# UNDERGRADUATE STUDENT TEACHERS' PERCEPTIONS OF THE QUALITY OF ONLINE COURSES

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## Abstract

With the rapid growth of online instruction in teacher education colleges, the quality of online courses has become an important issue. The purpose of this study was to investigate Arab undergraduate students' perceptions of their learning experiences of fully asynchronous online courses at a teacher training college. The study sample comprised 103 Israeli Arab students, who were surveyed about the factors they perceived to be important to the quality of online learning. The questionnaire comprised items on four different aspects: course design, course content, interaction among students, and student-instructor interaction. The findings indicated that the learning experience was positive overall and the students were satisfied. They rated statements related to the importance of interacting with peers and with the instructor at a high level. On the other hand, the respondents rated the quality of interaction among peers and the quality of the collaborative learning activities provided for students in the online courses at a low level. Other findings revealed that the students preferred a consistent structure across all online courses delivered by the college. The findings of the current study constitute insights that might assist online instructors, instructional designers and college stakeholders to improve the quality of future online courses.

**Keywords**: online learning, student perceptions, quality of online courses, Arab undergraduate student teachers.

## 1 INTRODUCTION

Over the past years, online education has become a pervasive and growing phenomenon in the higher education environment. New information and communication technologies (ICT) provide instructors at universities and colleges worldwide with the ability to develop and deliver online courses. Despite the rapid growth and popularity of online learning, skepticism remains, particularly regarding the quality of the online courses that are being delivered. According to Milheim (2012), research findings repeatedly highlight the fact that students who participate in online courses experience dissatisfaction and demotivation for a number of reasons, of which the following are the most notable:

- A lack of interaction among students (Muirhead & Juwah, 2004; Swan, 2002; Ward, Peters & Shelley, 2010);

- A lack of interaction between students and the instructor (Rovai & Downey, 2010; Swan, 2002)

- Inappropriate content and course design for online delivery (Baran & Correia, 2014; Lall & Lumb,

2010; Lister, 2014; Song, Singleton, Hill & Koh; 2004);

- A lack of supportive and collaborative learning activities (An, Kim & Kim, 2008; Palloff & Pratt, 2010; Rovai, 2002; Tibi, 2015).

These reasons can be categorized into two primary groups: (1) course design and content, and (2) level of interactivity among the students, and between the students and the instructor. Croxton (2014) argues that external, internal and contextual factors could influence a student's decision to continue or to drop out of an online course. The contextual factors consist mainly of course design and lack of interactivity (Croxton, 2014). According to Lister (2014) and Martín-Rodríguez, Fernández-Molina, Montero-Alonso, and González-Gómez (2015), the key aspects that affect the quality of online courses are online interactions, and course design and content.

Student learning can be affected by the level of satisfaction with the learning experience (Kirtman, 2009; Uusiautti, Määttä & Leskisenoja, 2017; Young & Norgard, 2006). When students are satisfied with their experience of online learning, they are more likely to enroll in other online courses. Knowledge of the factors that influence student satisfaction with online learning can thus help improve such online courses (Martín-Rodríguez et al., 2015). It is therefore important, as Sahin and Shelly (2008) asserts, for instructors involved in designing, developing and delivering online courses to seek the opinions and perceptions of online students about their successful learning experiences and share this information in order to advance the knowledge related to online learning.

The purpose of this study, therefore, was to investigate the perceptions of undergraduate Arab education students at a teacher training college regarding their online experiences, and to determine which factors affected their perceptions of quality of online courses.

## 2 LITERATURE REVIEW

Pascarella and Terenzini (2005) reviewed research on the impact of college on students. They concluded that students learned when they engaged with their academic material and had meaningful interactions with their instructors and peers that helped them to apply the information. While the studies reviewed by the authors related to traditional face-to-face courses, the same factors and elements have been emphasized for the success and quality of online learning (Croxton, 2014; Dixson, 2010; Liaw & Huang, 2013; Rovai & Downey, 2010). Researchers have identified several factors that promote student satisfaction and motivation in online learning, including academic challenges and supportive learning activities (An, Kim & Kim, 2008; Chen, 2014; Lister, 2014; Tibi, 2015); timely and explanatory feedback (Britto & Rush, 2013; Sebastianelli, Swift & Tamimi, 2015; Wallace, 2003); regular interaction with the instructor (Lister, 2014; Roper, 2007; Uusiautti et al., 2017); and positive interactions with peers (Liaw & Huang, 2013; Lister, 2014; Wallace, 2003).

