Integrating a Web-Based Discussion Forum and Student Peer Feedback into a High-Enrollment IS Class: Expectations and Outcomes

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ABSTRACT

This paper presents results from using an asynchronous Web-based discussion forum coupled with an integrated student peer rating system as one component of an introductory Information Systems (IS) course with high enrollment (e.g. a class with over 100 students). There are two major issues with the typical introductory IS course: it covers too many topics, and it is difficult to engage students in active learning in a classroom environment due to large class sizes. To address these issues, an open source discussion forum was modified and used for topical discussion outside of the classroom. Students were allowed to participate in a discussion about topics of their choice and were encouraged to rate their peers' contribution in forum. Overall, students evaluated the online forum discussion positively and provided suggestions for improvement.

INTRODUCTION

Using information systems (IS) is a pervasive organization phenomenon; it is hard to imagine that any organization could survive in today's business environment without support from some type of information system. A basic understanding of IS, therefore, is usually a requirement for undergraduate business students. In a typical undergraduate business program, students are first exposed to IS in an introductory course. As Bakke and his colleagues (Bakke, et al, 2007) point out, this introductory course is often too large, covers "a vast array of subjects", focuses "too broadly on most topics", enrolls students with "a variety of backgrounds and interests", and is often perceived as "impersonal". Moreover, students "often enroll in these courses primarily to satisfy graduation requirements rather than to satisfy an inherent interest in the subject matter. Hence, neither students nor professors are satisfied with the learning experience and, more importantly, graduates from business schools do not master fundamental IS skills before entering the professional world."

In this paper, we illustrate how an online forum discussion can be used to improve students' learning process and learning outcomes in such a large introductory course. An online discussion forum (or simply a forum) is a Web-based application that provides the ability to host a persistent threaded discussion. Three objectives provide guidance for designing an online forum discussion: 1) to make the learning experience enjoyable, 2) to increase students' interest in IS topics, and 3) to increase students' understanding of IS topics. In sum, the purpose of the online forum discussion is to increase students' learning in an enjoyable way.

The remainder of the paper is organized as follows. In section 2, we explain issues with the typical introductory IS course and discuss two pedagogical principles guiding the design of the online forum that we used. In section 3, we describe how the forum was implemented in a high-enrollment class over three successive semesters. In section 4, we evaluate the effectiveness of using the online forum and, in section 5, we discuss implications of online forum use.

DESIGN ONLINE FORUM DISCUSSION

Issues with Introductory IS Courses

While the content covered in an introductory IS course varies from university to university, the primary goal of the course is more or less the same: students need to obtain a basic understanding of the technological, managerial, and societal aspect of IS. In other words, students need to understand how IS works, how IS can be used to facilitate business processes and management decision making, and what societal issues arise from use of an IS. To accomplish this goal, a variety of topics are typically covered: different types of information systems used by organizations, database design and management, computer networking, wireless technology, the system development life cycle, and IS project budgeting and management. The underlying problem of covering so many topics in a single course is that instructors are not able to offer in-depth discussion for any of the topics. Moreover, students who have different background knowledge or different interests in the various IS topics may prefer to delve deeper into some topics while simply ignoring others. It is unlikely that in-class lectures and discussions, even when supplemented with first-rate text-books, will be able to meet all needs of all students.

Another issue with the introductory IS class is that it is often too large, sometimes enrolling more than 100 students in a section. In such a large class, meaningful student engagement is difficult to accomplish. Typically, a handful of students will regularly participate in class discussions, but many students are simply unprepared, passive, or silent (Felder, 1997; Bhagyavati et al., 2005). To address both content and size issues, we provided our students with an online discussion forum where they were encouraged to explore topics by posting links to recent IS-related articles found on the Web and by discussing the articles posted.

