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Learner-centred online assignment management

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ABSTRACT: Many problems associated with traditional assignment management approaches can be potentially addressed by online electronic assignment management systems that utilise information and communications technology (ICT). However, the resource intensive nature of assessment can often decrease the quality of the feedback provided to students. Providing timely and meaningful feedback on students' progress is essential, and can influence students' results and retention rates. In this article, the author reports on the research findings of the current practices of electronic assignment management systems, including e-submission (e-sub), e-returning (e-return) and e-marking (e-mark). It is envisaged that the article will be of interest to most educators who seek to integrate electronic assignment systems as part of the new mode of student support and quality control.

INTRODUCTION

As more and more institutions offer courses *online*, the issue of how to handle assignments naturally arises. In this article, the author first reviews the tuition at the Open University of Hong Kong (OUHK), Kowloon, Hong Kong, and how putting courses online has gradually made an impact on the tutor-marked assignments (TMA) management system. The author also discusses the traditional model of TMA submission at the Open University of Hong Kong.

A literature review of the electronic submission of assignments and e-marking and the various models in use is presented in the article. Following this, the author reports on the results of a recent student survey. Based on the results of this preliminary survey and the insights gained from the literature, some recommendations are made as to the issues that need to be addressed in implementing a successful and user-friendly system for e-submissions (e-sub), e-returning (e-return) and e-marking (e-mark).

TUITION SUPPORT AT THE OUHK

Tuition support at the Open University of Hong Kong was primarily based on a well-established model from the Open University in the UK. The traditional OUHK model provides tutorial support to its students through a network of frontline academic staff who, for historical reasons, are called tutors.

The course team is responsible for the development or sourcing of course materials. The course team coordinator is also usually the course coordinator. The course coordinator is also typically responsible for the development of assignments and examination scripts, if they have not already been developed. Course coordinators are very much isolated from students by design. Such a traditional model is depicted in Figure 1.

The frontline colleagues are very important in the delivery of courses and student support. They assist the course team in a number of areas including the following:

- Marking and commenting on assignments (known as tutor-marked assignments or TMAs). Marking is an important component of course delivery, as it is also used as a means to:
  - Make helpful comments;
  - Use the TMA marking as a basis for teaching points;
  - Refer students to specific passages in course materials;
  - Provide sympathetic support;
  - Provide guidance for future TMAs;
- Providing various types of tutorials (face-to-face, online voice and text chat);
- Answering student queries over the phone.

Each frontline staff member is assigned 35 students and typically conducts 10 face-to-face tutorials over a period of 10 months. Staff members are paid around US$60 for each tutorial. There are typically five TMAs during the presentation of a course. A colleague is paid around US$20 per script marking of a TMA .

The traditional mode of the TMA management process involves students sending TMAs directly to tutors. Having marked and commented a hardcopy of an assignment sent via the Hong Kong Postal Service, the frontline colleague sends the assignment, together with a Student TMA Submission Control List, to the Tutor Office at the Open University of Hong Kong, where the data is used for recording marks and for payment of accounts. The Registry then sends the marked assignment directly back to the student. Typically, three copies of assignments (of high, middle and low scores) are made by the

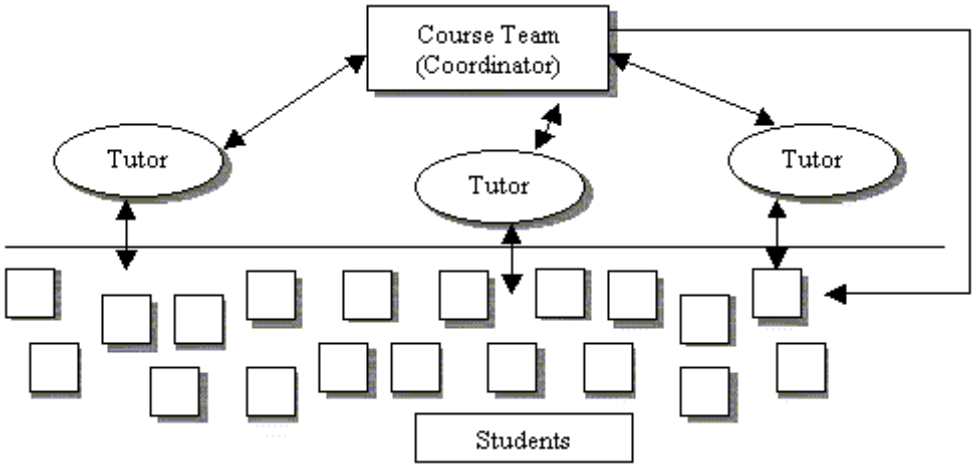

Figure 1: The tuition support model at the Open University of Hong Kong.

