

EFFECT OF TRADITIONAL, BLENDED, E-LEARNING ON STUDENT' ATTITUDES IN A COURSE ON ISLAMIC CULTURE

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Abstract

The study investigates the effect of e-learning (studying through an asynchronous classroom only), and blended learning (studying through an asynchronous virtual in addition to a traditional learning), and traditional learning (attending classroom lectures) on students' attitudes.

Three groups studying an Islamic culture course at Umm Al-Qura University in Saudi Arabia have identified randomly. The study sample consists of (148) students, (55) students in the blended learning group, (43) students in the e-learning group, and (50) students in the traditional learning group. To assess students' attitudes in the different groups, attitude scale supported by interviews have been used. The interview sample consists of (6) students i.e. two from each group were randomly selected to be the interviewees.

The results of the study have indicated that there is a statistically significant difference (at the 0.05 level) between the blended learning group and traditional learning group favouring the former. The results of the study have revealed also that there is a statistically significant difference (at the 0.05 level) between the e-learning group and traditional learning group favouring the e-learning group, while no statistically significant difference (at the 0.05 level) exist between e-learning and blended learning in terms of students' attitude.

Keywords: Traditional learning, Blended learning, E-learning, Attitudes, Islamic culture course, Higher education.

1. INTRODUCTION

The technological revolution in information technology has led to rapid growth in all fields of knowledge making it an imperative requirement for educational institutions, universities and companies to benefit from this rapid development in information and communication technologies to improve learning environments as well as cope with the ever increasing demand for education and training. In this regard, Malalla (2004) and Sonwalkar (2002) point out that educational institutions and private companies have been quick to offer distance education programs.

The benefit of this type of education as indicated by Al-Dabbasi (2002) and Ismail (2003) could be seen from three perspectives. From the learner perspective, distance education means freedom from the constraints of time, place, and age with access to more opportunities for further education. While from the employer's perspective distance education should mean providing opportunities for staff for training, developing their professional skills, and enabling them to acquire new skills with relatively low costs without the need to disrupt their careers for a long period of time. Whereas from a state perspective the idea of distance education should mean increasing the number of students and providing learning opportunities for those who are far away from educational institutions with the minimum costs possible i.e. without the need for recruiting more teaching staff locally or the need for establishing new buildings either.

The terms and definitions for this type of education are to be found in the literature. However, the term distance education is the most appropriate term as it absorbs other types such as open education, home study, independent study. It also illustrates its basic characteristic which is the physical distance between the teacher and the learner, which differentiates it from traditional education (Keegan, 1990).

In other word distance education can be considered as "an umbrella concept covering correspondence courses, televised teaching, radio-broadcast, open learning, computer-assisted instruction, individualized learning and self-learning" (Sauve, 1993, 102). Willis (1993, 4) explained that distance education" at its most

basic level... takes place when a teacher and student(s) are separated by physical distance, and technology (i.e. voice, video, and print) is used to bridge the instructional gap". Greenberg (1998, 36) defined distance education as "a planned teaching/ learning experience that uses a wide spectrum of technologies to reach learners at a distance and is designed to encourage learner interaction and certification of learning". With the development of technology in recent years, and the widespread use of computers and the internet, it became easy to provide distance education through the internet, and a concept such as e-learning emerged (Akkoyunlus & Soylu, 2006).

2. E-LEARNING

E-learning has been defined in different ways. For example, Urdan and Weggen (2000, 11) define e-learning as "the delivery of content via all electronic media, including the internet, intranets, extranets, satellite broadcast, audio/ video tape, interactive TV, and CD-ROM". According to Meyen, et al. (2002) e-learning can be defined as the "acquisition and use of knowledge distributed and facilitated by electronic means". However, it is noteworthy that these definitions introduce e-learning as a way of transferring the content to the learner through the electronic media.