Two Pedagogical Principles Guiding Our Design of Online Forum

Two pedagogical principles guided our use of an online forum for the introductory IS course. The first principle was to engage students in active learning. As pointed out by Bakke and his colleagues (Bakke, et. al, 2007)

> There is consensus among pedagogical researchers that active learning techniques have a positive impact on the quality of students' learning (Astin, 1984; Association of American Colleges, 1986; Miller, 1988; Bonwell and Eison, 1991; House, 2002; Kvam, 2002; McClanahan and MCClanahan, 2002; Udovic et al., 2002). Active learning theory suggests that students become an integral part of learning process by studying ideas, solving problems, and applying what they learn.

Since many students are not bold enough to speak up in a large section class, discussion often resembles a private conversation between the instructor and a few of the most outgoing students rather than a broader dialog. Some students may be afraid of being embarrassed if they do not answer questions correctly or if they ask a "stupid" question. As a result, students often become passive listeners rather than active participants in the class. Given the difficulty in providing a classroom environment that supports active learning, we chose to create an opportunity outside of the classroom that would encourages students to actively seek information about course-related topics of interest.

The second principle guiding our forum is to allow students to control some aspects of the learning process. In addition to choosing topics of interests for the online discussion, they can also choose the time and place to participate in the discussion. Researchers have shown that people are more motivated to do or complete a task when they have choices regarding the task (Bakke, et al, 2007, Malone, 1980; Lepper and Malone, 1987; Liao and Tai, 2006) or have an opportunity to regulate their learning process (Csikszentmihalyi, 2000; Lin and Hsieh, 2001; Zimbardo, 2005).

USING ONLINE FORUM DISCUSSION TO FACILITATING LEARNING

Gill (2006) listed several ways to use an online forum to facilitate students' learning: A forum can be used to support assignments so that students can share ideas. A forum can engage students in case discussion or debate. A forum can also be used as a tool for workflow control, archival storage, and monitoring, so that multiple classes over

several semesters can accomplish a large project. In our case, an online forum was primarily used for topical discussion.

The potential for forum discussions to enhance student participation and learner outcomes has previously been established (Anderson and Elloumi, 2004, Corich et al., 2004). However, providing students with pertinent feedback and assigning a graded component for student contributions remains problematic – especially for high-enrollment classes (> 100 students) in which forum participation accounts for a significant portion of the overall grade in the course. As class size increases and instructional resources remain fixed, the quality of feedback that students receive (if they receive any at all) inevitably deteriorates to the point of being superficial (Rust, 2001). To overcome these problems, the existing ratings feature in an open source forum product (JForum - www.jforum.net) was modified to serve as a peer assessment mechanism suited for our purposes. Although student peer assessment may at times be biased or more lenient than instructor feedback, it can potentially provide timelier and more voluminous feedback than a single instructor can muster - advantages that outweigh a certain degree of irregular quality (Nilson, 2002-2003). In addition, students' accumulated peer ratings were used as one factor in determining forum and course participation scores.