Ralston-Berg, Buckenmeyer, Barczyk and Hixon (2015) investigated students' perceptions of online course quality. They sampled about 3,000 participants who were taking online college-level courses. The participants rated clear instructions for getting started and ease of navigation at a high level. Clearly-stated assignment instructions and grading policies were also found to be important specific criteria (Ralston-Berg et. al., 2015). The students in this study did not rank the importance of interacting with peers and with the instructor at a high level. They also rated items such as interactive learning activities and students introducing themselves to their fellow class members at a lower level. There were students who did not like group-based activities when their grade might depend on the actions of other students. Fedynich, Bradley and Bradley (2015) surveyed 249 graduate students in order to identify positive components that led to their satisfaction in online courses. The results indicated that interaction among students, interaction between the students and the instructor, and the instructor's role had a major impact on student satisfaction (Fedynich, el al., 2015). On the other hand, the lowest levels of satisfaction of the research participants were found to be related to explanatory feedback given by the instructor, the wide range of content provided, and the ample opportunities to interact with one another (Fedynich, el al., 2015). In addition, Jaggars and Xu (2016) investigated the impact of online course design on students' end-of-semester performance in 23 online courses at two community colleges. The results of their research indicated that the quality of interpersonal interaction within the online courses related positively and significantly to student grades. They also found that frequent and effective learner–instructor interaction created an online learning environment that encouraged students to commit themselves to the course and perform at a higher academic level. Eom and Ashill (2016) examined 372 responses provided by students who had completed at least one online course at a university in the United States in order to determine critical success factors that influenced the quality of online learning. They concluded that instructor-student dialogue, student-student dialogue, and course

design significantly affected the students' satisfaction and learning outcomes.

Scholars who have conducted research on students' perceptions of online learning quality (Croxton, 2014; Fedynich et al., 2015; Jaggars & Xu, 2016; Lister, 2014; Martín-Rodríguez et al., 2015; Milheim, 2012; Ralston-Berg et. al., 2015; Ward, et al., 2010; Young & Norgard, 2006) emphasize that the key elements that affect the quality of online courses from a student's point of view are online interactions and course design and content. Thus, the current researcher focused on these main elements in order to examine students' perceptions of online learning.

## 2.1 Purpose of the study

The purpose of the present study was to examine Arab undergraduate students' perceptions of online learning at a teacher training college and to determine which factors they perceived to be important to the quality of their online courses.

## 2.2 Significance of the study

With the recent increases in online enrollment at colleges and universities, undergraduate students are more likely to take online courses than they were in the past. Moore and Kearsley (1996) state that the flexibility, convenience and self-pacing of online courses are appealing and beneficial to students. To date, relatively little literature exists about the perceptions of education students, and in particular, Israeli Arab students at teacher training colleges, regarding the quality of their online learning. Thus, the aim of the current is to determine which factors Arab undergraduate, college-level teacher education students perceive to be important to the quality of their online courses. Although the focus of this study is on online courses at a teacher training college, the challenges faced by instructors to develop and deliver online courses, and by the students to participate and succeed in fully online courses, are similar to those of most institutions. Thus, the lessons learned from this study on perceptions of online learning quality are likely to be useful to other online course instructors and policymaker as well as to educational authorities and institutions.

## 3 METHODOLOGY

The purpose of the current study was twofold:

- To investigate Arab undergraduate education students' perceptions of online learning.

- To determine what factors are perceived by the students to be important to the quality of online learning.

## 3.1 Research questions

In light of the above, the following research questions were formulated:

1. What are students' perceptions of their online courses regarding to (1) course design, (2) course content, (3) interaction among students, and (4) interaction between the student and the instructor?

2. What factors related to online interactions and course design and content, did students perceive to be important for online course quality?

## 3.2 Research Design

A mixed-methods research design, which consists of quantitative and qualitative methods, was utilized to answer the above research questions. For the first research question, a survey in the form of a questionnaire was used to determine the students' perceptions of online learning. For the second research question, a qualitative method was used to analyze the students' views about the factors they perceived to be important for online learning quality.

