

**Dr. Evangelia Marinakou,** Assistant Professor, Royal University for Women, Bahrain **Dr. Hala Elias,** Associate Professor, Royal University for Women, Bahrain

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#### **Abstract**

The purpose of this paper is to present the findings of a comparative study of the perceived differences between two similar courses (Accounting Principles I) offered in higher education, one offered online and the other with face to face teaching and learning. The internet has proven to be an effective tool in e-learning. At the same time, many courses are offered in the traditional synchronous way where the teaching and learning mainly takes place in the classroom. This study was conducted at a university in the USA amongst 25 students enrolled in an online accounting course and 35 students who studied the same course in a face-to-face format. The qualitative and quantitative data are based on the students' course evaluation forms of the instructor's teaching and overall satisfaction with the course. The findings suggest that the students found the asynchronous online teaching and learning interesting, however they expressed their concern on the difference in the communication style with the instructor. Many students nevertheless, suggest that learning and teaching in the classroom is equally effective in their learning.

Keywords: online learning and teaching, face-to-face learning and teaching.

# ملخص البحث

يهدف هذا البحث الى تقديم نتائج الدراسة المقارنة التي اجريت لمعرفة اراء مجموعتين من الطلبة الجامعيين حول الفروقات بين طريقتين للتدريس الجامعي, التعليم الالكتروني والتعليم التقليدي (وجها لوجه). التعليم الالكتروني عن طريق الانترنت اثبت فعاليته واصبح يدرس على نطاق عالمي و في نفس الوقت الطريقة التقليدية للتدريس داخل القاعة الدراسية وجها لوجه, لازالت تمارس في الكثير من جامعات العالم.

هذه الدراسة اجريت في احدى الجامعات الامريكية على مجموعتين من الطلبة, يدرسون المحاسبة: المجموعة الاولى تتكون من 20 طالبا درسوا المادة عن طريق الانترت, ومجموعة اخرى تتكون من 30 طالبا درسوا نفس المادة بالطريقة التقليدية (وجها لوجه).

أعتمدت الدراسة على البيانات الكمية والنوعية التي تم استخلاصها من تقييم الطلبة ورضاهم في الحالتين. توصل البحث الى ان التعليم الالكتروني كان مثيرا لاهتمام الطلبة مع بيان درجة من القلق حول عملية التواصل مع المدرس, في حين بينت المجموعة الثانية بان الطريقة التقليدية (الدراسة الصفية), كانت فعالة ايضا.

### Introduction

Technology and the internet are playing an important role for universities around the world in their learning and teaching (Ginns & Ellis, 2007). Universities have realized the importance of the use of technology not only in their teaching and learning methods but also in sharing information. At the same time, there is an expansion of online courses and online education

(Kirk & Bonk, 2006) changing the teaching into a transformative form (Franzoni & Assar, 2007; Greenhow et al., 2009). In fact online learning started in the 80s (Harasim, 2000; Spector et al., 2008) however, today technology and the internet are used in varied forms in learning and teaching. Although the use of technology started many years ago, there is still no fixed terminology to distinguish online courses from distance learning or e-learning. Similarly, there is paucity of research on the design and evaluation of the learning environments in terms of the factors that influence these environments and their effectiveness in student learning (Phipps & Merisotis, 1999; Parsons-Pollard et al., 2008). For example Phipps & Merisotis (1999) propose that the learning environment is influenced by the learning objective, the target audience, access and the content. Nevertheless, this study aims at focusing on students' experience in terms of the mode of delivery of two courses. Bowden and Marton (1998) investigated the importance in gaining information from students and how best to use this information. They propose that they may provide valuable information on student satisfaction from their learning environment and the teaching method. Kelly et al. (2007) also propose that this is a reliable source of information, thus for the purpose of this research paper students' course evaluation forms are used to compare online learning with face-to-face.

### Literature review

Although there is increasing interest in online learning and teaching and in the use of the most effective online teaching methods, there is also concern on student satisfaction and the quality of student performance, especially when comparing the students who learn online with those who attend face-to-face classes (Parsons-Pollard et al., 2008). There is also concern on the faculty workload, their administrative support, their knowledge and skills on the use of technology required for online teaching (Mills et al., 2009). Nevertheless, a publication from Sloan (2008) proposes that online enrollments are growing rapidly, and the statistics suggest that over twenty percent of all higher education students in the U.S. take at least one course online. Thus, there is need for continuous research on areas such as teaching methods, pedagogies and pedagogical strategies to promote learners' online learning experience, as well as on the overall students' perceptions of online learning (Song et al., 2004). It is important to identify any similarities and differences in the student satisfaction and experience between online and face-to-face learning and teaching.