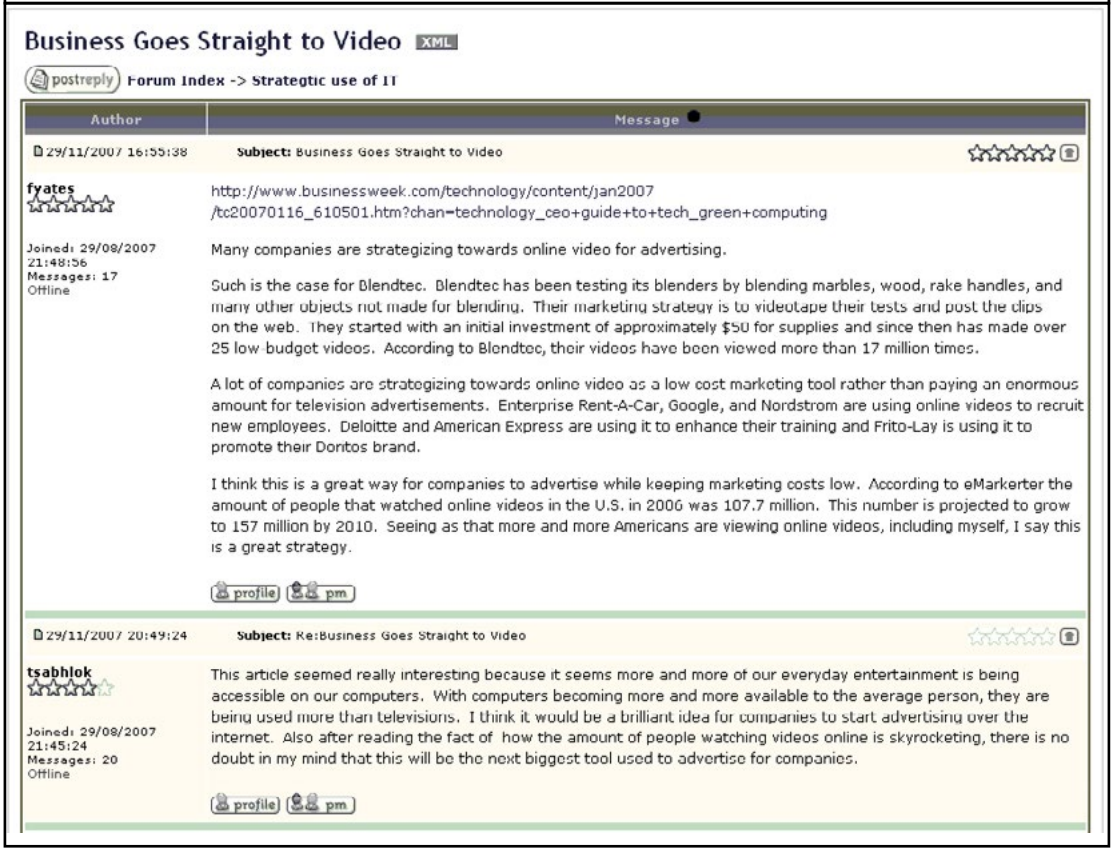
We used the online forum for a large IS introductory class in the fall 2006, spring 2007, fall 2007, and spring 2008 semesters. In each semester, two sections were offered, one in a lecture hall with a capacity of 180 seats and the other in a lecture room seating 140 students. The implementation and usage of the online forum varied slightly from semester to semester as we imposed additional posting constraints in the second academic year and added a new features allowing students' to view their "real-time" accumulated forum participation points online. Initially, there were two major posting areas on our forum: 1) "Lab", where students were to post questions about lab sessions held over the course of the semester, and 2) "IS Topics", which were grouped into various subject areas such as hardware, software, IT and the environment, and IT and ethics. In practice, students seldom used the forum to discuss their lab assignments. As the lab discussion component was not a high priority for pedagogical purposes, we will therefore focus our analysis on students' forum use for dialogue on the various IS topics.

In the first week of class in the Fall 2006 semester, students were tasked with locating 6 current and unique online articles (no more than 6 weeks old) and then initiating discussion threads in the forum by posting the URL of the article, a short synopsis, and, most importantly, a personal reflection concerning implications for individuals, organizations, or society at large. Students were also tasked with, over the course of the semester, reviewing and rating 18 of the articles (or threads) posted by their classmates. Peer ratings were indicated by a simple one star to five star rating reflecting the degree to which the article and originator's review was found to be interesting or helpful. Figure 1 presents an example discussion thread with associated reviews/ratings. The forum used for this study in one course section during the spring of 2008 can viewed online at http://cisr.cob.csuchico.edu/JForum2008S01/.

