Meeting the Challenges

- Standards
- Leadership
- Practical Solutions
- Student Engagement

20-21 October 2011, Curtin University, Perth

Conference Program, Abstracts and Full Papers
Curtin University acknowledges the Noongar people as the traditional owners of the land on which this University stands.

Curtin University respectfully recognises Elders both past and present.
Welcome

Professor Robyn Quin
Deputy Vice-Chancellor (Education)
Curtin University

On behalf of Curtin University and the Australian Technology Network of Universities I am delighted to welcome you to the 2011 ATN Assessment Conference. This conference, an initiative of the Australian Technology Network, is organised and hosted annually by one of the member universities. I would like to thank the conference organising committee and all of those who have made this conference possible.

The overarching conference theme of ‘Meeting the Challenges’ includes subthemes relating to academic standards, leadership, solutions for challenging questions and student engagement. These areas, addressed by our keynote speakers and conference presenters, are at the heart of contemporary assessment issues facing universities in Australia and internationally.

Professor David Nicol will address issues relating to student feedback and engagement, challenging us to think about the role that students play in assessment. Professor Geoff Crisp will focus on how we can support student engagement in assessment through the appropriate use of technologies. Professor Beverley Oliver will address the issue of standards and leadership, challenging us to think about ways in which we can demonstrate what our students have learned as a result of their experience.

I would also like to acknowledge the support of the Australian Learning and Teaching Council (ALTC) for their generous sponsorship of the conference, and more broadly for their support in many ways to a great number of projects focusing on assessment and feedback. A number of the papers presented at this conference have arisen as a result of projects and fellowships supported by the ALTC.

The ATN Assessment Conference provides a valuable forum for the sharing of research and scholarship, and provides an excellent opportunity to network with colleagues and share ideas and practice. I hope you leave this conference having gained from the time spent with colleagues engaging with these challenging issues in assessment.

Professor Robyn Quin
Deputy Vice-Chancellor (Education)
Curtin University
Acknowledgements

Conference Convenor

Jon Yorke

Conference Committee

Shelley Appleton
Kate Lowe
Linda Lilly
Beverley Oliver
Connie Price
Naomi Prisgrove

With special thanks to Andrea Johnson, Evelyn Gibbs, and Anita Lethlean for administrative support, Kym Sher for photography and the staff of the Office of Assessment, Teaching and Learning who contributed to the preparation and organisation of the conference. Thanks also to Curtin IT Services for their support and provision of network access for conference delegates.

Reviewers

Full papers accepted for publishing in the Conference Proceedings are subject to a double-blind peer review process. The 2011 Conference Committee gratefully acknowledges the generous work of the reviewers, who provide constructive and invaluable feedback within tight time frames to ensure the high standard of published papers. A full list of reviewers is published on page 12.

ATN Network

We would like to acknowledge and thank the following Universities for their support in promoting and facilitating this conference.

Curtin University
University of South Australia
RMIT University
University of Technology Sydney
Queensland University of Technology

Special Thanks

The 2011 Conference Committee wishes to acknowledge the generous support and expertise of Katrina Waite and Nicola Parker of the University of Technology, Sydney. We are grateful to Katrina, Nicola (co-convenors of the 2010 ATN Assessment Conference) and their Conference Committee for their permission to customise and use a range of materials developed for the 2010 Assessment Conference.

Sponsors

We would like to acknowledge the generous support of the ALTC, who are the principal sponsor of the 2011 ATN Assessment Conference. We would also like to thank Pebble Learning (formerly PebblePad), Ideas and Innovations Squared PTY LTD and Acidgreen Education for their sponsorship and contribution to the conference.

The 2011 ATN Assessment Conference is organised by Curtin University on behalf of the ATN universities.
Supporting good assessment practice

- Grading
- Validation
- External review
- Summative feedback
  - Formative/iterative feedback
  - Blind marking and double-blind marking
  - Peer review and anonymous peer review
- Immediate student access to feedback and grades
- Immediate tutor access to student work all in one place

PebblePad supports a comprehensive assessment framework with powerful features for students, tutors and external examiners.

Challenges?

01 Want to improve assessment quality?
02 Want to provide students with a fairer platform for consistent assessment marking?
03 Want to speed up publication of results?
04 Want to facilitate remote assessment review without logistics overheads?
05 Looking for ways to integrate and automate your assessment processing?
06 Want to have real-time tracking and reporting of assessment marking progress?
07 Want hassle free parallel assessment and re-assessment?
08 Want to give your assessors and examiners 24/7 access anywhere?
09 Does your office want to concentrate more on the principles of assessment and less on the planning and processing of assessment?
10 Are you looking for ways to validate and moderate with ease?

Ideas And Innovations Squared Pty Ltd
The future of assessments.

QUICK & EASY
University staff say that REVIEW halves their assessment time.

EFFECTIVE & DESIRED
Due to the quality of feedback students are actually asking tutors to use REVIEW for their assessment.

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General Information

Meeting the Challenges

The overarching theme of the 2011 ATN Assessment Conference is 'Meeting the Challenges' in recognition of the multiple and complex demands placed on assessment in higher education. Some of these challenges are long standing, such as those relating to fair assessment, moderation and group assessment. Other challenges are emerging as national priorities, funding arrangements and policy frameworks change.

The four strands relating to this central theme are:

1. Assessment and standards
2. Leadership and assessment
3. Practical solutions to challenging problems
4. Student engagement in assessment

Conference plenary venue

The conference will take place principally in the Tim Winton Lecture Theatre (Building 213).

Conference rooms

Break-out rooms are nearby in Buildings 210 and 211 with a brisk 5 minute walk to Building 104. Please refer to your map or ask a helper.

Parking

Use the green Student Car Park 1 off Beazley Avenue, via the Kent Street entry, where free parking is available during the conference. Refer to the map (inside back cover).

Registration

Delegates can register from 8:00 am on Thursday, October 20. The registration desk is located in the foyer of the Tim Winton Building, 213.

The registration desk will be staffed throughout the conference to take general enquiries.

Emergency exits

In the event of an emergency, please follow the instructions of the Curtin staff.

Computer connectivity

Wireless access is available in the foyer and lecture space of the Tim Winton Lecture Theatre, Elizabeth Jolley Lecture Theatre and in the delegates' lounge (Building 104: room 102).

Log in: vci001
Password: Curtin2011 (case sensitive)

‘Eduroam’ is also available on campus. If you have your system configured to link to this service, this should be available in a number of locations around campus including the main conference spaces.

A small number of desks and power points have been made available in the foyer of Tim Winton Lecture Theatre.

Presenter support

Presenters are asked to be in their designated room 10 minutes prior to the start of the first session in their stream in order to load and check any files they require and to confer with the session chair.

Delegates' rooms

We have made 2 rooms available for delegates use during the conference. These are in Building 104, in Rooms 102 and 103.
For everyone’s benefit

To ensure everyone’s enjoyment of this event, please:
- Remember to turn off your mobile phones or set ‘silent mode’;
- Arrive on time for sessions;
- If you are presenting, keep to time limits and follow directions of the session chair; and
- Ask us if you have any questions or if you need assistance.

Assistance

Please don’t hesitate to ask Curtin conference staff or volunteers. Conference helpers are readily identifiable by their orange coloured t-shirts and badges.

