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Effectiveness Of Online Discussion Forum For Case Study Analysis And Assessment

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ABSTRACT

Business schools are exploring new pedagogical approaches to learning including asynchronous media. This paper analyses the effectiveness of online discussion forum for case study assessment in a post graduate unit in an Australian business school. Analysing quantity and quality of online postings and comparing student performance with previous cohort, this study observes a significant improvement in student learning and academic performance. Appropriate design and delivery strategies and clear assessment criteria of asynchronously using online discussion forum for teaching cases, have provided an effective learning vehicle for students, helped them overcome their own language related barriers, encouraged them to participate in a non-threatening environment. This further complemented to the benefits of peer-to-peer learning and case study pedagogy. Increase in workload for students and marking load for academics, and measuring the value of learning, however, are some of the challenges that need further attention by researchers.

Keywords:

Online discussion forum, case study, assessment, effectiveness

INTRODUCTION

The benefits of using online discussion forums and peer to peer learning for enhancing student learning are well known. In spite of that, the usage of online discussion forums in business education in general and for assessment purposes in particular, is limited. Further, difficulties of devising an online assessment and incorporating the benefits of case study pedagogy into this online forum have posed further challenges to educators in the design and effective management of these activities. Driven by the increasingly competitive higher educational environments, higher expectations of students, cultural diversity of the student population and limited availability of resources, higher educational institutions are exploring new pedagogical approaches to learning.

This paper discusses the rationale, approach and effectiveness of one such pedagogical approach that blends online discussion forum and case study analysis in an Australian business school. The objective is to combine the benefits of case study method of teaching with the online discussion to enhance the quality of learning, and, make it an assessment component in order to ensure active participation from students. This study will first briefly review the literature on the strengths and weaknesses of case study methodology of teaching and learning in class rooms, and the pedagogical use of online discussion forums in higher education context. It will then explain the approach and methodology adopted in designing and implementing a case study based assessment component that incorporates online discussion forum in a business school. It will discuss the effectiveness of this pedagogical approach and the challenges.

LITERATURE REVIEW

Background and significance

Increasing class sizes, reducing resources and widening diversity of students' cohorts (Boud et al. 2000) have placed demands on higher education to explore new pedagogies (O' Leary 2005). Online learning has become a significant component of course delivery in higher education today (Dykman and Davis 2008). Considering the strengths of online learning and face-to-face delivery modes, blended learning model that includes the use of online discussion forum, has been one response to the changing higher educational climate (Napier & Smith 2009). Online discussion forums can potentially improve students' critical thinking and problem solving skills, decision-making ability, written communication skills and their ability to organize and analyse information (Zalpaska et al 2004). Case studies, on the other hand, are proven to be an effective way in which students can be encouraged to relate theory to practice (Hackney et al. 2003) and is a common pedagogical technique used in many business schools (Greenhalgh 2007). Over the past 15 years, asynchronous electronic discussion forums have been widely adopted as tools for online learning (Liang & Alderman 2007). Many business school academics have also started using them for teaching via the case method (Brooke 2006). While learning goals of online case discussions and face-to-face case discussions are generally same, there is relatively little research focusing on the online case-method pedagogy and assessment in business education.

Review of studies on online discussions in higher education has concluded that they are feasible and that they are viewed positively by students, and the process and outcomes are as good as its face-to-face version (Luppicini 2007). What is not yet clear is what accounts for the variability in the quality of online discussions. The experimental, quasi-experimental, and descriptive studies relevant to this question have not produced coherent knowledge about how and when online discussion groups perform better or worse. Factors such as structure of the online environment, prior ability of students, facilitator's style and participation, however, appear to have some influence on the quality of the discussion and the outcomes. Though best practices and strategies were suggested, there were no studies that measured the effectiveness of the design and delivery of online case discussion and assessment in a business school context. Rather than comparing face-to-face and online groups like in previous studies, it is now necessary to directly investigate online groups engaged in case-based discussions and analyse the effectiveness.