For each discussion thread a student originated, the student earned 12 participation points. In addition, a student earned 4 points for each review/rating posted. If, on average, a discussion thread was peer rated at 3 stars, 2 additional points (14 pts. total) were rewarded to the originator. A thread which averaged 4 stars received an additional 5 points (17 pts. total) and a 5-star thread received 9 bonus points (21 pts. total). Factoring students' peer ratings into their overall scores for forum participation was viewed as a means to encourage interesting and non-trivial contributions. Students were allowed to post bonus threads or reviews not to exceed 150 percent of the minimum requirements. In total, it was possible for a student to earn 300 points (30%) of their overall course grade through forum participation. Previous research indicated that when used in an educational setting, forum participation needs to account for a significant portion of a student's overall grade or it will not be taken seriously. Percentages between 30% and 50% have been suggested (Bhagyavati et al., 2005).

Our early observation of students' forum use was disappointing to us in that some students only input very brief comments about articles posted by others. Responses such as "great" or "sounds interesting" were not uncommon. To encourage students to input more detailed commentary, we imposed an additional requirement mid-semester insisting that students provide postings of no

FIGURE 1
SAMPLE FORUM POSTING

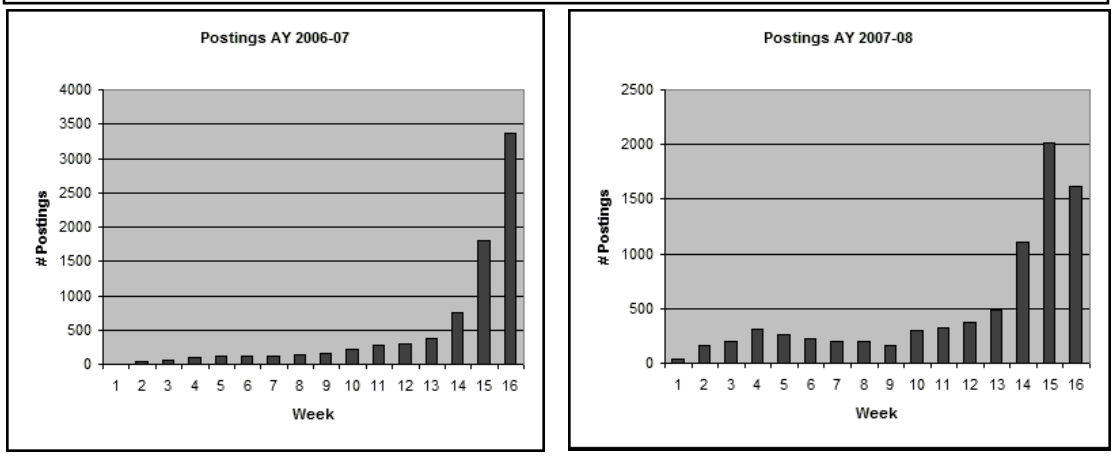


fewer than 50 words when starting a new thread, and no fewer than 25 words when making a follow-on posting to an existing thread. Subsequent observation indicated that this requirement not only reduced the number of trivial postings but also reinforced the requirement that students support their opinions by citing additional facts or relating personal experiences. In subsequent semesters, we imposed these word length requirements from the outset.

For the 2006-07 classes, students needed to manually compute the points accumulated from their various postings or else wait until the instructor posted points after running a batch calculation process. In other words, even though students could calculate points for themselves, they did not have immediate access to a single score showing their total forum participation points. For the academic year 07-08 classes, the forum software was modified to calculate average ratings and point totals on an on-demand basis. This added feature was well received by students.

The forum assignment was due to be completed anytime before final exams. Therefore, students could choose when to do the assignment - i.e. which articles to post and which threaded discussions to respond to. This allowed students to control their learning experience in terms of time frame and content. It also encouraged students to engage in active learning: they had to explore the Web to find articles in which they were interested and make a judgment about whether or not the articles might be of interest to or generate higher ratings from their classmates. They would need to actively think about the contents of the articles since they had to summarize them and comments about them. Also, they had to read others' posting and respond to those. The unhurried, interactive atmosphere provided by the forum was expected to nurture a positive learning environment and, ideally, increase students' interest in the class and their understanding of IS topics.

