

Research Paper

Encouraging Students to Engage in Discussion Boards: A Case Study in the University of Bahrain

by

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ABSTRACT

Discussion boards have been widely used in education to engage students in learning. However, this is usually impeded by students' disengagement and disinterest. This research investigates three approaches to motivate higher education students at the University of Bahrain to use Blackboard's discussion boards as a tool to facilitate their discussions and collaboration with their peers: (a) ungraded discussion, (b) graded discussion and (c) synchronous graded discussion at a specific time allocated by the instructor. The last two approaches proved to be effective for motivating students to engage in discussions. They also showed improvement in the quality of students' posts on the discussion board. However, grading discussions and allowing students to engage in discussions whenever they can is a better motivator for asynchronous discussions.

KEYWORDS:

Discussion, Collaboration, Blackboard, Virtual Learning Environments

INTRODUCTION

The use of Information and Communication Technologies (ICT) in education has always been viewed as a driver to the progression of developing countries. Emphasizing on developing the collaboration and communication skills of the generations in these countries is essential as these skills are important for preparing the generations for the "Information Age" and later as professionals to effectively interact with others across cultures and languages (Wittwer, 2001; Hawkins, 2002; Ascroft and Watts, 2005). However, employing communication and collaboration technologies to assist pedagogy in developing countries is challenging as the educational systems in these countries can still be considered traditional with students listening and taking notes while the teacher is instructing. In addition, these

attempts are usually challenged with the reluctance of using such technologies especially that these are considered as foreign objects in the pedagogy.

The Ministry of Education in the Kingdom of Bahrain has introduced ICT through King Hamad's Schools of Future project which was implemented in 2005 in most of the schools in the country. One of the main goals of the project is to connect all the schools in Bahrain with the Internet. In addition, all schools have been equipped with ICT to provide educators and students with the latest technology to help in building a knowledge-based economy. In line with the country's focus on employing ICT in education, the University of Bahrain established a center (E-learning Center) that is specialized in providing e-learning services and supporting faculty members in the university to employ ICT in pedagogy. Virtual Learning Environments (e.g. Blackboard and Moodle) is one of the services provided by the center and its usage has increased over the past years. Faculty members in the university use VLE's to provide students access to learning material, updated announcements and discussion boards. Using discussion boards in education is usually obstructed with the problem of students' disengagement and disinterest in the discussion boards. This paper aims to investigate ways to motivate higher education students at the University of Bahrain to use discussion boards in their learning.

Communication and Learning

Communication has always been considered a major factor in students' learning. Researchers argue that communication is a central process in education as it helps people to negotiate their differences, understand each others' experiences and establish shared meaning (e.g. Pask, 1976; Scott, 2001; Sharples, 2005). Pask, Scott and others studied communication and its effect on learning across three decades and developed the conversation theory which posits that learning occurs through conversations about a subject matter which serve to make knowledge explicit. In addition, Picciano (2002) argues that the ability to ask a question, to share an opinion with a fellow student, or to disagree with the point of view in a reading assignment are all fundamental learning activities.

To foster the benefits of communication and collaboration both in and off campus for the benefit of students' learning, many universities have considered the use of virtual learning environments (VLE). Blackboard is one example. Blackboard's discussion boards can enhance student-to-student and student-to-instructor communication (Curtis and Lawson, 2001). It can also encourage and extend learning activities beyond the traditional classroom

time and space (Xie et al., 2006). Researchers argue that online interactions encourage wider student participation and produces more in depth and reasoned discussion than traditional face-to-face discussions (Citera, 1988; Karayan and Crowe, 1997; Smith and Hardaker, 2000).

However, using discussion boards to assist students' learning is usually accompanied with a problem of lack of students' engagement and reluctance to use the discussion boards (Hiltz et al., 2000; Oliver and Shaw, 2003; Clouder, 2006). In these cases, students need to be motivated to engage in discussions via discussion boards. Researchers argue that students can be motivated to use discussion boards when given incentives such as grades (Deci and Ryan, 1985; Warren and Rada, 1998; Bender, 2003). Others argue that allocating a specific time in students' schedules for discussions will enhance students' engagement in discussions boards and thus their motivation (Singh, 2004).