Meals

Full registration includes lunch, morning & afternoon tea and the conference dinner.

Single day registrations include lunch, morning & afternoon tea but do not include the conference dinner.

Tea, coffee and lunches will be served in the foyer of the Tim Winton Lecture Theatre.

The conference dinner will be held at the Pagoda Restaurant, 112 Melville Parade, Como with a reception commencing at 6:00 pm. If you travel independently to the venue, ensure you arrive in time to allow all guests to be seated by 1830.

Dress: Smart casual.

Your dietary requirements were requested on your registration form. If you have any other requirements please inform staff at the registration desk as soon as possible.

Proceedings

The website http://atna2011.curtin.edu.au will maintain an electronic copy of the proceedings.

These conference proceedings (including abstracts and program) will also be supplied on USB to delegates on registration.

Photography

Curtin University will be photographing various parts of this conference. Your image and/or contributions may be photographed and used in printed or electronic publications as part of the conference archive and for educational purposes. If you have any concerns about this, please contact staff at the registration desk on the day.

Feedback

Please use the evaluation forms in your conference bag to provide us with feedback and suggestions for improving the next ATN Assessment conference. These will be collected on Friday.

We also welcome your input at the registration desk at any time.
Keynote Address

Assessment and feedback in higher education: in the hands of the learner

In higher education, students are more dissatisfied with the feedback they receive than with any other aspect of their courses. Surveys show that they believe that feedback is not sufficiently detailed or timely and that suggestions for improvement are often not clearly explained. Institutions have been taking measures to address these issues. This keynote will discuss both the problems posed by feedback and the measures taken to address these problems. It will be argued that there is too much focus on enhancing teacher assessment and the quality of ‘feedback delivery’ rather than on enhancing learner judgment and the quality of ‘feedback interactions’.

The keynote presentation will draw on the findings of the Re-engineering Assessment Practices (REAP) project, funded by the Scottish Funding Council under its e-Learning Transformation initiative (www.reap.ac.uk) and on the JISC-funded PEER project (www.reap.ac.uk/PEER.aspx). The goal of REAP was to redesign assessment processes in ways that would enable students become independent and self-regulated learners. PEER builds on REAP and suggests ways of enhancing learner judgement through student peer review processes.
Beverley Oliver is Director of Teaching and Learning at Curtin University. She is an Australian Learning and Teaching Council Fellow (Benchmarking partnerships for graduate employability) and Project Leader for an ALTC Competitive Grant (Building Course Team Capacity for Graduate Employability). She led the creation and implementation of Curtin’s eVALUate (the University’s online student feedback system) and Curriculum 2010, (a university-wide curriculum reform initiative which focused on graduate employability, curriculum mapping, ePortfolios and evaluation of curriculum effectiveness). Her leadership has been recognised with two ALTC Citations for Outstanding Contributions to Student Learning (2007 and 2010). Beverley publishes in a range of teaching and learning areas, including graduate attributes and employability; student, graduate and employer evaluation; curriculum renewal; ePortfolios and student ownership and use of emerging devices and Web 2.0 applications. She is currently working on issues related to all aspects of Assuring Graduate Capabilities within and beyond the curriculum, including using portfolios to evidence student and graduate attainment of standards. Beverley welcomes colleagues to join her network at http://tiny.cc/boliver.

Keynote Address
The challenge of assuring learning standards

Standards in education are a key issue within and beyond Australia. In fact, it could be argued that most differences of opinion about the effectiveness of education systems are fundamentally mismatches of expectations about standards: we rarely reach consensus about what an educational system should deliver, and development of broad capabilities which are more appropriately the remit of other aspects of society. The problem is particularly complex when one considers learning standards in higher education. What should graduates of Bachelor degrees be able to do? Who decides? How can curriculum leaders be sure that those standards have been achieved? Many have a stake in this debate: students, graduates and their families; business, industry and the wider community; higher education providers and government agencies.

This presentation addresses issues associated with learning standards in international contexts and particularly in Australian higher education. It includes a broad policy view (the Australian Qualifications Framework and the emerging role of the Tertiary Education Quality and Standards Agency), the impact of national projects (such as the Australian Learning and Teaching Council Academic Standards Projects), and trends in Australian universities’ stated aims in graduate outcomes. The presentation then seeks to address the challenges from the perspective of higher education curriculum leaders and an exploration of tools and processes for meeting these challenges.
Professor Geoffrey Crisp is Dean of Learning and Teaching at RMIT University in Melbourne, Victoria. He was previously Director for the Centre for Learning and Professional Development at the University of Adelaide. Geoff began his academic career in chemistry, initially at the University of Melbourne and then at the University of Adelaide. Geoff developed his passion for learning and teaching during his time in chemistry by seeking innovative approaches to enhancing the student learning experience in his discipline. Geoff broadened his perspectives on science education during his time as Associate Dean for Learning and Teaching for the Faculty of Science. Geoff has had a keen interest in using technology to enhance learning and coordinated the introduction of the University of Adelaide's online education system as Director of the Online Learning and Teaching Unit. Geoff made the permanent move to educational and staff development and online learning when he was appointed the Director of the Centre for Learning and Professional Development in 2002. Geoff has received several awards for learning and teaching and is an Australian Learning and Teaching Council Fellow (Associate 2006 and National 2009). Geoff's research and publications are in the areas of online assessment, academic development and peer review of teaching. Geoff's recent work on e-assessment is available from http://www.transformingassessment.com.

Keynote Address
Engaging students in learning through online assessment

Setting meaningful learning activities for students is a difficult business because it requires reflective practice, imagination and time on the part of teachers. Approaches to learning, teaching and assessment are closely aligned so for teachers their approach to one is normally manifested clearly in the other two. If assessment is regarded as simply a means to test whether a student has understood a concept or mastered a particular skill then we are designing the associated tasks as assessment of learning. The learning and assessment are separated by time and space and will not be synergistic in their impact on each other. If assessment is used to provide feedback to students as to whether they have understood a concept or mastered a particular skill then we are designing the associated tasks as assessment for learning. The primary purpose of the task is to enable students to receive feedback that will influence their learning and provide further opportunities for improvement. The learning and assessment are less separated by time and space if the feedback is timely and students are provided with new opportunities to test their revised learning; the learning and assessment activities can have a synergistic impact on each other. If assessment is used to develop the learning strategies students use to understand a concept or master a particular skill then we are designing the associated tasks as assessment as learning. The primary purpose of the task is to enable students to analyse their strategies for learning and the quality of their decision making. The learning and assessment are not separated by time and space; the learning and assessment activities do have a synergistic impact on each other. We will examine how the online environment has the potential to facilitate assessment as learning through the use of student-centric tools and game design principles.
# Program Schedule

## Day ONE: Thursday 20th October 2011

**Conference Themes:** Standards, Leadership, Practical solutions, Student Engagement

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<td>Reception followed by Dinner (seated by 1830) at Pagoda Restaurant (corner of Melville Pde &amp; Comer St, Como)</td>
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ATN Assessment Conference 2011: Meeting the Challenges
# Program Schedule

