

Students' perceptions of the use of an e-workbook as a revision and learning reinforcement tool in accounting education

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Abstract

This study examines students' perceptions of the use of an online accounting e-workbook as part of the blended learning approach in financial accounting.

Students in an intermediate financial accounting course were given the opportunity to use an online e-workbook with the aim of reinforcing knowledge and competencies from previous accounting courses and to develop these competencies where needed. At the end of the semester students were surveyed to determine their perceptions of the use of the e-workbook.

The survey findings indicate that the majority of students found the e-workbook easy to use and all appreciated the instant feedback they received. Over 70 per cent of students rated it as highly valuable to their learning, with the experience improving their confidence and competencies, and helping them to be aware of their own strengths and weaknesses and learn from the mistakes they made.

Overall the use of the e-workbook proved effective and a useful addition to the learning tools used in the course.

1.0 Introduction

Within the accounting education field, a surge in the application of e-Learning and assessment tools in tertiary education has been evident in recent years. The increasing use of blended learning has been prompted in part by the Organisation for Economic Co-operation and Development (OECD), the New Zealand Ministry of Education, the American Accounting Association and professional accounting bodies. The OECD (2005) finds that e-Learning can improve the quality of education and enhance students' learning experience. In support of the OECD report, the New Zealand Ministry of Education (2009) cites a number of benefits for adaption of e-Learning including: the ability to improve students' confidence and skills at using information technologies; the development of literacies and competencies that enable contribution to and effective participation in the 21st century society and workplace; gaining experience through work-related learning; provision of life-long learning opportunities; and the ability to create a student-centred learning environment. As one of the major accounting professional bodies and pioneer in e-Learning adopters, the New Zealand Institute of Chartered Accountants has provided a range of e-Learning tools in its website (<http://www.nzica.com/elearning.aspx>). The e-Learning tools (such as live webinars, podcasts, online profession-related topic learning and assessment programmes) provide accounting graduates and prospective chartered accountants with the opportunities to learn and to gain a range of technical skills, including computer literacy.

Blended learning includes both face-to-face interaction with a student and e-Learning tools which rely on a computer or a mobile device as the media for delivery teaching and learning. The benefits of such approach are the the means to increase flexibility in course delivery and better large classroom management. Research from the perspective of learning outcomes focuses on investigating the effect of using e-learning tools on students' learning outcomes (Kanapathippillai, Hasheem & Dellaportas, 2012). This is centred on the learners' experience by analysing students' attitudes, motivation and students' performance using e-Learning tools.

There is a need for more empirical studies into the effectiveness of using technology in accounting education (Apostolou, Hassell, Rebele & Watson, 2011). For e-Learning tools to be used effectively, accounting educators need to understand how to engage and motivate students in the learning process.

This study seeks to evaluate the use of an interactive e-workbook as revision exercises to reinforce foundation accounting skills such as concept of double entry accounting, preparing general journal entry and financial statements.

The rest of the paper is organised as follows. Section 2 reviews the relevant literature through the discussion of the resident/visitors concept and e-Learning. Section 3 discusses the background and the research methodology. Section 4 reports the findings and Section 5 brings the paper to a conclusion.

2.0 Literature review

This section commences by briefly reviewing literature relating to visitor/resident framework, followed by a discussion on e-Learning. The section concludes by linking theories to the use of an e-workbook in teaching and learning.

2.1 Residents/Visitors Concept

According to an on-going study undertaken by Technology-Assisted Lifelong Learning (TALL) team at the University of Oxford (OCLC, 2011), the role of a learner will affect his/her engagement and motivation in the learning process. In general, online learners can be grouped into two categories, the resident and the visitor. As the term suggests, the “resident” is “an individual who lives a percentage of their life online” (White, 2008, para. 3). Residents will stay online longer and use all the social networking and practical services such as e-banking, blogs, instant messaging, etc. The Internet has been an integral part of their daily lives. On the other hand, the “visitor” is “an individual who uses the web as a tool in an organised manner whenever the need arises” (White, 2008, para. 4). The visitor uses the web for specific purposes (such as booking a holiday or researching a topic). Unlike the “residents”, the visitors allocate a specific browsing time rather than connecting to the Internet during the day for maintaining their online presence. Most importantly, “they are sceptical of services that offer them the ability to put their identity online” (White, 2008, para. 4). This concept of residents/visitors suggests that there should be no direct relationship between age and technological engagement.

