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A problem based learning (PBL) approach to lectures in a large first-year business subject

Abstract
This paper reports on the development of a problem based learning (PBL) approach to lectures in a large first-year subject in an undergraduate business degree. The PBL approach was adopted as a means of encouraging students to engage with the formal discourse of the subject discipline and to ground the theories presented in the subject in an authentic simulation of business practice.

The first-year undergraduate subject Management and Organisation Behaviour (M&OB) is one of eight in a compulsory common core for all Bachelor of Business degrees offered by Victoria University in Melbourne. The subject is taught across three campuses in Melbourne, and at offshore partner institutions.

The subject normally has about 900 students in Melbourne and around 300 students offshore each semester. Students in M&OB come from a diverse range of business degree specialisations. Assessment, central in forming students' perceptions of learning, has been designed using Biggs' concept of constructive alignment.

The diversity of degree specialisations for students taking M&OB often results in some them not seeing the relevance of the subject to their degree or their career goals. This has lead to students disengaging from the subject, not attending lectures that they see as 'boring' and subsequently failing.

In an attempt to capture students' interest lectures have been written as a semester-long story centred on a fictional organisation. The characters in the organisation are used to present management theory in the context of authentic business situations. Students are able to participate in the decision making processes of the organisation. Questions about issues faced by the organisation are put to the students during the lecture and they respond using wireless "clicker" devices. Their responses are recorded automatically and can be immediately projected onscreen during the lecture.

Student feedback has been positive and tutors are reporting an improvement in the quality of tutorial participation. Any impact on pass rates is as yet inconclusive, evidence points to an enrichment of the overall student learning experience. However, the lectures rely on the ability of the lecturer to be a convincing 'raconteur' and the effects of student participation on the unfolding 'story' of the fictional business raises difficult questions regarding the consistent delivery of the subject across multiple campuses with different lecturers. It also meets with problems when lecturers have limited industry experience; student perception of the authenticity of the PBL scenarios may be diminished due to this (Savin-Baden, 2000, p.1). The experiential learning model conflicts with the traditional didactic form of lecture delivery.

Key Words
Problem Based Learning, Constructive Alignment, Undergraduate, Business Degree

Introduction

This paper reports on the development of a problem based learning (PBL) approach to lectures in a large first-year subject in an undergraduate business degree. The PBL approach was adopted as a means of encouraging students to engage with the formal discourse of the subject discipline and to ground the theories presented in the subject in an authentic simulation of business practice. A PBL approach was adopted as it provides a context for the development of autonomous learning habits and also because of its emphasis on collective and individual learning motivations (Andresen, 1996). The PBL approach also allows students the opportunity to practice the application of theory through decision-making in a simulated business setting. "Problem based learning can offer student opportunities to engage with complexity, and help them both to see ambiguities and learn to manage the ambiguities that prevail in professional life" (Savin-Baden, 2000,p.1) This is a non-traditional model that moves away from the 'stand and deliver' lecture style.

The first-year undergraduate subject Management and Organisation Behaviour (M&OB) is one of eight in a compulsory common core of subjects for all Bachelor of Business degrees offered by Victoria University. Each semester the subject is taught across three campuses in Melbourne, and at offshore partner institutions in Malaysia, Hong Kong and Beijing. The subject normally has about 900 students in Melbourne and around 300 students offshore. Students in M&OB come from a diverse range of business degree specialisations. Assessment, central in forming students' perceptions of learning, has been designed using Biggs' (2003) concept of constructive alignment.

The diversity of degree specialisations for students taking M&OB often results in some them not seeing the relevance of the subject to their degree or their career goals. This has lead to students disengaging from the subject, not attending lectures that they see as 'boring' and subsequently failing.

In an attempt to capture students' interest in the subject a pilot program has been developed based upon a PBL model; mirroring other reported cases where PBL has been introduced (Savin-Baden, 2000,p.45). The pilot program has been delivered to a small subgroup of the Melbourne student cohort and has run in parallel with the standard program. The subgroup was the evening lecture stream which is timetabled to enable part-time students to attend lectures and tutorial after normal work hours, normally this cohort is made up predominantly of mature age students.