Tutor Office and sent to the course coordinator for the purpose of monitoring the work of tutors. The external examiner of the course is also sent copies of the TMA for external monitoring.

Figure 2 illustrates the conventional postal-based TMA submission system, wherein a TMA goes through four phases. Turn-around delays can be considerable despite the efficient service record of the Hong Kong Post. As such, there exists opportunities to enhance student support by reducing such delays.

E-SUBMISSION AND THE OPEN LEARNING ENVIRONMENT

Staff at the School of Science and Technology at the OUHK, started a sizeable online Web-based course component in late 1995. At the time, e-submissions were encouraged in the form of e-mail attachments. In 1999, the OUHK started a full-scale online course presentation environment known as the Open Learning Environment (OLE).

The OLE also provides a central electronic submission platform to collect TMAs from students. In brief, students submit TMAs via a Web upload interface that is linked to the OUHK's student TMA database. Frontline colleagues also use a similar interface to download students' files from a restricted Web page. Having marked and commented upon a TMA, staff upload (e-return) the TMA on the OLE server. Once the TMA is e-returned, an automatic e-mail is sent to the student, who can then view the score and any comments. Figure 3 shows the OLE interface.

The OLE e-sub and e-return components offer a number of advantages over the conventional postal approach. These include the following:

- Immediate confirmation of submission and no finger pointing;
- No loss of TMAs by the post or tutor, or no delivery;
- TMA submission, marking and tracking at a glance;
- An audited trail of assignments;
- Improvements in tutor monitoring;
- Improvements in the TMA turnaround time;
- Time savings and all that this entails for students;
- The convenience of submitting via the Internet, rather than travelling to the post office.

Other potential benefits include:

- The use of overseas tutors;
- Enhancement in the quality of student feedback;
- Enhancement of student retention rates.

Currently, the OUHK's approach is that courses may use the OLE, but that they either incorporate e-submission or leave out that component completely. That is, the current administrative and/or system restrictions do not allow a part of the TMAs (say TMA e-submission and TMA two postal submission).

In a recent student survey conducted by the author, respondents were asked whether online TMA submissions should be voluntary or compulsory. Of those surveyed, 82 out of the 168 respondents said *yes*, while 34 said submitting online should

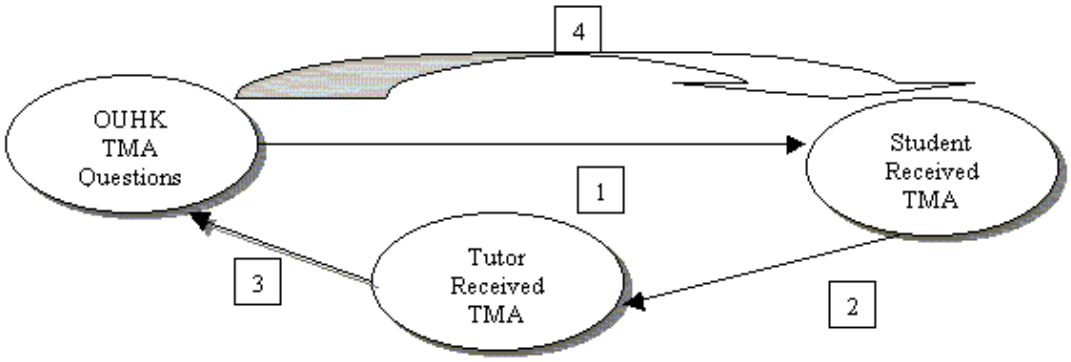

Figure 2: The four phases of TMA handling.

Figure 3: The OLE interface.

be voluntary. The remaining respondents left the entries blank.