In order to identify any similarities and/or differences of the educational delivery method, students' course evaluation forms provide a good source of information. These questionnaires include a variety of close-ended and open-ended questions offering a flexible approach to quality and student satisfaction measurement (Reid, 2001). There is some concern on the reliability of students' evaluations of courses in comparing online with face-to-face courses (Kelly et al., 2007), however, if they are well designed they can be a valid and reliable source of information on teachers' effectiveness and on students' satisfaction (Kulik, 2001; Kelly et al., 2007). The items in these questionnaires may reflect on the complexity of the teaching activity and the learning environment, they may provide an evaluation on the teachers' teaching and an insight on students' perception of the pedagogies used. Although, as Reid (2001) claims it is

reasonable to collect formative (during instruction) and summative (after instruction) feedback from students for effective course evaluation, for the purpose of this research paper feedback was collected after the instruction (summative) in order to gain an overall view of students' experience with the two courses. Arbaugh (2000a, 2000b, 2000c) proposes that there is a variety of components to study on online teaching evaluation such as perceived usefulness of the course, flexibility, interaction, student experience and engagement.

However, at this point it should be noted that there is some confusion on the use of the terms online learning, e-learning and distance learning. Firstly, *online learning* is described by many as the situation in which the overall learning takes place online (Oblinger & Oblinger, 2005), whereas others refer to it in terms of the context in which learning takes place where technology is the medium (Lowenthal et al., 2009). Finally, others refer to online learning as access to learning experiences via the use of some technology (Carliner, 2004). Interestingly, Benson (2002) and Conrad (2002) refer to online learning as the modern version of distance learning. They state that online learning is an enhanced way of distance learning in comparison to traditional delivery systems and they discuss its connectivity, flexibility and ability to provide a variety of interactions with the students and amongst the students (Benson, 2002; Conrad, 2002; Ally 2004; Oblinger & Oblinger, 2005).

Secondly, there are some conflicting views of *e-learning*. Nickols (2003) describes e-learning as the learning that uses web tools that are web-based, web-distributed, or web-capable. Benson (2002) and Clark (2002) refer to it as covering content via CD-ROM, or the internet. On the contrary, Ellis (2004) adds audio and videotape, satellite broadcast and interactive TV as part of e-learning. Some others go beyond the mere use of technology and refer to e-learning as the framework which includes transformation of an individual's experience into the individual's knowledge through the knowledge construction process (Tavangarian et al., 2004). Moore et al. (2011) propose that there is some uncertainty of the term e-learning and its characteristics.

Thirdly, *distance education* refers to distance learning of those who are geographically distant. The delivery is done online and the instruction is provided at disparate times (Moore et al., 2011). Keegan (1996) refers to distance learning as the umbrella for online learning and elearning. King et al. (2001) refer to distance learning and distance education as two different terms. For them, distance learning refers to the ability to learn from distance, whereas distance education is an activity within the ability. Distance learning has been used with learning with distance and its limitations in terms of time and place (Guilar & Loring, 2008).

It is evident from the above that there are many commonalities in defining the three terms, however for the purpose of this study the authors use the term online to describe the delivery of a course only online, which was attended by students who were either available on campus or geographically distant. In this case, the course design included instructions by the instructors, and they controlled the pacing of student learning as well as their participation at learning activities at specified times. The students could work on self-pace which according to Rhode (2009) and Spector et al. (2008) enable students to study online at their own time and convenience. Thus, the online course was learner-controlled (Garrison, 2003) but it also had some learner to learner interactions.

