ICT for assessment and feedback on undergraduate accounting modules

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1. Introduction

Assessment and feedback are fundamental in the teaching and learning process. Assessment defines what is taught and how it is learnt (JISC, 2007) and is the way in which students’ knowledge, understanding, abilities or skills can be tested (QAA, 2006). Feedback on assessments is a conduit for facilitating student self-assessment and reflection, encouraging positive motivational beliefs and self-esteem, and yielding information that teachers can use to help shape teaching and learning (Gibbs & Simpson, 2004; Nicol & Macfarlane-Dick, 2006; Marriott, 2009). However, in the UK, assessment and feedback have been regularly highlighted by the National Student Survey as a critical aspect that requires improvement (Surridge, 2006; Williams & Kane, 2009; HEFCE, 2009 & 2010).

The potential to enhance significantly the learning environment and the outcomes for students in a wide range of disciplines through a variety of applications of e-assessment has been reported (Whitelock & Brasher, 2006; JISC, 2007; Wong, 2009). By facilitating the creation of innovative assessment practice, student engagement and motivation can increase (Wong, Wong & Yeung, 2001; Bostock, 2004) and the timely feedback offered by these forms of assessment can enable students to identify their weaknesses, reflect on their performance and improve their study skills (Aisbitt & Sangster, 2005; Lewis & Sewell, 2007).

The purpose of this project is to obtain a snapshot of current usage of ICT for assessment and feedback on undergraduate accounting modules in a UK Higher Education institution using a case study approach. Section 2 presents the context of three case studies in terms of the institution and its virtual learning environment (VLE), the student cohorts and the modules studied. A discussion of Case Studies 1 and 2, on the use of on-line phased summative and formative assessment, is presented in Section 3 together with an analysis of students’ perceptions of the technology. The third Case Study, relating to the use of screen-cast feedback, is discussed and analysed in Section 4, followed by the conclusions section and references.

2. Context of the Case Studies

Three case studies are presented and analysed in terms of the effectiveness of ICT assessment and feedback in Accounting education on students’ learning as measured by students’ perceptions and attitudes towards the technologies. All three case studies are based within the Department of Accounting, Economics and Finance at the University of Winchester and relate to undergraduate Accounting modules on the first and second year of the specialist Accounting degree and the first year of the non-specialist Business Management programme.

The University’s VLE is ‘Moodle’, an Open Source Course Management System, through which its Learning Network (LN) is delivered. The LN provides the interface between the students and the tutors and is the repository for programme and module material. It also allows for the creation, delivery, tracking and management of on-line assessments, quizzes and surveys by both staff and students.
3. Case studies 1 and 2 – phased on-line assessment

3.1 Sample Size and Assessment Methods

3.1.1 Case Study 1

Case Study 1 involves forty four (23 male and 21 female) first year undergraduate Accounting students studying a compulsory 20-credit Financial Accounting module delivered over 24 weeks in the academic year 2011-12. The cohort is divided into two groups of 22 students and weekly class contact consists of a 2-hour workshop and a 1-hour tutorial with each group. The module is assessed by 30% coursework and 70% examination (the examination component is heavily weighted to meet the exemption requirements of the professional accounting bodies). See Table 1 for details.

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Type</th>
<th>Occurrence</th>
<th>Weighting</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Examination</td>
<td>17 Weekly on-line challenges</td>
<td>9 between Weeks 1-12, 8 between Weeks 13-24</td>
<td>10%</td>
<td>15-20 minutes each</td>
</tr>
<tr>
<td></td>
<td>4 Phased on-line Tests</td>
<td>Weeks 6, 12, 18 and 24</td>
<td>25%</td>
<td>40-50 minutes each</td>
</tr>
<tr>
<td>Coursework</td>
<td>Case Study</td>
<td>End of Semester 2</td>
<td>30%</td>
<td></td>
</tr>
</tbody>
</table>

All assessment is summative and the weekly challenges are designed to engage students in their learning by testing knowledge and understanding as they progress through their programme of study. The four phased tests are more substantial in their requirements and test students’ application of knowledge. The coursework component requires students to consolidate their knowledge and understanding of the whole module and apply it to a case study requiring analysis and interpretation of financial statements. In order to pass the module, students are required to achieve an overall weighted average of 40% with at least 35% being obtained in the coursework and at least an average of 35% from the phased assessments.