With the objective of analysing the effectiveness of online discussion forums in a case study pedagogy context, this study first presents a brief review of the literature on the use of asynchronous media (discussion forums) with a particular focus on business education using case-based instructional methods. While some studies examined educational applications of online technologies in broader terms (Hammond 2005, Luppicini 2007), others suggesting best practices and strategies (Rollag 2010), this research will build on existing studies and evaluates the effectiveness of the design and delivery of an initiative that involves teaching cases through online discussion forums.

Case study assessment through online discussion

Lack of participation and dominance of a few handful students in the class room is the main challenge in asynchronous discussion forums. As demonstrated by Swans et al (2000), grading or assessment is the currency that students deal in. Therefore, it is logical to grade students for their efforts and contribution to these online discussions. There, however, is a risk that interaction might become constrained because of the consequent fear of losing marks because of the introduction of grading. For example, the learner may think that by opening up too much on the discussion forum, he/she might expose their lack of knowledge or a level of understanding that could count against him/her. Therefore, unless a discussion forum proceeds in a non-threatening environment, the desired learning outcomes could not be achieved. As observed by Harlen and Deakin-Crick (2003), the motivation for learning can be discouraged unwittingly by assessment and testing practices. The negative impact could be worse if the weightage for the assessment task is relatively higher. In an era where the need to foster life-long learning, self-directed learning, and to develop 'learning to learn' skills are widely accepted and encouraged, the potential negative impact of online assessment is an obvious concern for educators. Even though collaborative learning is critically important, and that the technology is a powerful enabler that match what is needed for discussion and collaboration, the extent to which asynchronous discussion forums succeeded in enabling learning are questionable and lacks sufficient empirical evidence.

Even though, the role of understanding technology in facilitating learning has been identified as an important research objective in business education, there is relatively little research focusing on online case method pedagogy and assessment in business education (Webb et al. 2005) other than some discussion of the best practices and strategies (Rollag, 2010). Adoption of hybrid or blended model of education that combines the mix of classroom and asynchronous and distributed learning environments, however, has been the recent trend in higher education (Cookson, 2002). Driven by increasingly competitive higher educational environment (Symmonds 2003), these hybrid models have resulted in the convergence of the traditional classroom and online learning modes (Shale 2002). Effects of these hybrid models of learning that combine traditional classroom case study pedagogy with the asynchronous media such as online discussion forums on learning outcomes and processes is, however, not well understood leading to the adoption of many different approaches (Smith, 2001).

Two studies have examined how students perceive online case method pedagogy in business education. Jonassen and Kwon (2001) observed that the perceived students' satisfaction and perceived quality of the discussion process and outcomes, was higher for members of the online group when compared with face-to-face groups. They observed that online groups went through more cycles of the ideal problem solving process which involves defining the problem, orienting the discussion and developing a solution. Their study found that online groups produced less amount of verbal interaction than their face-to-face counterparts (Jonassen and Kwon 2001).

Comparing groups working under different 'doses' of online component in case method instruction from purely online to purely face-to-face, Webb et al (2005) found that members of groups who were under the heavy online conditions had more positive perceptions of peer interaction during the discussion. The online groups outperformed the face-to-face students in terms of conceptual and factual knowledge about the case discussed. These findings however must be treated with cautions, as there are differences in the cases and topics taught to these two different groups. It is also possible that students in online groups had obtained better score because of their newly developed skills rather than because of the increasing dose of online discussion.

There are other studies that reported some challenges in online case based discussions. For example, Valaitis et al (2005) reported some confusion about navigation of online environment by nursing students. Similarly, Concannon et al (2005) found that some students (in the context of a large accounting class) who are not particularly fond of computer technologies tend to overlook critical aspects of the online environment. Online case discussion forum can be viewed as just another technology enabled tool and the principles of technology acceptance - usability, ease of use etc. will be equally applicable here. The availability of tool does not necessarily mean that students (users) will use it or perceive it as useful, and is influenced by other external factors such as incentives to participate, perceived value of those tools and past experience of the students in using those tools.