## Day ONE: Thursday 20th October 2011

### Conference Themes:
- Standards
- Leadership
- Practical solutions
- Student Engagement

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<td>Design your own new media assessment</td>
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<td>Ripkin, Will et al</td>
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<td>1530</td>
<td>Afternoon Tea (Tim Winton Foyer)</td>
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<td>1600</td>
<td>Workshop</td>
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<td></td>
<td>Accountability and transparency – applying technology to marking team moderation</td>
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<td>Nulty, Duncan and Colbran, Stephen</td>
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<tr>
<td>1630</td>
<td>Workshop</td>
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<td>Supporting student-authored questions with PeerWise</td>
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<td></td>
<td>Donny, Paul</td>
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<td>* This session will be held in Building 306 Room 113</td>
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<tr>
<td>1700</td>
<td>Sessions Close. Transport to Conference Dinner venue departs from the nearby car park at 1715</td>
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<tr>
<td>1800</td>
<td>Reception followed by Dinner (seated by 1830) at Pagoda Restaurant (corner of Melville Pde &amp; Como St, Como)</td>
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</tbody>
</table>
## Conference Themes:
- **Standards**
- **Leadership**
- **Practical solutions**
- **Student Engagement**

### Day TWO: Friday 21st October 2011

#### Concurrent sessions 1, 2, 3

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Building 213 Room 101</th>
<th>Building 213 Room 104</th>
<th>Building 210 Room 104</th>
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<tbody>
<tr>
<td>0800</td>
<td>Registration Opens (Foyer of the Tim Winton Lecture Theatre)</td>
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<tr>
<td>0900</td>
<td>Developing a community of shared assessment practice</td>
<td>Capitt, Cathy</td>
<td>Assessing for evidence-based change in teacher education: What is appropriate evidence?</td>
<td>Kissane, Barry and Callingham, Rosemary</td>
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<td>![Page 22]</td>
<td>![Page 34]</td>
<td>![Page 43]</td>
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<tr>
<td>0930</td>
<td>The student as customer model and its impact on the teacher leadership role in higher education</td>
<td>Laing, Linda and Laing, Gregory</td>
<td>Indigenous knowledge, cultural awareness and communication skills for information technology, engineering, mathematics and environmental disciplines</td>
<td>Quinn, Diana et al</td>
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<td>![Page 117]</td>
<td>![Page 141]</td>
<td>![Page 132]</td>
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<tr>
<td>1000</td>
<td>University assessment practices at Level 1: Exploring student perceptions of fairness, transparency and authenticity</td>
<td>Whipp, Peter</td>
<td>Overcoming the challenges of assessing professional teaching standards for pre-service teachers during practicum in rural NSW schools</td>
<td>Vezz, Lisa and Hatton, Caroline</td>
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<td>![Page 161]</td>
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<tr>
<td>1030</td>
<td>Morning Tea (Tim Winton Foyer)</td>
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<tr>
<td>1100</td>
<td>Postgraduate coursework students experiences of 'self assessment'</td>
<td>Parker, Nicola</td>
<td>Facilitating student self-reflection in a blended learning Environment</td>
<td>Gudmundsson, Amanda and Laing, Linda</td>
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<td>![Page 40]</td>
<td>![Page 107]</td>
<td>![Page 52]</td>
</tr>
<tr>
<td>1130</td>
<td>Student perception of assessment and wish list</td>
<td>Siddiqui, Zarrin and Ishim, Paul</td>
<td>UWA Assessment and feedback project: A work-in-progress report on a university-wide initiative</td>
<td>Chadmers, Denise et al</td>
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<td>![Page 47]</td>
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<td>1200</td>
<td>Panel lunch (Building 210 Room 104)</td>
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<td>1315</td>
<td>Keynote address by Professor Geoff Crisp (Tim Winton Lecture Theatre)</td>
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</table>
## Program Schedule

### Day TWO: Friday 21st October 2011

**concurrent sessions 4, 5**

<table>
<thead>
<tr>
<th>Conference Themes:</th>
<th>Standards</th>
<th>Leadership</th>
<th>Practical solutions</th>
<th>Student Engagement</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Time</th>
<th>Event Description</th>
<th>Building 211 Room 230</th>
<th>Building 104 Room 101</th>
<th>Delegates’ rooms</th>
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<tbody>
<tr>
<td>0800</td>
<td>Registration Opens (Foyer of the Tim Winton Lecture Theatre)</td>
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<tr>
<td>0900</td>
<td><strong>Workshop</strong>&lt;br&gt;Performance based assessment using direct observation&lt;br&gt;<em>Siddiqui, Zarrin</em></td>
<td></td>
<td><em>Improving assessment in the arts through the application of innovative digital technologies&lt;br&gt;</em> <em>Wren, Julia et al</em></td>
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<tr>
<td>0930</td>
<td><strong>Workshop</strong>&lt;br&gt;iPad2 + rubrics improves assessment process&lt;br&gt;<em>Campbell, Alistair and Wren, Julia</em></td>
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<tr>
<td>1000</td>
<td>**An (App)roach to using iPhone technologies to increase consistency, reliability and equity in assessment of large work integrated learning courses&lt;br&gt;<em>Dann, Chris et al</em></td>
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<td>1030</td>
<td><strong>Morning tea</strong></td>
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<tr>
<td>1100</td>
<td><strong>Workshop</strong>&lt;br&gt;Assessing the tricky attribute: creating a rubric for intercultural understanding&lt;br&gt;<em>Goerke, Veronika et al</em></td>
<td></td>
<td><em>Analytical Assessment Rubrics to facilitate Semi-Automated Essay Grading and Feedback Provision&lt;br&gt;</em> <em>Weinberger, Andreas et al</em></td>
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<tr>
<td>1130</td>
<td>**‘Take away from the dry sixties style marking’: lecturer and student perceptions and experiences of audio feedback&lt;br&gt;<em>Pick, David et al</em></td>
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<tr>
<td>1200</td>
<td><strong>Panel lunch (Building 210 Room 104)</strong></td>
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<td>1430</td>
<td><strong>Afternoon tea</strong></td>
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Conference Proceedings

Editorial

This section contains the abstracts and full papers presented at the conference. On behalf of the conference committee, I would like to acknowledge and thank the delegates that submitted papers for consideration under the conference themes of standards, leadership, practical solutions and student engagement. Table 1 below shows the number of submissions and outcomes in each category.

Table 1: ATN assessment conference 2011: Submissions and outcomes

<table>
<thead>
<tr>
<th>Submission Format</th>
<th>Proposals received</th>
<th>Accepted</th>
<th>Accepted (revisions required)</th>
<th>Rejected (offered alternative format)</th>
<th>Rejected/Withdrawn</th>
<th>Final outcome (total)</th>
</tr>
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<tbody>
<tr>
<td>Full paper -Peer reviewed</td>
<td>20</td>
<td>3</td>
<td>12</td>
<td>1</td>
<td>4</td>
<td>15</td>
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<tr>
<td>Short paper -Abstract only</td>
<td>31</td>
<td>20</td>
<td>5</td>
<td>-</td>
<td>6</td>
<td>28</td>
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<tr>
<td>Workshop</td>
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<tr>
<td>Poster</td>
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<tr>
<td>Totals</td>
<td>64</td>
<td>29</td>
<td>20</td>
<td>3</td>
<td>8</td>
<td>52</td>
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</tbody>
</table>

Full papers identified as ‘Full Paper – Peer Reviewed’ in the Conference Proceedings have undergone a double-blind peer review process, with de-identified feedback and suggestions for revisions provided to authors. All other submissions were reviewed by members of the conference committee review panel. Authors submitting in the short paper, poster or workshop categories have the opportunity to submit an extended version for consideration for inclusion in the electronic version of the Conference Proceedings after the conference.