3.1.2 Case Study 2

Case Study 2 involves fifty two (32 male and 20 female) second year undergraduate Accounting students studying a compulsory 20-credit Business and Personal Tax module delivered over 24 weeks in the academic year 2011-12. The cohort is divided into two groups of 26 students and weekly class contact consists of a 2-hour workshop and a 1-hour tutorial with each group. The module is assessed by 30% coursework and 70% examination. The examination component is weighted heavily to meet the exemption requirements of the professional accounting bodies and is a three hour paper-based, time constrained exercise. To pass the module, students are required to achieve an overall weighted average of 40% with at least 35% in both components of assessment. Whilst the summative assessments for this module are paper-based, the students are supported with weekly, formative, on-line assessments.
3.2 Phased On-line Assessment

3.2.1 Case Study 1 – Summative Assessment

The students enrolled on the module were given the option of taking the tests on-line or paper-based and all opted for the on-line version. Prior to each test, hard copies of test papers were prepared as a backup should any technical issues arise that would prevent on-line delivery. The contingency plan was not needed as all tests were delivered successfully on-line.

A bank of 500 questions was created, separated into topic groupings comprising multiple-choice, multiple-response, true/false, yes/no and text match questions. The on-line assessments were created from this question bank and feedback on each test included a score for the test; a summary of the questions asked and the student answers to those questions; and, an explanation of the correct answers.

All the tests were time-constrained and taken under exam conditions in a supervised, on-campus, computer lab during the students’ workshop sessions on pre-determined days during the academic year. The limited size of computer labs required multiple deliveries of the tests (2 groups of 22 students) that were undertaken during the same weeks but at different times. To prevent unauthorised and unscheduled access, the tests were password protected with the name and password being changed for each sitting.

To prevent collusion between students during and after each session the tests comprised questions which were selected randomly from the question bank and then ordered randomly on the assessment papers. Additionally, the answers linked to the multiple choice and multiple response type questions were “shuffled”. These safeguards resulted in students receiving a unique set or unique order of questions each time and removed the opportunity for unfair practice.

To overcome the potential issue of creating two tests with different difficulty levels each version of the test comprised an equal number of questions testing topic specific knowledge and an equal distribution of difficulty levels. The levels included easy, medium and difficult. The chance of any test being significantly more difficult than the other was removed.

3.2.2 Case Study 2 – Formative Assessment

The students were provided with weekly formative on-line assessments designed to engage students in their learning by testing their knowledge and understanding as they progress through their programme of study.

The question bank consisted of 400 questions which were categorised into relevant topic groupings comprising multiple-choice, multiple-response, true/false, numerical and short answer questions. Although the on-line tests were entirely formative, a score was awarded for each attempt to keep track of students’ performance and progress. Feedback to each test included detailed workings for each question and, for the multiple choice questions, an explanation of why the other choices were incorrect.

There were two seminar groups consisting of 26 students in each group. On-line tests were time-constrained but attempted informally by students in the class after being introduced to the
topic by the tutor and completing relevant tutorial exercises. Following the class, students were allowed to repeat the tests voluntarily with unlimited attempts to improve their scores. Students could focus on revising and repeating the topics which they did not perform well in (as evidenced by lower scores) instead of doing revision for all topics and there were incidences of highly motivated students who attempted the tests continually until they scored 100%. Apart from optimising the revision effort, formative on-line tests triggered student self-motivation as revealed by the increasing number of attempts every week especially when approaching the final exam.

3.3 Students perceptions of phased on-line assessment

In order to collect data on students’ perceptions of the use of on-line, phased, summative and formative assessments a self-administered, on-line feedback form was available to all students at the end of Semester 2. The feedback form included questions relating to the module generally and to on-line assessment specifically and the final section allowed students the opportunity to include narrative comments. Forty one first year and forty six second year students completed the questionnaire yielding response rates of 93% and 88% respectively. The feedback form was available to all students and its completion was voluntary and anonymous and so the low non-response rate is attributed to the optional nature of the survey.

The results of the questions relating to on-line assessment and feedback are presented in Tables 2, 3 and 4 according to the following themes: (i) Benefits of on-line assessment, (ii) working on-line and (iii) relevance and occurrence of on-line assessment.