Student satisfaction and learning has been the focus of many studies however, more research is required in comparing online with face-to-face learning and teaching. Means et al. (2009) conducted 51 studies comparing online and face-to-face classes. They claim that eleven were significantly positive, favoring online delivery, and only two favored face-to-face instruction. Interestingly, those favoring face-to-face instruction were significantly over than expected. Other studies report higher rating of online versus face-to-face teaching, whereas studies find lower rating. Rovai (2004) claims that those with lower rating may be due to reasons such as course design, or the pedagogy used by the instructor. Moreover, studies that favor face-to-face instruction show no significant differences in students' evaluations or their academic performance (Poirier & Feldman, 2004; Kelly et al., 2007). Some other studies propose that there are no significant differences between online and face-to-face results on students' achievement or the evaluation of the teaching methods (Fortune et al., 2006; Herman & Banister, 2007; Lim et al., 2008; Means et al., 2009). Russell (2011) found no significant differences between learning in the two modes of delivery. Furthermore, Marra et al. (2004) found evidence that online teaching enhances student critical thinking, generating ideas and clarifying information. Hui et al. (2008) also propose that the use of technology improves students' acquisition of the required knowledge, development of conceptualization and reflective observation skills; however they found that this form is not effective in developing for example listening comprehension skills.

Blankson and Kyei-Blankson (2008) suggest that students in their study prefer the blended course format in which online discussions are integrated with traditional face-to-face instruction. Similarly, Reisetter et al. (2007) found that students equally evaluated their learning experience of the two delivery methods despite the fact that each style led to different learning experiences for students. They state that the instructors in their study focus on providing the students with a unique learning experience via the use of technology in their pedagogies and teaching and learning techniques. Chickering & Ehrmann (1996) proposed that online learning and teaching may be successful only if the students are willing to learn via the complementary methods and the integration of technology with face-to-face teaching, and they claim that a 'learning community' is required to put emphasis on online teaching. Bernard et al. (2004) examined 200 students and they found mixed results. They propose that further study is required to determine the effectiveness of either method on students' satisfaction in order to be able to identify success factors.

This paper aims at highlighting the strengths and weaknesses of each method in order to identify any strengths and challenges which may help to improve the instructors' teaching methods. Therefore, it analyses the overall student satisfaction of the instructors' performance, of the course design and the student interaction as well student satisfaction of the overall course.

### Methods

For the purpose of this study the student evaluation forms are used for two similar courses (Principles of Accounting I), whereby one was delivered online and the other face-to-face. The courses were offered at a university in USA during the academic year 2011-12. The students enrolled to the online course were 25 and 22 of them (88 percent) participated in the study. The

students enrolled to the face-to-face course were 35 and 33 participated in the study (94.28 percent). The questionnaire included 36 closed questions and 2 open-ended questions. Students were advised that the forms would be reviewed by the Dean and they would also be available to the instructor after the completion of the course delivery. The responses were anonymous without particular demographics on the participants.

According to Bernard et al. (2004) the evaluation of online instruction should be done with carefully designed research methodology, thus the instructors planned their research from the beginning of the semester. The online course was delivered via WebTycho platform. The course contained not only slides with teaching material, but also a combination of reading assignments, online discussions and assessment for the course that required group work. In addition, the instructors moderated and managed the interaction among the students. At the same time, a face-to-face course was delivered on campus, with a range of three hours class once a week for 15 weeks. The delivery of these classes included lectures, group discussions, and online teaching notes that were available online for these students. Instructions for their assessment were provided in class but it also required group work. In both cases, the assignments required students to apply their knowledge of theories and concepts on financial accounting.

The convenience sampling technique was used as all students attending these courses were chosen for the sample of responses to the questionnaires to be analyzed for this paper.

The responses to the open-ended questions were analyzed with standard qualitative data analysis techniques. More specifically content analysis was performed to identify influencing factors to students' satisfaction of the two delivery modes. The categories that emerged from the content analysis were refined on the clarity of the meanings and on sharp distinctions among the data. Therefore, the frequency of student responses on the two categories relating to strong and weak areas of teaching was cross-classified to generate insight and was delivered through descriptive statistical analysis. The responses on the appraisal category and the delivery method were tested to determine if the frequency counts were significantly different by course delivery method.

According to McClean (2004) most student evaluation testing student perception of courses use quantitative analyses, thus the close-ended questions were statistically analysed in terms of the means and standard deviations. Independent sample t-tests were conducted as the instructors tested independent variables such as instructor's overall performance, course overall satisfaction, with dependent variables such as course design and student interactions in both online and face-to-face delivery. The purpose of the test is to determine if there were significant differences in the centroid of the dependent variables for various levels of the independent variable. In addition, simple linear regression was conducted to identify the most effective and preferred delivery mode, thus correlations were done of the instructor and course overall means with course design and interaction in both delivery modes. The results are discussed in the following section.