STATEMENT OF THE PROBLEM

The study aims to investigate ways to encourage students to use Blackboard to engage in discussions with peers. The need for this research arose from the researcher's past experience with utilising Blackboard as a tool for facilitating students' communication and discussions. The students did not use Blackboard the way the researcher was hoping for. They noted that the main reason for not using the discussion boards was their unfamiliarity with it as it was never used for any of their other courses. They also argued that it was a new way to engage in discussions as they were used to face-to-face discussions.

Reflecting on this experience, the researcher came to recognise many factors that might have affected the students' use of the application to engage in discussions. First, and as Pilkington et al. (2000), Giordano and Trufant (2002) and Salmon (2000) argue, the lack of training or expertise might have impeded the use of the application. This can be resolved by providing students with an introductory session discussing Blackboard and its features, mainly the discussion board (Lewis and Treves, 1997; Muirhead, 2002; Oliver and Shaw, 2003; Clouder, 2006).

In addition, the lack of motivation might have factored in the use of the discussion boards. This can be improved by explaining to students the benefits of using the discussion boards as Akerkind and Trevitt (1999) argue. Moreover, allocating grades as an incentive for those who engage in discussions can motivate students (Deci and Ryan, 1985; Warren and Rada, 1998; Bender, 2003). The quality of students' participation should also be counted and not just their

participation quantity (Bender, 2003). Furthermore, allocating a specific time for the discussions to take place can motivate students to engage in discussions (Singh, 2004). Thus, in this research, three approaches were used to motivate students to engage in discussion boards: (a) posting an ungraded exercise for students to discuss in their free time, (b) posting a graded exercise for students to discuss in their free time and (c) posting a graded exercise for students to discuss in a specific time assigned by the researcher. The researcher then compares these approaches in terms of students' engagement and the quality of their posts.

RESEARCH BACKGROUND, PLANNING AND METHODOLOGY

The sample of the study included 16 undergraduate students enrolled in an Information Systems (IS) course (Physical System Design and Implementation). The course is a compulsory course taken by all IS students in their third year which aims at developing students' knowledge and abilities in designing and implementing information systems. Students registered for this course were enrolled in a B.Sc. program in Business Information Systems.

In this course, a group project, case studies and exercises are considered major factors that help students to understand and practice the topics discussed in the classroom. Therefore, after discussing each chapter, students were provided with an exercise or a case study to be discussed within a group on Blackboard's discussion boards. These discussion boards are private and only the group members could access and view the posts. Thus, during the first lecture, students were asked to form groups of 3-4 members. Students within each group were expected to work together for the rest of the semester. Berge (1995) argues that small group discussions can stimulate learners' participation and interaction in discussion boards. Allowing students to work within the same group has both advantages and disadvantages. It can be a good thing as it can improve the students' sense of responsibility to a group (Warren and Rada, 1998) and therefore enables learners to gain from the potential benefits of online interactions. But at the same time might hinder students from these benefits in case the student was uncomfortable within the group. Stabilizing the groups that students work within also helps with clarifying the change in students' behaviour in the different approaches used to motivate their discussions engagement.

The first step in this research was to provide students with an introductory session to explore Blackboard. This was done to enable students to engage effectively in the discussion board once. Lewis and Treves (1997), Muirhead (2002), Oliver and Shaw (2003) and Clouder

(2006) stress on the importance of introducing students to the basics of logging on, posting messages, and threading prior to the use of discussion boards which can also work as a motivator for students to engage in discussions. Students were also made aware of the benefits that they can gain from discussing issues with colleagues and the instructor, which can be a motivator for engagement in discussions as Akerkind and Trevitt (1999) argued.

At the beginning of the study, students who were enrolled in the course were provided with verbal and written information about the study and were asked to take part in the study. Those willing to participate were asked to sign the consent and authorisation form which also ensured their anonymity, privacy, confidentiality, and their right to withdraw from the study at any time or to not complete any part of the study. The students were then asked to complete a questionnaire that comprised questions regarding their familiarity, past experiences, perceptions and attitudes towards using the discussion boards in Blackboard. The questionnaire helped in planning the study.

