also revealed that organization, facilitation, and instructional strategies significantly affected student course satisfaction while facilitation and instructional strategies significantly impacted their perceived learning. Regarding online learning self-efficacy used as a predictor for students' course satisfaction and their perceived learning, our findings revealed that confidence level positively influenced student course satisfaction and perceived learning. Therefore, it is important for instructors to design well-structured courses, maintain regular communication and presence in their courses, and promote student engagement. This can lead to greater student perceptions of learning and satisfaction. The practical implication of this study identified key components of high-quality online courses based on the instructors' and students' perceptions to improve the quality of online courses. We believe that this research generated useful knowledge on how to design and develop online courses based on the QOE framework (six actions) which provide students with the authentic learning experience and promote their learning satisfaction in the online environment.

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