## 3.3 Research instrument and data collection

A structured questionnaire, which also contained an opportunity for open comments, was developed using Google Forms. Students' perceptions about the quality of online courses in the areas of course design, course content, interaction among students, and interaction between the students and the instructor were obtained. Most of the questions in the questionnaire came from the literature (Burns, 2013; Fedynich et al., 2015; Martín-Rodríguez et al., 2015; Milheim, 2012; Ralston-Berg et al., 2015; Young & Norgard, 2006). Since the questions and statements adopted from the literature were written in English, an English-Arabic translator translated the questions and statements from English to Arabic. An Arabic language specialist found the Arabic translation to be faithful to the English version of the questionnaire and that it maintained

the meaning of the wording of the original.

The questionnaire consisted of 30 closed-ended questions about students' perceptions of online learning that were answered on a five-point Likert scale, with one indicating "strongly disagree" and five indicating "strongly agree." At the end of the questionnaire, the students were asked to freely write down their opinions about the factors they perceived to be important to the quality of online courses.

Before distributing the questionnaire, a pilot test on 10 fourth-year students was conducted in a face-to-face meeting in order to clarify the wording of the statements. Information from the pilot test resulted in the rewording of five statements in accordance with the notes of the pilot test students.

A reliability analysis was done to determine the reliability of the questionnaire. Cronbach's alpha test of reliability for each component of the questionnaire separately and for all components together was conducted. Table 1 shows the results of the Alpha Cronbach test.

Table 1: Scale reliabilities of the questionnaire (N=103)

| Component | No. of Items | Cronbach's alpha |
|---|---|---|
| Online course design | 6 | .792 |
| Online course content | 7 | .812 |
| Interaction among students | 6 | .846 |
| Student-instructor interaction | 11 | .821 |
| All components together | 30 | .897 |

## 3.4 Research participants

The population for this study was 144 Arab undergraduate students from a teacher training college located in the center of Israel. The students were in their fourth academic year of study and had already participated in three fully asynchronous online courses. The courses were "Familiarity with the education system," "Teaching and learning in online environments A," and "Teaching and learning in online environments B." Different lecturers delivered the courses and each course was one semester long.

During their four years of academic study, the students take four fully asynchronous online courses, while the rest of the courses are delivered in a traditional face-to-face mode. The participants were asked to anonymously complete the online survey by clicking on the link sent to them via email. They were given three weeks to respond and a reminder email was sent to them after 10 days. Of the 144 students, 103 (71%) completed the survey. They were between 23 and 27 years old. A total of 97 (94%) of the students who completed the survey were female and the rest (6%) were male students. The majority (95%) of the students at this teacher training college are female students.

## 3.5 Limitations of the study

There are some limitations to this study. One limitation is the small sample, which might not be completely representative of the majority of students taking online classes at teacher training colleges. Another limitation is that the students who participated in this research were not studying in a fully online learning program, in which all the courses are delivered entirely online. The college at which this research was conducted does not offer online distance learning degrees, but it enables students to take some courses online. As a result, the students were meeting in the course of attending other face-to-face courses on the college campus. This situation gave the students the opportunity to interact and discuss topics that were related to the online courses outside of the online class, and in this case to transfer online interactions to face-to-face interactions. This situation might have affected the opinions and perceptions of the participants regarding the quality of online learning, since they might have felt less need for online interactions to discuss the learning material and to complete the learning activities.

## 3.6 Data Analysis

As stated above, the current research combined both quantitative and qualitative methods to answer the research questions. For the first research question, all the data collected was analyzed using descriptive

statistics, including percentage and mean. For the second research question, a deductive approach to qualitative data analysis was applied. The qualitative data obtained from the research respondents was first analyzed by Content Analysis and then categorized into the following two main themes: (1) online interactions and (2) course design and content.

# 4 RESULTS AND DISCUSSION

The first research question that guided this study related to the students' perceptions of their online courses regarding (1) course design, (2) course content, (3) interaction among students, and (4) interaction between the students and the instructor. The following paragraphs comprise a description and discussion of the results of each one of these components.