In this study, three approaches were used through making some changes to the study design with the intention to encourage students to use the discussion boards in Blackboard. First, students were asked to discuss an exercise that was posted on their group's discussion board on Blackboard in their free time. Students were given a week to discuss the exercise in their own time and were reminded that no grade was allocated for this activity. Great emphasis was put on the quality of students' contributions to the discussions. Students were clear that their contributions are expected to be useful and helpful in terms of solving the exercise. Second, an alteration was made to see how allocating a grade for the activity and stressing on the quality of their posts would motivate students to engage in discussions. Third, instead of asking students to discuss the exercise within their groups in their free time, they were required to have a discussion session during the lecture time. For this, the class was shifted to the computer lab instead of the usual lecture hall. Students were notified that the activity would be graded. During this discussion session, students were observed by the instructor who was in the lab reading their posts and posting responses and commenting on their posts. In the last approach, there was a change in the environment where the discussion took place.

After applying each of the three approaches, students were asked to complete a questionnaire to provide information on whether and how their engagement in discussions have been altered and they were motivated by the change imposed. These alterations were also viewed through the discussion boards as students' discussions can be tracked and viewed. Thus, the discussion boards in Blackboard were used, firstly, to provide evidence on students'

participation in the discussion boards and thus calculating the total number of students engaged. An increase in the number of participants was interpreted as a positive influence of the factor enforced and vice versa. Secondly, this provided evidence on any changes that occurred in students' participation (i.e. engaged or did not engage in discussions) in response to the change enforced. Thirdly, this calculated the total number of posts in each approach where an increase in students' posts was interpreted as a positive influence of the factor enforced, and vice versa. Lastly, the aim was to assess the quality of students' posts in each cycle.

RESULTS AND DISCUSSION

Ungraded Discussion

The questionnaires and exploring the number of people engaged in discussions on Blackboard showed that not all students were motivated to use the discussion boards even when providing students with training on how to use the discussion boards, discussing the benefits that they could gain and giving them the choice to discuss the exercise in their own time with no grade allocation. The questionnaire showed that only 8 students out of a total of 16* students used Blackboard to discuss the exercise. This was validated by the discussion board in Blackboard. In addition, 6 students out of 16 students stated in the questionnaire that they logged into Blackboard and checked the discussion board but chose not to start discussions or to reply to the available posts. They argued that they were reluctant to use the discussion board because it is a new tool and therefore they were not confident in using it for discussions. In addition, students stressed that they did not have time to engage in discussions because they were busy with other graded coursework. They argued that discussing the exercise (which was not graded) on Blackboard requires time and since the activity would not be evaluated, they chose to focus on the other evaluated coursework. This aligns with Morris et al. (1999), Totter et al. (2006) and Xie et al. (2006) argument that students' motivation to participate in online discussion boards decreases as a result of being overwhelmed by the increasing amount of course work. In the questionnaire, students mentioned that allocating a specific time or a grade for the activity would motivate them to engage in discussions.

* Appendix 14 provides a summary of the total number of students engaged in discussions and the total number of posts per group in all cycles.

On the other hand, the students who have contributed to the discussions argued that using Blackboard for discussing exercises is a new experience that was interesting and they were motivated to use the technology for discussions for the first time. This aligns with Deci and Ryan's (1985) Self Determination Theory which stresses that students choose to engage in a task because it is interesting or enjoyable. The students also commented that they could benefit from the discussion boards to have access to their colleagues' views on exercises and topics which will help them look at these from different perspectives. However, students commented that because their other group members did not contribute to the discussion, they were discouraged and left alone having no one to discuss issues with. This aligns with Xie et al.'s. (2006) argument that students' motivation to use discussion boards declines as a result of the lack of peers responses to their postings.

Reviewing students posts on Blackboard showed that the total number of posts were 18 for the 8 students who used the discussion boards. Most of these posts were about either a student providing the solution for the exercise or a student commenting that he/she agreed with the solution provided. Students were not really involved in discussions with the other group members; rather, they used the discussion boards to post their answers. In addition, students did not challenge each other's solutions, although some were not entirely correct.