Khan (2005, 3) also defines e-learning as "an innovative approach for delivering well-designed, learner-centered, interactive, and facilitated learning environment to anyone, anyplace, anytime by utilizing the attributes and resources of various digital technologies along with other forms of learning materials suited for open, flexible, and distributed learning environment". In the current study, the e-learning took the form of an asynchronous virtual classroom, which enables students to review the instructional material and therefore interact with the course content via internet at the appropriate time and place. The main advantage of asynchronous virtual classroom is the flexibility in the time, where the learner could log on to asynchronous virtual classroom any time to send messages to the instructor or colleagues and review or download documents. It also gives the students enough time to contribute more thoughtfully as compared to synchronous classroom (Hrastinski, 2008). It was designed using one of the learning management system called Moodle and according to ADDIE design model (Dick & Carey, 2001).

A number of studies have compared e-learning and face-to-face learning and their effect on students' attitudes in higher education such as Goldberg & McKhann (2000), Al-Zahrani (2002), Gunnarsson (2001), EL-Deghaidy & Nouby (2008). While, few studies have directly compared the three methods (e-learning, blended learning and traditional learning) and their effect on students' attitudes in higher education. The current study will contribute to addressing the lack of this kind three way of experimental studies. The aim was therefore that this study would contribute to clarify to what extent the e-learning and blended learning methods might promote students' positive attitudes as compared to face-to-face learning under similar circumstances. This study was initiated with hypotheses predicted that there would be no statistically significant difference (at the 0.05 level) between the three groups (e-learning, blended learning and traditional learning) and investigated through an experimental design.

3. BLENDED LEARNING

According to Clark and Myer (2007) the definition of blended learning varies from one researcher to another. For example, Thorne (2003) and Gutierrez (2006) point out that blended learning is the integration between e-learning and face-to-face instruction. Mayadas & Picciano (2007) on the other hand define blended learning as a combination of online learning and face-to-face instruction. In this regard Kerres & De Witt (2003, 101) suggest that "blended learning arrangements combine technology based learning with face-to-face learning and have become quite popular in different contexts".

Moreover, Garnham & Kaleta (2002) define hybrid courses as conventional courses with parts of their instructional activities run online, so that such an arrangement considerably cuts down the time students spend in the traditional classrooms.

In the current study the blended learning takes the form of a combination between the traditional classroom (face-to-face) and the asynchronous virtual classroom, where the students have to attend classroom lectures, and in the meantime have the access to the asynchronous virtual classroom to do other lectures, and enhance their knowledge through additional reading and through browsing relevant websites. Furthermore, learners will be able to perform other activities such as self-exams, exercises, group discussions and other group activities.

A number of aims are associated the designing of blended learning environments. Osguthorpe and Graham (2003, 231) emphasize six aims of designing blended learning, which include "pedagogical richness, access

to knowledge, social interaction, personal agency, cost effectiveness, and ease of revision". Some researchers (Gould, 2003; Akkoyunlu & Soylu, 2006) argue that by using blended learning one will be able to benefit from the combined merits of both e-learning and traditional learning. Thus, in the current study, the asynchronous virtual classroom provides accessibility and flexibility in the time and place, the opportunities of more interaction (connectivity), efficiency, taking into account the individual differences between learners. In the meantime, the traditional classroom ensures social interaction and the development of communication skills among learners.

4. ATUDY METHOD AND DESIGN

The current study has been carried out using the experimental method. Gall, Borg and Gall (1996:463) describe the experimental method as "the most powerful quantitative research method for establishing cause-and-effect relationships between two or more variables". The study involved three groups, two experimental groups and one control group (Cohen, Manion, & Morrison, 2007). The two experimental groups were exposed to the independent variable; the first group was taught by e-learning method and the second group by blended learning, while the control group received the usual treatment which was the traditional learning method. The differences between the three groups were then identified.

5. STUDY SAMPLE

Johnson and Christensen (2008, 223) define the sample as "a set of elements taken from a larger population according to certain rules".

Using random sampling three groups have been chosen from 65 groups of students studying an Islamic Culture course (101) at Umm Al-Qura University in Saudi Arabia. The control group, first and second groups were determined randomly within these three groups. The study sample consisted of 148 students, 50 students in the control group, 43 students in the first experimental group, and 55 students in the second experimental group. With regard to the interview sample for the purpose of this research, (6) students i.e. two from each group were randomly selected to be the interviewees.

