

Preparing international masters students for a computer-based summative assessment

Slide 1

Hello. Thank you for attending our research presentation. In this session, we will be providing you with an update on our ongoing research project on the topic of summative assessment and e-learning. My name is Jane Smith and I work at the University of Sheffield in the Department of Education. I would also like to introduce my collaborative partner, Richard Jones, who is head of the E-learning Development Team at UCL.

We anticipate that this presentation will last between ten and fifteen minutes. We plan to first provide you with an overview of the problems we were experiencing with assessment and then outline the process we took in an attempt to solve it. We'd ask that you hold your questions until the end of the presentation, and at that point, we'd be happy to answer them.

Slide 2

At Sheffield, Master's students in the Department of Education have to complete a research methods module. At the moment, the current enrolment is about 160 students. For the past three years, I have acted as a TA for this module. Each year, I am required to mark the exam scripts for these 160 students, within a six week period. This is a substantial amount of work to be completed in such a short time. During these six weeks, marking becomes a priority, and this is detrimental to my own research projects, as they get put on hold. We needed to find a better solution.

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Our potential solution was to ask students to complete their final exam for their research methods module on a computer; this is known as e-assessment. With this test, we still wanted

a variety of question types - as we had with the original written version, but we wanted the computer to be responsible for marking the closed questions. This accounted for approximately 2/3 of the exam, making my marking job considerably easier, as I would only be responsible for the human marked component, or about 1/3 of each exam.

We also wanted to ensure that students felt prepared for taking an online exam, as we did not want to increase anxiety as a result of the e-assessment. So before the final exam, we expected that students would complete a mock exam and to run through a tutorial with a video demonstration and some sample questions.

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Up until this point, I've been highlighting how this change affects me, as the marker, and while certainly it's a benefit to have less marking within that six week time frame, what we really wanted to know was how the students were feeling about undertaking this type of online assessment. As a result, we formulated two research questions. As per the slide, these questions examined both student attitudes and factors predicting these attitudes.

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We began to investigate e-assessment summative testing by asking students what they thought about making the switch from paper based to online testing. As questionnaires can be difficult to create from scratch, and because there was previous research on this topic, we used a questionnaire designed by Dermo called the *Student Perceptions of eAssessment Questionnaire* or SPEAQ for short. This questionnaire examined six particular variables. These included affect, validity, practicality, reliability, security and pedagogy. We felt that this questionnaire would answer our first research question.

Moving on, we also needed to determine some predictor variables in order to answer our second research question. For this, we came up with four variables that were highlighted in the

literature on e-assessment. These included the experience of computer-based assessment, the use of related technologies, computer self-efficacy, and keyboarding skills.

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Using Survey Monkey, we sent our questionnaire to 160 Master's students that had participated in the 2015 research methods module from September to December. Of the 160 student emails, 147 of the emails went through successfully. Of that population, we had 36 respondents, all of whom were female. While this number was small, it gave us an initial view of the student perspective. These students all indicated a high level of proficiency when using a computer for things such as accessing the web, messaging, and chat, but were less confident with aspects of online quizzes and questionnaires. They also indicated concerns related to their typing skills.

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In the questionnaire, participants were given a series of statements and asked to rate these statements on a 5 point Likert scale where 'one' related to *strongly disagree*, 'three' related to *neither agree nor disagree* and 'five' related to *strongly agree*. From our preliminary data, the top five scores are reflected in this chart. As you can see, the participants felt that aspects such as cheating and health and safety were major concerns, but also highlighted benefits associated with marking accuracy and with the diverse nature of the question types.

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The top five lowest scores given by our participants are reflected in this graph. We were particularly surprised with these outcomes because we initially thought that students would consider e-assessment to increase anxiety and stress, while also being noisier. In reality, the student participants felt that these were not issues that were particularly problematic to their exam writing experience.

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We are still in the process of data analysis, and as a result have not yet examined the factors predicting student attitudes. This will be forthcoming in our next presentation, which we hope to be able to deliver next term. We do know that we need a larger sample size before changes to e-Assessment can be implemented at Sheffield. As we move forward into the next academic year, we plan to revise the questionnaire and deliver it to a different group of MA students who have completed the Research Methods Module. We'd like to consider how different populations perceive eAssessment, particularly in cultural differences and we'd also like to compare students' marks on the Research Methods course to their questionnaire responses. So these are areas we may choose to pursue in the future.

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Well that is about it for now. Thank you very much for listening to our presentation. We'd be happy to now answer any questions you have and welcome any suggestions you have to offer. Thanks again.

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Oxbridge Essays

The problem

- research methods module
- 160 education students
- 6 weeks to complete marking
- ... while working with other modules and on research



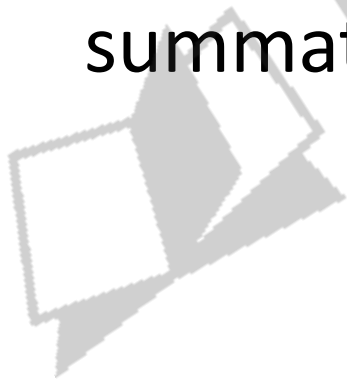
The solution

- computer-based assessment
- 2/3 short answer questions
- 1/3 longer answer questions
- mock computer-based examination
- video demonstration and sample questions



Research questions

- What are MA students' attitudes towards and experiences of the delivery of summative examinations online?
- What factors predict MA students' attitudes towards and experiences of the delivery of summative examinations online?



Method

- Questionnaires

- Criterion variable:

Student Perceptions of eAssessment Questionnaire (SPEAQ; Dermo, 2009): (1) affect, (2) validity, (3) practicality, (4) reliability, (5) security, and (6) pedagogy

- Predictor variables:

(1) experience of computer-based formative and summative assessment, (2) use of related technologies, (3) computer-self-efficacy, (4) keyboarding skills

Results: Questionnaires

- Participants
 - 36 female students
 - 17 had experience of formative and summative eAssessment, but 13 had no experience of either
 - They frequently access the web, but only occasionally post messages to forums and blogs, and do quizzes and questionnaires
 - They are not confident in their ability to transfer their ICT skills
 - They peck at the keyboard (25)

Results: Questionnaires

- Students were most positive about ...

	M	SD
It is easier to cheat on online exams than with paper-based exams*	3.75	.91
Because you can guess the answer, online multiple-choice questions don't really reflect your level of knowledge*	3.53	.97
Marking is more accurate, because computers don't suffer from human error	3.5	1.00
There are serious health and safety issues with online exams*	3.44	.91
Online assessment can do things paper-based exams can't	3.42	.94

Key: 1 = strongly disagree, 5 = strongly agree;
* scoring reversed, original wording presented

Results: Questionnaires

- Students were most negative about ...

	M	SD
I find the noise of people typing on a keyboard distracting *	2.03	1.11
Online exams don't just test knowledge of research methods, but IT skills as well *	2.06	.95
Using a computer adds to the stress of exams *	2.14	.96
I find it hard to concentrate on the questions when doing an online exam *	2.26	1.20
Online assessment is appropriate for research methods	2.49	.95

Key: 1 = strongly disagree, 5 = strongly agree;
* scoring reversed, original wording presented

Future directions

- Comparison of
 - Chinese international masters students
 - British undergraduate students
- Methodology
 - Revised questionnaire
 - Structured coding schedule
 - Pre- and post-test