We gratefully acknowledge the generous work of the reviewers, a national and international group of colleagues who contributed their time and expertise to provide review commentary, including constructive and valuable feedback for all submissions.

These proceedings are published by Curtin University under ISBN 978-0-646-56611-5. We hope that this collection of papers will make a positive contribution to the ongoing discussion about those challenging issues that lie at the heart of assessment.

Jon Yorke
October 2011
Editorial committee

Jon Yorke (Editor)
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Kate Lowe (Program coordinator)
Connie Price (Proceedings layout)
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Beatrice Tucker Curtin University
Dale Wache University of South Australia
Ann Wilson University of New South Wales
Nick Zepke Massey University

Disclaimer

The papers published in this Conference Program have been reviewed, edited and proofread to the best of our ability within the timeframe permitted. We acknowledge that there may be further proofing errors.
Short Papers, Workshops and Posters
(Abstract Only)
Using analytical frameworks in assessment to investigate the quality of generic skills achievement in pharmacy

Michelle Appleton (S.Appleton@curtin.edu.au)
School of Pharmacy, Curtin University

Wan Theng Chai (wantheng.chai@student.curtin.edu.au)
School of Pharmacy, Curtin University

The ability to engage in reflective practice and argumentation are seen as important generic attributes for the professional pharmacist, and pharmacy course providers are expected to incorporate the development of these, and other generic skills, during pharmacy students’ tertiary experience. This research is based on a case study of third year pharmacy students from an Australian university and the use of analytical frameworks to investigate the quality of argument and level of reflection achieved in a social pharmacy assessment activity.

The activity required students to attend a lecture on social pharmacy concepts and produce arguments in response to the following questions on drug addiction, a topic selected as the social issue for discussion:

- Is drug addiction an illness?
- Should pharmacists treat drug addicts differently from other people when they seek help in the pharmacy?

Students were asked to view a documentary on drug addiction and after viewing students were then asked to engage in argumentation again and re-visit the same two questions. Finally, students were asked to compare their responses and reflect on any perceived change and produce a reflective response to the overall activity. Student arguments were analysed using an adapted version of Toulmin’s Argumentation Pattern (TAP), which allowed the structure and complexity of arguments to be assessed and analysed. The level of student reflection was analysed using a method similar to Wong et al (1995), in which a combination approach in analysing students’ reflections based on Boud et al (1985) and Mezirow’s (1991) model was utilised.

The majority of students demonstrated the ability to produce arguments that included data and backings to support their argument claims, but frequently did not include qualifiers. This indicated that most pharmacy students were able to provide a suitable level of justification and evidence to support a claim. The findings of the reflection analysis showed that the majority of students produced reflections that indicated they engaged in high levels of critical reflection.

This suggests that the activity was successful in engaging students in reflection and argumentation and the analytical frameworks where useful in determining the level of generic skill achieved. This may indicate the benefit of embedding such frameworks into the evaluation of assessments in the future.

References


Keywords: generic skill, reflection, argumentation

Conference Themes: 🛠️ Standards 🛠️ Practical solutions
Beyond summative assessment of clinical performance in paramedic science

Nigel Barr (nbarr@usc.edu.au)
Faculty of Science, Health and Education, University of the Sunshine Coast

Kylie Readman* (kreadman@usc.edu.au)
Office of Learning and Teaching, University of the Sunshine Coast

Peter Dunn (pdunn2@usc.edu.au)
Faculty of Science, Health and Education, University of the Sunshine Coast

Paramedic programs present significant challenges in developing and assessing clinical performance. The Objective Structured Clinical Examination (OSCE) is typically used summatively to measure acquisition of clinical skills, declarative knowledge and scene control. To our knowledge formative use of the OSCE within paramedic science has not been reported in academic literature. A pilot research project undertaken at the University of the Sunshine Coast (USC) examined the effects of introducing formative OSCE assessment on students’ attainment of clinical skills and on their ability to critically reflect on their own practice and that of their peers.

The project changed the OSCE from a stand-alone summative assessment to include formative strategies embedded in the curriculum. These included the deconstruction and analysis of the OSCE assessment criteria prior to the task, peer and self-assessment on formative OSCE opportunities and students’ critical reflection on a video recording of their individual OSCE. These meta-cognitive activities were designed to encourage greater student understanding of and engagement with identifying and self-correcting skills that were to be summatively assessed.

The project used mixed methods to study the efficacy of formative assessment by developing OSCEs for learning and as learning (Earl, 2003) as well as for the traditional assessment of learning. Data collection was via self-administered online questionnaire, focus group interviews, and correlating self, peer and tutor assessment.

The preliminary results indicate that students perceive the inclusion of a number of formative assessment strategies improved their engagement with the course learning outcomes and understanding of the OSCE assessment, required deeper understanding of clinical skills and developed desired attributes of paramedic practitioners through a focus on active assessment and learning.

The outcomes of this study will add to the development of an evidence-based framework for teaching and assessing clinical competencies with paramedic students across Australia and the development of a signature pedagogy for paramedic education.

References


Keywords: clinical competencies, formative assessment, OSCE

Conference Themes:  📚 Student Engagement

*Corresponding author
Aligning academic integrity policy and practice:  
A work in progress

Tracey Bretag (tracey.bretag@unisa.edu.au) University of South Australia  
Ruth Walker (rwalker@uow.edu.au) University of Wollongong  
Margaret Green (margaret.green@unisa.edu.au) University of South Australia  
Julianne East (j.east@latrobe.edu.au) La Trobe University  
Colin James (colin.james@newcastle.edu.au) The University of Newcastle  
Ursula McGowan (ursula.mcgowan@adelaide.edu.au) The University of Adelaide  
Lee Partridge (lee.partridge@uwa.edu.au) The University of Western Australia  
Margaret Wallace (mwallace@uow.edu.au) University of Wollongong  
Saadia Mahmud (saadia.mahmud@unisa.edu.au) University of South Australia

The Australian Learning and Teaching Council Priority Project, Academic integrity standards: Aligning policy and practice in Australian universities, which will be in progress until June 2012, aims to “(1) investigate the range of Australian universities’ academic integrity policies and practices, (2) identify examples of good practice in responding to breaches of academic integrity… (3) develop exemplars of good practice that can be adapted across a range of learning, teaching and policy contexts, and (4) provide teaching and learning resources” (Bretag et al 2010). In fulfilling these aims the results of the project will enable universities to develop a culture of academic integrity that will reduce the occurrence of breaches of academic integrity and support consistent and clear responses to allegations of academic misconduct. We have reported on our preliminary findings from the policy analysis phase of the research (Bretag et al 2011a), and identified core elements of exemplar academic integrity policy (Bretag et al 2011b, 5APCEI). This particular presentation summarises these results and provides an overview of the next phase of the project which includes a survey of over 15,000 student respondents from the six participating universities; interviews with academic integrity decision-makers; and focus groups of a broad range of academic integrity stakeholders. The results of this project will inform a range of policy issues relating to assessment at an institutional and a national level.