An analysis of the findings is presented in sections 3.3.1 – 3.3.3 together with examples of the comments received from students in the narrative section of the survey instrument.
<table>
<thead>
<tr>
<th>Statements</th>
<th>Case Study 1</th>
<th></th>
<th>Cae Study 2</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Agree/Strongly agree</td>
<td>Neutral</td>
<td>Disagree/Strongly Disagree</td>
<td>Total</td>
</tr>
<tr>
<td>On-line exams/tests can add value to my learning.</td>
<td>25 (61%)</td>
<td>13 (32%)</td>
<td>3 (7%)</td>
<td>41 (100%)</td>
</tr>
<tr>
<td>I find the immediate release of my result from on-line exams/tests valuable.</td>
<td>39 (95%)</td>
<td>2 (5%)</td>
<td>0 (0%)</td>
<td>41 (100%)</td>
</tr>
<tr>
<td>On-line feedback helps me to understand where I personally went wrong.</td>
<td>33 (81%)</td>
<td>3 (7%)</td>
<td>5 (12%)</td>
<td>41 (100%)</td>
</tr>
<tr>
<td>On-line feedback removes the problems of illegible handwriting.</td>
<td>34 (83%)</td>
<td>7 (17%)</td>
<td>0 (0%)</td>
<td>41 (100%)</td>
</tr>
<tr>
<td>On-line feedback is useful to revise from and prepare for subsequent assessments.</td>
<td>33 (81%)</td>
<td>6 (14%)</td>
<td>2 (5%)</td>
<td>41 (100%)</td>
</tr>
<tr>
<td>Statements</td>
<td>Case Study 1</td>
<td>Cae Study 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------------------------------------------------------------------</td>
<td>--------------</td>
<td>-------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Agree/ Strongly agree</td>
<td>Neutral</td>
<td>Disagree/ Strongly Disagree</td>
<td>Total</td>
</tr>
<tr>
<td>I have no problems with working on-line.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>35</td>
<td>4</td>
<td>2</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td>85%</td>
<td>10%</td>
<td>5%</td>
<td>100%</td>
</tr>
<tr>
<td>I would prefer to do my exams/tests on a computer rather than on paper.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>13</td>
<td>18</td>
<td>10</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td>32%</td>
<td>44%</td>
<td>24%</td>
<td>100%</td>
</tr>
<tr>
<td>Computer marking is more reliable and consistent than human marking.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>17</td>
<td>13</td>
<td>11</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td>42%</td>
<td>32%</td>
<td>26%</td>
<td>100%</td>
</tr>
<tr>
<td>Paper-based exams/tests are fairer than on-line exams/tests.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>24</td>
<td>8</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td>22%</td>
<td>58%</td>
<td>20%</td>
<td>100%</td>
</tr>
<tr>
<td>On-line tests favour some students more than others.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>17</td>
<td>10</td>
<td>14</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td>42%</td>
<td>24%</td>
<td>34%</td>
<td>100%</td>
</tr>
<tr>
<td>Statements</td>
<td>Case Study 1</td>
<td></td>
<td></td>
<td>Case Study 2</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------</td>
<td>--------------</td>
<td>--</td>
<td>--</td>
<td>--------------</td>
</tr>
<tr>
<td></td>
<td>Number</td>
<td>Percent</td>
<td>Number</td>
<td>Percent</td>
</tr>
<tr>
<td>I prefer on-line exams/tests to be:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Formative only</td>
<td>3</td>
<td>7%</td>
<td></td>
<td>18</td>
</tr>
<tr>
<td>Summative only</td>
<td>12</td>
<td>30%</td>
<td>1</td>
<td>2%</td>
</tr>
<tr>
<td>Combination of formative and summative</td>
<td>21</td>
<td>51%</td>
<td>19</td>
<td>41%</td>
</tr>
<tr>
<td>No preference</td>
<td>5</td>
<td>12%</td>
<td>8</td>
<td>18%</td>
</tr>
<tr>
<td></td>
<td>41</td>
<td>100%</td>
<td>46</td>
<td>100%</td>
</tr>
<tr>
<td>In my opinion, on-line exams/tests should:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Be used on numerical modules</td>
<td>32</td>
<td>78%</td>
<td>40</td>
<td>87%</td>
</tr>
<tr>
<td>Be used on non-numerical modules</td>
<td>9</td>
<td>22%</td>
<td>2</td>
<td>4%</td>
</tr>
<tr>
<td>Not be used at all</td>
<td>0</td>
<td>0%</td>
<td>4</td>
<td>9%</td>
</tr>
<tr>
<td></td>
<td>41</td>
<td>100%</td>
<td>46</td>
<td>100%</td>
</tr>
<tr>
<td>Complex questions are not appropriate for on-line exams/tests.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agree/Strongly agree</td>
<td>26</td>
<td>64%</td>
<td>25</td>
<td>54%</td>
</tr>
<tr>
<td>Neutral</td>
<td>9</td>
<td>22%</td>
<td>15</td>
<td>33%</td>
</tr>
<tr>
<td>Disagree/Strongly disagree</td>
<td>6</td>
<td>14%</td>
<td>6</td>
<td>13%</td>
</tr>
<tr>
<td></td>
<td>41</td>
<td>100%</td>
<td>46</td>
<td>100%</td>
</tr>
<tr>
<td>Where on-line exams/tests are used on modules, they should take place at least:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Once a week</td>
<td>12</td>
<td>29%</td>
<td>20</td>
<td>44%</td>
</tr>
<tr>
<td>Once a month</td>
<td>19</td>
<td>47%</td>
<td>19</td>
<td>41%</td>
</tr>
<tr>
<td>Once a semester</td>
<td>9</td>
<td>22%</td>
<td>5</td>
<td>11%</td>
</tr>
<tr>
<td>Once a year</td>
<td>1</td>
<td>2%</td>
<td>2</td>
<td>4%</td>
</tr>
<tr>
<td></td>
<td>41</td>
<td>100%</td>
<td>46</td>
<td>100%</td>
</tr>
<tr>
<td>The ideal duration for EACH on-line exam/test should be no more than:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 – 30 minutes</td>
<td>21</td>
<td>51%</td>
<td>36</td>
<td>78%</td>
</tr>
<tr>
<td>45 – 60 minutes</td>
<td>20</td>
<td>49%</td>
<td>10</td>
<td>22%</td>
</tr>
<tr>
<td></td>
<td>41</td>
<td>100%</td>
<td>46</td>
<td>100%</td>
</tr>
</tbody>
</table>
3.3.1 **Theme 1 – Benefits of On-line Assessment and Feedback**