The quality of online discussion has also been addressed by descriptive studies using content analysis. Findings are mixed, with more results pointing to the difficulty of facilitating students' critical thinking or cognitive engagement. For example, Zhu's (2006) analysis of topical discussions in several undergraduate, graduate, and professional courses found that only 15-25% of the content were judged as cognitively deep. Similarly, in an analysis of education students' discussion of authentic cases, Angeli et al (2003) found that only 9% were justified (theoretically-based) claims or opinions, while 49% were unsupported or personal opinions. Other studies have also found low levels of critical thinking (de Wever et al., 2006; Garrison & Vaughan, 2008). One study which found high levels (at least 55%) of critical thinking in the online discussion was Hara et al (2000). As the discussion indicates, there is relatively little research focusing on the

online case-method pedagogy and assessment in business education and the findings are not consistent.

This research study addresses the impact of blending online discussion forum with the case study pedagogy and incorporates a significant assessment weightage to encourage active and quality participation. The findings will have the potential relevance to both higher education (Smith 2001). The findings of this study will contribute to the literature on case study pedagogy in online context, an area where existing research findings are limited (Webb et al., 2005). Next section gives a background to this particular study in an Australian university business school and explains the methodology and approach.

STUDY APPROACH

Background to the study

An online discussion of case study is designed as an important assessment component and incorporated into this unit using some of the strategies suggested by Rollag (2010). Case study pedagogy is an established method employed in many post graduate classes in this university business school. An assessment is designed blending the online discussion forum and case study pedagogy. Recognizing the well documented benefits of asynchronous media and collaborative learning and taking advantage of the support and resources made available, author has initiated this research study.

About the unit

The post graduate unit is titled 'business process integration' and aims to demonstrate the benefits of business process perspective, and information, process and technology integration to students. The focus in this unit is to develop a thorough understanding of business processes, integration, enterprise systems concepts and change management associated with their implementation and post-implementation. Building on the basic knowledge of business information systems, management, accounting and other business processes, information flows, functional understanding (such as marketing, accounting) learnt in other units, and drawing knowledge from sales/marketing, accounting, logistics and human resources disciplines based subjects studied earlier, this unit aims to develop a multi-disciplinary view of the business. The conceptual content that is covered in this subject includes business processes, business cycles, making a business case for the need, selection and implementation of enterprise systems, implications of ES implementation for organizations emerging from the latest research on enterprise systems. The unit incorporates variety of teaching methods that include lectures, case study discussions, laboratory demonstrations of the SAP software, hands-on exercises on the SAP software and emphasizes both conceptual and theoretical content as well as procedural knowledge of the software.

Assessment task and its administration

The assessment task incorporates online discussion forum and case study pedagogy in this unit. This online case study discussion is one of the key assessment components and requires students to answer the questions that deal with the challenges in the implementation of enterprise systems, critical success factors and challenges in post-implementation. The objective was to help students demonstrate their ability to work collaboratively using online discussion forum moderated by the lecturer and resolve their differences in developing an optimal solution using synergies generated through collective wisdom and peer-to-peer learning. It requires students to participate in an online discussion forum on a weekly basis for 4 weeks in a semester that spans 13 weeks. During this time, they are expected to demonstrate their individual ability to apply the concepts and theories of enterprise systems and suggest workable solutions to the problems/issues raised in a comprehensive case study.

All students were given a comprehensive case study that deals with the enterprise system implementation (about 7 pages length) in week 3. As it is important to get the discussion going in right direction, the instructor explained the learning objectives of the case study, its background, and intended discussion flow. Prior to this, in weeks 1 and 2, two class room based short case study discussions were conducted to give students some understanding of the content related issues and to give some practice on case study analysis. Four questions were set on the case study. First question was posted in week 3. Second question was posted in week 4 and third question in week 5 and the fourth question in week 6. The objective of posting these questions, one at a time was to synchronize the questions with the lecture materials and to manage the flow of the discussion. Each question was designed to deal with one aspect of the enterprise systems discussed in one or two weeks lecture prior to the posting. The objective was to provide theoretical understanding of the issues to students before they attempt to answer the case study question. In order to narrow down their focus on one aspect at a time and to concentrate on the issue at hand, these questions were posted one after another in the online blackboard so that students do not have any idea of the questions and specific details that would appear subsequently.