## 4.1 Online course design

Results indicate that the students were generally satisfied with the design of the online courses they had taken. About 56% of them agreed or strongly agreed that the navigation throughout the online components of the courses was logical and efficient. About 55% of the participants also agreed or strongly agreed with the statement "Various course components were always easy to find," compared to about 36% who disagreed or strongly disagreed with that. However, 69% of the students disagreed or strongly disagreed that the design of the online courses was consistent. The respondents were also asked whether they preferred online courses to have a consistent layout and structure so that navigation did not change from one online course to the next. Approximately 88% of them agreed that a consistent structure across all online courses would be helpful to them. In addition, only half of the respondents (49.5%) agreed that online courses were well structured with set due dates, while about 39% disagreed with that. Table 2 shows the students' perceptions with respect to all the items that belong to the category of course design. These results, which are generally consistent with previous studies (Fedynich et al., 2015; Lister, 2014; Young & Norgard, 2006), show that the average score for all the responses to the statements dealing with course design, except for statement A3, is nearly 54%.

The current findings also indicate that undergraduate Arab students at this teacher training college would prefer a consistent course structure across all courses (item E1). This finding is similar to results obtained in other research (Lister, 2014; Song et al., 2004; Young & Norgard, 2006). The consistent and suitable structure and design of online courses is critical to the effectiveness and quality of online learning, since students can focus on learning new material rather than on learning new formats and course structures (Jones & Kelley, 2003). According to Song et al. (2004), students also reported that course design influenced the success of online learning. Based on the current findings, steps should be taken to train online instructors about how best to design and structure their online courses and to create an environment for consistent course design for all online courses.

Table 2: Students' perceptions of course design (N=103)

| Students' perceptions of course design (5) | | Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|---|---|---|---|---|---|---|
| A1 | My online courses were well structured with set due dates. | 9 (8.74%) | 31 (30.10%) | 12 (11.65%) | 40 (38.83%) | 11 (10.68%) |
| A2 | Navigation throughout the online components of the course was logical, consistent, and efficient. | 10 (9.71%) | 26 (25.24%) | 9 (8.74%) | 46 (44.66%) | 12 (11.65%) |
| A3 | The design of the online courses was consistent. | 21 (20.39%) | 50 (48.54%) | 9 (15.53%) | 14 (13.59%) | 9 (8.74%) |
| A4 | The objectives and course development were clear from the onset of the course. | 11 (10.68%) | 22 (21.36%) | 15 (14.56%) | 47 (45.63%) | 8 (7.77%) |

| A5 | Various course components were always easy to find. | 9 (8.74%) | 28 (27.18%) | 10 (9.71%) | 45 (43.69%) | 11 (10.68%) |
| E1 | I prefer all online courses to follow a consistent structure so that navigation does not change from one online course to another. | 2 (1.94%) | 4 (3.88%) | 6 (5.83%) | 35 (33.98%) | 56 (54.37%) |

## 4.2 Online course content

The respondents were also queried about their perceptions of the content of the online courses they had participated in (Table 3). About 70% of them agreed that online courses provided access to a wide range of content, and about 58% of them agreed that the material in the online courses was always valuable. In addition, nearly 56% of the respondents agreed that course assignments and learning activities helped and encouraged them to master the content of the course or to interact with it. However, nearly 61% of the research participants disagreed that their online courses provided well-designed collaborative learning activities for them. These findings show that the participants' rating for all the items in the course content category, except the last one (B7), were positive and on average above 55%. At the same time, most of them were not satisfied with the collaborative learning activities provided for them in the online courses. The results obtained in this study show a lower satisfaction rate regarding the category of course content compared to those found in other studies (Fedynich et al., 2015; Young & Norgard, 2006).

The content of online courses should be challenging, up to date, and delivered in a way that motivates students to learn and to be active participants (Jones & Kelley, 2003; Sebastianelli et al., 2015). An online course with rich multimedia content that includes video lectures, presentation slides, animations and multiple communication channels and learning activities contributes to the effectiveness and quality of online learning (Crawford-Ferre & Wiest, 2013; Tibi, 2013). It has also been argued that incorporating well-planned collaborative learning activities into online learning benefits students, since higher order thinking skills are more likely to be generated (An et al., 2008; Tibi, 2013). Despite the popularity of online collaborative learning, simply putting students together in an online learning group and asking them to work collaboratively does not guarantee that they will engage in meaningful collaborative inquiry (Biesenbach-Lucas, 2004; Faja, 2013). Thus, online collaborative learning activities should be carefully designed in order make them more effective learning tools, which in turn positively affects students' satisfaction and perception regarding participation in online courses. Instructional designers and online instructors should pay more attention when planning online collaborative learning activities. Faja (2013) found that the better students understood the instructions and assessment of collaborative activities, the more they were engaged and satisfied.