Over 60% of both first and second year students regard on-line summative assessment as adding value to their learning, rating highly the immediate provision of results at a time when the test is “fresh in their minds” (≥95%).

*On-line tests and assessments are very good as you receive an immediate grade and answers so you haven’t forgotten what the test was even on by the time you receive your marks. (CS1)*

*Online feedback that is instant means that I can clearly see where I have gone wrong soon after the exam has been sat whereas when there is a lengthy wait for exam results it is hard to see where you have gone wrong as it is more difficult remembering the questions. (CS2)*

The detailed and personal feedback provided (≥81%) and its legibility (≥83%) are also perceived as benefits of on-line assessment.

*I can make my own corrections on difficult questions for me rather than go through each question with all the group. (CS1)*

*I really agree with on-line feedback, it helps me to understand where I personally went wrong. (CS2)*

*On-line tests were very useful and the on-line feedback removes the problems of [tutor’s] illegible handwriting. (CS1)*

*The immediate release of results is very helpful, and certainly at school, handwritten feedback was not always very legible. (CS2)*

Over 80% of all students consider on-line assessment to help their revision and prepare for subsequent assessments.

*On-line tests are easier to complete and quicker to get the results back so you have more time to practice and do better for the future. (CS1)*

*The online test were a very good barometer of my learning, this coupled with the fact that they are still available to use as revision has made them an invaluable tool. (CS2)*

*I strongly agree that on-line feedback is useful to revise from and prepare for subsequent assessments. (CS2)*

3.3.2 **Theme 2 – Working on-line with assessment and feedback**

The majority of students (85%) do not have a problem with working on-line with under a quarter of students indicating a preference for paper-based rather than on-line tests. However, a significant minority of students have concerns with on-line assessments with 26% of students regarding on-line marking to be less reliable than human marking and 30% regarding paper-based tests to be fairer.
The instant feedback from online exams is useful although not always as in depth as needed. (CS1)

Regarding questions that require calculations, on an on-line test, you will only receive full marks if your end question is correct, which is not a fair reflection of a true test. (CS1)

The on-line feedback is good, although sometimes it does not go into enough detail and it is still hard to understand where I went wrong on a question. (CS2)

Over 40% of both cohorts view on-line tests as favouring some students over others with 20% of first year and 30% of second year students finding it difficult to concentrate on questions when doing tests on-line.

