The Effectiveness of Compulsory versus Optional Online Forum Assignments

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Abstract

Online forum assignments are considered an important tool for collaborative learning. This study examines the impact of compulsory submission on the effectiveness of forum assignments. It compares the grades of 120 MBA students who studied an advanced elective course in a blended distance learning university during the years 2005-2009. Some of the students were required to participate in a forum assignment and their submissions were graded, whereas other students were similarly asked to participate in a forum assignment but their work was not graded. The findings suggest that the benefits of optional forum assignments are marginal, whereas compulsory forum assignments may improve student performance. Interestingly, the students of both groups had a task-oriented attitude and were not engaged in social interaction with regard to the forum assignment.

Keywords: online forum assignments, online discussion forums, effectiveness of instructional technologies, collaborative learning, social aspects of online educational forums.

Introduction

Collaborative learning can enhance student performance (Langley, Ronen, & Ben Shachar, 2008). One of the benefits of e-learning is that it enables collaborative learning, which involves all the students in a particular class. There are many sorts of collaborative online learning activities, e.g. wikis (Konja & Ben-Zvi, 2009) and blogs (Blau, Mor, & Neuthal, 2009), or different levels of collaborative document writing and peer reviews (Blau & Caspi, 2009), or collaborative projects that require team work and use the online environment for communication (Ellis & Hafner, 2008). This study focuses on online forum assignments.

Discussion boards (i.e., forums) are one of the primary tools of e-learning (Harman & Koohang, 2005). Student learning in forums includes two main sorts of activities: passive reading of the forum content and active participation by writing their own posts. Prior studies (Saade & Huang, 2009) indicate that the extent of views is much larger than the extent of posts. However, it seems that if active participation in the discussion is optional, students are reluctant to do so (Wishart & Guy, 2009). This research investigates the relative effectiveness of optional versus compulsory online forum assignments. There are many interpretations to the meaning of effectiveness, and there are various stakeholders involved, e.g., the institutions that provide e-learning services (Guri-Rosenblit, 2005, 2009) and the instructors that manage the discussions and are responsible for their quality. Effectiveness is measured in this study by the impact on student performance.

The main theoretical contribution of this study is that it indicates that although the students had a task-oriented attitude and were not engaged in social interaction, the compulsory posting of

the assignment on the discussion board, improved their performance. From a practical perspective, the findings suggest that publishing student assignments on a course website may improve the quality of the assignments and enhance student performance, even if there is no further collaboration or social interaction among the students. This is important because creating meaningful collaboration in online environments usually requires a lot of efforts of the instructor in moderating the discussion, (Salmon, 2004; Wishart & Guy, 2009) so sometimes instructors are disinclined to initiate such projects.

Methodology

Data of actual performance of 120 students, who were enrolled in an advanced elective MBA course at the Open University of Israel, was used to examine the relative effectiveness of optional and compulsory online forum assignments.

In one of the assignments of the course, the students had to find an up-to-date article in a newspaper either electronic or printed, which is related to the course themes. Each student was assigned to a different week during the semester. The students were asked to analyze the article, according to the models and concepts learned in the course, and to upload the analysis to the course online forum. In addition, each student had to write at least two comments to other students' analyses.

This assignment has been conducted in the course for seven semesters, during the years 2005-2009. In the first two semesters, the assignment was optional, but in the following semesters it was compulsory. A one-way analysis of variance (ANOVA) test of the students' final exam mean grade showed that the levels of the students in the two first semesters ($F=.081$, $p=.777$), and in the following five semesters ($F=1.700$, $p=.161$) that were included in this study, were homogenous. Hence, the students were assigned to two groups: optional and compulsory.

Four students were excluded: One student participated in all the activities, but did not take the exam because he was already entitled to graduate. One outstanding student in the optional group was exceptionally engaged in learning and had many interactions with the instructor and fellow students. Furthermore, he was the only one that commented on other students' work. The last two were students who dropped out and never completed the course requirements (about 2% drop-out rate).

The instructions for the forum assignment were intentionally unstructured. They did not define what to analyze, how long the analysis has to be, and neither the nature of the comments. The only requirement was that repetitions are forbidden, which meant that the students must read prior posts. Many studies evaluate the quality of collaborative learning by analyzing the content of the messages (e.g., Ma, 2009), or combining qualitative and quantitative methodologies (e.g., Schrire, 2006). This study takes a different approach and evaluates the impact of the collaborative assignment on the students' exam grade.

Results

Table 1 presents the students' demographics and descriptive data regarding their exam grade, the other assignments average grade, the online forum assignment analysis grade and its length. Age data was not collected, the average age of graduate students at the Open University of Israel in 2008 was 34.5 (SD 7.9) and the median was 32. The graduates average age was 37.0 (SD 8.8) and the median was 34 (Open University President's report, 2008). Of the 120 participants, there were 73 man (60.8%) and 47 women (39.2%), whereas the general graduate

gender proportion at the Open University of Israel is approximately 50% men and 50% women. Nevertheless, there were no gender differences in the findings.