Table 3: Students' perceptions of course content (N=103)

| Students' perceptions of course content (7) | | Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|---|---|---|---|---|---|---|
| B1 | My online courses provided access to a wide range of content. | 7 (6.80%) | 15 (14.56%) | 9 (8.74%) | 50 (48.54%) | 22 (21.36%) |
| B2 | The material and tools used in my online courses supported the achievement of learning objectives. | 10 (9.71%) | 19 (18.45%) | 12 (11.65%) | 43 (41.75%) | 19 (18.45%) |
| B3 | The material in my online courses was always valuable. | 9 (8.74%) | 25 (24.27%) | 10 (9.71%) | 41 (39.81%) | 18 (17.48%) |
| B4 | My online courses utilized a variety of sources that assisted student learning | 8 (7.77%) | 26 (25.24%) | 10 (9.71%) | 41 (39.81%) | 18 (17.48%) |

| | | | | | | |
|---|---|---|---|---|---|---|
| | (articles, presentations, links to websites, videos etc.) | | | | | |
| B5 | The assignments in my online courses helped me to master the course content. | 10 (9.71%) | 22 (21.36%) | 14 (13.59%) | 42 (40.78%) | 15 (14.56%) |
| B6 | The learning activities encouraged me to interact with the content of the course. | 11 (10.68%) | 22 (21.36%) | 12 (11.65%) | 44 (42.72%) | 14 (13.59%) |
| B7 | My online courses provided well-designed collaborative learning activities for students. | 19 (18.45%) | 44 (42.72%) | 9 (8.74%) | 23 (22.33%) | 8 (7.77%) |

## 4.3 Interaction among students

Table 4 contains the results for several items related to the perceptions of students regarding the interaction among them in the online courses. The results indicate that about 56% of the students agreed with the statement "The amount of interaction among students in my online courses was sufficient." Also, above half (56.3%) of the participants agreed that they often asked other students questions. Nearly 90% of the respondents agreed that student-to-student interaction was a vital part of any online course experience (item E2). The respondents' high rating of this item indicates that they placed great importance on peer interaction in online courses. These results are consistent with the findings of previous research on students' satisfaction regarding student-student interaction in online learning contexts (Eom & Ashill, 2016; Fedynich et al., 2015; Markova, Glazkova & Zaborova, 2017; Ralston-Berg et. al., 2015; Young & Norgard, 2006).

On the other hand, nearly 57% of the students did not agree that the quality of discussion among them was high and approximately 54% of them did not agree that the interaction with other students added to their understanding of the course material. The average response to the items (C1, C2, C3, C4, C5) of this category indicates that about 45.3% of the students agreed, while about 44% of them disagreed. These findings indicate that the interaction among peers in the online courses was not effective in terms of quality and acquisition of knowledge. The students are seeking interactions and discussions that are more meaningful for learning and it seems that this expectation was not met by some of the online courses delivered at this college. One possible explanation for this finding can be related to the dissatisfaction of students with the collaborative learning activities. It seems that the instructors of some online courses were not involved enough in supporting and promoting effective interaction and collaboration between the course participants. This highlights the importance of the instructor's support during the collaborative learning process. It has been reported that students who received help from their instructors when working collaboratively had more positive perceptions of collaborative learning, the advantages of thinking about the task, student engagement, the task's importance, and the best levels of challenge and skills (An et al. 2008; Eom & Ashill, 2016; Faja, 2013, Tibi, 2013, Tibi, 2016).

Table 4: Students' perceptions of interaction among students (N=103)

| Students' perceptions of student-student interactions (5) | | Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|---|---|---|---|---|---|---|
| C1 | The amount of interaction among students in my online courses was sufficient. | 10 (9.71%) | 28 (27.18%) | 8 (7.77%) | 41 (39.81%) | 16 (15.53%) |
| C2 | The quality of discussions among the students in my online courses was high. | 18 (17.48%) | 41 (39.81%) | 14 (13.59%) | 21 (20.39%) | 9 (8.74%) |
| C3 | The interaction with other students added to my understanding of the course | 17 (16.50%) | 38 (36.89%) | 15 (14.56%) | 25 (24.27%) | 8 (7.77%) |

| | | Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|---|---|---|---|---|---|---|
| | material. | | | | | |
| C4 | The learning activities encouraged me to interact with other students. | 11 (10.68%) | 28 (27.18%) | 9 (8.74%) | 41 (39.81%) | 14 (13.59%) |
| C5 | Students often asked other students questions. | 9 (8.74%) | 27 (28.21%) | 9 (8.74%) | 45 (43.69%) | 13 (12.62%) |
| E2 | Student-to-student interaction was a vital part of any online course experience. | 4 (3.88%) | 9 (8.74%) | 8 (7.77%) | 54 (52.43%) | 28 (27.18%) |