6. STUDY INSTRUMENTS AND MATERIALS

6.1 Teaching Unit

For the purpose of this study, the Ethics unit from an Islamic Culture course (101) was selected for development as an asynchronous online classroom to facilitate learning for the two experimental groups. The content of the ethics unit was determined based on the main reference for the Islamic culture course (101) which was compiled by a group of staff members from the college of Dawah and Islamic Religion Origins at Umm Al-Qura University. The main reference book entitled the Islamic Culture, which outlined the objectives and the content of the course.

6.2 The Asynchronous Online Classroom

The ethics unit of the Islamic Culture course (101) was electronically designed to take advantages of the features of Moodle, with a range of resources and links to learning materials linked to each course session, opportunities for interaction through chat, discussion and e-mail, and feedback through quizzes. After the completion of the asynchronous online classroom design and its hosting over the Internet, a formative evaluation stage was undertaken to ensure that the system was working appropriately and according to plan, then any necessary corrections and amendments were made following the ADDIE model (Dick & Carey, 2001). This stage included individual testing by the designer to ensure effective functionality; presentation to a group of staff members from the department of Dawah and Islamic Culture and the Department of Curricula and Teaching Methods at Umm Al-Qura University who showed interest in e-learning; and pilot testing with a small group of students and further response to their feedback.

6.3 The Attitude Scale

The attitude scale was prepared after referring to a number of books that have been written about attitudes measurement and its characteristics and construction conditions such as (Entwistle & Nisbet, 1970; Thomas, 1971; Anderson, 1988; Tuckman, 1994; Oppenheim, 2001). The initial draft of the attitude scale consisted of 27 statements using Likert scale with five response options (strongly agree, agree, undecided, disagree, strongly disagree). However, in the light of the assessors comments and suggestions some of the scale

statements were re-worded in the final draft of the scale. After the validity of the attitude scale was ascertained, the scale was piloted with 30 students who were not members of the study sample and by using Alpha Cronbach equation the degree of internal reliability for the scale was 0.87, indicating that by using the scale reliable results would be obtained.

6.4 The Interview

The purpose of using the interview in this study is to support and complete the finding of the attitude scale. For this purpose the semi-structured interview was chosen. After the consultation of some assessors and in the light of their comments and suggestions, the accuracy of the interview questions was ensured. Some pilot interviews were carried out with two students who did not take part in the main interview to check the usefulness of the interview questions and the time that the interview would take. After that the main interview was conducted with six students who had been randomly chosen from the study sample groups i.e. two students from each of the three groups after giving their consent to be interviewed.

7. STUDY RESULTS

To verify the study hypotheses, one-way ANOVA has calculated to compare the attitudes of the three sample groups (Morgan et al, 2004). The value of (F) for testing the relationship between the method of teaching and students' attitudes was (8.306) which is statistically significant (at the 0.001 level) (Table 1).

Table 1. The results of (one- way ANOVA) for the differences in the overall means of the students' attitudes between study sample groups

Source	Sum squares	df	Mean square	f	Sig.
Between groups	6.052	2	3.026	8.306	0.001 (sig.)
Within groups	52.827	145	0.364		
Total	58.879	147			

Levene's test should be worked out to establish whether an equal variance has existed across the groups. Thus depending on the results obtained the researcher will be able to determine as to which post hoc test to be used to make the multiple comparisons between the attitudes means of the study sample groups.

The following table shows a summary of Levene's test of homogeneity of variances, and the results of the multiple comparisons between the attitudes means of the study sample groups.

Table 2. The results of post hoc (Dunnett C) test for the differences in attitudes between study sample groups

Levene statistic		Mean		*The mean difference is significant at the 0.05 level		
Value	Sig.			Second exp. G.(BL)	First exp. G.(EL)	Control G. (TL)
3.799	0.05	Second exp. G.(BL)	4.0357	-	0.1442	*0.4727
		First exp. G.(EL)	3.8915	0.1442-	-	*0.3285
		Control G. (TL)	3.8341	*0.4727-	*0.3285-	-

From Table (2) shown above Leven's test illustrates that the variances are not equal across groups, where the value of (F) was 3.80 which is significant (at the 0.05 level).