Table 1. Students' demographics, grades and analysis length

	Optional assignment	Compulsory assignment
Semesters	2005B, 2006A	2007A, 2007B, 2008B, 2008C, 2009A
Total number of students	53	67
Gender	31 Men (58.5%)	42 Men (62.7%)
	22 Women (41.5%)	25 Women (37.3%)
Exam grade		
Mean	84.42	86.96
Standard deviation	6.88	6.60
Percentile 25	81	81
Median	85	88
Percentile 75	88	91
The other assignments average grade		
Mean	83.78	85.88
Standard deviation	6.92	7.01
Percentile 25	81	81.5
Median	86	87
Percentile 75	89	91
Analysis grade		
Mean	NA	88.81
Standard deviation	NA	9.42
Percentile 25	NA	80
Median	NA	90
Percentile 75	NA	100
Analysis length (word count)		
Mean	104	800
Standard deviation	73	426
Percentile 25	62	511
Median	86	652
Percentile 75	131	1,006

The mean exam grade of the compulsory group was 86.96 (SD=6.60) and a t-test (t= -2.054, p=.042, 118 df, equal variances assumed, Levene's test for equality of means: F=.133, p=.716) showed that it was significantly higher than the mean exam grade of the optional group, which was 84.42 (SD=6.88). Although the mean grade of the other assignments was higher for the compulsory group, 85.88 (SD=7.01), than the optional group, 83.78 (SD=6.92) the difference was insignificant (t= -1.634, p=.105, 118 df, equal variances assumed, Levene's test for equality of means: F=.350, p=.555). However, a paired sample t-test indicated that the mean analysis grade of the 67 students, who completed the compulsory assignment, 88.81 (SD=9.42), was significantly higher than their average grade for the other assignments, 85.88 (SD=7.01), (t= 2.663, p=.010, 66 df).

There was also an apparent qualitative difference in the depth of the analyses performed by the two groups. Although no content analysis was performed in this study, and the length of a message does not necessarily indicate anything about its quality, the significant difference

between the average lengths, 800 words (SD=426) versus 104 words (SD=73) (t=-13.09, p=.000, 71.28 df, equal variances not assumed, Levene's test for equality of means: F=39.285, p=.000), suggests that the compulsory analysis was not just more elaborative.

Out of the 53 students in the optional group only 4 students (7.54%) did not perform the analysis at all. Two additional students uploaded a relevant news item, but did not analyze it. The other 47 students uploaded an article and accompanied it with a short analysis. Although the instructor responded to each analysis, and even asked guiding questions, none of the students reacted, except for the one outstanding student mentioned earlier, who was not included in this study. On the other hand, all the students in the compulsory group performed the analysis and wrote comments to two other posts, as required. Here again, there was a handful of students who responded more than the obligatory two posts, on which they were graded, but no discussion emerged.

It should be noted that all these years, the regular student satisfaction surveys conducted by the university indicated that the students were very satisfied with the course site content and level of support of their learning. Hence, it seems that the students were not interested in more online interaction.

Discussion and Conclusions

The findings of this study suggest that compulsory online forum assignments may improve student performance, as measured by their final exam grade. The low involvement of students in forum discussions implies that the main factor that contributes to student performance is their own analysis, which is posted on the forum, and not explicit collaborative learning. The online forum is an information system that enables different levels of collaboration. The average grade of the forum assignment was significantly higher than the average grades the students obtained in other assignments, which were not published on the course website. This may be explained by the students' desire to post a presentable analysis. They try harder, they devote more time for this analysis, so their learning improves, their grade in this specific assignment is better, and as a result, their exam grades are also higher. So the fact that the analysis is published improves student performance. Furthermore, students read others' postings and they may learn. They are also required to comment on two other postings, and since the initial analyses are generally very good, they need to elaborate and find less obvious aspects. Therefore, their learning improves.

Interestingly, the students of both groups had a task-oriented attitude and were not engaged in social interaction with regard to the forum assignment. The fact that there were no gender effects supports this conclusion, since gender differences tend to emerge in online discussion boards that involve social interaction (Gefen, Geri, & Paravastu, 2008). Student task-oriented attitude was found in prior research, e.g., Chan and Waugh (2007) who studied student participation in online activities at the Open University of Hong Kong. American Graduate Management Information Systems students valued reading their peers postings, but assigned lesser value to replying to other students' messages (Levy, 2006). Beaudoin, Kurtz, and Eden (2009) found in their cross-cultural study that Western students attributed less importance to online relationships with peers.

The students' posting of just the two obligatory comments can also be explained from an attention economy perspective (Davenport & Beck, 2000, 2001; Geri & Gefen, 2007), since MBA students are usually very busy, they don't have time to engage in optional learning activities, so they take a satisfying approach (Simon, 1957, 1971) and complete only

compulsory tasks. Even instructor encouragement may not influence their behavior (Yang, Yan, Tan, & Teo, 2007).

Further empirical studies are required in order to validate the conclusions of this study. It should be noted that the participants in this research were graduate MBA students toward the completion of their studies, and therefore their behavior and performance may be very different from those of other populations. Nevertheless, the findings of this study demonstrate the potential contribution of compulsory online forum assignments to learning processes.

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