# **Data Analysis**

The overall response rate was 91.66 percent. For testing the reliability of the findings Cronbach's alpha tests were done on all variables and they varied between 1 and 0 assuming that the data is reliable. All tests were above 0.7 which is considered satisfactory and confirms the reliability and the validity of the instrument used for the study. For all statistical tests an alpha level of 0.05 was used. The independent sample tests were conducted to explore any differences between the online and the face-to-face delivery. The results of the independent sample t-tests are presented in Table 1.

Table 1: Independent sample tests of online and face-to-face delivery modes

|                    | Mode of delivery | Mean   | SD    |
|--------------------|------------------|--------|-------|
| Instructor overall | Online           | 4.442  | .679  |
| performance        | Face-to-face     | 3.9610 | .753  |
| Course overall     | Online           | 4.127  | .722  |
| satisfaction       | Face-to-face     | 3.416  | .720  |
| Course design      | Online           | 4.227  | 1.020 |
|                    | Face-to-face     | 3.969  | .769  |
| Interactions       | Online           | 4.4318 | .791  |
|                    | Face-to-face     | 4.075  | .740  |

The lowest mean is of the course overall satisfaction delivered on the face-to-face mode (3.416) with a standard deviation .72, whereas the highest is for the instructor overall performance for the online course (4.44) and a standard deviation .67. The means of the instructor overall performance and the course overall satisfaction are lower in the face-to-face delivery than the online which shows that the students who enrolled in the online mode find it more interesting. The results are similar considering the rest of the means. However, comparisons of means through the independent t-test were utilized to examine whether there were *significant* differences between the online and the face-to-face delivery. Table 2 shows the results.

Table 2: Results of independent sample t-tests of online and face-to-face delivery

|  | Lavene's | test of | T test for ed | quality of | means |
|--|----------|---------|---------------|------------|-------|
| equality of variances                                  |          |         |               |            |       |
|  | F        | sig     | t             | df         | sig   |
| Instructor overall performance Equal variances assumed | .060     | .808    | -2.168*       | 40         | .036  |
| Course overall<br>Equal variances assumed              | .051     | .823    | -2.744*       | 29         | .010  |

| Course design<br>Equal variances assumed | .998 | .322 | -1.066 | 53 | .291 |
|--|------|------|--------|----|------|
| Interaction Equal variances assumed      | .808 | .373 | -1.699 | 53 | .095 |

<sup>\*</sup>indicates significance level .05

If we see Lavene's test for Equality of Variances, we notice that the two delivery modes have approximately equal variance on the dependent variable as there is no significance of the F value (sig greater than .05). The t values indicate that there are significant negative differences of the two modes of delivery in terms of the instructor overall and the course overall evaluation. Therefore, combining the findings from Table 1 with Table 2 we can assume that the students are more satisfied with the instructor's teaching online and also there is more overall satisfaction with the course delivered online.

Moreover, in order to identify the most effective delivery mode and how each teaching and learning method influences the course design and the student interaction simple linear regression analysis was performed. Correlations of the independent variables instructor overall performance, and the course overall satisfaction were done to estimate changes when a predictor changes (dependent variables, course design and interaction) respectively for both modes of delivery. The literature has been used to construct a structural relationship between the two variables. In regression analysis the most important indicators are R, which is the correlation between the observed and predicted values of the dependent variable and should be close to either -1 or 1 to have high correlation. The R<sup>2</sup> that explains how much of the variability of the model is attributed to the variation of independent variable and should be higher than .250 (i.e. = 25% of the variability in the deviation). Furthermore, the significance level of the F ratio shows if the model fit. Finally, the B coefficients show how strongly the independent variable is associated with the dependent (i.e. the higher the B the greater the rate of change in the dependent variable for every unit of change in the independent variable). If the B is negative (-) then the change in the dependent variable is negative. The opposite is true if it is positive (+). Furthermore, if the B is significantly different from zero (p<0.05) then the relationship between the independent variable and the dependent variable is significant. Table 3 presents descriptive statistics and correlations for the variable in the model.