The Business Simulation

The PBL approach has been limited in scope and aimed at engaging student involvement with the lectures specifically and the subject in general by simulating the application of theory in practice. Lectures have been written as a semester-long story centred on a fictional organisation. The characters in the organisation are used to present management theory in the context of authentic business situations. Students are able to participate in the decision making processes of the organisation. Questions about issues faced by the organisation are put to the students during the lecture and they respond using wireless "clicker" devices. Their responses are recorded automatically and can be immediately projected onscreen during the lecture. The business simulation presents scenarios where management theory is required to be applied in order to address the issues emerging in the hypothetical organisation; this participation empowers the students and allows them to take control of the performance of the organisation (Savin-Baden, 2000). Empowerment of students in this adaptation of the PBL model is intended to facilitate the development of autonomous learning and encourage the vicarious learning process as responses to the lecture questions are discussed and debated by the students.

The role of Academic Language and Learning Support

The management subject has been the centre of an ongoing project to embed academic skills and language and literacy skills within the subject curriculum. This subject development has been undertaken as a collaborative project with the academic learning and support unit of VU reports of which have been published elsewhere (McWilliams & Henderson 2005). In light of the ongoing curriculum development project the subject teaching team turned to the academic language and learning support (Student Learning Unit, SLU) unit within VU to advise on the writing of the lectures and help to explore the underlying pedagogy of PBL. Academic language and literacy support may be defined as any formally organised activity or approach that stages and scaffolds student learning and makes explicit the requirements for the successful completion of assessment tasks. Strategies that might achieve the acquisition of such skills range

from generic, decontextualised English language activities to a more systemic and strategic model that aims to develop students' skills in a subject / discipline specific context. The model of embedding academic literacy into subject curricula (Skillen, Merton, Trivett & Percy 1988) allows for an inclusively developmental approach toward supporting students. The business simulation and participation through the use of a "question and response" within the lectures is part of the embedding process and represents the aspect of embedding academic skills within a discipline specific context.

The overarching education approach adopted by the teaching team for M&OB is based upon a constructivist epistemology with scaffolding of skills acquisition (Biggs & Telfer 1987; Biggs 2003) within a constructivist model where student ownership of learning is pivotal to good teaching. Ownership in this project is based upon the student engaging with the hypothetical organisation and the problems depicted in the lecture program and putting forward possible solutions to the business problems. The construction of knowledge is built upon the independent learning of the student as they read in preparation for the lectures, the interaction with fellow students as possible solutions are put forward and debated in lectures and the "expert" guidance provide by the lecturer/moderator during the lectures. The language and learning support in such a model becomes simply another element that is part of the process of planning, creating and delivering the course to students. Language and learning support when it is integrated from the beginning of subject design can contribute to the development of a constructivist paradigm. The model does not require the remedial post delivery assistance which often occurs in Australia and aligns with the curriculum development as it has been evolving within M&OB.

Method

The PBL approach has been limited in scope and aimed at engaging student involvement with the lectures specifically and the subject in general by simulating the application of theory in practice. Lectures have been written as a semester-long story centred on a fictional organisation. The characters in the organisation are used to present management theory in the context of authentic business situations. It was agreed by the teaching team that an organisation in the Fast Food industry would be most accessible to students. Many students at Australian universities, and elsewhere, either support themselves or supplement their income by working in fast food organisations. Those students who do not have direct work experience in fast food are at least familiar with these businesses as customers. By basing the hypothetical company at the centre of the business simulation in a familiar setting having to explain the many technical details and nuances of organisational life in an unfamiliar industry could be avoided. The fast food industry is also a near universal part of the lived experience of city living around the world, this was considered by the teaching team to be an advantage should the project be extended to off shore locations. Greenboat, the Heavenly Health Food Store – Let us make you lunch, was created as the hypothetical organisation to provide the common setting for the presentation of the four functions of management, namely planning, leading, organising and controlling.