## 4.4 Student-instructor interaction

In terms of interaction between the students and the instructor, the results, shown in Table 5, indicate that students had positive perceptions, but not by a large percentage, in almost all items of the category. About 53% of them agreed that the amount of interaction between the instructor and students in the online courses was sufficient and nearly 55% of the respondents agreed that the instructor supported student learning appropriately. Interestingly, responses to the statement "Learning activities encourage me to interact with my instructor" were different, since nearly 57% of the participants did not agree with this statement. This indicates that the instructors were mostly not involved enough in motivating students to participate in the learning activities and perhaps left them alone to work collaboratively on group tasks. This result is consistent with other results obtained in this study about statements related to the design and management of collaborative learning activities and emphasizes the importance of the instructor's guidance and support of students when they work collaboratively in online courses. These findings are similar those reported in other studies (Faja, 2013; Fedynich et al., 2015; Kang & Im, 2013; Ralston-Berg et. al., 2015; Tibi, 2015). The results obtained for the category of student-instructor interaction indicate that the instructors' role has to become that of a facilitator instead of him or her being a "sage on the stage." This, in turn, might increase students' sense of participation, enhance their interaction with the instructor and provide a feeling that the instructor really wants to involve students in meaningful learning (Uusiautti et al., 2017).

In addition, the research participants were asked if timely and constructive feedback from the instructor was necessary to provide quality online courses. Approximately 88% of the respondents agreed with this statement, while only about 7% of them did not agree. To get a general assessment from the students about the quality of their online courses, they were requested to respond to the statement "Generally speaking, the online courses I participated in were of high quality." Surprisingly, about 49% of the students disagreed with this statement and nearly 47% of them agreed with it. This result indicates that a significant number of the online courses delivered at this teacher training college were not of a high quality in the eyes of the students. The main reasons for these findings in the current study could be the absence of meaningful interaction among the students, and between the students and the instructor, and the absence of well-designed collaborative learning activities in which the students could construct new knowledge together with the support and assistance of the instructor. Previous researchers reported that the ability of students to interact with the instructor and with fellow students might affect their learning experience, and their overall satisfaction with the instructor and the course (Al-Shalchi, 2009; Eom & Ashill, 2016; Jaggars & Xu, 2016; Kang & Im, 2013; Lall & Lumb, 2010; Liaw & Huang, 2013; Markova, et al., 2017; Wallace, 2003; Tallent-Runnels et al., 2006). Thus, more research should be done on each online course delivered at this college in order to determine the exact factors that negatively impact the quality of these courses and to reach a consensus on how online courses should be designed, developed, and delivered.

Table 5: Students' perceptions of student-instructor interaction (N=103)

| Students' perceptions of student-instructor interaction (9) | | Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|---|---|---|---|---|---|---|
| D1 | The amount of interaction between the instructors and students in my online courses was sufficient. | 11 (10.68%) | 29 (28.16%) | 9 (8.74% | 41 (39.81% | 13 (12.62%) |