[On-line assessment] may benefit students who are more familiar with computers and also benefits students with poor handwriting. (CS1)

The main problem with online working is that different students might have different IT skills. A student who might have very good subject knowledge may be disadvantaged if his IT skills are not very good. (CS2)

I found that working online on computers was quite detrimental as it was hard to not get distracted by face book. (CS1)

I agree that online tests make feedback more immediate than paper based, however, I find it hard to concentrate on a PC long enough to do an online test of longer than 30 mins. (CS2)

Despite no technical issues arising in any of the on-line tests 42% and 52% of first and second year students respectively considered technical problems to be an issue, making on-line assessment impractical.

I agree with the on-line feedback because it will be easier to read and hopefully results will be given out quicker, however, I feel doing a test online may complicate things and technical problems may occur. (CS2)

3.3.3 Theme 3 – Relevance and Occurrence of On-line Assessments

The majority of first year students (51%) and 41% of second year students expressed a preference for on-line exams/tests to be a combination of formative and summative. However, students’ experience of on-line assessment appeared to influence their preference with 30% of first year students preferring on-line assessments to be summative only and 39% of second year students preferring them to be formative only. Over three quarters of both cohorts (≥78%) regard on-line assessment to be more appropriate for numerical modules and 64% consider on-line assessment to be inappropriate for complex questions.

I think they [on-line tests] should be used for numerical modules like financial accounting but not for modules like Law. (CS1)
Computer based questions are fine for number based modules. When a question is more theoretical, multiple choice is not applicable. (CS2)

Complex questions which need workings and calculations to figure out the answer are also very hard to do on a computerised test. (CS1)

I don’t think they’re [on-line assessments] appropriate for the final end of year exam as detailed calculations can’t be shown and it is impractical for follow through marks to be allowed. (CS2)

I found online weekly challenges easy to complete when the majority of questions were theory based or relatively simple workings, however, as this increased it was harder to calculate. (CS1)

The online learning experience, although valuable, can be frustrating when doing longer questions. For more complex problems I prefer using pen and paper. (CS2)

The frequency of on-line assessments appears to be influenced by the nature of the assessment with 44% of second year students, who receive formative assessments, preferring weekly assessments and 47% of first year students, whose assessment was summative, preferring monthly assessments. Just over half of first year students and three quarters of second year students consider the ideal duration of each test to be between 15 and 30 minutes with the remainder opting for durations of between 45 and 60 minutes.

3.4 Summary and Reflection

The majority of students in the two case studies do not have a problem with working on-line and regard on-line assessment to add value to their learning. In particular, students rate highly the phased nature of the assessments and consider the feedback they receive to be timely and useful in the learning process, facilitating opportunities for self-assessment, evaluation and reflection which provide opportunities to perform better in future assessments by focussing on topic areas where weaknesses exist.

For many students a combination of formative and summative on-line assessments was considered appropriate but, influenced by their module experience, preference for one or other method was expressed by some. The majority of students in both cohorts considered on-line assessments to be appropriate for numerical subjects and for non-complex questions but first year students expressed a preference for monthly tests rather than the weekly tests favoured by their second year counterparts.

Not all students, however, expressed a preference for on-line assessment considering paper-based versions to be fairer and the marking to be more reliable. Some students expressed the concern that on-line testing favoured some students more than others and a fear of technical problems was evident. Maintaining levels of concentration when working on-line was identified but the comments from students indicate this is linked more with distraction than concentration.

The two case studies report how technology has been used to improve students’ learning and how technology can be used successfully for formative and summative assessment purposes. It has provided evidence of students’ perceptions of on-line assessment in terms of their engagement with the technology, their preferences and concerns.
It is evident that formative and summative on-line assessment can play a major part in students’ learning but the way in which we use the technology has major implications on the success or otherwise of students. Adopting an assessment strategy that students engage with is therefore vital.

4. **Case Study 3 – the use of screen-cast feedback**

In order to collect data on students’ perceptions of the use of screen-cast feedback a mixed methods research approach was employed that combined both quantitative and qualitative techniques. An online questionnaire was administered via the University’s learning network at the end of the semester. In addition to the online survey, focus groups were conducted to elicit opinions on the new system of screen-cast feedback.