The Greenboat company is presented to the students in series of unfolding hypothetical scenarios. Each hypothetical scenario is delivered to students as an interactive series of seminar/lectures. Students are able to participate in the decision making processes of the organisation. Questions about issues faced by the organisation are put to the students during the lecture and they respond using wireless "clicker" devices. Their responses are recorded automatically and can be immediately projected onscreen during the lecture. The business simulation presents scenarios where management theory is required to be applied in order to address the issues emerging in the hypothetical organisation; this participation empowers the students and allows them to take control of the performance of the organisation. Empowerment of students in this adaptation of the PBL model is intended to facilitate the development of autonomous learning and encourage the vicarious learning process as responses to the lecture questions are discussed and debated by the students

The program was delivered to a small subgroup of the Melbourne student cohort and has run in parallel with the standard program. The subgroup was the evening lecture stream which is timetabled to enable part-time students to attend lectures and tutorial after normal work hours, normally this cohort is made up predominantly of mature age students. This group was chosen for piloting this project as they represent a well defined and separate subgroup of the main student cohort; the lecture group is relatively very stable in that the students attending these lectures are normally the same students each week and who grown to know each other during the semester; the students attending this lecture time also attend one of the four tutorial groups offered on the same evening and the size of the group was considered "manageable" in terms of group discussion and interaction.

The evaluation of the project was based on peer observation, student feedback via end of semester Student Evaluation of Subject survey and interviews of small groups of students within tutorials. Additional observations were undertaken during an auditing visit by Chinese teaching partners from Beijing. Two Chinese lecturers regularly attended both the daytime 'traditional' M&OB lecture and the evening 'PBL' version. The project also aimed to measure the attendance in lectures over the semester as compared with previous semesters.

A tutor from the M&OB teaching team was recruited as an observer to observe the Greenboat lectures and video tape each session for later analysis and discussion. The tutor's notes and feedback were used to evaluate and modify the lectures. The observer also made notes on the behaviour of students in the lecture theatre, noting their apparent interest, degree of participation and note taking behaviour. The formal end of semester Student Evaluation of Subject had additional questions appended asking for specific feedback about the Greenboat lectures. In the last two weeks of the semester students were invited to participate in group interviews during tutorial time, the interviews were conducted by the tutor who acted as observer during the lectures. The normal experience of lecturers is that attendance falls to around 60% as the mid point of the semester is reached and frequently falls to as low as 50% when major assignments are due. The teaching team considered that the project would be successful on this criterion if attendance remained above 75% for the whole semester. Attendance was measured by a simple head count during each lecture.

Findings

The observer recorded that student participation was at a higher level than in tutorials with widespread involvement in discussion. An early issue that emerged was that of technology. The "clicker" handsets were not available for the first week of semester and so the first two Greenboat lectures were delivered without the technology, question responses were "show of hands". As the clickers became available relatively few students obtained them (the handsets were effectively free as they were "bundled" with the text book purchase), possibly due in part to the fact that the lecturer did not attempt to use the technology. The observer records that the lecturer would ask for a show of hands as to how many students had obtained the clickers and then proceed to deliver the lecture on the basis that the majority of students did not have the handset. The student interviews show that this was appreciated by those students who did not obtain the clickers but viewed negatively by those who had. The observer noted that the lack of technology did not seem to diminish the preparedness of students to join the wider group discussions.