The post hoc (Dunetts C) is the common test used in cases where the assumption of equal variances has been violated (Sharaz, 2009).

Table (2) shows statistically significant differences between the attitudes means of the second experimental group (blended learning), and the control group (traditional group) for the second experimental group. The mean difference between them was 0.47, which is significant (at the 0.05 level). The table also shows that there is a statistically significant difference between the attitudes means of the first experimental group (e-learning group) and the control group for the first experimental group, where the mean difference between the two is 0.33 which is significant (at the 0.05 level).

On the other hand, the comparison between the attitudes means of the second experimental group and the first experimental group would illustrate that there is no significant difference between their attitudes means. The mean difference between the two groups was 0.14, which would not be significant (at the 0.05 level).

7.1 The Interviews Findings

For the purpose of this study, the interviews aim at supporting the results of the attitude scale regarding the effectiveness of blended learning and e-learning as compared to traditional learning on students' attitudes.

The overall findings of the interviews could be summarised in the following points:

- From the findings of the interviews it seems that blended learning method is more exciting to learners than traditional learning, while the enthusiasm of e-learning group probably not more than the enthusiasm of traditional learning group and that might be due to the absence of the classroom teacher and colleagues i.e. learners are totally self-dependent.
- The interview findings have indicated that the learning environment featuring blended learning and e-learning methods is more convenient compared to that of traditional learning method.
- It was apparent from the responses of the interviewees; that blended learning and e-learning methods tend to render learners more self-confident as compared to traditional learning.
- Learners seem to have achieved more through blended learning than either traditional learning or e-learning. However, these findings appear to be consistent with the post-test results which have favoured blended learning most and e-learning least in terms of learners' achievements. In other words blended learning comes at the top of the list followed by traditional learning then e-learning in terms of learners' achievements.
- The interview findings have indicated that both blended learning and e-learning methods tend to enrich the learning environment and develop learners' skills and expertise.
- From the interviewees' responses, both blended learning and e-learning methods tend to provide a suitable learning environment to the effect of helping learners overcome their social and psychological problems which might otherwise prevent their effective participation in classroom activities with their colleagues.
- The interview findings have also indicated that both blended and e-learning methods provide better opportunities for interaction between learners than traditional learning method does.
- Blended learning seems to be more suitable for higher education than either e-learning or traditional learning methods.
- The interview findings have highlighted a number of challenges and barriers associated with e-learning method, and these challenges and barriers inherent in this method of learning could explain the poor achievement of learners who use this method as compared to those who use blended learning or traditional learning methods.

In conclusion the overall findings of the interviews favour blended learning as the most appropriate for learning followed by e-learning, while traditional learning method is the least favoured by the interviewees.

These findings support and endorse the results of attitude scale in the comparison between the means of the three groups where the highest mean 4.0357 features the blended learning group followed by the value of 3.8915 for e-learning group and the traditional learning group with a mean value of 3.8341.

8. DISCUSSION OF RESULTS

This analysis shows that there is no statistically significant difference (at the 0.05) level between the students who used e-learning and the students who used blended learning in terms of students' attitudes. However,

according to the results students who used blended learning have shown a slightly higher mean regarding attitude than those who used e-learning.

The similarity between the attitudes means of both groups might be due to the fact that both groups have been using the same new approach of teaching, which is the asynchronous virtual classroom. However, the slightly more positive attitudes of blended learning group as compared to e-learning group might be due to the presence of the instructor and colleagues in blended learning, which tend to have more positive effect on students' attitudes. Yet, the presence of a course teacher and classmates is important in the learning environment, as it offers more opportunities for clarification and explanation, as well as more social interaction, which will eventually lead to positive outcome in terms of students' attitudes (Hameed, Badii & Cullen, 2008). The findings of Lim, Morris & Kupritz (2007) study indicated that e-learning group claimed less learning support than blended learning group. However, the comments that have been made by the interviewees with regard to the disadvantages of e-learning strongly corroborate the above interpretation. The absence of the course teacher in addition to the fact that e-learning method gives the learners a chance of procrastination to access the website to do their learning activities constitute some of the disadvantages associated with e-learning.