In contrast, Prensky (2001) suggests that students who are regarded as “digital native” (or “digital Immigrants”) would have a different brain structure. According to Prensky, the “digital native” would spend most of their time on the Internet. However,

Sheely (2008) argues that Prensky's findings are flawed as the results are based on rough estimation and faulty deductive reasoning.

2.2 E-Learning

As accounting educators, we are being challenged to develop new ways to encourage students to actively participate in the learning process. One way of doing this is through the use of e-Learning. This can be employed in both the learning process and in the assessment of that learning. Ideally assessment should be designed to meet different circumstances and diverse needs and provide learners with choice, interactivity with peers, teachers, and appropriate support (New Zealand Council for Educational Research, 2004). Ugoretz (2006) considers that e-Learning tools can be very important for increasing students' learning opportunities, and for enhancing the overall quality of their learning.

Whiteley (2008) states that previous research has identified a number of pedagogical problems related to online teaching and learning methods. These include technological frustration, reliance on technological support mechanisms, and miscommunication between instructor and students. But under the residents/visitors framework, "visitor" students will feel more comfortable and find it less threatening. It is different to the traditional face-to-face classroom where some less confident students can feel intimidated by their teachers or classmates (JISC, 2009). Overall, it is believed that the opportunity to incorporate learning flexibility within a non-threatening online environment can provide a positive impact on a student's motivation to learn.

One advantage of the online environment is the ability to provide instant feedback. When designing an assessment task, teachers are required to embed feedback into the task so that students can interact with it while engaged in the activity. High-value feedback practice should be on-going and immediate so that students can act on it immediately as part of the learning cycle. An advantage of electronic feedback is that different forms (e.g. online simulations) can be used to support a task engagement (Nicol and Macfarlane-Dick, 2006).

In the e-workbook, the topic of this study, the embedded solutions provide students with instant feedback, providing them with useful information about their strengths and weaknesses, and thereby improving their skills. Hounsell (2007) says

that students are more likely to read and act on feedback comments when they have enough time to respond to these comments and using the e-workbook provides this.

3.0 Background information and research methodology

As part of an assessment in an intermediate accounting course students were issued with access to an e-workbook near the start of the semester and had 10 weeks to complete 10 short modules in their own time. Each module consisted of three or four questions on an accounting topic. Students had to accurately complete each module to gain the associated assessment mark, but could attempt each module as many times as they needed.

Following the completion of the assessment, an online survey was used via Survey Monkey to explore the students' attitudes towards the e-workbook. The questionnaire was designed so that students should have been able to complete it within 15 minutes.

The survey instrument contained 14 major questions which reflected the research objectives. Most of the questions were closed-ended, requiring respondents to choose from a range of predetermined answers. In general, the responses to most of the questions required a Yes/No response with the exception one question requiring a response based on a five-point ordinal Likert scale ranging from "Not at all to Extensively". In addition to this there was a question with sub-questions related to the students' development of accounting skills subsequent to the use of the e-workbook.

The surveys were distributed to the students in the period between 4 June 2013 and 23 July 2013. Student participation was voluntary. The response rate was 32.9% (29 responses out of 88 enrolled students).

McInnes, James, and McNaught (1995) has found that certain variables such as age, sex, socio-economic background and ethnicity contribute to and influence students' perceptions about their institutions and therefore will affect students' overall teaching and learning experience. The demographics profile of respondents is contained in Table 1.

Insert Table 1

The majority of responses are from female and full-time students. International students make up more than half of those who responded. The dominant age-group is that between 22 to 25 years old (37.9%). However, it is noted that mature students (aged 30 years to 39 and over 40 combined) account for 41.3% of the overall group.

In term of ethnicity, there were only 27.6% New Zealand European with the largest ethnic group being Chinese students who accounted for 51.7% of the group. These figures are consistent with the overall demographic profile of the students enrolled in the course.

