



Flipped classroom in first year management accounting unit – a case study

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A flipped classroom is one form of blended learning. The blended delivery model adopted in this case study uses online content delivery mechanisms for both curriculum and evaluation. This approach allows students to better utilise face-to-face class time to have in-depth discussions with teaching staff on application of knowledge. This case study describes the experience of both students and staff in relation to this major redesign as well as provides some reflective commentary in relation to the pilot. The pilot described in this paper relates to a first year management accounting unit. This paper will describe the process of unit redesign and implementation, including planning tools developed for teaching staff and students. The case study also reveals that student readiness and self-management skills perhaps are one of the most important elements that result in a successful student blended learning experience.

Keywords: blended learning, flipped classroom, student readiness, accounting education

Background

The University of Western Sydney in 2012 launched a three year learning and teaching enhancement project. The project aims to fuel the growth in the use of appropriate information and communication technologies (ICTs) in the delivery of learning and teaching to meet the needs of an ever increasing technological dependent student population. This project objective is to improve the student's learning experience and implement curriculum change, introduce flexibility in study regimes and overall incorporate innovation resulting in educational excellence.

In response to the University's initiative, a first year management accounting unit in the School of Business was selected to pilot a blended learning delivery approach. A review of the literature would suggest that, blended learning is a loosely defined term by scholars, which essentially refers to the integration of both classroom and online delivery methods (Partridge, Ponting and McCay, 2011). In the unit chosen for this pilot made use of a flipped classroom, for both delivery of content and assessment. In a 'flipped' classroom, students acquire content knowledge online by watching mini-lecture series and completing learning activities, and then come to face-to-face sessions to apply what they have learned in class (Bergmann and Sams, 2012). The pilot sought to evaluate whether a flipped classroom teaching strategy would achieve desired learning outcomes teaching models in a better way, which focus on both in a better way than the traditional teaching models used in this unit to date. It was thought that a blended approach might improve both knowledge acquisition and application of the curriculum. The blended learning model also seeks to provide students more control and flexibility over their learning and, at the same time, respond to the growing pressures resulting from increasing student enrolments and class sizes.

Design

The pilot first year management accounting unit previously adopted a didactic teaching method, which was offered in the traditional lecture-tutorial mode. All teaching activities were done face-to-face. In the new design, the content topics covered remain very similar to the previous taught curriculum however delivery was drastically different. The changes have been summarised in Table 1.

Table 1: Curriculum changes in the selected first year management accounting unit

	Previous version (traditional teaching method)	New version (flipped classroom teaching method)
Teaching activities	Two hour face-to-face lecture Two hour face-to-face tutorial	One-hour equivalent online learning module One hour face to face demonstration workshop Two hour face-to-face tutorial
Assessments	10% Homework (paper-based) 10% In-class test (paper-based) 25% Mid-term exam (paper-based) 55% Final exam (paper-based)	10% Online homework (students are required to achieve a minimum score of 70% in 8/10 sessions) 15% unseen questions (paper-based; handed out and marked in tutorials) 25% Mid-term exam (online exam; administered in computer lab) 50% Final exam (paper-based)
Feedback	In class; paper-based	Instant and personalised online feedback; in class; paper-based

To design a one-hour equivalent online learning module for each teaching session, a topic planner was used as a tool. The topic planner helped the lecturer to break a traditional lecture into several discrete modules with a variety of learning activities within each. These activities included recorded lecture content videos, external learning resources, real life case studies, knowledge quizzes as well as reflective activities. The planner also required the lecturer to give estimations on how much time students were expected to spend on each task, which helped the lecturer to design and review online modules from a student's perspective.

All lecture content videos were recorded by using Echo 360 personal capture, including both screen and webcam captures. The lengths of videos were varied from 3 minutes to 10 minutes. Full learning modules were delivered via Blackboard, the Learning Management System centrally supported by the University. Extra features were enabled, including 'Marked Review' feature for each learning module, which was set as a self checking point for students to record their learning progresses.

Online homework and mid-term exam were delivered on an external platform called 'MyAccountingLab'. The platform is designed to facilitate learning and teaching activities in accounting education. MyAccountingLab offers algorithmic question banks, automatic online marking, tailored learning support and instant feedback. In this unit, students could access MyAccountingLab by following instructions post on the Blackboard site.

In order to effectively communicate with students and help students to orientate in a blended unit, a weekly learning planner was designed. The planner contained information on what tasks students were expected to complete, recommended learning order and time on task for each week. The information is shown in Table 2.

Table 2: Weekly learning planner for students

	Task	Description	Form	Recommended time on task
1	Reading	Weekly reading of selected chapters	Offline	45 - 60 min
2	Online learning activities	A variety of online activities which are designed to assist students in developing a further understanding of the topic	Online (Blackboard)	60 min

3	Demonstration Workshop	In-depth discussions & problem solving demonstration	Face-to-face	60 min
4	Online learning activities	Pre-selected questions from MyAccountingLab with feedback	Online (Blackboard)	120 -180 min
5	Tutorial	Further feedback from the tutor Unseen problems	Face-to-face	120 min
		Recommended time on designed learning tasks for each week:		8 hours
		Students are also required to spend another 2 hours per week on individual learning tasks, such as, reviewing and exam preparation.		