References


Keywords: academic integrity policy

Conference Themes:  
Leadership

Go to Program
Health professional education invariably includes clinical field placements as an integral component of professional training in an effort to ensure that knowledge, skills, and behavior learned about in an academic context are integrated and applied to clinical practice. Significant weight is usually attached to the assessment of competence by supervisors, which typically consists of a structured report rating performance on a number of areas. Such reports are subject to systematic rating biases, particularly leniency and halo errors. Strikingly similar results are observed across disciplines including psychology, social work, nursing, pharmacy and medicine. The leniency bias is typically evident in the reluctance of field supervisors to assign low and fail grades to students on placement. The halo bias is reflected in an overall positive impression of a student who has done well in one competency domain, reducing judgement of true differences between competency domains. Factors contributing this phenomenon may include the small numbers of students on placement at any given time, leaving the supervisor without an ‘anchor’, and leading to a greater propensity for uncertainty and bias. Secondly, the active face-to-face engagement and intensive supervisor-student interactions over an extended period of time in the field may lead to a relatively close supervisor-student interpersonal relationship that serves to systematically bias supervisor ratings. This study set out to determine the extent of the problems with reliability and validity of supervisor judgments of competency in postgraduate clinical psychology training.

Data from 140 ratings of students by supervisors in five university postgraduate clinical psychology courses in 2009-2010 were analysed, in order to explore the extent to which limitations on supervisor reports described in the international literature were found in the ratings of student performance by these Australian clinical psychology supervisors.

Supervisors made almost no use of the options for rating student performance using either “Unsatisfactory progress” or “needs development” categories forming bottom half of the four point scale.

The findings suggest that leniency and halo effects are operating to skew the ratings of student performance. These problems are far from trivial. Reluctance to fail a student or to prescribe additional remedial work when necessary may put the public at risk by graduating practitioners who are not yet fit to practice. Alternative approaches, such as the vignette matching procedure developed by Bogo and colleagues, that show some promise as methods of reducing supervisor bias, warrant further investigation.

Keywords: assessment, practicum, standards

Conference Themes: Standards

This project is supported by a funding grant from the Australian Learning and Teaching Council (PP10-1624).
Workshop

iPad2 + rubrics improves assessment process

Alistair Campbell (a.campbell@ecu.edu.au)
The Centre for School and Technologies, Edith Cowan University

Julia Wren (j.wren@ecu.edu.au)
School of Education, Edith Cowan University

Assessing learning can be a complex activity particularly when learning is expressed through a range of contexts such as written tasks or where it is performed or presented. Maintaining assessment principles of fairness, validity and reliability while providing feedback that is educative and timely can be a challenge to markers.

Our team has been working on finding methods of streamlining the assessment process where the marker’s assessment time is focused on the professional tasks associated with making quality judgements about the learning, rather than given over to the busy work associated with collating marks, writing comments and distributing feedback to students. We use iPad2, marking both on the iPad and in the cloud to enable us to mark more efficiently, effectively and to engage the students in an authentic assessment partnership with the purpose of involving them with the assessment process.

The purpose of this workshop is for participants to experience this innovative digital assessment process. Examples of students’ learning will be used in the workshop so that the participants will gain a practical understanding of how digital assessment could be applied in their own context. The participants in this workshop will use iPad2 for this process.

The structure for this workshop is as follows:

- Brief introduction to digital assessment, each participant will have access to an iPad 2 (8 available)
- Participants will experience different types of digital assessment:
  - There will be an opportunity for discussion and questions.

Keywords: iPad, assessment, cloud

Conference Themes: ❖ Practical solutions ❖ Student Engagement

Go to Program
UWA assessment and feedback project: A work-in-progress report on a university-wide initiative

Denise Chalmers (Denise.Chalmers@uwa.edu.au)
Centre for the Advancement of Teaching and Learning, University of Western Australia

Lee Partridge (lee.partridge@uwa.edu.au)
Centre for the Advancement of Teaching and Learning, University of Western Australia

Sid Nair (sid.nair@uwa.edu.au)
Centre for the Advancement of Teaching and Learning, University of Western Australia

Janice Orrell (janice.orrell@flinders.edu.au)
Flinders University

Zoe Anderson (zoe.anderson@uwa.edu.au)
Centre for the Advancement of Teaching and Learning, University of Western Australia

The University of Western Australia had undertaken a project as a way to examine the effectiveness of its teaching and learning assessment policies and practices. A focus on assessment at The University of Western Australia (UWA) has been identified as a way to address the need to embed comparable and integrated assessment practices across the university.

This presentation will outline a project being conducted at The University of Western Australia to facilitate the implementation of comparable and integrated assessment practices across the University. To achieve the dual goals of efficiency and enhanced educational value, the project has had four key objectives:

5. to generate a whole-of-course perspective on student learning achievements;
6. to generate greater alignment and cohesion between assessment tasks and desired student learning outcomes/graduate attributes;
7. to create a more manageable workload for staff and students through more effective assessment practices; and
8. to ensure that, for those courses that are accredited, the ways that assessment links and supports accreditation is clearly articulated.

There are two stages of this project: assessment review, and educational development. A project leader from each faculty was nominated by their dean. The Faculty leader, in collaboration with their faculty, chose an undergraduate course to review. This process has been led and overseen by Professor Janice Orrell, the consultant for the project.

The Stage One review has consisted of the nominated Faculty Leader collecting the raw data on units/courses and assessment tasks; timeframes; outcomes. From this, a report has been written, and taken back to the faculties for them to mutually identify and agree on what assessment issue is best to focus on and to review their current assessment practices. Stage Two will be the implementation of that decision through a process of developing their understanding and skills of assessment. As this is progressing, the Faculty leader then begins the review of a second course within their faculty. The project has been conducted in concert with a review of the University Assessment Policy and developing institutional wide tools and resources to support continuous improvement and enhancement of student assessment processes and practices.

Keywords: assessment and feedback, effectiveness and efficiency, University wide

Conference Themes: Standards
ReMarksPDF: A new approach to moderation involving multiple assessors

Stephen Colbran (stephen.colbran@une.edu.au)
Law School, University of New England

The assumption that multiple assessors interpret marking criteria the same way is fundamentally flawed. The problem compounds with large units involving multiple assessors. One potential solution is to combine socialisation processes with rigorous moderation practices in the context of efficient e-marking and moderation workflows. Moderation processes in Australian universities are non-traditional, fundamentally flawed and unsophisticated. The avoidance of external moderation in Australia places increased importance on the role of internal moderation as a key quality assurance process ensuring that:

- Variability in individual markers interpretations and approach to marking is reduced
- The process is both fair and appropriate
- Consistent standards are applied
- The process is transparent, valid and reliable
- Appropriate records and evidence of moderation are maintained
- Marking aligns with assessment criteria, guides, rubrics, or other guidance provided to students and markers
- Markers share a common understanding of the marking process and expected outcomes

Numerous studies report inconsistencies between markers in how they use assessment criteria and award grades. The more subjective the nature of assessment, the greater the likelihood of variability, and the greater the need for moderation. Moderation has positive outcomes for staff and students including:

