

A BLENDED LEARNING APPROACH TO TEACHING FIRST YEAR ACCOUNTING

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Abstract

This paper reports the findings of an empirical study of the adoption of a blended learning approach to teaching the first year accounting course at one of a large Australian universities. A pre and post survey questionnaire assessing student's views on this learning environment was administered in the first and final lecture of the course. It was found that students perceived greater benefits from the blended learning environment for immediate feedback, motivation for taking responsibility for their own learning and support for their learning style. Additionally, students perceived that the blended learning environment resulted in improved performance in the course, improved comprehension of basic accounting knowledge and assisted students to better understand the procedures, terms and principles of accounting. Results indicate that the blended learning environment adopted improves student learning outcomes, the overall satisfaction with the course and their overall performance.

Keywords: Blended learning, online learning, learning environments, and learning outcomes.

1 INTRODUCTION

An online learning environment has been adopted by many higher education institutions for years. It has been suggested that such learning environment promotes student-centred learning (see e.g. [7]) and encourages increased student interactions (see [8] and [9]). In recent times, blended learning has gained popularity amongst education researchers. A blended learning environment involves the integration of traditional classroom face-to-face learning experiences with online learning experiences¹ [10]. Recent research has found that the adoption of a blended learning environment display increased participation in non-compulsory assessment tasks and higher grades in both in-session tests and final examinations of a group of graduate engineering students [1]. Additionally, by providing students with more control over their learning, Garrison and Kanuka (2004) claim that blended learning can help foster critical and reflective thinking.

However, there has been little empirical evidence to show that a blended learning environment is beneficial to students who undertake the first year introductory accounting course/subject which is the foundation of the Bachelor of Commerce (Accounting) degree. In a recent study, Palm and Bisman (2010) found that Australian universities predominately adopt the traditional approaches to teaching introductory accounting courses, with limited adoptions of innovative delivery modes to enhance the diversity and quality of student learning experiences and outcomes.

Since learning environments experienced from the first year accounting courses can have impact on students' subsequent degree selection decision, it is important that accounting educators undertake innovative delivery modes to cater for the needs of increasingly diverse student cohorts. The purpose of this paper is to address Palm and Bisman's (2010) concern by adopting a blended learning environment to teaching the first year accounting course at the university where the authors work.

The remainder of this paper is structured as follows. In Section 2 a brief review of the literature relating to blended learning environment is provided. This is followed by a description of the research methodology in Section 3. The results of our data analysis is presented and discussed in Section 4. Some concluding remarks are then made.

¹ Garrison and Kanuka (2004) acknowledge that this definition is a simplest one. According to them, "there is considerable complexity in its implementation with the challenge of virtually limitless design possibilities and applicability to so many contexts" (p. 96).

2 LITERATURE REVIEW

As noted in Bliuc et al. (2007), the phrase 'blended learning' is a relatively new educational practice. Since the turn of this century, hundreds of articles relating to this learning approach has been written and published. Different approaches have been adopted to review prior research. Sharpe et al. (2006), for instance, reviewed this literature based on the theoretical approaches used, while Bliuc et al. (2007) adopted both a methodological perspective and the focus of the research. Using this approach, they categorised recent research on blended learning into four groups: case-studies; survey-type studies, comparative studies, and a comparatively more holistic approach.

Since comprehensive reviews on the literature have been conducted by both Sharpe et al. (2006), and Bliuc et al. (2007), in this section, we will only selectively review in detail three studies considered to be most related to the present research. In an American study, Ausburn (2004) examined elements of the course design that were most valued by 67 university students in blended learning environments that combine face-to-face contact with web-based learning. Using a survey questionnaire developed by Ausburn, she attempted to assess a number of variables, including gender, learning strategies, initial level of technology skills, pre-course experiences with technology-based learning, and number of pre-course experiences with self-directed learning. She also asked her participants to select and rank their preferred course elements and instructional goals. To capture their learning strategies, the Assessing the Learning Strategies for Adults (ATLAS) self-test was administered by the author. Ausburn found that students with different characteristics have different preferences in terms of course features and instructional goals. The results supported the basic principles of adult learning, including the expectations of adults for personal relevance in what they learn, involvement in setting their learning outcomes based on real-world needs, self-direction of learning and pathways, and establishing an active learning community (p. 335). Ausburn also reported some differences in learning as a result of gender, preferred learning strategies, and past experience with technology and self-directed learning.