Students were expected to post their responses within that time frame in the relevant thread created in the blackboard discussion forum. Frequently, depending upon the need facilitator/lecturer will participate in the discussion. Facilitator was monitoring the discussion by providing clarifications on the questions, asking leading questions, correcting major deviations and kept the discussion focused on the main issue. In order to limit the grading load and also to encourage students to reflect, read others' views and build on them before posting, a limit of three responses per question per student was set. Though this limits is set, the number of postings made per question is not a criteria in the assessment grid and focus is on the quality of postings.

Students therefore were asked to post on etot hree submissions in the discussion forum. In addition, they were encouraged to read widely outside the text book and lecture

notes and provide references to their responses in the forum. Once the deadline has passed for a particular question, students were not allowed to edit the responses. They, however, are allowed to see the responses already posted by all the students and use that knowledge while answering the next question.

At the beginning of the semester, a sheet detailing the expectations of students and the assessment criteria were given to students. This assessment criterion was designed considering the learning objectives of this assessment component, practicality of administering the grading and key principles of assessment design. The dimensions and their descriptors for grading purpose were developed from several sources such as Oxford Brookes University's business assessment criteria grid, Washington State University's guide to rating integrative and critical thinking and this university business school graduate attributes. The criteria thus developed consists of five dimensions – i) identification of issues and problems, ii) consideration of context and application of theories and principles, iii) analysis of data and evidence in the case study, iv) effective written communication and, v) responsive contribution and integration.

Students were given a grid that explains each of the dimension in a scale of 1 to 6 (1 to 2= Poor; 3 to 4 = Average; and, 5 to 6 = Excellent) with some descriptors. For example, the dimension of 'responsive contribution and integration' is described as 'Poor' when the student "*simply mentions other contributions but neither explains the relevance nor adds to it"* and/or when there is "*no evidence of integrating other's views and perspectives*". Similarly, it is termed as average when student "*makes references to earlier works that are starting point for new ideas, but not much information is incorporated*", and/or makes "*rough comparison and integration of multiple viewpoints*." A response is rated 'excellent' when the student "*links ideas posted by others to their own, responds to others' contribution by elaboration, critique, demonstration of linkages among earlier contributions, and/or utilization of an earlier contribution as a foundation to build his/her own,*" and/or if there is "*evidence of integration from a variety of sources and timeliness of posting*." Thus, the objective of this assessment grid was to provide students some information about the expectations and requirements in providing their responses and to encourage them to take advantage of the benefits of collaborative learning and case study pedagogy. As the focus is on the quality, the assessment grid does not contain any information about the number of postings.

Data collection and analysis

Students' responses for each of the question were the primary data used in this study. In addition, students' perception of the entire process was also being collected using semi-structured interviews. The approach taken in the analysis was to content analyze the responses of students and examine their feedback on the effectiveness of this online assessment task and its pedagogical benefits. The content submitted by the students in response to the case study questions were used to help determine the acceptability of the task in terms of the following criteria – effectiveness of the case study methodology in helping to develop skills and knowledge, its contribution to the achievement of the main learning outcomes and its ability to reinforce the theoretical concepts taught in the class. Further in the interviews, participants were asked to give their views on the structure of the learning environment including the online discussion forum, appropriateness of the weightage assigned to this assessment task, timing and level of difficulty of the case study questions and participation by the academic as a moderator. From a total sample of 48 students, 8 students have volunteered to be interviewed and provided a qualitative feedback.

The objective of content analysis was to assess the quality of responses and online discussion interaction. Rather than positioning the discussion interaction as a dependent variable along with the learning outcomes, a post-hoc measurement approach was used in this study as suggested by Baron (2003). According to this, the discussion interaction and quality of the responses were considered independent variables in relation to learning outcomes. Baron (2003) suggests alternative ways of conducting content analysis which involves qualitative analysis of the discussion or focusing on the responses related to proposed solutions to the case study questions. The second approach was adopted in this study which involves qualitative analysis of the student responses. The preliminary analysis of this qualitative data, findings and anecdotal evidence collected in this study are presented in the next section.