More than half of the students (58.6%) had never worked in an accounting related area while about a quarter of them (24.1%, combined 1 to 10+ years full time experience) have previous, full time work experience in accounting.

4.0 Results and discussion

Data was analysed using descriptive statistics with difference in responses tested using Chi-square tests. Table 2 provides the descriptive statistics (mean and median) for the Likert scale responses to the question on using the e-workbook. Table 3 provides the significant Chi-square test results for differences in responses from those with different demographics.

Insert Table 2

Insert Table 3

Discussion on these is incorporated into the following sections.

4.1 Rating the workbook

Ninety-three per cent of the respondents found the workbook easy to use and over half (52 per cent) indicated that they had done more than the required exercises, indicating that they thought there was additional benefit to be gained by doing so. In fact 80 per cent of those who did more than the required exercises rated the package at either high or excellent value, compared to a 65 per cent rating for these categories for those who only did the minimum.

4.2 Key area of appreciation

In relation to the benefit of the package, the highest response score in Table 2 was for the package allowing students to learn from their mistakes. When asked specifically about the feedback the program provided, all the respondents indicated that the ability to check their answers once they had submitted them was helpful. This suggests that students really appreciate being able to repeat the processes and learn through doing so.

4.3 Work background in accounting

Table 4 shows the working background by age.

Insert Table 4

Twelve students (forty-one per cent) of respondents had a background working in accounting (either full- or part-time). Of those who did not have this work experience, the majority were in the younger age categories.

Three-quarters of those with work experience were domestic students. Despite their working background three-quarters of these students indicated that using the workbook had improved their knowledge of double entry well or extensively. This compared to only 58 per cent of those without a work background who rated the package at this level. This suggests that those who are working in the industry appreciate the importance of the double entry techniques that the package is trying to reinforce. Perhaps those without a working background have less appreciation of the importance of double entry.

4.4 Domestic and International Students

Thirteen domestic students and 16 international students participated in the survey. The only significant difference in responses between these students was in the area of developing new accounting knowledge. Seventy-seven per cent of domestic students felt that the package had greatly improved their accounting knowledge (rating the level of improvement at 4 or 5 on a Likert scale) whereas for international students this was only 44 percent. The Chi-Square test for difference was significant at the 0.05 level (0.036).

4.5 Gender

Twenty-one females and eight males participated in the survey. Responses in most areas were not significantly different with the exception of the question on whether the package enabled them to participate actively in the learning process, learn from their mistakes and also help them revise their prior foundation accounting skills. The differences were significant at the 0.05 level for the first at 0.025 and for the other two at the 0.10 level with Chi-squares of 0.067 and 0.088.

Female students tended to rate the package higher in all these areas. What is meant by “active participation” might be a relative judgement and could vary between male and female. For example if males tend to engage in computerised games more than females then the participation this package provided might sit on the lower end compared to an X-Box game!

4.6 Full or Part-time Students

There were only six part-time students who participated in the survey – the rest were full-time. Significant difference in responses related only to improving English literacy (Chi-square of 0.70). The part-time students ranked this benefit of the package much lower than the full-time students but this is not surprising as the cohort of part-time students were all domestic students with most with English as a first language.

4.7 Age of Students

Age affected the responses to the perception of developing new accounting knowledge (Chi-square of 0.073) and improving English literacy (Chi-square of 0.004). New accounting knowledge was ranked highest in the 30-39 year age group which was interesting as nearly all this group had had prior accounting work experience, so again this suggests an awareness of what they had not previously known. English literacy improvement was ranked highest by the youngest age group who were all International Chinese students

5.0 Summary and conclusion

This paper describes the results of a study into students’ perceptions of the benefits of an online e-workbook. The survey findings indicate that the majority of

students found the e-workbook easy to use and all appreciated the instant feedback they received. Many students rated it as highly valuable to their learning, with the experience improving their confidence and competencies, and helping them to be aware of their own strengths and weaknesses and learn from the mistakes they made.