All students who received the screen-cast feedback were invited to participate in an online survey to explore students’ evaluation of the resource. One control question was included to confirm whether the respondents had watched the screen-cast video, which the tutor considered an integral part of the learning process. The requirement to complete the on-line questionnaire was therefore compulsory and integrated into the coursework marking scheme with 2.5 percent of the overall assessment mark being allocated to the completion of the questionnaire. All students were informed prior to the distribution of coursework that marks would be awarded for completion of the questionnaire.

Of the 155 students enrolled on the module, 147 students submitted the coursework and received the screen-cast feedback; 124 students watched the video and submitted the questionnaire yielding a response rate of 80%. Twenty percent of students chose not to read the screen-cast comments.

An invitation to participate in focus group interviews was emailed to students several weeks after they completed the online survey questionnaire. A series of five focus groups comprising 26 participants (17%) were conducted using a semi-structured approach.

The results of the questions relating to students’ perceptions of screen-cast feedback are presented in Table 5 and are grouped into four themes linked to the screen-cast feedback’s: (i) clarity, (ii) utility, (iii) individuality and (iv) quantity. Table 6 presents the type of feedback students prefer.
Table 5: Students’ Perceptions of Screen-cast Feedback

<table>
<thead>
<tr>
<th>Statements</th>
<th>Agree/Strongly Agree</th>
<th>Neutral</th>
<th>Disagree/Strongly Disagree</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Theme I - Clarity</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The screen-cast feedback was clear and easy to follow.</td>
<td>123</td>
<td>1</td>
<td>0</td>
<td>124</td>
</tr>
<tr>
<td><strong>Neutral</strong></td>
<td>99%</td>
<td>(1%)</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Theme II - Utility</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The screen-cast feedback identified the areas where I did well.</td>
<td>113</td>
<td>11</td>
<td>0</td>
<td>124</td>
</tr>
<tr>
<td><strong>Neutral</strong></td>
<td>91%</td>
<td>9%</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>The screen-cast feedback clarified the areas where I went wrong.</td>
<td>116</td>
<td>6</td>
<td>2</td>
<td>124</td>
</tr>
<tr>
<td><strong>Neutral</strong></td>
<td>93%</td>
<td>5%</td>
<td>2%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Theme III - Individuality</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I found the screen-cast feedback more personal than the traditional written feedback.</td>
<td>106</td>
<td>15</td>
<td>3</td>
<td>124</td>
</tr>
<tr>
<td><strong>Neutral</strong></td>
<td>86%</td>
<td>12%</td>
<td>2%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Theme IV – Quantity</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I was satisfied with the amount of feedback that I received.</td>
<td>116</td>
<td>6</td>
<td>2</td>
<td>124</td>
</tr>
<tr>
<td><strong>Neutral</strong></td>
<td>94%</td>
<td>5%</td>
<td>1%</td>
<td>100%</td>
</tr>
</tbody>
</table>

For all four themes over 85% of students agreed or strongly agreed that there are benefits to be received from screen-cast feedback. Ninety nine percent of students agree that the feedback is clear and easy to follow with 91% agreeing that it identifies the areas where they perform well and the areas where mistakes are made. The majority of students (94%) are satisfied with the amount of feedback provided and 86% of students agree that the screen-cast feedback is more personal than traditional written feedback.
The students indicated that feedback from the tutor should be a combination of audio and visual with 72% selecting screen-cast feedback as their preferred option. It seems that audio-only feedback, such as podcasting, has lost support from students when they have been offered a better choice of audio-plus-visual feedback. Students with no preference and those preferring written feedback count for just one quarter of the respondents.

The analysis of the focus group interviews has been subdivided into the four themes of the questionnaires, as specified in Table 5 above.

4.1 Theme 1 – Feedback is Clear and Easy to Follow

Students often found the tutor’s writing in other modules to be illegible and a preference for screen-cast feedback was evident. For students with specific learning needs the issue of handwriting was more of a problem as they struggle not only with the handwriting but with the words themselves.

Last semester we had one lecturer that I couldn’t actually read the writing, so I didn’t actually know like what the feedback was, so in a way it sort of seemed pointless. With this tutor I know exactly what he meant because he was explaining it, showing it to us, it was a lot more useful than just getting sheets of paper with writing next to it … that you can’t read.