- A method of socialisation aimed at improving reliability by forming a mutual understanding of criteria, marking schemes and rubrics
- Discouraging the polarization of hard and soft markers
- Improved student confidence in assessment of their abilities.
- Arming academics with valid and reliable evidence in responding to student queries
- Professional staff development

Electronic feedback management systems, such as ReMarksPDF offer opportunities for improvement in assessment and moderation practice and outcomes for students and academics, including:

- Workflows to support academics in achieving consistency in marking and in moderating the outcome of assessment
- Accountability in moderation through tracking and transparency
- E-submission, allocation, marking, moderation and assessment return via a learning management system
- Efficient electronic assessment workflows built on enterprise level system deployment
- Extensive annotation and commentary features, including rubrics, audio, video, stamps, electronic dashboards and charts
- Quality management including consistency, reporting, and self-reflection
- Support for socialization processes involving active engagement, discussion and negotiation between markers

ReMarksPDF, available free to Australian academics, is designed to operate as part of an enterprise LMS. The aim of the project is to significantly improve the quality, quantity and timeliness of assessment feedback whilst decreasing the workload and time commitment of academics. ReMarksPDF provides rich media features such as auto text, sound and video comments, colour coding with assigned meanings, self-populating drag and drop graphs and charts, style libraries, advanced rubrics and cover pages. The software is available in English, French, Modern Chinese, Spanish and Arabic. ReMarksPDF offers extensive moderation facilities presented in graphical formats enabling academics to assure the fairness of assessment of student work undertaken by multiple assessors in the context of efficient electronic workflows. ReMarksPDF can be used as part of a socialisation process for markers who have engaged in sample marking to ensure consistent interpretations of marking criteria, rubrics and guidelines, as well as in the final process of examining the results of the marking process. ReMarksPDF’s ability to securely hide/display individual marker annotations enables uninfluenced double marking whilst allowing the student to transparently see the outcomes of a double-marking process.

Keywords: moderation, electronic feedback, electronic marking

Conference Themes: Standards Leadership Practical solutions
Quality e-Assessment workflows *

Stephen Colbran (stephen.colbran@une.edu.au)
School of Law, University of New England

Felicia Zhang (felicia.zhang@canberra.edu.au)
Faculty of Arts and Design, University of Canberra

About the workshop facilitators

Stephen Colbran BCom(Hons), LLB(Hons), LLM (Hons), PhD, Grad Cert (HE) is a Law Professor and the creator of ReMarksPDF - a cross-platform Feedback Management System designed to significantly improve feedback to tertiary and secondary education students - www.remarkspdf.com.

Felicia Zhang BA, Grad Dip (ED), MA (App Ling), PhD, TEFLA is a senior lecturer in Applied Linguistics and Chinese at the University of Canberra. Her research interests include the use of speech technology in language teaching and acquisition, E-learning, integrating computer technology in curriculum design in Education. She is a 2003 winner of an Australian Award for University Teaching.

Intended audience and degree of expertise/past experience required:

This workshop is designed to cater for anyone involved with or interested in improving the quality of electronic assessment workflows – e-submission, allocation, marking, moderation and release. This includes those responsible for learning management systems, staff of Teaching and Learning Directorates, Academics responsible for learning and teaching, and anyone involved with marking assessment and moderation.

Statement of objectives for the workshop

• Summary of the literature in relation to e-assessment workflows
• Policy implications of e-assessment
• Develop an understanding of the issues surrounding e-assessment workflows

Interactive lecture

• Summary of the current literature on e-assessment workflows
• Comparison of existing solutions

Activity

Participants will be engaged in the process of mapping the workflow associated with e-assessment taking into consideration how the following issues would be managed:

• Integration with LMS
• Integration with data matching software
• Group submissions
• File naming conventions
• Policy implications
• Moderation procedures?
• Return of marks and assessment
• Records retention

Website: www.remarkspdf.com
ReMarksPDF Manual available at http://remarkspdf.com/content/remarkspdf-downloads
ReMarksPDF training films available at http://remarkspdf.com/support/training/remarkspdf/videos
ReMarksPDF software available from http://remarkspdf.com/downloads

Keywords: moderation, e-assessment workflows, e-marking feedback

Conference Themes: 💪 Standards 🙀 Leadership 🌊 Practical solutions

*This workshop is the first in a series of three workshops

Go to Program
Developing a community of shared assessment practice

Cathy Cupitt (c.cupitt@curtin.edu.au)
Faculty of Humanities, Curtin University

Engaging in the Humanities 100 is a large-scale first year communication skills unit which is a core component of the new 'super BA' now available at Curtin University. It is designed to help students successfully transition into university study by introducing them to academic assessment genres and the standards of achievement expected, enculturing them into their discipline and its modes of discourse, helping them to form support networks with peers, and developing their cultural competence as communicators and ethical researchers.

In order to achieve these goals it is imperative to develop a community of shared practice in which there is a consistency in both student and staff expectations of levels of achievement, and the purpose and amount of formative feedback given to students by staff. This is a particular challenge given the size of the teaching team (22 staff in semester 1, 2011), and the student cohort (over 1,000 students per year).

In this paper, I will outline the strategies used in the unit in order to develop a community of shared practice based on Curtin's holistic assessment and moderation cycle. The process begins before formal assessment and moderation, by making available to both staff and students: marking criteria, exemplars of student work, self-reflection rubrics, and opportunities for peer feedback. For staff, there are further exemplars available of previously marked student work across the grade ranges, a bank of example feedback linked to marking criteria, marking rubrics, and moderation meetings.

Since its introduction in semester 1, 2010, Engaging in the Humanities has consistently achieved higher than average eVALUate results in the category “Feedback on my work in this unit helps me to achieve the learning outcomes.” I will conclude with an overview of both the quantitative and qualitative feedback from eVALUate, and of staff comments about the unit's assessment and moderation process.

Keywords: standards

Conference Themes:  ❶ Standards  ❷ Leadership  ❸ Practical solutions  ❹ Student Engagement

Go to Program
ePortfolio based assessment strategies to prevent plagiarism

Colin Dalziel (colin@pebblelearning.co.uk)
Pebble Learning*

Alison Poot (alison@pebblepad.com.au)
Pebble Learning*

ePortfolios have grown in popularity in universities and professional organisations particularly where subject areas are traditionally evidence based. However, eportfolio based assessment has much broader applicability and increasingly eportfolio presentations are being used to allow users to present collections of evidence that support a particular process; from assessment to job application to professional accreditation. Plagiarism is a growing issue of concern for the academic and wider community. Much is made of plagiarism detection software but detection software cannot be the only, or even the principal preventative measure. A more robust methodology is required based on a range of assessment design considerations. The UK’s Plagiarism Advice Service recommends a range of assessment design strategies to combat both unintentional and deliberate plagiarism by students. Principally, JISC’s Reducing plagiarism through assessment design highlights seven considerations for effective plagiarism prevention. These considerations fit well with the toolset of a Personal Learning Space (PLS) that supports the creation of eportfolio presentations, where elements of work can be aggregated to allow assessors to view both the processes the student has gone through as well as the final product for assessment.