ANALYSIS AND FINDINGS

Demographics:

Demographics of the 48 respondents participated in this study are presented in table 1 below. As noted in the table, 68% of the participants were international students from countries such as Hong Kong, Singapore, Thailand, Indonesia, China, India, Pakistan, Bangladesh, Scandinavian countries, Germany and USA. Even though this unit was offered by the business faculty, 41% of the students enrolled in this unit came from the schools of information technology, computer science and engineering and the remaining from business school.

Table 1 Demographics of respondents

C	haracteristic of respondents	Percentage
1	Proportion of International students	68%
2	Students from Information technology, computer science or engineering	41%
3	Percentage of students currently employed	38%
4	Percentage of students below 25 years of age	65%
5	Percentage of students with previous work experience	42%
6	Percentage of students who have completed more than 4 business related units/subjects	35%
7	Percentage of students who have completed more than 4 information technology/systems related units/subjects	42%

On the employment indicator, data revealed that 38% of the students were currently employed while 42% of the students have some previous work experience. With more than 65% of the students below the age of 25 years, age was not considered a major differentiating variable.

Previous knowledge of business functions, business processes, information systems and technologies gained in other units is expected to determine the prior content knowledge student may have and therefore can have an influence on their learning experience in this unit. Therefore data on the completion of previous units before enrolling in this unit was collected and presented in the table above.

Quantity of responses

Each participant is expected to submit responses to four questions posted in the online discussion forum. There were 268 valid responses for all the four questions, i.e., on average 67 responses per question or 1.40 responses per question per student. The number of the responses posted by the participants is presented below. As shown in the table 2, the number of responses per student has gradually increased from 1.1 per student for the question 1 to 1.63 per student for question 4 and demonstrates gradual increase in students' interest and intensity of their participation in online discussion by increasing the number of submissions.

Table 2 Number of responses posted by student

Number of responses posted by students	Question 1		Question 2		Question 3	
	No	%	No	%	No	%
ZERO	1	2%	0	0%	0	0%
ONE	42	88%	37	73%	28	62%
TWO	4	8%	8	17%	13	25%
THREE	1	2%	3	6%	7	11%

Except the third question all the remaining three questions are content based and deal with subject specific issues such as enterprise systems implementation challenges and critical success factors. The third question also deals with the enterprise system, but requires students to develop an artefact, a mapping structure for implementing the enterprise system. Even though each student is allowed to post up to three responses to each of the question, very few posted three responses. Though this proportion has gone up from the first question to the fourth one (2% to 11%), a majority of students simply posted one response. Even though the marking grid supplied along with instructions for the case study assessment clearly specified the frequency and number as one of the criteria, a large proportion (about 70%) of students submitted just one response.

Timing of responses

In terms of timing, about 50% of the respondents posted their response on the due date, while about 25% of students posted in the first two days. As shown in table 3 below. Most of the students who have posted in the first two days, have posted second response suggesting that they have read other postings.

Table 3. Timing of responses posted by students

Timing of responses posted by students	Q1	Q2	Q3	Q4
First response posted in the first two days after question is made available	20%	28%	32%	38%
First response posted on the due date	55%	40%	37%	32%
Response posted between day 3 to last day	25%	32%	41%	30%
Sub total – responses	100 %	100 %	100 %	100 %

Analysis of the responses suggests that students were hesitant to submit their comments in the initial stages and are generally waiting for a leader to post first. About 20% of the respondents submitted their first response in the first two days while about 55% of the students submitted their response on the last day for the first question. This, however, has improved as the students become familiar with the process and started realizing the value of collaborative learning. For the fourth question, number of students who submitted their response on the first day increased from 20% to 38%, while the percentage of students who submitted their response to the fourth question on the last day has improved from 55% to 32%. Thus there is clear improvement in the frequency of participation and the intensity of participation in the online discussions.

Quality of responses

Based on the criteria set out for assessment purposes, the quality of written responses was analyzed and a summary is presented below (table 4). One of the objectives of online case discussion is to facilitate exchange of ideas, views and information among students, and peer-to-peer learning and develop the solutions using the collective wisdom. It is therefore important to check whether there is any evidence that students are reading and understanding each other's ideas/contributions. It is necessary to analyze whether students are building one each other's contribution by elaborating, criticizing and/or integrating.