Figure 2
Postings by Week



EVALUATE EFFECTIVENESS OF ONLINE FORUM

There can be both objective and subjective measures of the effectiveness of using an online forum. One objective measure is the number of participant logins. According to Gill (2006), if forum participation is voluntary, then usage or activity statistics become important indicators of success. In our study, forum participation was a requirement in all semesters. Moreover, Jforum, the particular forum software that we implemented, was not configured to track individual login events. Nonetheless, charting the number of forum postings created on a week-by-week basis does provide an indication of the level of student engagement. The two summary charts presented below depict the pattern of posting frequency over the 06-07 and 07-08 academic years.

From the 06-07 posting chart, it is apparent that many students waited until very late in the semester to complete the forum assignment. In mid-semester, students were posting at a rate of only one entry every two weeks. In the final week of the semester, however, there were 3375 postings – an average of 6 postings per student. We had hoped that our students would use the forum more consistently over the course of the semester, but, in fact, more than half of all postings were accomplished in the final two weeks of the semester. The observed frenzy of last-minute postings was disconcerting. In an attempt to counteract what we viewed as wholesale procrastination, we programmed a change to the forum software to disallow posting of more than half of the overall requirements (3 articles and 9 reviews) in any one-week period. The effect of the additional constraint can be seen in the chart of AY 07-08 postings in which the number of postings in the final week of class is actually less than the prior week's tally. Even so, forum activity was still heavily weighted towards the last 3 weeks of the semester. In order for students to have a better opportunity to engage in thoughtful discussions over the course of the semester, we believe that an even more finely grained posting schedule should be instituted and enforced by the software.

In addition to objective measures of forum success, Gill (2006) suggested capturing subjective measures and points out that measures of a technology's impact on educational outcomes such as performance and satisfaction are important for situations in which participation is mandatory. Gill (2006) further reports that a detailed analysis of individual student contributions is sometimes used to measure performance (e.g., Hazari, 2004; Gill, 2005). Characteristics such as length, breadth, depth and quality can be used to assess overall discussion performance (Benbunan-Fich, 2002). Although we did not perform detailed textual analysis of students' postings, we did gather self-report data from students in the 12th week of the spring 2008 semester using an online survey instrument. The survey consisted primarily of 7-point Likert-style questions but also included one open-ended question for student comments. In most cases, we used multiple questions to assess student perceptions of forum characteristics. Although participation in the

survey was voluntary, students were encouraged to participate with an incentive of 25 class participation points, a 2.5% bonus. Students were required to have earned at least 50 points in the online forum before becoming eligible to complete the survey and the 50-point rule was enforced by software. Across both sections of the course, 188 out of 287 students total completed the questionnaire – a participation rate of 65.5%.

Our survey results indicated that students put a reasonable amount of effort into online forum discussion (Mean = 5.1) even though they did not report being particularly motivated to participate (Mean = 4.60). Generally, students rated online discussion quality quite positively along the dimensions of discussion breadth (Mean = 5.27), discussion depth (Mean = 5.03), and overall discussion quality (Mean = 5.28).

Briggs, et al. (2003) suggested that subjective measures of user satisfaction are appropriate for cases involving group interaction. Our survey used two survey questions to estimate user satisfaction. Students reported being moderately satisfied with both the way the forum discussion was used (Mean = 5.19) and with how much they learned from the online discussion (Mean = 4.98).

According to Gill (2006), the final category of effectiveness that should be considered is the degree to which a group discussion meets its design objectives. There were three objectives for our online forum: 1) Make the learning experience enjoyable, 2) increase students' interest in IS topics, and 3) increase students' understanding of IS. We used three questions to estimate attainment of objective of our first objective: 1) I enjoyed participating in the online forum discussion (Mean = 4.82), 2) the online forum discussion was an enjoyable way to learn about IS topics (Mean = 5.09), and 3) I had fun reading the articles and comments posted on the online forum (Mean = 5.07). Overall, our students agreed to a moderate degree that online forum discussion was enjoyable.