(Group 5)

I’d want the screen cast because I find it a lot easier. I think it’s due to my dyslexia, the writing is a lot harder to read but hearing it is a lot better for me.

(Group 3)

When asked if the screen-cast feedback was easier to follow the students stated that the combination of audio comments and on-screen animation was very helpful and aided their understanding of the concepts being tested. The following comments concur with the high mean score of 4.6 to the online survey statement in Table 5 (“The screen-cast feedback was clear and easy to follow”) and illustrate the relevance and effectiveness of this mode of feedback.

I prefer to be spoken to than just reading, so it [screen-cast feedback] has helped me learn because it’s spoken as well as pinpointing what was good, what was bad, but I think it would be much better than me just sitting here and reading it in black and white, because I take in information better if I can see it visually and I can hear it, so I think it’s definitely a plus.

(Group 4)

I like the way the arrow kept on moving and highlighting the bits he was talking about because … you know if it’s written then it’s not always like next to what you’ve done wrong and you can’t quite understand it, but because he highlights every bit as it goes, as he’s talking, it’s more understandable.

(Group 2)
4.2 Theme 2 – Feedback Identifies Students’ Strengths and Weakness

The focus group interviews provided explanations as to why the students scored these aspects so highly. For many students, the step by step nature of the comments made by the tutor was identified as a positive feature of the screen-cast feedback which provides comprehensive and valuable guidance on what students do correctly and incorrectly. For some students, the feedback was regarded as motivational.

You get more of a step by step analysis as to what you did right and what you did wrong whereas like the traditional way we get feedback … they’ll [the tutors] say a couple of things that probably really stood out to them but we don’t get a chance to really go through our assignments with our lecturers… whereas he [the tutor] went through it question by question which was quite handy, so that we knew where and when we’d gone wrong.

(Group 2)

… because you actually heard him [the tutor] talking to you, and you saw him like going through your essay and saying … oh this you did wrong here, but I can see why you’ve done that, and he’s actually like addressing the problem that you’ve done, and the fact that you can hear him saying it, you can see him going through. This really helps with my understanding.

(Group 5)

It’s quite motivational as I’m not sure what other lecturers are like but [the tutor] would say like good comments if you’ve done something well, whereas with the written one they don’t usually say whether you’ve done it well or not…

(Group 3)

4.3 Theme 3 – Feedback is Discrete and Personal

The majority of students agreed that they found the screen-cast feedback more personal than traditional written feedback. This is reinforced by the students’ focus group comments.

I just think it looked like he [the tutor] did take a lot of time over it, it just seems like a bit more personal because you’re getting an actual … this is what you did wrong, this is where you went wrong, rather than just the writing … when someone writes your assignment you just get … oh this is wrong, but you can’t sort of explain why with a written feedback really.

(Group 1)

I think it’s a bit more personalised as well because it’s directed to the group members and actually he [the tutor] was quite enthusiastic when he was talking back to the group members, so it made you listen a bit more than you may actually want to read the writing on the assignment.

(Group 4)
4. 4 Theme 4 – Amount of Feedback

Students’ perception of the amount of the feedback provided is very favourable. The value of the feedback for many students was linked to the thoroughness of the explanations and the frequency with which the feedback can be listened to.

It’s more thorough as well, like the way it explained it was like … it’s also telling you what you should have done or what you could have done as well instead of just telling you what you did wrong, it’s like showing you a way that you could have done it.

(Group 1)

… to me to get the feedback from my teacher like face to face, I’m going to have to make an appointment and I go and see him and he doesn’t have time, he’s just going to have to rush through it sort of thing, but now I have it all the time and can watch it whenever I want, you know that’s much easier for me, I prefer doing it that way to be honest.

(Group 2)

However, there were 20% of students who chose not to read the screen-cast file. Comments received from students participating in the focus groups provided anecdotal evidence of why some students did not engage with the feedback.

I got the sense that some students are happy just to receive their mark and are not interested in the feedback.

(Group 4)

Some students will not care about feedback after the final assignment so why should our teachers waste their time in giving feedback to them. Maybe the tutor should concentrate on those of us who want the feedback.