Table 4 Summary of analysis

Content analysis	Q1	Q2	Q3	Q4
No evidence that the student read/understood others' ideas/contributions	56%	44%	54%	34%
Responding to others contribution by elaboration/critique or building up	15%	21%	31%	36%
Evidence of good analysis of the case study data	32%	41%	39%	44%

Evidence of using & citing other sources/references in the response	17%	18%	21%	24%
Demonstrable understanding of the questions and identification of issues in case study	21%	27%	33%	39%
Effective written communication	64%	72%	56%	71%
Evidence of pooling different ideas, expertise and information in the development of an artifact (related to question 3 only)	NA	NA	45%	NA

Analysis of the responses as shown in table 4 revealed that about 56% of the students did not show any evidence of that for the first question. This has gradually improved and for the final question about 66% of the students have demonstrated this characteristic in their response. Similarly, while only 15% of the students have responded to others' contribution and developed a solution for the first question, about 36% demonstrated such skills for the fourth question. From the data it is clear that students are reading each other's views and responses and adding further using their own references and knowledge. Data confirms gradual improvement through collaborative learning, a key objective of introducing asynchronous discussion forum. Because of the clear instructions at the beginning of the case study discussion, none of the responses are simple and irrelevant such as "I agree", "I disagree", or similar and every response is consistent with the criterion. On the effectiveness of the case study pedagogy, analysis revealed that there is good evidence of improvement from the first question to the last question (from 32% to 44%) on different aspects as shown in table 3.

Academic performance

In order to measure the impact of online case discussion on the academic performance of students, the grading of the current cohort of students in this assessment component was compared with a previous cohort of students in the same unit. In the past students were asked to submit a written analysis of the case study after face-to-face discussion of the case study in the class room. On line discussion forum has not only increased students' participation in the case study discussion and also contributed to increased academic performance. The table below gives an indication of their overall academic performance for each of the question and overall assessment and compares with the previous cohort of students.

Table 5 Performance in the Assessment task

Performance in the assessment task	Current Cohort of students (with online discussion forum)						Old cohort *
	Q1	Q2	Q3	Q4	Overall		
Average and below average performance	60%	46%	40%	38%	46%	77%	
Credit performance	34%	40%	38%	36%	37%	16%	
Distinction performance	6%	14%	22%	26%	17%	7%	
Total	10	100	100	100	100	100	

* This cohort of students did not have online discussion forum for case study analysis and assessment.

Grading data shown above reveals consistent improvement from the first question to the fourth question. As pointed out earlier, in addition to the improvement in quantity and quality of responses has improved from question 1 to question 4, online discussion of case study has facilitated improvement in academic performance also. Thus the asynchronous media has facilitated collaborative learning and improved learning.

Improvement in learning

In order to determine whether this model of learning (case study analysis through online discussion forum) has contributed to improvement in learning or not, a comparison was made with the previous cohorts of students where no such asynchronous medium was used. Except this assessment component, all the remaining aspects of the unit were exactly similar to the current one in terms of the learning outcomes, content, delivery methods and general assessment components. For the previous cohort of students, a case study analysis was used as an assessment component, while the same case study analysis is used to the current cohort of students using asynchronous medium for discussion and submission of students' responses.

Using independent samples t-test at 5% significance level, the actual performance of the students in this assessment task as well as the teaching evaluation are compared between these two groups of respondents. This comparison reveals a clear improvement in the overall performance of students in the assessment task as well as in their feedback on the unit through student evaluations of unit and teaching at the end of the semester. It is therefore safe to conclude that the asynchronous medium used for case study analysis has not only improved student learning in terms of achieving the learning outcomes, it also contributed to the effectiveness of teaching and learning measured in terms of the improved unit evaluations. A summary of the t-test results are presented below.

