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Colloquium

System failure: A comparison of electronic and paper-based assignment submission, marking, and feedback

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Introduction

The myriad of procedures associated with traditional assignment submission and management presents many problems to academic and clerical staff particularly where cohort size is large. Students also face problems, especially if they are remote to the university and rely on postal services. Online assignment submission and management (OASM) offers potential benefits in this respect, and there has been a considerable degree of interest in its use although experience of its implementation at Sheffield Hallam University is limited.

A virtual learning environment (VLE) Blackboard™ is used extensively to support learning, teaching, and assessment in our courses. The assignment submission feature within the VLE is available to facilitate OASM but is not currently used in relation to summative assessment. As part of the first step in a process of evaluating the feasibility of OASM for our courses, it was deemed necessary to assess the benefits and problems associated with it and so a pilot study aiming to address this was performed.

Study

Our pilot study compared OASM to the traditional paper-based method. Fifty students were required to submit an assignment electronically using the VLE. A similar assignment for a separate module was submitted by the same group of students in the traditional way to facilitate comparison. Both student and marker experiences were assessed by questionnaires. Submission and feedback procedures were evaluated separately.

The assignment feature of the VLE was not equipped to preserve student anonymity (required by the University at the time) and necessitated an inelegant workaround involving renaming of files before forwarding to markers. The need for anonymous assignment marking has since been removed.

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Problem

Unfortunately, the assignment submission date coincided with a crash of the VLE, resulting in a week of down time and loss of data. A submission back-up procedure was initiated, and the students were asked to email assignments to the module leader.

Results

The results of the "submission" questionnaires reflect the frustration felt by the students in relation to the VLE crash. A number of students lost work that had been confirmed as received by the VLE. Only 23% of the students preferred electronic submission, whereas 64% of them found it to be more difficult. The novelty of the submission method may also have contributed to this result.

All students who returned the "feedback" questionnaire noted a preference for receiving their feedback online.

Four out of the five markers marked on screen rather than printing out. Opinion was divided about the preferred method of assignment submission and management.

Discussion

Many of the problems associated with this study were related to either the VLE failure or the novelty of the procedure.

The need for a stipulated back-up procedure that is clear to students was highlighted. The paper-based system used the postal system as back-up. The decision to use email was made in this case to enable the study into electronic submission to progress. However, other limitations such as punitive restrictions on mailbox size and lack of automatic receipt mean that reliance on email as a back-up in the case of VLE failure may not be appropriate.

Students were encouraged to include images in their submission and many struggled to format these appropriately. This is consistent with the findings of others such as Newlands and Ward (1998) who discovered that about one-third of their students had to change how they produced assignments when moving to electronic submission. Large bitmaps in some of our students' assignments meant that file sizes ranged from 41 KB to 14 MB. Additional technical support was available via the discussion board but this was underused possibly because of the VLE failure.

Some benefits of OASM were noted. Students commented that the feedback containing legible annotations on their script was useful and saved time. These comments are in agreement with Behrens and Jones (2003) who found that students preferred the wealth of useful feedback generated during electronic marking. Students also commented that the privacy associated with online feedback prevented unwanted comparison with competitive students. Markers struggled to access the assignments, but enjoyed providing and altering electronic feedback without "scribbling all over their

work." Negative comments were made concerning sitting in front of a screen for long periods of time.

Conclusions

In summary, students and staff found the submission and accessing of assignments to be problematic. Much of this could be attributed to the VLE failure, anonymity preservation, and the novelty of the procedure. Further study is needed to determine preferences without these compounding factors. Both staff and students preferred the generation and reception of electronic feedback.

With no further requirements for anonymous marking, the procedure for OASM has been simplified and relies completely on the VLE features. However, it may be pertinent to consider if VLE offers the best solutions for electronic submission using an analytical process such as that proposed by Weir (2004). By ensuring that staff and students are completely familiar with procedures, it is hoped that many of the problems encountered can be eradicated. We are currently conducting a further study evaluating OASM using the VLE.

References

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