Implementation

The newly designed unit was offered in autumn semester, 2013, which was from February to July. Prior to the beginning of the semester, training was conducted for the teaching team. The Blackboard unit site was constructed and released to students prior to the beginning of semester. This release included detailed instructions in relation to the online delivery approach as well as the first two learning modules. A welcome email was sent to all students introducing the new teaching approach and informed them that more support information could be found in the 'Getting started' session on Blackboard.

In week 0, the Blackboard site was visited by more than fifty percent of enrolled students. More than twenty percent of enrolled students claimed, by toggling the 'marked review' feature, that they have completed the first learning module before the class started.

In the first tutorial class, online activities were demonstrated to students and the weekly learning planner was explicitly explained. Students were also encouraged to share their understandings on how to learn the unit with their classmates.

Three weeks into the semester, the teaching team reported a highly positive experience that students were well prepared before they came to tutorial classes. Blackboard tracking data, which showed that over eighty percent of students were actively using the learning modules, also supported the observation made by the teaching team. In the first four weeks, the content areas of the unit site attracted over 20,000 hits from over 300 students.

However, the growing momentum seemed to fade after week four. Despite the fact that the teaching team regularly communicated with students both in face-to-face sessions and in the blackboard site via Announcements, student activity in Blackboard started to decline. After a sharp drop after the mid-term exam, it gradually climbed back before the final exam. By the end of the semester, the content areas of the unit site capped 51,000 hits from 259 students.

The online mid semester exam was invigilated on campus and students received marks and feedback immediately upon submission. The overall student performance was acceptable but lower than the expectation from the teaching team. The team, then, quickly adjusted certain teaching strategies, in particular, the design of homework. The total number of questions for each week was reduced, however, more procedure questions were added. As a result, the paper based final exam indicated a positive performance shift in the cohort from pass grade to credit and distinctions.

Student experience and discussion

The teaching team has been collecting feedback from students during the semester. After the census day, there were 259 students who were officially enrolled in the unit. Most of students were keen to express their opinions of blended learning. They provided both verbal and written feedback on their learning experience.

Student experience has been summarised as below:

Overall experience

- The majority of students reported that this unit was their first blended learning experience.
- Students who were in their first semester tended to report positive learning experience while students who were in their third semester tended to report less positive learning experience.
- Students who have followed the learning planner tended to report positive learning experience while students

who didn't tend to report less positive learning experience.

Feedback and instructions

- The majority of students claimed that they have received sufficient instructions and feedback.

Time on task

- Most of students claimed that they have spent less than one-hour study time on completing online learning modules, which was less than the estimation from the teaching team
- Most of students claimed that they have spent three hours or more study time on completing MyAccountingLab activities, which was more than the estimation from the teaching team

Positive feedback from students

- Some students appreciated the richness of learning resources, learning flexibility and practical online homework with instant feedback.

Negative feedback from students

- Some students did not like the unit design because it required students to complete *too many* tasks, which were time-consuming.
- Some students would like to have traditional lectures instead of online learning modules, because they *could not concentrate or are easily to be distracted*.

The teaching team was not surprised by mixed student response. According to the results of action research studies on blended learning (Albrecht, 2006), it is not uncommon that the introduction of blended-learning mode receives some negative reactions from students because it requires students to take more responsibilities of their own learning. Given the fact that it was the very first blended learning unit for most of students, the teaching team did not expect that all students possess the learning maturity and readiness for blended learning, which are two of essential success factors (Stacey and Gerbic, 2008). Some negative feedback from students clearly revealed that they were not equipped with independent learning skills and effective time management skills.

Future Changes as a Result of Feedback

Further changes will be made in Spring session, 2013 and Autumn session, 2014

- Review the curriculum design of online learning modules and demonstration workshops.
(To optimise content knowledge delivery to meet the needs of different learning styles)
- Review the design and assessment weightings of MyAccountingLab.
(To make a better use of computer-based online activities)
- Provide 'just-in-time' instructions to students during the semester.
(To improve the clarity of instructions and provide better scaffolds to students)
- Design and conduct Readiness for online learning survey. The survey will be adapted from existing instrument tools to assess factors that are associated with student perceptions of blended learning and their self-management skills (Pillay, Irving and Tones, 2007; Smith et al., 2003).

Implications

The flipped classroom experience in a first year management accounting unit has implications for blended learning development in accounting education. It explores more flexible and interactive ways to use ICTs to deliver a unit that is traditionally seen as a hands-on, technical and boring unit. Despite mixed responses from students, the teaching team is enthused by the facts that students were truly engaged in the first four weeks and the results of final exam demonstrated an encouraging student performance shift. More work will be done to investigate how to sustain student engagement in blended learning. The topic planner tool for instructors and the weekly planner tool for students were well received not only by teaching staff and students from the pilot but also by lecturers from other units. The emerging issues on assessing and addressing student readiness for blended learning require further research.

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