One interesting observation on the discussion boards was that although students were asked to discuss the exercise with their group members on Blackboard, most of them solved the exercise in their own time and then posted the answer as an attachment. So if anyone wishes to view the solution, he/she has to download the attachment. Other students mentioned that they will meet face-to-face to solve the exercise and then post the answer on the discussion board. When asked, these students clarified that they were not clear about what was expected from them mainly because using Blackboard as a tool for discussion and solving exercises was new for them.

Thus, giving students the freedom to engage in discussions in their own time and not allocating a grade for discussions did not show to be effective enough to encourage students to engage in discussions. This result was due to a number of factors. First, the lack of time because of the load from other courses. This was also a factor that Morris et al. (1999), Totter et al. (2006), Murihead (2002) and Xie et al. (2006) , argued to influence students engagement in online discussions which is mainly a result of the un-compulsory nature of participation. Second, the lack of experience in using Blackboard's discussion boards.

Although students were provided with training to use the discussion boards, they remained reluctant to use them.

These results showed that (a) allocating a grade for the discussion (Deci and Ryan, 1985; Warren and Rada, 1998; Bender, 2003) and (b) allocating a specific timing for the discussion (Singh, 2004) can motivate students to engage in discussions.

Graded Discussion

When a grade was allocated for engaging in discussions on Blackboard, the questionnaire showed that most students have engaged in discussions. The students argued that allocating a grade for the discussion was a great motivator.

The discussion boards in Blackboard showed that the number of students engaged in discussions and the total number of posts has significantly increased in comparison to these when the discussion was ungraded. A total of 13 students out of 16 contributed to the discussion boards with a total of 59 posts. Table 1 shows the total number of posts and engaged students in discussions.

Examining students' posts on Blackboard helped with identifying some of the students who did not contribute to the discussions when the activity was ungraded but did contribute when a grade was allocated for the discussion. These students clarified that the main reason for their engagement in discussions was grading and evaluating their posts.

Examining students' posts on Blackboard also showed an improvement in the way students used the discussion boards. Students started to enquire about, comment on and analyze each other's posts which they did not do when the discussion was ungraded. They also enquired about some topics which could help them solve the exercise.

These results show that there has been an improvement in the number of students engaged in discussions, the quantity and the quality of these discussions. Students showed greater interest in solving the exercise which is a result of the fact that the exercise was graded. Students also enquired many times of how their responses will be graded and if they are going to be graded as individuals or as a group. Moreover, students commented that the activity enabled them to interact more with their peers, look at issues from other people's perspectives, and help each other in problem solving.

Synchronous Graded Discussion

In the first round of questionnaires that collected students' perceptions about ungraded discussions during their free time, students mentioned that allocating a specific time for the discussion to take place will motivate them to be online and have discussions with their peers at the same time (synchronous). This would also overcome the two main causes of students' dis-engagement in the discussion boards: (a) the lack of time and (b) getting no response from colleagues. Therefore, all students were accompanied to a computer lab to engage in a graded discussion session on Blackboard. Although discussion boards are mainly helpful for asynchronous discussions, having all the students discuss an exercise at the same time would open up opportunities to allow some of the reluctant students to experience discussions in groups and recognize the benefits that they can gain as well as developing their sense of community.

The results showed a dramatic increase in the number as well as the quality of posts on the discussion board in relation to the results of the previous two approaches. A total of 14 (2 absentees) students out of 16 engaged in discussions with a total of 165 posts. Table 1 shows a comparison of the number of students and posts in each of the three approaches.

Table 1. A comparison between the three approaches used to motivate students Blackboard Discussions

Cycle	Total number of students engaged in discussions	Total number of posts
Ungraded Discussion	8	18
Graded Discussion	13	59
Synchronous Graded Discussion	14	165

Students clarified in the questionnaire that they liked this method because having the discussion during the lecture time will ensure that they will be able to collaborate with their colleges who are available in the class. This helped with overcoming the problem of getting no responses from their group members which students encountered in the first two approaches. Students also clarified that having the discussion in a specific time such as the

lecture time would ensure their dedication for the activity and overcome the problem of the lack of time needed to engage in the activity. In addition, students commented that there were more discussions during this exercise than it was in the previous two exercises because they were able to directly interact with and get instant response from their colleagues.