Table 6 t-test results: Differences between two cohorts of students
(one with online discussion case study assessment and one with written assessment)

Construct	Independent variables & significance	Values
Performance in the case study task	• Online assessment cohort (48) • Normal assessment cohort (42) • T-value • Significance	65.9 56.4 5.065 0.000*
Overall teaching evaluation score	• In online assessment (48) • In normal assessment (42) • T-value • Significance	4.10 4.52 3.098 0.000*

Subject evaluation score in this unit has marginally improved from 4.1 to 4.52 in a scale of 1 to 5. The curriculum and delivery of this unit are quite different from other standard units delivered by this school. This unit incorporates SAP, an ERP software solution and teaches students the concepts of business process integration and enterprise systems along with SAP software skills. The curriculum incorporates hands-on laboratory sessions and these hands-on components typically made this unit interesting and contributed to good evaluations i.e. 4.10, before introducing this online discussion assessment. The introduction of online discussion forum has further contributed to improvement in learning as well as in students' satisfaction. In qualitative feedback, a significant number of students (62% of them) pointed out online discussion forum as an important learning component. Informal feedback and comments from students also reflect a generally positive endorsement to the online discussion. They have observed that the exchange of views and ability to asynchronously post their responses online have encouraged them to interact more and better and facilitated their learning. They have acknowledged the benefits of peer-to-peer learning which they believe would not have happened without this online discussion. This online discussion has also helped them better in deriving the benefits of case study pedagogy. Thus, significant improvement in the quality of responses and observed improvement in students' academic performance on this particular assessment task indicates the contribution of this strategy to deep learning, given the structure of the assessment and content.

Challenges

In spite of such positive endorsement, some challenges are identified. They include reported increase in students' workload because of the online discussion forum, inability to freely express their ideas and views because of the assessment involved, restriction to the number of postings per student per question, in sufficient moderation by the lecturer and some subject-related issues. About 85% of the participants believed that the weightage given to the assessment task was appropriate and motivated them to actively engage in the discussion and learning. Some students, however, viewed the weight given to this single assessment component (15% of the overall assessment weight), as a major constraint in freeing up the discussion. About 10% of the participants observed that their participation would have been better and creative if there were no assessment attached to this online discussion. Past experience of this author teaching this unit, however, suggests that participation and submission of case study discussions were very limited (practically none) when there was no assessment attached to it.

Academic administration of this online discussion forum has been a challenge. With each student posting on average 1.6 postings per question the total number of postings have reached about 300 and enormously increased the marking load to the academic. In addition, the need to monitor the discussion forum, edit some unhelpful comments, redirect the debate to the issues relating to the subject content and to provide hints have all added to the normal teaching and administrative load. In addition to this, some of the typical challenges in case study pedagogy have also re surfaced during the discussion. They include request for one single answer to the case study questions, inability to comprehend the case study materials by some, inadequate English language skills of students, in ability to apply theoretical frameworks, skills in scoping out, assumptions and analysis.

CONCLUSIONS

Teaching in emerging disciplines such as business process management and enterprise systems in business schools is challenging because of the dynamic nature of the subject content, diverse nature of student cohorts, non-availability of localized case studies, required multi-disciplinary focus and other institutional factors such as large class sizes, and increased competition for scarce resources and students. Integrating e- learning technologies such as discussion forums with the traditional case method pedagogy has the potential to change educational processes and enhance the quality of learning in this environment. The preliminary findings of this study suggest that by using online discussion forum for case study analysis, and incorporating that in to assessment, the business school is offering students a high-quality learning environment that facilitates effective peer-to-peer learning and flexible interactive discussions.

Data suggests that students perform better in an environment where a mixture of classroom and online technologies are employed. The peer-to-peer learning, a gradually diminishing feature of the contemporary class room based case study discussions is enhanced by transferring those discussions to an online environment. Introducing this as a part of a compulsory assessment component contributed to enhanced student learning. In general, students perceived improvement in learning because of the online environment and appreciated the opportunities it has provided for deeper understanding of content-based issues, appreciation of multiple views expressed by students, and reflection of their own learning and perceptions. Though it is early days in understanding the effectiveness of these blended learning models, their contribution to the improvements in the quality of

discussion and the depth of learning in a higher educational environment appear to be significant and can be further expanded. Thus, the online discussion forum offers a powerful forum for highly interactive and constructive case study discussion in business schools. The workload involved in setting up, monitoring and assessing the online discussions though is significant, it is possible to make it less burdensome by efficient design and structure of the initiative and appropriate faculty workload policies.

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