For objective #2, we used two questions: 1) In general, the online forum discussion increased my interest in IS topics (Mean = 4.76), and 2) as a result of participating in the online forum discussion, I become more interested in IS topics (Mean = 4.60). Overall, students reported only a slight increase in interest in IS topics resulting from their forum use.

For objective #3 we used four questions to assess what students learned from the discussion: 1) Online forum discussion helps me to know the latest trends in computing technology, 2) Online forum discussion increased my understanding of technological aspect of IS (e.g., how a particular technology works), 3) Online forum discussion increased my understanding of managerial aspect of IS (e.g., how can a technology facilitate business processes in organizations), and 4) Online forum discussion increased my understanding of societal impact of IS (e.g., legal or ethical issues caused by IS). Student responses indicated that the online forum helped them learn the latest trends (Mean = 5.31) and societal impacts of computing technology (Mean = 5.10) more than technological (Mean = 4.82) and managerial aspect of IS (Mean = 4.81). Students also moderately agreed with the statement "I obtained useful information that I would otherwise not able to obtain if not from online forum discussion" (Mean = 4.94).

We conducted a correlation test between students' overall evaluation of online forum quality and the number of points earned to date (R^2=0.15, p=0.022) and a correlation test between points earned and learning outcome satisfaction (R^2=0.18, p=0.027). The significance of the correlations indicate that students who had used the online forum discussion to a greater degree and had earned more points for doing so were more likely to report a favorable view of the online forum experience.

To get a more in-depth understanding of students' feedback, we added the following question at the end of the survey "Please write any additional comments". Of the 88 students who provided additional comments, 3 wrote unrelated comments, and only 7 expressed negative opinions regarding the forum assignment. The remaining 78 comments provided either neutral or positive overall evaluations. A summary of the positive remarks were that the online forum was easy to use, it was a fun and informative way to learn about IS, it helped students learn something that they would not have explored on their own, and it was a good way to communicate and interact with other students in such a large class. The following are examples of comments made by our students.

> Forum helped all of the students engage in IT discussions

> I found the forum very interesting. I really liked the responses I got back on some of my articles and it was nice to get other people's opinions on certain topics. I think that the forum was user-friendly and informative.

> I enjoyed using the forum [for the class]. It enabled me to interact with my classmates, learn interesting and new facts, and learn more about what is going on in the business world.

> It is a good idea because it forces you to learn something that you probably wouldn't have if it weren't for the forum.

> The Forum was a good way to gain information about new issues in the technology market. Instead of doing research yourself, it was a collaborative effort by the entire class and a whole cornucopia of different topics were brought up and you could find something interesting with relative little research.

> I thought the forums were very informative. I really did learn a lot about current computer related issues that I would have normally never have learned. I think the forums were the best part of [the class].

Students also made suggestions regarding ways to improve the online forum discussion. A number of students observed that many of their classmates waited until the last minute to participate in the online discussion and they suggested that there should be a means to spread the posting activity across the entire semester rather than have it cluster at the very end. Students also suggested that there should be improved quality control to ensure that posting are more relevant to the assigned topics of discussion. Students further suggested that scoring their participation in the forum should be more explicit and straightforward and that there should be fewer postings required of each student. Among the comments we received regarding students' posting habits were the following:

> "I like the [forum] requirement. Maybe requiring a certain # of postings by the midterm might help spread out the postings a little more.

> I think it would be more effective if the requirements were spread out more. for example having a post due once a month rather than four at the end.

> I did enjoy the forum, but thought there were almost too many postings required. I think that each student should have to post 2-3 articles, and maybe 8-10 replies.

> The point system was confusing.