(Group 2)

4.5 Summary and Reflection

With over 71% of respondents indicating a preference for screen-cast feedback and at least 86% of students agreeing with statements relating to the benefits of screen-cast feedback, the online survey results indicate that students have a positive attitude towards its use. The focus group interviews provide a valuable insight into the reasons why students support the introduction of this innovation and it is evident that the clarity, instructional nature and effectiveness of the feedback are key features.

However, the time and effort on the part of the tutor in downloading the coursework, preparing the feedback and uploading the content of the audio files cannot be ignored. For large cohorts of students consideration would need to be given to the benefits to the students of receiving screen-cast feedback with the cost to the tutor of producing it. For example, twenty percent of students in the study did not listen to the feedback.
5. Conclusions

Assessment is a process of appraising an individual's knowledge, understanding, abilities or skills and the way in which we teach and assess therefore has a significant role to play in enhancing the learning experience of students. Teachers need to reflect on the success, or otherwise, of their assessment practices and make changes in light of their reflection. Feedback is an essential component of assessment and its effectiveness in the learning process is influenced by its timeliness, frequency and use—feedback is only useful if it is used.

The purpose of this project was to obtain a snapshot of current usage of ICT for assessment and feedback on undergraduate accounting modules in a UK Higher Education institution using a case study approach - two cases relating to phased on-line assessment and one case focussing on the use of screen-casting to deliver feedback to students.

5.1 Case Studies 1 and 2

The use of continuous assessment can be an important and powerful assessment practice which supports high-quality learning and teaching through measuring student development and providing appropriate support where needed. Timely feedback can be provided to students to facilitate their self-reflective process and personal development enabling them to advance their learning and become actively involved in their own learning.

These case studies have provided an insight into the students' preferred methods of learning and assessment and how phased on-line formative and summative assessments can have a positive impact on student engagement in the teaching and learning process. The design of on-line assessments, however, should take into consideration the preferences of students relating to their content, duration, frequency and marking.

From the tutors' perspectives there were no drawbacks to on-line assessment other than the time that was expended in creating the question bank, setting up the tests and inputting the detailed feedback on the system. These were one-off investments of time as the question banks can be used indefinitely.

The introduction of phased online assessment encouraged classroom participation and facilitated frequent ‘practice/feedback’ opportunities which enable students to channel their energies. It supports the findings of Whitelock and Brasher (2006), JISC (2007) and Wong (2009) that identified the potential for e-assessment to significantly enhance the learning environment and the outcomes for students.

5.2 Case Study 3

In the UK, assessment and feedback have been regularly highlighted by the National Student Survey as a critical aspect that requires improvement. An innovative approach to delivering feedback that has proved successful in non-business related disciplines is the delivery of audio and visual feedback using screen-cast technology.

The aim of this case study was to investigate whether the introduction of screen-cast feedback is effective when used with business students studying an accounting module. The findings reveal
that the introduction of educational technology in the form of screen-cast feedback can be
effective in increasing the value placed on feedback by students which is particularly important
when considering assessments that occur at the end of a semester where the achievement of the
learning outcomes of one module impact on developing understanding in a future module.

Receiving feedback in audio and visual form that is considered by students to be personal,
understandable and supportive is invaluable and the results provide evidence of how educational
technology can contribute to the continuing evolution and improvement of assessment feedback
in accounting education.
Biographies

Dr. Pru Marriott is the Head of the Department of Accounting, Economics and Finance at the Winchester Business School and a Reader in Accounting. Pru has over 20 years of teaching and research experience with a specialism in accounting education. Her research has been funded by the ACCA, HEA, ICAEW and the Professional Oversight Board. Currently, she serves on the Academic Quality Committee of the Institute of Financial Services and is External Examiner for a number of Higher Education institutions. Pru is a member of the editorial boards of academic accounting journals in Australia, the UK and the USA and she is a successful author of a popular financial accounting textbook for Sage Publishers.

Lim Keong Teoh is a Senior Lecturer and the Programme Leader for the MSc in Accounting and Finance at the Winchester Business School. Prior to his academic career, Lim worked for 6 years in Coopers & Lybrand (currently known as PricewaterhouseCoopers) as an auditor. Lim is passionate about learning and teaching and has received Teaching Excellence Awards from Coventry University in 2007 and the University of Winchester in 2011. His research interests include accounting education for which he has received internal and external funding. Lim is currently working towards his PhD by publication at Winchester.

References


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