Table 3: Online versus face-to-face delivery mode – regression analysis

| _                     |        | Dependent va         | riables                    |                    |                    |
|-----------------------|--------|----------------------|----------------------------|--------------------|--------------------|
| Independent variables | N = 55 | Course<br>design F2F | Course<br>design<br>online | Interaction<br>F2F | Interaction online |

|                                   |                         | В       | В       | В       | В        |
|-----------------------------------|-------------------------|---------|---------|---------|----------|
| Instructor                        | Constant                | .908    |         | .894    |          |
| overall                           | t                       | 2.561*  |         | 2.976*  |          |
| performance<br>F2F                | $R^2$                   | .748    |         | .819    |          |
|                                   | Adjusted R <sup>2</sup> | .735    |         | .810    |          |
|                                   | F                       | 59.261* |         | 90.496* |          |
|                                   | R                       | .865    |         | .905    |          |
| Instructor                        | Constant                |         | -2.011  |         | 772      |
| overall performance               | t                       |         | -3.077* |         | -2.935*  |
| Online                            | $R^2$                   |         | .823    |         | .952     |
|                                   | Adjusted R <sup>2</sup> |         | .814    |         | .950     |
|                                   | F                       |         | 93.001* |         | 399.493* |
|                                   | R                       |         | .907    |         | .976     |
| Course overall satisfaction       | Constant                | .838    |         | .665    |          |
|                                   | t                       | 2.093*  |         | 2.104*  |          |
| F2F                               | $R^2$                   | .758    |         | .865    |          |
|                                   | Adjusted R <sup>2</sup> | .741    |         | .855    |          |
|                                   | F                       | 43.862* |         | 89.377* |          |
|                                   | R                       | .871    |         | .930    |          |
| Course                            | Constant                |         | -1.411  |         | 339      |
| overall<br>satisfaction<br>online | t                       |         | 1.687   |         | 742      |
|                                   | $R^2$                   |         | .759    |         | .885     |
|                                   | Adjusted R <sup>2</sup> |         | .740    |         | .876     |
|                                   | F                       |         | 40.936* |         | 99.987*  |
|                                   | R                       |         | .871    |         | .941     |

<sup>\*</sup>indicates significance level .05

The data shows that there is a high correlation of the independent with the dependent variables in the study as R is between -1 and 1. The dependent variable course design in face-to-face was regressed with the instructor overall performance (face-to-face) and course overall satisfaction (face-to-face). The data showed that there is significant positive relation to both independent variables. The R<sup>2</sup> of .748 indicated that 74.8 percent of the observed variability of the dependent variable course design (face-to-face) was explained by the instructor overall performance of the face-to-face delivery. The R<sup>2</sup> of .758 indicated that 75.8 percent of the observed variability of the dependent variable course design (face-to-face) was explained by the course overall effectiveness under the face-to-face delivery mode. Thus, students who enrolled in the face-to-face mode find both the instructor and the course satisfactory. Similarly, the dependent variable

student interaction (face-to-face) was regressed with the instructor overall performance (face-to-face) and course overall satisfaction (face-to-face) independent variables. The data showed that there is significant positive relation to both independent variables. The R<sup>2</sup> of .819 indicated that 81.9 percent of the observed variability of the dependent variable interaction (face-to-face) was explained by the instructor overall performance of the face-to-face delivery. The R<sup>2</sup> of .865 indicated that 86.5 percent of the observed variability of the dependent variable interaction on face-to-face was explained by the course overall effectiveness of the face-to-face delivery. Further evaluation of the Beta coefficients indicated that there was significant negative relation of both course design and instruction online with the instructor's overall performance and course evaluation of the online delivery. The data suggest that the more the course is delivered by the instructor on the online delivery the less the course design and the interaction increase. This finding confirms the findings from the independent sample tests as there was significant correlation of only the instructor overall performance and the course overall satisfaction.

Furthermore, the student course evaluation questionnaire included two open-ended questions; namely "what are the strongest features of this course?" and "what recommendations would you make to improve this course?" The authors checked the frequency of the responses and the results are shown in the following table.