When asked about the method that they preferred and motivated them the most for discussions, students were divided exactly in half. 50% of the students liked the activity to be ungraded and with no specific time allocation, while the other 50% preferred it to be graded and allocate a specific time for discussions.

Examining students' posts on Blackboard showed that before discussing the exercise, students outlined how are they going to tackle the exercise by setting points to be followed sequentially which was not done in the previous two approaches. In addition, students' posts were shorter and students did not provide the whole answer for the exercise in one post which they did in the first two approaches. Instead, students finished discussions on one issue before moving to the next. Students also provided hyperlinks to websites that provide more details and help in solving the exercise. In addition, students' discussions showed that they critically thought about the problem and their colleagues' answers because they were able to ask questions and get instant answers.

These results show that the students were highly motivated to use the discussion boards because all colleagues were available online which allowed instant communication and having a dedicated time for the activity to take place. This was reflected in the significant change in the total number and the quality of posts in this approach in comparison to the previous two approaches.

Not many researchers used preset time to motivate students to engage in discussion boards. This could be due to the fact that using discussion boards is mainly aimed for asynchronous discussions and presetting time would jeopardize one of the main benefits of discussion boards which is engaging in discussion at any time that is convenient for students. However, having such activities from time to time can ensure higher engagement in discussions. Xie et al. (2006) argues that students' engagement in discussion boards dwindles over time because they lose interest in the activities especially when they get busy with other course obligations and this type of activities can help empower students' interest and motivation. Thus, it is useful as a way of changing the lecture environment which students become bored of and at the same time inserting the fun factor in students' learning.

CONCLUSIONS AND RECOMMENDATIONS

Many studies investigated approaches for motivating students to engage in discussion boards, most of which agreed that giving incentives such as grades, rewards and recognition increases the motivation of students (Deci and Ryan, 1985; Warren and Rada, 1998; Bender, 2003). The findings of this action research align with these findings. Students' engagement in discussions increased when allocating a grade for the discussions. Not only their engagement has changed, but also the quality of their posts has improved as students did not consider the quantity of posts but also their quality, similar to the argument of Bender (2003).

This research also found that allocating a specific time for students to engage in discussions is a powerful motivator as this method overcomes many of the problems that students face in asynchronous discussions such as the limited response from peers and the lack of time because of other course obligations. In addition, this method showed to be fun and enjoyable for students as it enables them to get instant interaction with colleagues. This method also showed an improvement in the quality of students' responses mainly because they could question each other's posts and get responses at the same time.

In conclusion, no single method should be worshiped for motivating students to engage in discussions. Instead, a teacher has to make a decision on what method is best for a given situation. In addition, using a single method to motivate students to engage in discussions will become a routine and students will be de-motivated and de-interested over time.

Moreover, the instructor's engagement in discussions can motivate students to engage in discussions (Bender, 2003; Oliver and Shaw, 2003). In addition, asking students to use discussion boards as a medium for discussions to prepare a group project can be a powerful motivator (Bender, 2003). These issues can be examined in future research.