1. Assess the process. ePortfolios can be used to present a wide range of items that not only demonstrate the outcomes of learning but also the process by which that learning arose: the plans, draft notes, a research blog, etc.
2. Personalise the assessment. The reflective nature of a PLS allows learners to draw upon their own experiences and reflections as part of their work.
3. Harness the research process. By including the research process as an assessed element learners are required to keep track of their research activities via facilities such as a specific research blog.
4. Emphasise the value of analysis. Reflection and thoughtful consideration of research, plans and feedback can be demonstrated via eportfolio based activity.
5. Use peer assessment. A good PLS puts learners in control of their work and supports them in sharing their work to allow peer review at appropriate times as it progresses.
6. Create a supportive environment. With the learner in control of whom they share work with and when they submit it to the tutor, a student can be well supported via timely feedback from either trusted peers or their tutor.
7. Discourage the use of pre-written assignments. Changing an assessment brief for each assessment cycle can be easily managed where an eportfolio based assessment is created rather than a paper-based handout.

This short paper principally concerns methodologies for academic colleagues to develop plagiarism-suppressing approaches to mitigate against cheating and improve learning. This includes both effective assessment design highlighted above and the use of plagiarism detection software as a formative tool to increase student awareness of plagiarism issues.

Keywords: ePortfolio, personal learning, plagiarism

Conference Themes:  🛍 Practical solutions

* Sponsor of the ATN Assessment Conference 2011
An (App)roach to using iPhone technologies to increase consistency, reliability and equity in assessment of large work integrated learning courses

Chris Dann (cdann@usc.edu.au)
Faculty of Science, Health and Education, University of the Sunshine Coast

Christian Jones (cmjones@usc.edu.au)
Faculty of Arts and Social Sciences, University of the Sunshine Coast

Beverly Lowe (blowe@usc.edu.au)
Faculty of Science, Health and Education, University of the Sunshine Coast

Elizabeth Toohey (etoohey@usc.edu.au)
Faculty of Science, Health and Education, University of the Sunshine Coast

Matthew Willis (mwillis@usc.edu.au)
Faculty of Arts and Social Sciences, University of the Sunshine Coast

Kylie Readman (kreadman@usc.edu.au)
Office of Learning and Teaching, University of the Sunshine Coast

Assessment of work integrated learning (WIL) presents multiple challenges: for students being assessed, site mentors engaged in assessment and university staff coordinating the WIL experiences. The benefits of authentic work integrated learning are well known but unless accompanied by a clear understanding of the goals, process and assessment WIL cannot reach its potential. In response to this challenge, we have developed a smart-phone and online approach to assessment and reporting that can be replicated in multiple locations by multiple users. The trial is operating in a teacher education program with preservice teachers, mentors and liaison academics all contributing to communities of practice designed to support the preservice teachers’ experience. A review of our WIL courses has resulted in the development of a theoretical framework shaped around three principles: consistency, reliability and equity. The aim is to improve the current paper based assessment system which is fraught with the difficulties normally associated with coordination of large scale, high stakes assessments using multiple assessors. Our solution involves a website with a companion iPhone application called ‘Preservice Teacher Tracker’ (PTT) designed to promote greater consistency, reliability and equity of outcomes by improving the quality of mentoring and assessment. The tool will provide scaffolding for preservice teachers and teacher mentors in their respective roles by elaborating on the criteria, enabling joint development of goals and strategies, tracking preservice teacher progress over time, enabling teacher mentors to video the preservice teacher performance to facilitate discussions, and to permit monitoring, mentoring and assessment to occur in the classroom through the use of smart-phone technologies. This paper will reflect on the project’s beginnings and explain the development of the theoretical framework. It will explore the trials and challenges faced in the implementation of technology enhanced assessment of WIL within educational settings and outline future directions for the project.

Keywords: work integrated learning, online assessment, smart-phone app

Conference Themes: 🗓️ Practical solutions

Go to Program
Student engagement with assessment feedback: The ‘who’ and ‘how’ of closing the feedback loop

Melissa Davis (m.davis@curtin.edu.au)
School of Psychology and Speech Pathology, Curtin University

Nicole Cowper (nicole.cowper@student.curtin.edu.au)
School of Psychology and Speech Pathology, Curtin University

Student engagement with assessment feedback is an essential part of the Constructivist Feedback cycle yet comparatively little research has focused on this aspect of assessment and feedback practices. In particular, relatively little is known about the student characteristics that relate to the use of feedback. A comprehensive understanding of the whole constructivist feedback cycle is essential if teachers in higher education are to be able to maximise the benefits of assessment feedback for student learning. The only known measure of student engagement with assessment feedback is the 6-item “Use of feedback” subscale of the Assessment Experience Questionnaire (AEQ) (Gibbs & Simpson, 2003) which has been used in a number of studies including the Transforming the Experiences of Students Through Assessment project (www.testa.ac.uk). However, importantly, the AEQ has been subject to little psychometric evaluation. Further research on the psychometric properties of the scale will add rigour to the literature. The aim of this research was to collect evidence for the reliability and validity of the “Use of feedback” subscale of the AEQ. Data were collected from a convenience sample of 130 Australian undergraduate and postgraduate students via an online survey. The reliability of the scale was found to be strong, with a Cronbach’s alpha of .8 and four-week test-retest reliability of .82. Evidence for the construct validity of the scale was provided by moderate positive correlations with measures of learning approach and academic self efficacy, and negligible correlation with life satisfaction. The results will be discussed in terms of how student use of feedback relates to other indicators of academic engagement, what this means for the assessment of student use of feedback, and how these findings may inform feedback practices.

References

Keywords: feedback, learning approach, academic self efficacy

Conference Themes: Student Engagement
Supporting student-authored questions with PeerWise

Paul Denny (paul@cs.auckland.ac.nz)
Department of Computer Science, The University of Auckland

As instructors, we are constantly dreaming up new questions with which to assess our students' learning. A compelling argument can be made for challenging students to author their own assessment questions. Not only can this be a valuable learning activity that engages students with the course material, but it can provide us with feedback about what our students feel is important and how they are coping. Moreover, if students are able to easily answer and evaluate one another's questions, a useful resource can result.

PeerWise is an easy to use web-based tool that leverages the familiarity students have with social software and Web 2.0, and engages them directly in the assessment process. Using PeerWise, students work collaboratively with their peers to construct, share, evaluate, answer and discuss a repository of assessment questions relevant to their course. Students are given the responsibility of creating and moderating the resource, placing practically no burden of supervision on the instructor. By leveraging the creativity and energy of a class, a large, diverse and rich resource can result. Since its first use at the University of Auckland in 2007, more than 150,000 questions and 4 million answers have been contributed by students from 100 institutions.

This hands-on workshop introduces the freely-available PeerWise tool, giving you an opportunity to experiment with the interface and view typical examples of the real-time feedback that is produced. You will work together with other participants during the workshop to create a shared bank of questions exactly as students would in an authentic course using PeerWise. Student perceptions, repository quality, and the relationship between student activity and exam performance have been formally studied and a selection of these results will be presented. Ample time will be available for asking questions and discussing how PeerWise could most effectively be integrated into your existing course. Upon completion of the workshop, if you wish to utilise PeerWise in your own class, you will be able to do so in a matter of minutes.

