

# ACDICT Learning & Teaching Academy (ALTA) Grant Scheme (2011-2012)

## Interim Report

### **Comparative Evaluation of Marking and Feedback Support Systems (MFSS)**

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23 June 2012

Marking and provision of formative feedback on student assessment items are essential but onerous and potentially error prone activities in teaching and learning. Marking and Feedback Support Systems (MFSS) are being researched and developed in order to improve the efficiency and effectiveness of marking, in terms of reduced marking time, improved accuracy of marks, improved student satisfaction with feedback, and improved student learning through feedback received. MFSS features vary substantially between different MFSS, including the possibility to easily and more accurately apply marking rubrics, easily select marks according to shown criteria, easily write or select and provide pre-written comments, easily place comments at appropriate places on assessed student work submissions, easily calculate total marks, easily record marks, easily produce feedback and summaries, and easily transmit feedback to students.

The ongoing research (due for completion in the weeks following Semester 1 2012) evaluates four commercial and prototype MFSS in comparison to each other and to traditional, manual marking approaches. The four MFSS being compared include (1) the Blackboard version 9.1 Rubric feature, (2) AABB, an approach developed by Dr Ashley Aitken (a member of the research project team) to marking assignments using a combination of Blackboard's online test feature and online submission of assignments, (3) tsAAM (technology supported Assignment Assessment and Moderation), a prototype tool developed at Curtin University of Technology and Technical University Graz (Austria) by students supervised by Prof Heinz Dreher and Dr Christian Gütl (members of the research project team), and (4) Touch2Assess (or T2A, formerly EPSS), developed by Dr Alistair Campbell (a member of the research project team) at Edith Cowan University. Evaluation of the Blackboard version 9.1 Rubric feature was delayed until 2012 Semester one when it was implemented at Curtin. These four tools vary substantially in their features and the form of support they provide for marking. The evaluation is being conducted through the live application of the MFSS in controlled experiments in the context of Information Systems units taught at Curtin University.

When completed, the results of the comparative evaluation will facilitate multi-institutional evidence-based ICT education through further research and development of MFSS with the overall goal of more efficient and effective assessment and feedback to enhance teaching and learning.

#### **Progress:**

The budget spent thus far has been for technical and programming services to install, configure, and modify the tsAAM software and for extra marking as all assessments have to be marked twice.

The evaluations have been/are being conducted in multiple units in the School of IS, including:

2011 Semester 2: Exploratory studies – set up, identify difficulties, etc.

- Business Information Systems 100 – ABBA vs tsAAM
- Object-Oriented Development 501 – manual vs tsAAM
- Supply Chain Information Systems 502 – manual vs tsAAM

2012 Semester 1: Still ongoing - Rigorous, comparative evaluations

- Business Information Systems 100 – ABBA vs tsAAM
- Business Problem Analysis 300 – manual vs T2A
- Business Software Tools 200 – Blackboard 9.1 rubrics only (not comparative)
- Operations and Material Management 301 – manual vs tsAAM
- Operations Management 502 – manual vs tsAAM
- Purchasing and Procurement 311 – manual vs T2A (assessing poster presentations!)
- Strategic Supply Chain and Logistics Management 302 – manual vs T2A
- Systems Analysis & Design 251 – manual vs Blackboard 9.1 rubrics

As the actual studies are still ongoing, publications thus far have been limited to a paper at the Learning and Teaching forum (Venable et al, 2012) describing the research method for rigorous (both in the sense of realistic, live application and scientifically measuring and controlling for external effects) evaluation of the MFSS so that others can use the method in other MFSS evaluations.

#### **Remaining Activities:**

Some data gathering, including evaluation data and student surveys of opinions is still ongoing. Data analysis on the evaluations still needs to be conducted. Further publications also need to be written and disseminated, including papers on the individual evaluations and a major journal paper summarising the outcomes.

We are also developing an application for an Australian Office of Learning and Teaching (OLT) grant (due for submission in early August) for further evaluations of commercial products – in particular Blackboard, Review, and Turnitin.

The outcomes of this research should aid educators in choosing MFSS and MFSS developers to better understand MFSS requirements and issues and to improve their products or prototypes.

#### **References:**

Venable, John R., Ashley Aitken, Vanessa Chang, Heinz Dreher, Tomayess Issa, Brian von Kinsky, and Lincoln Wood (2012). Developing a Research Design for Comparative Evaluation of Marking and Feedback Support Systems, *Proceedings of the 2012 Teaching and Learning Forum*, Perth, Western Australia, 2-3 February 2012, Murdoch University.