While the majority of the written comments were quite positive, we wondered why the students' overall rating was lukewarm. There might be several explanations: First, those students most likely to take time to type in a specific comment might have been those who had the most positive overall experience using the forum, whereas students who had negative overall perceptions of forum use may have chosen not to comment. Second, many students simply had little interest in the class or in the various IS topics. They took the class simply to fulfill a business school graduation requirement and not out of any inherent interest. As a result, they may have cared little about the instructional methods or how much they actually learned. The following three comments provide examples:

> I understand the need for a forum and, for a class like this, it is an appropriate addition. But I did not enjoy being required to post topics, especially when, even though I have respect for all computer topics, have very little interest in the topics.

> The forum is a cool feature. But it isn't something that kept me interested in IT. This can be due to my already existing lack of interest in IT.

> I found the forum very challenging because the information learned in this class does not interest me very much. I know that it is very useful, and you did a great job with the class! I think the forum made me think about IS in a more critical way then I normally would have.

In regards to the peer rating component of the forum assignment, only four students expressed negative comments explicitly about this feature. One student suggested that the grading should

be based entirely on the teacher's evaluation and not on peer evaluations because the popularity factor forced students to choose articles that their college students peers would find inherently interesting. For example, postings regarding Apple's iPhones and other mobile devices were very popular as were postings regarding sustainability or green computing.

In sum, while students' overall evaluation of the online forum discussion was positive, there might not be too much room for instructors to increase student interests in IS topics where that interest is lacking before students enter the classroom.

DISCUSSION

A typical IS introductory course usually faces two challenges. One challenge is that there are too many topics to allow in-depth discussion of any particular topic. The other challenge is that class sizes are often too large to engage students in meaningful class participation. To address both challenges, we used a Web-based discussion forum complemented with an integrated peer-rating system for discussion of IS topics outside of the classroom. Based on statistics regarding students' participation and students' survey results, the forum was largely a success. First, the forum involved students in discussion to a greater extent than classroom discussion did. For a typical high-enrollment class, classroom participation is limited to a small cadre of students, whereas our online forum discussion involved nearly all students in discussion of multiple topics. Second, according to our survey, students agreed to a moderate degree that the online forum discussion was enjoyable and that their interests in and learning about IS topics had been increased due to involvement in the forum discussion. The peer rating system was also well accepted by most students. In sum, the online forum did allow students to engage in a wider exploration of topics of interests, and many students encountered information they otherwise might not have investigated.

Although the forum use appears to have been moderately successful, the following limitations should be borne in mind when evaluating our results. First, we did not record the number of logins for individual students. Doing so may have given us more insight into the degree of students' engagement with the forum. We were, however, able to use timestamp data to track the rate at which postings were made over the course of the semester and we charted this on a week-by-week basis. Second, we did not conduct content analysis of students' postings in order to assess the depth, breadth, and overall quality of forum discussion. Instead of having both objective and subjective measures, we used students' self-report data to gauge discussion quality.

Overall, students' rating of the online forum discussion was lukewarm, and not as good as we had anticipated. We speculate that the reasons behind the lukewarm reception may include: 1) our students in general lack any inherent interests in IS topics before enrolling in the class and, as a result, it was difficult to motivate them to engage more deeply in the learning process; 2) the content of the forum discussion was allowed to diverge into topics related to lecture content but not explicitly mentioned or covered in class lectures. Therefore, many students may not understand all of the concepts needed for discussion of a particular IS-related topic brought up in the forum; and 3) many students postponed their engagement in the online discussions until the final weeks of class. This phenomenon resulted in a foreshortened span of time for many discussions and precluded students' having the in-depth learning experience we had expected. As for issue #1, students' lack of interest, in future studies we believe it will be informative to assess students' interest in IS topics and IS classes both at the beginning of the semester and then again toward the end of the semester. This would allow for an estimate of the degree to which the online forum in particular and the IS course in general served to increase students' interests in IS topics. In regards to issues #2 and #3, we anticipate that requiring a weekly posting on a topic covered either in lecture or in the assigned readings might serve to supply additional motivation and to keep discussion focused on topics upon which all students should be able to converse. In addition, as instructors, we might also post some "seed" articles for a particular week for students to read and comment upon. By doing so, we have a ready mechanism to make available additional ad-hoc reading material that complements our basic course content. In addition, we have a venue by which to influence the course of "outside" discussion.