| D2 | The online instructors provided explanatory feedback. | 12 (11.65%) | 21 (20.39%) | 11 (10.68% | 46 (44.66%) | 13 (12.62%) |
|----|------|------|------|------|------|------|
| D3 | The instructors supported student learning appropriately. | 13 (12.62%) | 22 (21.36%) | 12 (11.65% | 44 (42.72%) | 12 (11.65%) |
| D4 | The learning activities encouraged me to interact with my instructor. | 17 (16.50%) | 41 (39.81%) | 10 (9.71% | 25 (24.27%) | 10 (9.71%) |
| D5 | The instructors always answered my questions in a timely manner. | 12 (11.65%) | 29 (28.16%) | 9 (8.74% | 41 (39.81%) | 12 (11.65%) |
| D6 | Clear standards were set for instructor availability (office hours, etc.). | 11 (10.68%) | 23 (22.33%) | 10 (9.71% | 44 (42.72%) | 15 (14.56%) |
| D7 | During my online courses, students were able to get help from the instructors as needed. | 12 (11.65%) | 23 (22.33%) | 11 (10.68% | 43 (41.75%) | 14 (13.59%) |
| D8 | The online courses were conducted in an interactive manner. | 13 (12.62%) | 24 (23.30%) | 9 (8.74% | 44 (42.72%) | 13 (12.62%) |
| D9 | The instructor did a good job facilitating online discussions. | 14 (13.59%) | 29 (28.16%) | 7 (6.80%) | 41 (39.81%) | 12 (11.65%) |
| E3 | Timely and constructive feedback from the instructor is necessary to provide quality in online courses. | 2 (1.94%) | 5 (4.85%) | 6 (5.83%) | 62 (60.19%) | 28 (27.18%) |
| E4 | Generally speaking, the online courses I participated in were of high quality. | 15 (14.56%) | 35 (33.98%) | 5 (4.85%) | 38 (36.89%) | 10 (9.71%) |

## 4.5 Summary of students' notes

Students also had the opportunity to write comments in a paragraph field at the end of the questionnaire describing their experience in the online courses and what factors they thought were the most important for quality in online courses. The data received from the participants for the second research question were first organized according to the objectives of the research question and then coded descriptively. The following two main themes with their subthemes were defined.

| Main themes | Online interactions | | Course design and content | |
|----|----|----|----|----|
| Subthemes | student-student | student-instructor | course design | course content |

Only 29 of the 103 students (about 29%) responded to this research question. The following are some direct quotations from the participants that were repeated throughout the collected data. These quotations were translated from Arabic to English.

*Course design:*

- "I prefer that all online courses use the same design. This will be easier for us to navigate."

- "Why do all the courses not have the same organization? Sometimes it is difficult to find what we need quickly."

- "The format of some courses was not good and I think this affects the quality of the course."

*Course content:*

- "I am wondering why some instructors do not use video clips to explain the learning material. I found good videos on YouTube that helped me to understand the topics of the course. "

- "Different subjects can be explained with the help of videos and I find watching video lectures better and faster than reading presentations or chapters of books."

- "I prefer to watch video lectures rather than reading textbooks. I find it easier and faster, and I can watch it repeatedly."

*Student-student interaction:*

- "For me the group activities were not good. Not all the members of the group worked enough and sometimes I felt alone and I did the work of other members just in order to get a good score. I felt that the instructor did not really care about who was doing what and, in most cases, he was not part of the discussions."

- "Not all the students participated in the discussions and in the group work equally and they often just repeated what other students wrote."

*Student-instructor interaction:*

- "The instructor did not always answer my questions and sometime his feedback or answer came very late and even after 10 days. I think that the instructor should be more present in online courses."

- "In some group activities, we did not know exactly what to do or how to continue our work because the instructions where not clear. In addition, the instructor did not always answer our questions and sometimes he wrote his answers very late. This was frustrating in some courses. I think that the instructor should be more involved and should give more support for students when working on projects and not just leave them to work alone."

- "Some of the learning activities were good, but I think that the instructor should give us more support and orientation during our work on such activities."

The following paragraph is a summary of the responses given by the students in relation to the main themes.

*Course design and content:*

- It would be better if all the online courses had a similar design and organization.

- Courses should incorporate more video lectures since this could help students better understand the topics.

*Online interactions:*

- Instructors should give more support to students during their collaborative learning activities since the students were often conflicted about their roles and how to continue their group work. The lecturer's intervention was sometimes lacking, especially when it came to organizing the students' group work.

- Instructors should be more involved with immediate feedback and support of students when they are discussing learning material. They can do that by answering the students' questions regarding the subject matter, as well as supporting students in their project or group work.

- Instructors should encourage all students to be active participants in the group work.

- The instructions for group activities were not always clear.

The students' comments about their experience with the online courses and the factors that might affect the quality of online courses are in alignment with the findings of the current study, as well as those of other studies (Fedynich et al., 2015; Griffiths & Moallem, 2016; Jaggars & Xu, 2016; Markova, et al., 2017; Ralston-Berg et. al., 2015). It can be concluded that students place a great deal of weight on the role of the instructor in supporting students and facilitating learning in online courses. Clear instructions for group activities and effective responsive feedback from the instructor would also simplify the learning tasks and contribute to a positive and successful learning experience when doing online courses.