E-MARKING

In order to take *full advantage* of electronic submissions, selected online course tutors were provided with marking tools to ascertain their effectiveness. These tools included *MarkIn* and *PenPartner*. In addition to interviewing tutors using the tools, comparisons of additional marking annotation tools were conducted as part of this study. These additional tools are Microsoft (MS) *Word* templates and *Mindtrail*.

One thing that needs to be added is that the majority of students (even for courses like Web page design) used MS *Word* as their core writing software; this was reconfirmed in the survey. E-marking tutors voiced the opinion that marking online is very eye straining and very tedious. These problems are compounded by a number of factors, including the following:

- Slow download time (most use 56 K modems);
- TMAs need to be downloaded one at a time;
- Limited screen size;
- Limited computer work space at home.

A number of tutors considered it time-effective to print the TMA out and then type their comments on one single file. To address the concern of *tutor should pin-point the discussion and where the problems arise*, tutors indicated that this concern could be addressed by itemising sub-questions (eg as 2ab or 3c, or similar) and make comments referring to such sub-headings.

Upon challenging whether or not the above approach was enough, one tutor suggested asking students to turn on the line number feature of MS *Word*, so that specific line numbers can be referred to.

ADDING COMMENTS TO A TMA

The author was interested to find out how students would like the comments on a TMA to appear. In the survey reported here, respondents were also asked whether or not they would like the TMA comments to be added into an electronic assignment; 92 of them responded: *Anywhere in the assignment, but distinguished from the student's text by using a different colour*. Alternatively, 32 of the respondents preferred comments be added at the end or beginning of an assignment.

MarkIn has a number of benefits over other similar systems. These include the ability to generate dynamic HTML documents and the easy to use *custom* button.

It would appear that tutors are happy with using MS *Word* as an annotation tool; students found it acceptable too. MS *Word* has numerous features that make it more versatile as an annotation tool. As it stands, the author recommends the use of MS *Word* as an annotation tool because the basic annotation function of MS *Word* is easy to learn. However, in order to take full advantage of MS *Word*, the tutors and staff involved

need to be trained in using the more advanced annotation features of MS *Word*, such as annotation labels and buttons.

The author was eager to find out the general thinking about online assignment marking and the quality and quantity of feedback to students. While more empirical results are still to be researched, the opinion poll recorded the following results:

- When respondents were asked to comment on: *Do you think online assignment marking will* ***decrease the quality of feedback****?* 110 of the 168 respondent said *No*, while only 26 said *Yes*.
- When those surveyed were asked to respond to the question, *Do you think online assignment marking will* ***decrease the quantity of comments*** *tutors will give to an assignment?* 96 responded *No* and only 38 responded *Yes.*

FUTURE OF E-TMA MANAGEMENT SYSTEMS

The use of *WebCT* and additional locally developed add-ons in accommodating e-submissions and e-return sub-components is heading in the right direction, despite there still being a number of administrative and system problems that need to be resolved and fine tuned. As for the marking-tool, it is very likely that the better use of MS *Word* will be promoted, as over 98% of students and staff use it.

While individual courses may have specific TMA formats (such as mathematical symbols, large graphics or programming codes), this does not mean MS *Word* cannot be used. For example, comments can be added at the beginning or at the end of a document or in a separate file. Having said this, it is important that allowances must be provided to accommodate diversity in the abilities of tutors and students, as well as the nature of TMAs.

CONCLUSION

The author initially asked the following question: *Why e-submission, and is the pain worth the gain?* Technology should not be used for technology's sake. However, the author genuinely sees the plus side of such OLE e-sub and e-return concepts, despite some administrative and systems issues [1-4]. The author would also like to see the better integration of e-marking tools such as MS *Word* (and, to a lesser extent, *MarkIn*) in the OLE TMA management system.

There are still administrative and system issues that need to be improved or enhanced. The author sees value being added to OUHK's student support and has been pleased to receive many compliments from students, such as *go online!* and *go for e-assignment management system!*

The author has documented part of their ongoing research on the subject of e-assignment management in this article. Fuller discussions and analysis can be found at the following research Web site: http://plbpc011.ouhk.edu.hk/~research/e-learning/

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