In a comparative US study, Parkinson et al. (2003) compared student satisfaction and learning preferences in different course delivery modes: students enrolled in face-to-face and blended learning settings for the same course. They first used a qualitative survey focussed on students' reflections on their learning experiences. Several emerging themes, including classroom climate, learning needs, learner efficacy, interaction and appropriate format for the content, were identified. They found that students enrolled in traditional face-to-face classes had greater learning satisfaction in relation to all themes, while the students using blended learning facilities expressed "feelings of disenchantment" (p. 27).

Abraham (2007) conducted an Australian study to explain the conflicting empirical evidence relating to the extent to which blended learning affects students' exam results and final grades. Using two cohorts of graduate engineering students in two different semesters, a traditional teaching approach was adopted for both delivery and assessment in 2005 while the following year a blended learning environment was used. Students in the blended learning environment were not only given the flexibility to undertake various elements of the course but also the autonomy to decide whether to attempt various assessment tasks, with the only requirement that they had to achieve at least 50 percent in the course and sit the final examination. The aim of Abraham's study was to determine whether students who experienced the blended learning environment showed increased participation in a non-compulsory learning task and higher marks in both in-session tests and final examinations. Her results showed that the adoption of a blended learning environment achieved significantly higher results. She found that students took increased responsibility for their own learning even though the assessment was non-compulsory. She concludes that a blended learning environment promotes student-centred learning by empowering them to take more responsibility for their learning and to increase the involvement necessary for that learning (p. 8).

Students' learning is further impacted by the assessment methods used to determine performance. Assessment has been noted in the literature as having the greatest single influence on how and what students learn [13] and serving multiple purposes including evaluation, feedback, motivation and student learning [18]. Technological advancement such as computer aided assessment has had a dramatic influence on both delivery and assessment of first year accounting course [13]. Kennedy et al. (2008) conducted a study asking students about their access to, use of and preferences for established and emerging technologies and technology-based tools. His findings show that a diverse

range of skills exist across the student population and that a challenge exists for educators to be attuned to students' preferences and to design delivery and assessment that fit with the student cohorts technological preferences. Computer based assessment practices have been found to increase student engagement and motivation and provide timely feedback to students to assist them in determining their weaknesses, reflect on their performance and improve their study skills ([5], [21], [2] and [12]).

The aim of this study is to investigate whether the use of a blended learning approach to delivery of a first year accounting course, from a traditional lecture/tutorial style to the use of computer based on-line learning with an integrated workshop style tutorial and lecture, will enhance the quality of student learning experiences and outcomes.

3 METHODOLOGY

3.1 Sample

Data was collected from undergraduate students enrolled in first-year accounting in the Bachelor of Commerce degree at an Australian university. The surveys were conducted at the first and last lecture of the course in semester 1, 2010 at two campuses (Campus 1 and Campus 2). A breakdown of responses received is provided in Table 1 below. The final matched (pre and post survey completion) sample was 147 which equates to a total return rate of 44.4%.