Despite the challenges discussed above, we believe that online forum software can be used

(and also improved or customized) by other instructors in order to increase student learning outcomes in an IS introductory course. We hope that sharing our experiences will give other instructors (and developers) insights into the use of, and possible enhancements to the design of, online forum systems.

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Appendix A

Objective 1 (make learning experience more enjoyable): question 5, 6, and 7

Objective 2 (increase students' interest in IS topics): question 8 and 9.

Objective 3 (increase students' understanding of IS topics): question10, 11, 12, 13.

Usefulness of online forum: 14.

Perceived motivation, 18

Perceived effort: 16, 17, 18, and 19

Discussion quality: 20, 21, and 22.

Peer rating feature: 23

Peer rating quality: 24 and 25

Satisfaction: 26 and 27

Survey of Online Forum Discussion							
1. How old are you? _____							
2. Sex: Male _____ Female _____							
3. I am in Class _____							
4. How many years of full-time work experience do you have? _____							
	1 = Strongly Disagree			4=Neutral			7=Strongly Agree
5. I enjoyed participating in the online forum discussion.	1	2	3	4	5	6	7
6. Online forum discussion was an enjoyable way to learn about IS topics.	1	2	3	4	5	6	7
7. I had fun reading the articles and comments posted on the online forum.	1	2	3	4	5	6	7
8. In general, online forum discussion increased my interest in IS topics.	1	2	3	4	5	6	7
9. As a result of participating online forum discussion, I become more interested in IS topics.	1	2	3	4	5	6	7
10. Online forum discussion helps me to know the latest trend of computing technology.	1	2	3	4	5	6	7
11. Online forum discussion increased my understanding of technological aspect of IS (e.g., how a particular technology works)	1	2	3	4	5	6	7
12. Online forum discussion increased my understanding of managerial aspect of IS (e.g., how can a technology facilitate business processes in organizations).	1	2	3	4	5	6	7
13. Online forum discussion increased my understanding of societal impact of IS (e.g., legal or ethical issues caused by IS).	1	2	3	4	5	6	7
14. I obtained useful information that I will otherwise not able to obtain if not from online forum discussion.	1	2	3	4	5	6	7
15. I was motivated to participate in online forum discussion.	1	2	3	4	5	6	7
16. I made serious effort to participate online forum discussion.	1	2	3	4	5	6	7
17. Before I wrote comments about a posted article, I usually read the original article in addition to the synopsis posted by my class mates.	1	2	3	4	5	6	7
18. Before I wrote comments about a posted article, I usually just read the synopsis and not the original article.	1	2	3	4	5	6	7
19. I always carefully evaluate the quality or usefulness of the article before I post it on online forum.	1	2	3	4	5	6	7
20. The breadth of online forum discussion of IS topics is good.	1	2	3	4	5	6	7
21. The depth of online forum discussion of IS topics is good.	1	2	3	4	5	6	7
22. Overall, the quality of online forum discussion of IS topics is good.	1	2	3	4	5	6	7
23. I like the feature of peer rating of the online forum discussion.	1	2	3	4	5	6	7
24. The ratings I have received for my postings in the forum seem reasonable to me.	1	2	3	4	5	6	7
25. I am thoughtful and conscientious when I review and rate posting from other students.	1	2	3	4	5	6	7
26. I am satisfied with the way the forum discussion was used in this class.	1	2	3	4	5	6	7
27. I am satisfied with how much I learned from online forum discussion.	1	2	3	4	5	6	7
28. Please write any additional comments in the following box.							