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Online assessment: supported learning or "just do it"?

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Online assessment: supported learning or "just do it"? (0106)

INTRODUCTION

In an era of diminishing resources, larger class sizes, and the rise of MOOCs, university teachers are turning to novel modes of teaching and assessment. In particular, online computer marked assessment, formative and summative, is increasingly being used across the sector. However, little is known about the significance students place on interactive online assessments, or how they engage with them in practice. This paper describes some of the findings of an HEA-funded project set up to explore these issues.

ONLINE ASSESSMENT AT THE OPEN UNIVERSITY

The OU is a leader in the field of online learning, and many of its modules now incorporate online interactive computer-marked assignments (iCMAs) as part of their assessment regimes. Students expect to encounter sophisticated apps in their leisure and social lives, and will have the same expectations of educational software. The university's Moodle-based VLE system permits the construction of sophisticated iCMAs, in a wide range of question formats – multiple choice, cloze, variable numeric, etc. The iCMAs lay heavy emphasis on feedback, which is supplied automatically as the student progresses through the assignment. Broadly, feedback may be classified into three types:

1. whether the answer is correct or not (i.e. right or wrong);

2. the correct answer;

3. elaborated feedback, explaining the answer and perhaps indicating where the respondent went wrong.

(Timmers 2012). There is evidence that types (2) and (3) have better outcomes for learning (Roediger 2012), and iCMA writers are encouraged to build into their questions feedback that is designed to develop understanding in reflective learners.

RESEARCH AIMS

However, providing feedback is no guarantee that students use it effectively, or indeed at all (Crisp 2007). The aims of the project we describe here were to explore

1. students' objectives in completing iCMAs;

2. their patterns of engagement with them;

3. their perceptions of the efficacy of computerised assessment and feedback.

in a large cohort (≈ 2500) of students taking module *TU100 – My Digital Life*. TU100 incorporates seven iCMAs, each of 20 questions. Their aim is mainly formative assessment: although students are required to gain an average of at least 40%, results do not contribute to the final mark, and multiple attempts are allowed. A maximum of three tries at variants of each question is permitted. Incorrect answers receive feedback, and after a third try the correct answer is revealed, with further explanatory material.

METHODOLOGY

A mixed methodology, in three parts, was used to gather data:

1. A short questionnaire, distributed to 1% of cohort. The aim was to gather background information for the construction of part 2.

2. A detailed survey (sent to 7% of cohort) probing students' motivations and approaches to iCMAs, with further questions covering possible enhancements to the system.

3. Analysis of statistical data, extracted from the OU's VLE, across the whole cohort, relating to iCMA scores, completion rates, timings, etc.

RESULTS AND DISCUSSION

51 students responded to the survey – a 29.1% response rate.

Motivations

On the question of students' motivations in working through the iCMAs (apart from the requirement to do so), the survey revealed a bare majority (54.9%) treated them as a *review* of how much they had understood. However, a few (7.8%) treated them as *preview* – one claiming that the purpose was '*to see what I knew already, so I could miss out studying parts of the texts*'. Depressingly, 21.6% stated that they only completed the iCMAs in order to pass.

Patterns of engagement

Generally, patterns of engagement with the iCMAs supported these motivations. 39% aimed to complete them shortly after studying the relevant materials, either in short bursts or at the end of a Block; a further 22% reviewed them before studying the material, returning to them later. However, only 61% of the respondents using these strategies explicitly stated that they adopted them to check understanding. Another 21.6% of respondents said they completed the iCMAs much later than scheduled, and of these 64% used the iCMAs to see how much of the material they had understood. Typical free comments such as

> *... I treated them as a final exam.*

indicate that this was, for some, a reflective strategy.

In cases where students answer correctly, many felt that feedback was then irrelevant. Although 54.9% claimed to read the feedback before moving on, 39.2% said that they moved to the next question immediately (typical comments: *I should have taken a moment to review but I didn't, more due to laziness on my part than anything else* and *Depends whether I knew the answer or guessed it*).

Longer term patterns of engagement were manifest in the VLE statistics. Both students' best average mark and the number achieving 100% show a downwards trend from the first to the last iCMA. Contrary to this, the percentage of students making no attempt to increase their grade after the first attempt, remained stable.

Efficacy of computerised assessment and feedback

Certain types of feedback were not felt to be useful in improving on incorrect answers. 51% responded that references back to teaching material were only 'sometimes useful', and only 35.3% 'very useful'. However, 82.4%, found detailed hints very, or sometimes, useful. Some comments suggest that Type 1 feedback – just being told an answer is incorrect – can be 'helpful'.

The comparison of iCMAs with other types of assessment, e.g. Tutor Marked Assignments (TMAs) and Self-Assessment Questions in the module texts (SAQs) was instructive. The hypothesis that iCMAs are more engaging than SAQs was reinforced: respondents (over 80%) liked the instant feedback, and found iCMA questions more 'fun' than SAQs (around 60%). Over 70% of respondents agreed that iCMAs made them 'think more' than SAQs.

Jelfs (2000) suggests that learning is enhanced by 'presence' and that learners ascribe presence to a computer. This idea was not borne out by our results. Only 17.7% agreed that 'submitting answers to a computer feels like working with a tutor'. 23.5% found a computer witnessing their errors preferable to a person, and even fewer (17.6%) preferred to get feedback from a computer than a person.

CONCLUSION

Overall, results indicated that a majority do see iCMAs as an aid to learning, although a substantial proportion clearly did not agree. Students' patterns of engagement with them manifested a mixture of reflective practice, pragmatism and indifference. They preferred computer-delivered online self-assessment to in-text exercises, but did not find that iCMAs satisfactorily replaced tutor delivered interaction and feedback.

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