The observer also noted that the older mature age students tended to be the most vocal and apparently the most comfortable with voicing their views, however they also tended to rely on personal work experience to address the issues rather than referring to the relevant theory. Younger students and international students were observed to be more likely to enter the discussion by making reference to examples from the textbook or explicitly citing the relevant theory. A very positive aspect of the observations made is that international students, who are not normally noted for being vocal participants in tutorials, were seen to be quite active participants in this simulation. The underlying reason for this increase in international student involvement is as yet unexplained and may be the basis for further research. Overall the student involvement and the increasingly sophisticated use of theory to justify decision making in the hypothetical scenarios is consistent with the pedagogy that has informed the curriculum development in this subject. The constructivist and scaffolded approach (Biggs & Telfer 1987; Biggs 2003) is consistent with the observations made during this project. Even though the international students engaged well with the PBL model, the Chinese lecturers observed that this non traditional model would not accord well with accepted teaching practices of Business subjects in China. This was interpreted by the teaching team to imply that the PBL model was a novelty and not 'real', university-level teaching for such subjects.

The specific question in the Student Evaluation of Subject (SES) survey relating to the Greenboat lectures yielded consistently good responses. Of the 160 students enrolled to attend 90 completed the survey, the survey employs a five point "Likert" type set of response categories (Disagree, Strongly Disagree, Neutral, Agree, Agree Strongly, Does not apply) with 1 being equal to "Disagree" and 5 being equal to "Does Not Apply" the average response to the survey questions was 3.5. This represents a positive attitude amongst the students to the Greenboat lectures. However, the interviews with students post the semester ending have yielded a wider range of comments, overall positive but with many stating that the Greenboat lectures were "basic" and not truly representative of the business world or the pressures of decisions making. These

comments have tended to come from older mature age students with longer periods of time in employment. All students interviewed have said that the lecturing style of the lecturer was critical to their appreciation of the Greenboat lectures, no students were critical of the lecturer's ability to relate the hypothetical scenarios with a sincere and believable delivery style. As the semester progressed it became apparent that the ability of the lecturer to draw upon his own managerial experience and give "life" to the Greenboat scenarios was of significant importance. For a multi-campus subject with multiple lecture streams and lecturers the possibility for inconsistency and the risk of outright poor delivery depending on the experience and ability of the lecturer works against the wider success of this project in this form.

A disappointing aspect of the project is that there was no significant improvement in patterns of attendance at the lectures. The absolute low was higher than previous experience but only by a handful of students. The failure of the teaching team to drive the adoption of the technology is a disappointment and perhaps a contributing factor to the lack of improvement with regard to attendance. One aspect of non-attendance at lectures is associated with the perception of anonymity, "no one will notice if I'm missing from a crowd". The clicker technology, amongst other things, allows for an electronic roll call, attendance can be measures accurately and absence is recorded automatically. It is possible that by removing anonymity attendance may improve. Biggs (1987) also argues that students will focus their efforts where they will derive some benefit (marks), the clicker technology also offers the promise of being able to link an objective measure of participation (attendance and questions attempted) with some assessment marks. The experience of the teaching team with the dramatic impact of the allocation of marks to online assessment tasks supports this contention. An online self assessment test attracted fewer that 30% of the students to attempt the tests, after revising the assessment marks allocation to allow 5% overall for participation in twelve online tests the participation jumped to over 95%.

Conclusion

The project has yielded mixed results. PBL attempts to link sophisticated analysis of professional practice within the context of an educational institution to produce career-ready graduates (Boud & Feletti, 1998, p.6). The presentation of authentic business scenarios in a simulation of discipline specific decision making in M&OB failed to meet the expectations of the teaching team. The main difficulties are the reliance on the expertise of the individual lecturers, their industry experience and the perception by the students of the validity of the lecturer's experience. The feedback from Chinese partners also suggested that the PBL model would be inappropriate in their educational context, and by implication inappropriate in other offshore locations. Overall the qualitative feedback is positive and encouraging of perseverance with the approach. The teaching team has resolved to put aside the Greenboat project for this subject but one member has considered using a modified version in another 3rd year strategic management subject.

The technology has yet to be fully tested and has not realised its full potential as an aid to participation in lectures. One of the primary aims of the project, to improve attendance at lectures, was not achieved yet the overall satisfaction of students with the lecture experience is positive. The clicker technology will be adapted for use in a 'traditional" lecture format with between three and four questions asked each lecture to gauge understanding, the technology will also be used as an electronic "roll call".

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