REFERENCES

1. Akerlind, G. and Trevitt, C. (1999), 'Enhancing self-directed learning through educational technology: when students resist the change'. *Innovations in Education and Training International*, 36 (2), 96-105.
2. Ashcroft, L., & Watts, C. (2005). ICT skills for information professionals in developing countries: Perspectives from a study of the electronic information environment in Nigeria. *IFLA Journal*, 31(1): pp. 6–12.
3. Bender, T. (2003), *Discussion based online teaching to enhance student learning: Theory, practice and assessment*. Sterling: Stylus.
4. Berge, Z. (1995), 'Facilitating Computer Conferencing: Recommendations From the Field'. *Educational Technology*, 35 (1), 22-30.
5. Citera, M. (1988), 'Distributed teamwork: the impact of communication media on influence and decision quality'. *Journal of the American Society for Information Science*, 49 (9), 792-800.
6. Clouder, L. (2006), *Won't or Can't Contribute: Exploring Resistance in On-line Discussion Forums*. Paper presented at the Proceedings of the 5th European Conference on e-Learning, Heidelberg.
7. Curtis, D. and Lawson, M. (2001), 'Exploring Collaborative Online Learning'. *JALN*, 5 (1), 21-34.
8. Deci, E. and Ryan, R. (1985), *Intrinsic motivation and self-determination in human behavior*. New York: Plenum.
9. Giordano, M. and Trufant, L. W. (2002), *Instituting an Institute: GO FOR IT!* Paper presented at the 30th annual ACM SIGUCCS conference on User serv, Rhode Island, USA.
10. Hiltz, S., Coppola, N., Rotter, N., Turoff, M. and Benbunan-Fich, R. (2000), 'Measuring the Importance of Collaborative Learning for the Effectiveness of ALN: A Multi-Measure, Multi-Method Approach'. *Journal of Asynchronous Learning Networks*, 4 (2).
11. Hawkins, R.(2002) "Ten Lessons for ICT and Education in the Developing Countries", World Links for Development Program The World Bank Institute. 38-43.
12. Karayan, S. and Crowe, J. (1997), 'Student perspectives of electronic discussion groups'. *THE Journal: Technological Horizons in Education*, 24 (9), 69-71.
13. Lewis, D. and Treves, A. (1997), 'Making Sense of Academic Cyberspace'. *College Teaching*, 45 (3).
14. Morris, D., Mitchell, N. and Bell, M. (1999), 'Student use of computer-mediated communication in an Open University Level 1 Course: Academic or Social?' *Journal of Interactive media in Education*, 99 (2).

15. Muirhead, B. (2002), 'Salmon's E-tivities: The key to active online learning'. *United States Distance Learning Association Journal*, 16 (8).
16. Oliver, M. and Shaw, G. (2003), 'Asynchronous discussion in support of medical education'. *Journal of Asynchronous Learning Networks*, 7 (1), 56 - 67.
17. Pask, G. (1976), 'Conversational techniques in the study and practice of education'. *British Journal of Educational Psychology*, 46, 12-25.
18. Picciano, A. (2002), 'Beyond student perceptions: issues of interaction, presence, and performance in an online course'. *Journal for Asynchronous Learning Networks (JALN)*, 6 (1), 21-40.
19. Pilkington, R., Bennett, C. and Vaughan, S. (2000), 'An Evaluation of Computer Mediated Communication to Support Group Discussion in Continuing Education'. *Educational Technology and Society*, 3 (3), 349-360.
20. Salmon, G. (2000), *E-moderating: the key to teaching and learning online*. London: Kogan Page.
21. Scott, B. (2001), 'Conversation Theory: A Constructivist, Dialogical Approach to Educational Technology'. *Cybernetics & Human Knowing*, 8 (4), 25-46.
22. Sharples, M. (2005), *Learning as conversation: Transforming education in the mobile age*. Paper presented at the Seeing, Understanding, Learning in the Mobile Age, Budapest, Hungary.
23. Singh, P. (2004), 'Online Education: Lessons for Administrators and Instructors'. *College Student Journal*, 38 (2), 302.
24. Smith, D. and Hardaker, G. (2000), 'e-Learning innovation through the implementation of an Internet supported learning environment'. *Educational Technology and Society*, 3 (1), 1-16.
25. Totter, A., Stütz, D. and Grote, G. (2006), 'ICT and Schools: Identification of Factors Influencing the use of new Media in Vocational Training Schools'. *The Electronic Journal of e-Learning*, 4 (1), 95-102.
26. Warren, K. and Rada, R. (1998), 'Sustaining computer-mediated communication in university courses'. *Journal of Computer Assisted Learning*, 14, 71-80.
27. Wittwer, R. (2001) Special libraries – how to survive the twenty-first century. *Electronic Library*, 19 (4), 221–225.
28. Xie, K., Ferguson, C. and DeBacker, T. (2006), 'Extending the Traditional Classroom through On-line Discussion: The Role of Student Motivation'. *Journal of Educational Computing Research*, 34 (1), 67-89.