Table 1: Breakdown of Sample Responses

	Pre Survey Campus		Post Survey Campus		Total Campus	
	1	2	1	2	1	2
Students enrolled in course					119	214
Completed surveys received	101	152	87	100		
Matched surveys (pre and post)					81	66

3.2 Data collection

The initial survey instrument which was administered in the first lecture consisted of three sections: student background; student experience; and student opinions. The first section incorporated seven questions requesting demographic information including student number, age, gender, nationality, main language spoken at home, highest educational level and the students' planned major. The second section included eight questions that students responded on a seven point Likert scale ranging from (1) poor to (7) excellent. These questions focussed on their experience relating to their computing skills in general, their computer-based accounting skills, their accounting knowledge and their preference for on-line and traditional learning. The latter questions relating to students attitudes to on-line assessment were adapted from earlier research by Marriott and Lau (2008). The survey instrument used adapted the questionnaire used by Kennedy, Judd, Chirchward, Gray and Krause (2008) in their examination of students' use of technology. The third section included a range of questions asking students their opinion in three areas that students responded on a seven point Likert scale ranging from (1) not at all to (7) to a great extent. The questions addressed the extent to which on-line learning will assist them in (1) their learning, (2) to improve their performance in assessment and (3) to meet a range of educational objectives. The third section of the survey instrument was adapted from the survey questionnaire used by Palm and Bisman (2010) in their study of introductory accounting curricula. Pilot testing of the survey was carried out targeting the academic staff involved with the introductory accounting course at each of campus of the university.

In the final lecture of the course, students were again surveyed to determine how their final overall perceptions matched up with their initial expectations. The survey questions excluded questions

related to demographic information. The survey questions included in the final two sections noted above relating to experience and their opinion on on-line learning. These were re-worded to address how the program did help them.

A summary of the main demographic data is provided in Table 2, below. The average student age was just over 20 years. The gender of the sample was fairly evenly split between females and males, with most students of Australian nationality and had completed Year 12 as the highest education level.

Table 2: Demographic Data of the Sample

Demographic Characteristic		Total Sample (n = 147)
Age	Mean	20.3 years
	Minimum	16 years
	Maximum	40 years
Gender	Female	74
	Male	73
Nationality	Australian	78
	Chinese	18
	Vietnamese	5
	Other	46
Education level	Year 12	110
	TAFE	29
	Other	8
Degree	Accounting	72
	Finance	18
	Economics	9
	Double major	15
	Other	5
	Undecided	28

4 RESULTS

The overall experience of the students is summarised in Table 3. The average level of computer skills experience was around the middle of the seven point scale (3.56); students had the most experience using computers for facebook and graphics/digital imaging (5.78/5.18); and rated prefer to be assessed on-line rather than by traditional methods and happy with a mixed approach to assessment above the mid-point of the scale (4.74 and 4.78, respectively).

Table 3: Previous Experience Responses

Previous Experience	Mean Response
Computer skills	3.56
Accounting knowledge	3.00
Practical accounting experience	2.97
Familiar with formal accounting packages	5.12
Use computer for social networking (i.e., facebook)	5.78
Use computer for twitter	1.51
Use computer for email	3.95
Use computer for spreadsheeting	2.86
Use computer for graphics/digital imaging	5.18
Use computer for music	3.43
Use an on-line computer program to aid learning	3.94
Prefer to be assessed on-line than traditional methods	4.74
Happy with mixed approach to assessment	4.78

$n = 147$; Scale: "1" = poor/not at all; "7" = excellent/to a great extent.

Students were also asked their opinions of the on-line program at the commencement of the course (i.e., to what extent *will* the on-line learning package) and again at the end of the course (i.e., to what extent *did* the on-line learning package). Paired samples *t*-tests were conducted on the matched responses to assess any changes in their opinions. The results are provided in Table 4. Significant differences were found on the questions in regard to immediate feedback of understanding ($t = -3.459$; $p = 0.001$), motivate to take responsibility for own learning ($t = -2.863$; $p = 0.005$) and support learning style ($t = -2.084$; $p = 0.039$). This suggests that students perceived greater benefits in these three areas for the on-line program. Additionally, students found that the on-line program provided them with technical knowledge ($t = -3.544$; $p = 0.001$), assisted them in understanding the procedures, terms and principles of accounting ($t = -4.314$; $p = 0.000$), and helped them understand the conceptual significance of accounting ($t = -3.663$; $p = 0.000$).