## 5  CONCLUSIONS AND IMPLICATIONS

The aim of this study was to explore Arab undergraduate students' perceptions of the quality of their online courses at a teacher training college. The quality of online courses was investigated in relation to each of the following four aspects: (1) course design, (2) course content, (3) interaction among students, and (4) interaction between the students and the instructor. The results indicated that the students' perceptions of the four categories described above were on average positive, but not all the items were rated as highly as in other studies (Fedynich et al., 2015; Jaggars & Xu, 2016; Lister, 2014; Markova, et al., 2017; Martín-Rodríguez, 2014; Ralston-Berg et. al., 2015; Song et al., 2004; Young & Norgard, 2006). In particular, low rates of satisfaction were recorded for statements related to the impact of interaction among students on their understanding of the learning material, the impact of interaction between the students and the instructor on the learning process and the quality of online courses, and the impact of collaborative learning activities on students' motivation to interact and share knowledge with one another.

The results also revealed that about the half of the participants found the amount of interaction among students sufficient, but only about a third of them agreed that discussions among students were of high quality and added to their understanding of the course material. This result could be related to the finding that students rated the statement "Learning activities encourage me to interact with my instructor" relatively low, which can be understood as a lack of instructor involvement in managing and facilitating the interaction among the students during the learning activities in order to ensure quality interaction and learning.

Regarding the design of the online courses, the results indicated that most of the study participants would prefer online courses to have a consistent structure so that navigation does not change from one online course to another. In relation to the course content, only a third of them agreed that their online courses provided well-designed collaborative learning activities, which means that most of the students did not agree with this statement, but considered well-designed collaborative learning activities to be an important part of the content of any online course.

## 6  RECOMMENDATIONS

Understanding the elements of successful online courses can help instructors to facilitate an improved online learning experience. Recommendations arising from this study include the following suggestions for instructional designers, faculty online instructors and institutions:

Instructional designers:

- Online courses should have a suitable and consistent structure and design. The use of a well-established, consistent structure could facilitate the design of a standardized format across and within all courses delivered at the college, and would help to increase the quality of online courses. This would in turn enhance the online learning experience of students.

- Online instructional designers should also pay attention to the design of the material in order to ensure the clarity, aesthetics and neatness of the material presented through the learning management system. In addition, instructional designers should provide solutions in terms of the arrangement of resources, strategies and assessment procedures in order to establish best practices for online instruction.

Online instructors:

- Course elements and activities must be appropriate and relevant to the objectives of the course.

- Students also seek a variety of learning resources in online courses. Instructors need to integrate, for example, more video lectures and simulations into their online course, because this will help students to better understand the learning material.

- Online courses should have integrated, well-designed assignments and collaborative learning activities in order to make students active participants in the learning process and thereby increase the quality of interaction among them. Maintaining a high quality of interaction among students is important for collaborative learning, for having a sense of a learning community, and for enhancing the quality of online learning.

- Instructors must organize and manage students' interactions in order to ensure quality learning. Instructors should know when to "jump in" in order to give the students' an orientation and support, since this will positively affect the learner-content interaction, the learner-learner interaction and the

learner-instructor interaction. The role of the instructor should be seen more as a learning facilitator, collaborator, mentor, and knowledge navigator than as a knowledge transmitter and a source of answers. In particular, instructor-student interaction should have a significant and positive impact on students' satisfaction and learning in online courses.

## Institutions:

- Institutions should provide instructors with formal training in the design, development, implementation and evaluation of online courses before they can start teaching online.

- The continuous support and professional training provided by the institution is vital in order to keep instructors updated with modern technological pedagogical knowledge and tools, and to integrate them into online courses.

- Institutions must also establish and validate quality standards for online courses.

# 7 FUTURE RESEARCH

The results of the current study indicated that student satisfaction about the quality of online courses was generally positive but not in relation to all the items of the survey. Consequently, these findings require further investigation. One possible direction for future research would be to examine a larger sample of students in order to determine whether there is any difference in student perceptions among diverse disciplines in relation to online courses, and in order to enhance the instructional online course model. Additionally, instructors' perspectives regarding the quality of online education should be examined in future research, in order to provide a more holistic assessment of the quality of online courses. Such a study might assist institutions to determine the practices that constitute quality online instruction.

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