The results also confirm the findings in the literature that indicate that certain demographic variables contribute and influence students' perceptions and will affect students' overall teaching and learning experience. It is found that students who are working in the industry are more likely to appreciate the importance of the double entry techniques that the package is trying to reinforce than other students. Moreover, domestic students perceive the e-workbook to be a good learning tool in improving their accounting knowledge, while less international students perceive the improvement on accounting knowledge to be significant. Added to this, female students tended to rate the package higher in all these areas than the male students.

These findings suggest that further research is required to investigate student's preferences for the benefits of e-workbook in relation to their profiles. A more sophisticated model could be used in a more comprehensive, future study which investigates whether the demographics variables such as gender and working experience will influence student's views on the use of the e-workbook. Alternatively, future research can focus on the exploration of reasons for student's choices. Focus group meetings can be undertaken to investigate the reasons for students with working experience perceiving the benefits of double entry accounting more highly than other students.

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Table 1: Demographic Profile of Survey Participants

	Count	%
Sample size	88	100%
No. of respondents	29	32.9%
Gender		
Male	8	27.6%
Female	21	72.4%
Mode of study		
Full-time	23	79.3%
Part-time	6	20.7%
Student status		
Domestic student	13	44.8%
International student	16	55.2%
Age		
17 to 21	5	17.2%
22 to 25	11	37.9%
26 to 29	1	3.4%
30 to 39	7	24.1%
40 or above	5	17.2%
Ethnicity		
New Zealand European	8	27.6%
Maori	0	0.0%
Chinese	15	51.7%
Indian	5	17.2%
Pasifika	1	3.4%
Other	0	0.0%
Prior Accounting Work		
1 to 3 years (part time)	5	17.2%
4 years or more (part time)	0	0.0%
1 to 3 years (full time)	2	6.9%
4 to 9 years (full time)	2	6.9%
10 years or more (full time)	3	10.3%
Never worked in an accounting-related area	17	58.6%

Table 2: Descriptive Statistics

Question:	Mean	Median
To what extent do you believe the use of the Perdisco e-Workbook in ACTY6201 Financial Accounting has...		
Improved your knowledge of double entry accounting?	3.66	4
Given you more confidence in your ability with double-entry?	3.62	4
Developed new accounting knowledge?	3.59	4
Encouraged you to participate actively in the learning process?	3.89	4
Enabled you to learn from your mistakes?	4.07	4
Encouraged you to think independently?	3.82	4
Resulted in you revising your prior knowledge in foundation accounting skills?	3.86	4
Improved your English literacy?	3.14	3
Developed better accounting numeracy?	3.54	4
Improved your attitude towards ACTY6201 Financial Accounting?	3.67	4
Made you aware of your own strengths and weaknesses in accounting?	3.89	4

*1 = Not at all, 2 = somewhat, 3 = moderate, 4 = good and 5 = extensively

Table 3: Demographics and Responses - Significant Chi-Square Test p-values

Demographics	Gender	Full- Part-time	Domestic / International	Age	Prior Accounting Work Experience	Work Category
To what extent do you believe the use of the Perdisco e-Workbook in ACTY6201 Financial Accounting has...						
Improved your knowledge of double entry accounting?						0.082*
Given you more confidence in your ability with double-entry?						0.020**
Developed new accounting knowledge?			0.036**	0.073*	0.021**	0.052*
Encouraged you to participate actively in the learning process?	0.025**					
Enabled you to learn from your mistakes?	0.067*					
Encouraged you to think independently?						0.029**
Resulted in you revising your prior knowledge in foundation accounting skills?	0.088*					
Improved your English literacy?		0.070*		0.004**		
Developed better accounting numeracy?						0.020**
Improved your attitude towards ACTY6201 Financial Accounting?						
Made you aware of your own strengths and weaknesses in accounting?						
<i>* significant at 10%; **significant at 5%, *** significant at 1%</i>						

Table 4: Working experience in accounting by age

Working experience in accounting	Age range					Total
	17 to 21	22 to 25	26 to 29	30 to 39	40+	
Part-time - 1 – 3 years		1	1	2	1	5
Full-time – 1 – 3 years		1		1		2
Full-time – 4 – 9 years				2		2
Full-time – 10+ years				1	2	3
Subtotal - working		2	1	6	3	12
Never worked in an accounting area	5	9		1	2	17
Total	5	11	1	7	5	29