The results also have indicated that there is a statistically significant difference (at the 0.05 level) between e-learning group and the traditional learning group in terms of students' attitude favouring the former group.

These results, so far, appear to be in agreement with a number of studies featured the literature review including the work of Al-Zahrani (2002), Gunnarsson (2001), and El-Deghaidy & Nouby (2008). The results of these studies point to the positive effects of e-learning on students' attitudes as compared to traditional learning. That could be due to the flexibility of e-learning in terms of time and place, and the opportunity it provides to learners for interaction by eliminating barriers that might possibly hinder students participation. These conclusions have been further supported by the responses of the interviewees featuring the e-learning group, which have highlighted the positive effect of e-learning on students' attitudes.

The results also have shown that there is a statistically significant difference (at the 0.05 level) between the students who used blended learning and the students who used traditional learning in terms of students' attitudes favouring the former group.

This results that have been obtained so far, are supported by the responses from interviewees featuring the blended learning group. Yet, the results of the current study seem to be inconsistent with the results of Alshwiah's (2009), which indicate that there are no significant differences between blended learning and traditional learning in terms of their effect on students' attitudes. He argues that this is because 42% of students failed to review their lessons, coupled with the limited period of time available for the study that it did not produce any effects on students' attitudes.

9. CONCLUSIONS

In conclusion, the blended learning approach and the e-learning approach have positive effect on students' attitudes given that both methods tend to reduce classroom lectures to the minimum possible. Of course the current study has its own strengths and limitations. As far as the strengths are concerned, the current study is considered among the few studies that have compared the three modes of learning i.e. traditional learning, blended learning, and e-learning within the same environment and circumstances, which tend to make the results more reasonable and acceptable than in the cases where the environments are different. However, measuring students' attitudes before the experiment would strengthen the study.

REFERENCE LIST

- Akkoyuklu, B. & Soylu, M. Y. (2006). A study on students' views on blended learning environment. Turkish Online Journal of Distance Education, 7(3), ISSN 1302-6488.
- Al-Dabbasi, S. M. (2002) Globalization and education. Riyadh, Saudi Arabia: Alsafeer press.
- Alshwiah, A. A. S. (2009). The effects of a blended learning strategy in teaching vocabulary on premedical students' achievement, satisfaction and attitude toward English language (Un published master's thesis). Arabian Gulf University, Saudi Arabia.
- Al-Zahrani, A. (2002). The effects of the use of the worldwide web on the achievement of the learners of the syllabus of educational technologies at the Teacher's Training College in Riyadh. (Un published master's thesis). King Saud University, Saudi Arabia.