Table 4: Students Overall Opinion of On-line Program (Pre versus Post survey)

Opinion questions	<i>t</i> -value	Two tailed sig
Beneficial to learning	-0.140	0.888
Provide immediate feedback	-3.459	0.001
Motivate to take responsibility for own learning	-2.863	0.005
Support learning style	-1.31	0.192
Improve performance in mid-semester exam	-1.538	0.126
Provide accounting technical knowledge	-0.743	0.459
Develop comprehension of basic accounting knowledge	-3.544	0.001
Enable application of accounting knowledge	-1.26	0.210
Broaden interest in accounting	-1.215	0.227

Enable to judge value of accounting information	-0.570	0.569
Assist understanding of procedures and terms of accounting	-4.314	0.000
Assist understanding of the conceptual significance	-3.663	0.000

n = 147; Scale: "1" = not at all; "7" = to a great extent.

The overall student performance was also compared to previous semesters' results across the two campuses. The overall student performance (see Table 5) improved, with the lowest failure rate achieved over the past three semesters (Campus 1 = 6.25%; Campus 2 = 15.3%).

Table 5: Overall Student Performance across past Semesters (based on Fail rates)

Campus	Semester 1, 2009	Semester 2, 2009	Semester 1, 2010
1	11.2%	19.4%	6.25%
2	28.6%	18.1%	15.3%

5 CONCLUSION

The purpose of this study was to report the findings of the adoption of a blended learning approach for the delivery of a first year accounting course. The results of the study suggest that students consider the blended approach as a positive innovation to their learning experience. The results show that the blended learning environment adopted has a favourable impact on student learning outcomes, their overall satisfaction with the course and student performance with respect to overall assessment. The study thereby addresses the concerns voiced by Palm and Bisman (2010) by providing evidence that the adoption of innovations in approach to subject content and delivery will enhance the quality of students' learning experience and learning outcomes.

The results further showed that students took responsibility for their own learning resulting in improved outcomes. This provides support for the findings of Abraham (2007) who found that the adoption of a blended learning approach can appreciably enhance students' results and experience. In addition, support was found for the contention that computer based assessment practices increase student engagement and motivation and provide timely feedback to students ([5], [21], [2] and [12]). The findings of this study showed that the use of on-line assessment tasks made an important contribution to student learning and suggest that a blended learning environment provides a multi-faceted, student-focused approach allowing students the flexibility to utilise the on-line resources to support their learning style. This educational environment has promoted favourable student experiences and outcomes.

The results also show that some technologies such as social networking enjoy frequent use, while twitter, which is lauded in the popular press as being widely adopted is rarely used by students in this study. It should be noted that the notion of a "digital native" originally coined by Prensky (2001a, 2001b) and later by Kennedy et al (2008) has limited application in this context. Although students are clearly happy with a mixed approach to the delivery of first year accounting, they rate their experience in computing as average. It would appear therefore that although students embraced the on-line, computer-based learning introduced in this first year accounting course, care should be taken in implementing a more extensive range of technologies as current student experience appears limited.

There are a number of limitations of this study. Firstly, there may be factors in students learning approaches that contributed to the improvement in students' performance that have not been addressed in this study. In particular, the effect of individual lecturers on results has not been addressed. Secondly, the question can be raised as to the use of final grades as a performance measure to assess the impact of the introduction of the blended learning approach. The overall grades provide an aggregation of assessment results which may not be a true indicator of the impact

of the introduction of a blended learning approach. Finally, the results of this study should not be generalised to other possible learning initiatives.

Further research exploring the effect of a blended learning approach across different learning contexts and across different bodies of students with different teaching personnel would provide greater evidence of the impact of this approach. It would also be of interest to determine the extent to which additional technologies could be implemented and used within a first year accounting course. On-line discussion rooms, the use of facebook and twitter for communication, lecture capture, in- lecture interactive electronic quizzes, and other technological tools are worthy of investigation to assess their fit with learning objectives and student technological capabilities.

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