Table 4: Frequency of responses on strengths and any recommendations of online and face-to-face delivery

| Strengths                      | F2F (N=15)<br>Frequency | Online (N=12)<br>Frequency |
|--------------------------------|-------------------------|----------------------------|
| WileyPlus                      | 2                       | 5                          |
| The course is clear            | 3                       | 5                          |
| The instructor                 | 9                       | 7                          |
| Availability of the instructor | 4                       | 6                          |
| On time response to            | 6                       | 4                          |
| questions                      |                         |                            |
| Doing things in my own pace    | 0                       | 3                          |
| Contact by e-mail              | 1                       | 1                          |
| None                           | 1                       | 1                          |
| Classroom interaction          | 5                       | 0                          |
| Good instructions              | 6                       | 0                          |
|                                |                         |                            |

| Recommendations            | F2F (N=15) | Online (N=12) |
|----------------------------|------------|---------------|
|                            | Frequency  | Frequency     |
| A bit more time on         |            | 1             |
| clarifications             |            |               |
| All text book questions    | 2          | 1             |
| should have answers        |            |               |
| available – avoid the book |            |               |
| Use less quizzes           |            | 1             |
| None                       | 6          | 5             |
| More details on slides     | 2          |               |

Overall, only twelve students answered these open-ended questions for the online mode of delivery and fifteen students of the face-to-face mode. It is evident from the above (as shown in Table 5) that students who enrolled to the online mode find the instructor and the instructor's availability as the key strengths of the online course. They also referred to the fact that the online mode of delivery allows them to study on their own pace, more specifically one of them stated 'Prof. Elias is great!!! It was very beneficial that the due date for everything for the week is on Sunday, helped me do things at my own pace'. Additionally, they value the prompt response to their questions and the system (WileyPlus) that was used for the delivery of the course. Students who enrolled to the face-to-face mode report as key strengths the instructions provided by the instructor, the classroom interaction, the response to the questions in the classroom, the WileyPlus system and the online communication.

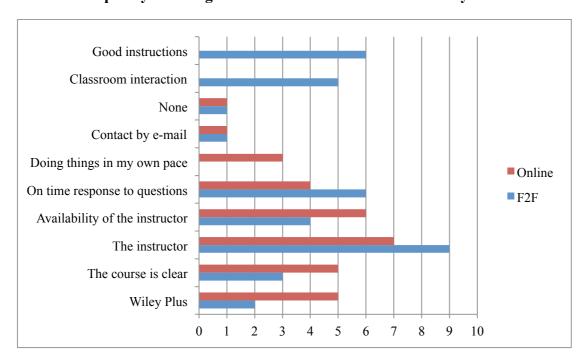


Table 5: Frequency of strengths of online and face-to-face delivery

As for the recommendations, the students made simple comments mainly to the content of the course. In general, the students reported very good comments on the instructor and her expertise, and that they felt comfortable with the delivery, the pedagogy, and the mode of study.

### **Discussion of findings**

The results of this study confirm Bernard et al. (2004) and Means et al. (2009) as differences are observed between the two modes of delivery since the means are higher in the online delivery.

However, the differences between the two modes are statistically significant only in terms of the overall instructor's performance and the overall satisfaction with the course, but none for the course design or the student interaction. The main factor is not the mode of delivery but rather the instructor herself as a teacher and the overall course in terms of the objectives of the course, the assignment, the class material, and the effective use of technology which actually link to the instructor and how she delivers the course in general. The students enrolled to the online delivered course did not think that attending the class on a face-to-face delivery would improve their perception of the course and their course evaluation. According to Petrides (2002) and Wang and Woo (2007), flexibility is another strength of online learning. Similarly, Wuensch et al. (2008) propose that students find online courses superior in terms of convenience and self-pacing. Both studies are also confirmed with this study in the sense that the students prefer the online mode as they find that they learn better and can study on their own pace especially that they are familiar with technology. The results also confirm those found in Batts' (2008) study, where students prefer participating to any online discussions or asking questions and getting replies by e-mail.

Further, this study does not confirm the findings of Petrides' (2002) and Vonderwell's (2003) who concluded that students find the instructors' responses late as they take long time to respond to students' questions/queries/requests. In this study, the students reported that the instructor responded quickly to students' questions or queries. In addition, the students in this study are very positive on the instructor's teaching, pedagogy, the use of technology and interaction with the students. Thus, this confirms the findings of Bernard et al. (2004) who claim that the pedagogical methods are considered important in the delivery of a course. Furthermore, it affirms the argument by Dempsey & Van Eck (2002) that appropriate and good course design is important for good online instruction.