- Anderson, L. W. (1988). Attitude and their measurement. In P. J. Keeves, ed. Educational research, methodology and measurement: An international handbook. UK: A. Wheaton & CO. Ltd., Exeter.
- Clark, R. C. & Mayer, R. E. (2007). E-learning and the science of instruction: proven guidelines for consumers and designers of multimedia learning. San Francisco, CA: Jossey-bass/ Pfeiffer.
- Cohen, L., Manion, L. & Morrison, K. (2007). Research methods in education (6th ed.). London, UK: Routledge.
- Dick, W. & Carey, L. (2001). The systematic design of instruction: origins of systematically designed instruction. In P. Donald, & P. Tjeerd, (Eds.), Classic writings on instructional technology (pp. 71-75). Greenwood Publishing Group, Inc.
- EL-Deghaidy, H. & Nouby, A. (2008). Effectiveness of a blended e-learning cooperative approach in an Egyptian teacher education programme. Computers & Education, 51, 988-1006.
- Entwistle, N. & Nisbet, J. (1970). Educational research methods. UK, Hazell Watson and Viney Ltd, Aylesbury, Bucks.
- Gall, D. M., Borg, R. W. & Gall, P. J. (1996). Educational Research: An introduction. USA: Longman publishers.
- Garnham, C. & Kaleta, R. (2002). Introduction to hybrid courses. Teaching with Technology Today, 8, 6. Available at: <http://www.uwsa.edu/ttt/articles/garnham.htm> (Accessed 3 December 2007).
- Goldberg, H. R. & Mckhann, G. M. (2000). Student's test scores are improved in a virtual learning environment. Advances in Physiology Education, 23, 54 -66.
- Gould, T. (2003). Hybrid classes: Maximizing institutional resources and student learning. Proceedings of the 2003 ASCUE conference, Myrtle Beach, South Carolina.
- Greenberg, G. (1998). Distance education technologies: best practices for k-12 settings. IEEE technology and society magazine, (winter), 36-40.
- Gunnarsson, G. L. (2001). Students' attitude and achievement in an online graduate statistics course. (Un published master's thesis). University of Cincinnati, United States, Ohio.
- Gutierrez, F. M. (2006). Faculty best practices using blended learning in e-learning and face to-face instruction. International Journal on E-learning, 5, 313-337.
- Hameed, S., Badii, A. & Cullen, A. J. (2008). Effective e-learning integration with traditional learning in a blended learning environment. European and Mediterranean conference on information system, Dubai, UAE.
- Hrastinski, S. (2008). Asynchronous and synchronous e-learning. Edu cause Quarterly. 4, 51-55.
- Ismail, F. (2003). Infrastructure for the use of ICT in education, and distance education. A working paper submitted to the regional symposium on the recruitment of information and communication technologies in education, and distance education in Damascus, (15-17 July 2003).
- Johnson, B. & Christensen, L. (2008). Educational Research: quantitative, qualitative, and mixed approaches. Newbury Park, CA: Sage publications, Inc.
- Keegan, D. (1990). The foundations of distance education. London: Croomhelm.
- Kerres, M. & De Witt, C. (2003). A didactical framework for the design of blended learning arrangements. Journal of Educational Media, 28, 101-113.
- Khan, B. (2005). Managing e-learning strategies: design, delivery, implementation and evaluation. Hershey, PA: Idea Group Inc.
- Lim, D. H., Morris, M. L. & Kupritz, V. W. (2007). Online vs. blended learning: differences in instructional outcomes and learner satisfaction. Journal of Asynchronous Learning Networks, 10, 27-42.
- Malalla, J. N. (2004). Psycho-Socio dynamics of E-learning: investigating student's perception of efficacy in asynchronous computer generated learning. (Un published PHD thesis) Bradford, UK: University of Bradford.

- Mayadas, A. F. & Picciano, A. G. (2007). Blended learning and localness: the means and the end. *Journal of Asynchronous Learning Networks*, 11, 3-7
- Meyen, E., Aust, R., Gauch, J. M., Hinton, H.S., Isaacson, R. E., Smith, S. J. & Tee, M. J. (2002). E-learning: a programmatic research construct for the future. *Journal of Special Education Technology*, 17, 37-46.
- Morgan, G. et al. (2004). *SPSS for introductory statistics: Use and interpretation*. Mahwah, NJ, Lawrence Erlbaum Associates.
- Oppenheim, A. N. (2001). *Questionnaire design, interviewing and attitude measurement*. New York: Basic Books.
- Osguthorpe, R. & Graham, C. (2003). Blended learning environments: Definitions and directions. *The Quarterly Review of Distance Education*, 4, 227-233.
- Sauve, L. (1993). What's behind the development of a course on the concept of distance education? In: D. Keegan, ed. *Theoretical principles of distance education*. New York: Routledge, 93-109.
- Sharaz, M. S. (2009). *Statistical analysis of data using SPSS program*. Makkah, Saudi Arabia: Umm Al-Qura University.
- Sonwalkar, N. (2002). A new methodology for evaluation: the pedagogical rating of online courses. *Syllabus*, 15, 18-21.
- Thomas, K. (1971). *Attitudes and Behavior*. England: Penguin Books.
- Thorne, K. (2003). *Blended learning: how to integrate online and traditional learning*. London, UK: Kogan page.
- Tuckman, W. B. (1994). *Conducting educational research*. USA, Ted Buchholz.
- Urdu, T. A. & Weggen, C. C. (2000). *Corporate e-learning: exploring a new frontier*. Berwyn, PA: WR Hambrecht & CO.
- Willis, B. (1993). *Distance education: A practical guide*. Englewood Cliffs, NJ: educational technology publications.