The students enrolled in the face-to-face course prefer this mode of delivery as they find the communication with the instructor and the class interaction as a strong point. This affirms the study by Fortune et al. (2011, p.4) as they claim that "the students in the F2F section appear to prefer F2F environments for communicating with instructors and would rather take the course on-campus because of the course content. They also significantly felt that that the F2F environment would help them to learn more, improve their understanding, and contribute to their satisfaction with the course". Brinthaupt et al. (2011) propose that the use of technology in learning and teaching should be learner-centered, and must be designed with the learner in mind so that deeper learning takes place. The students in this study find the instructor very good as she explained the material well and also used real life examples. In addition, they find the WileyPlus technology and the way the instructor utilized it, as a very strong feature of the course. Students evaluated positively the face-to-face delivery of the course in terms of the course design and the interaction, but if we compare these data with the qualitative findings we would reveal that students relate the above factors with their satisfaction with the instructor's performance. The students also value the use of technology and the sources and discussions that were available online. This point confirms what have been discussed by Gyamtso & Maxwell (2012) that the student-centered teaching and learning technique is highly valued by students and instructors. Blended learning is constantly gaining attention in teaching and learning in higher education.

All of what have been discussed above agrees with Rovai et al. (2006) who claim that only qualitative analysis may provide an attempt to identify any bias or preferences of a course and the delivery mode. They found that students' responses to open-ended questions showed differences between the comments and evaluation of online courses and face-to-face courses. Nevertheless, this study proposes that students' responses to the open-ended questions are

similar in the two delivery modes and they all focus on the instructor, her teaching methods, and the use of technology. In addition, the quantitative analysis shows differences in the students' evaluation of the two delivery modes; however, both are statistically significant only in reference to the instructor and the course delivery context.

# Limitations of the study

There are some considerations of this study as the results are based on a limited number of students who participated in the course evaluation of the two modes of delivery. The results may not be generalizable to other delivery methods as other forms of distance education are not considered. Finally, as only one institution was included in the study, the results may not be generalizable to other institutions or other instructors. In addition, the questionnaire used for this study is the one used by the university for course evaluation, however it has high validity and reliability.

The content and details of the actual online and face-to-face teaching and learning practices are not explored in this study. Further statistical analysis could be performed on the data set as some responses may reflect some trends in the two delivery methods. Finally, although this study proposes that blended learning should be addressed by higher education institutions, the success factors and other aspects are not discussed. Further study could be conducted to explore blended learning by including a face-to-face instruction to the above in order to control the teaching style and ability. This study should produce insights for professional instructors.

## **Implications for practice**

This study proposes that instructors in higher education should design their courses and their pedagogy based on student-learning issues. Blended learning may be valued by students as it provides them with a variety of learning and teaching methods. Active learning, application of knowledge with examples and effective interaction (either in the classroom or online) are important facilitators to effective teaching. However, the technology and the instructor's skills are important to the delivery of the course. Face-to-face students value the interaction in the classroom and with the instructor as clarifications and discussions are important to address any questions. On the other hand, online students value more the technology used and the response to their questions online. Therefore, instructors who implement the online mode of delivery should be trained on the use of technology and on instructional support, whereas instructors of face-to-face courses should focus more on the course design and the classroom delivery.

### Conclusion

Recent trends in higher education suggest that online learning and teaching is growing and will continue growing. Despite, the important role of online learning, face-to-face courses are still valued by students. The enrollment numbers in the two courses suggest that students still prefer the face-to-face courses. This research paper provides some insights on the two modes of delivery and students' preferences and evaluations of the instructors, the course design and the pedagogy. The findings suggest that it is mainly the instructor who influences student satisfaction. The students enrolled in the face-to-face mode are satisfied with the mode, the

techniques and the findings agree with other studies that this mode provides the students with better interaction with the instructor and further class discussions.

Similarly, students who enrolled in the online course show satisfaction with the delivery of the course, the pace of study and the use of technology, which also support the findings of other studies. These students propose that the instructor understood the online environment and made it easy to learn. Nevertheless, it should be mentioned that generally the findings suggest that regardless of the mode of delivery it is the instructor who makes the difference in the students' preference, including the instructor's familiarity with the respective technology, knowledge of blended learning techniques and pedagogy. Although best practices for good teaching are available, they are not sufficient for excellent teaching and student satisfaction. It is becoming important to have outstanding teachers who can implement these practices.

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