No preparatory work is required, however if you are interested you may like to take a look at the PeerWise website:

http://peerwise.cs.auckland.ac.nz/

and, in particular, browse some of the resources that are available to instructors:

http://peerwise.cs.auckland.ac.nz/docs/

The workshop will be facilitated by Paul Denny, who spends much of his time teaching large classes in the Department of Computer Science at the University of Auckland, New Zealand. His interests include developing and using technologies for supporting collaborative learning, particularly involving student-authored resources. In 2007 he created PeerWise to support students authoring, sharing and discussing course-related assessment questions. In 2009 PeerWise won the Australasian Association for Engineering Education Award for innovation in curricula, learning and teaching. Paul is a recipient of a National Tertiary Teaching Excellence Award (2009), a Universitas 21 Fellowship (2010) and the Computing Research and Education Association of Australasia Teaching Award (2010).

Keywords: PeerWise, student-authored questions, MCQs

Conference Themes: 🌟 Student Engagement

Go to Program
Combining complex generic attribute attainment with discipline knowledge: Challenging the post-graduate student

Sonia Ferns (S.Ferns@curtin.edu.au)
Office of Assessment, Teaching & Learning, Curtin University

Raelene Tifflin (R.Tifflin@curtin.edu.au)
Office of Assessment, Teaching & Learning, Curtin University

Dimity Wehr (D.Wehr@curtin.edu.au)
Office of Assessment, Teaching & Learning, Curtin University

The higher education sector is moving into a regulatory environment where standards and outcomes will be monitored and measured. The widening participation agenda and removal of the quota system will mean catering to the needs of a diverse student cohort. The revised Australian Qualifications Framework (AQF) articulates expected outcomes and volume of learning for each level of qualification. The Tertiary Education Quality Agency (TEQSA) will use the AQF as a reference for ensuring compliance with the standards and outcomes of qualifications offered by universities. Graduate programs are popular study options as people are exploring alternatives for career diversity and transferability of skills to increase employment flexibility. Balancing the nexus between discipline knowledge and skill application to ensure an appropriate level of complexity in a Graduate Master program is a challenge when students are new to the discipline but have studied in another discipline area. The foundational knowledge with which a graduate student enters a program is associated with generic attributes rather than discipline specific knowledge. The challenge lies in adapting level 7 (Bachelor Degree) discipline knowledge to the rigour of a level 9 (Master Degree). A student entering a level 9 qualification is assumed to have acquired transferrable attributes from a previously studied undergraduate degree. Currently through the Comprehensive Course Review (CCR) process at Curtin University, Master degree programs are scrutinised ensuring that outcomes are compliant with the AQF reflecting the complexity expected of a Master degree graduate. This is driven by internal and external accountability measures. Each unit/subject is reviewed to ensure assessments align with learning outcomes and contribute to the achievement of graduate attributes. This interrogation of the curriculum promotes robust discussion with teaching staff driven by an evidence-based approach which shows how curriculum elements are addressed and outcomes met across a course/program. Through the CCR process, visual evidence is produced to inform curriculum review and empower teaching staff. With the Government's mandate that university should become more accessible to a diverse student cohort and the recognition that education is a major driver of economic well being, it is essential that universities ensure teaching and learning experiences are commensurate with specified outcomes for the qualification level. It is expected that there will be an increased demand for graduate programs and the student cohort admitted to these programs will increase in diversity. This investigation will explore strategies for ensuring standards and integrity is maintained in graduate programs while meeting the needs of a diverse and changing student cohort.

Keywords: standards, outcomes, assessment

Conference Themes: Standards, Practical solutions
ReMarksPDF – Efficient e-assessment workflows for Blackboard 9.1 and Moodle 2.1 *

Michael Garner (m.garner@griffith.edu.au)
Division of Information Services, Institution: Griffith University

Stephen Colbran (stephen.colbran@une.edu.au)
School of Law, University of New England

About the workshop facilitators

Michael Garner B.IT (Applied Computer Science) is the Manager for Learning & Teaching Systems, Division of Information Services at Griffith University, responsible for Blackboard, Wimba, Echo360 and other learning technologies at the University. Michael has worked closely with the Blackboard Learning Management Systems over the years developing a number of integrations and toolsets, working closely with the Academic community to identify and develop strategies for engaging technology.

Stephen Colbran BCom(Hons), LLB(Hons), LLM (Hons), PhD, Grad Cert (HE) is a Law Professor and the creator of ReMarksPDF - a cross-platform Feedback Management System designed to significantly improve feedback to tertiary and secondary education students - www.remarkspdf.com.

Intended audience and degree of expertise/past experience required:

The workshop is designed to cater for anyone involved with or interested in improving the quality of electronic assessment workflows – e-submission, allocation, marking, moderation and release. This includes those responsible for learning management systems, staff of Teaching and Learning Directorates, Academics responsible for learning and teaching, and anyone involved with marking assessment and moderation.

Statement of objectives for the workshop

• What is ReMarksPDF?
• Demonstration of ReMarksPDF integration with Blackboard 8 and 9.1
• Demonstration of ReMarksPDF integration with Moodle 2.1

Demonstration

• Discussion of how Griffith University built and implemented a building block integrating ReMarksPDF with Blackboard 8 and 9.1
• Demonstration of the building block in action.
• Summary of comments from academics who have used the approach.

Interactive lecture

• Discussion of the ReMarksPDF integration with Moodle 2.1
• Summary of the Moodle 2.1 middleware created by CatalystIT.
• Demonstration of the Moodle 2.1 plugin in action

Website: www.remarkspdf.com

ReMarksPDF Manual available at http://remarkspdf.com/content/remarkspdf-downloads

ReMarksPDF training films available at http://remarkspdf.com/support/training/remarkspdf/videos

ReMarksPDF software available from http://remarkspdf.com/downloads

Keywords: moderation, e-assessment workflows, e-marking feedback

Conference Themes: ⚫ Standards ⚫ Leadership ⚫ Practical solutions

*This workshop is the second in a series of three workshops
Student evaluation and formalised peer-reviewed research informs us of the critical importance of ‘feedback’ in the learning experience in higher education. Changes in funding models and industry requirements translate to increasing student numbers within many of the courses currently offered by tertiary education institutions. This is problematic as providing feedback on formative or summative assessments to large class sizes is notoriously difficult. Additionally, it is well recognised that generic, delayed ‘feedback’ does not necessarily aid learning, rather the converse applies; learning is optimised when feedback is provided in a timely fashion and is individualised to the student’s performance.

Commonly, due to the pressure of large class sizes, multiple choice question (MCQ) assessments are deployed in both formative and summative assessment tasks perhaps due to the relative ease of marking. This is problematic as MCQ assessment has been suggested to encourage superficial learning strategies. Additionally, MCQ assessment relies on response to given answer scenarios within the question. Thus we assume students pick the correct answer when they are very confident in their response. However it may not be as simple as this. Students may be very confident they are right when they have in fact picked the wrong answer. With MCQ assessment there is no way to detect this. Traditional MCQ assessment provides no insight into this worrying level of missed conceptions meaning little chance is offered to alter learning practices based on their assessment performance.

Short answer format assessment negates much of this concern as the student has to generate their own entirely unique response to assessment questions. It also affords the opportunity to avoid the pitfalls of answer recognition rather than recall as suggested in MCQ assessment. Our development of the Short answer Feedback System (SAFS) allows for automated marking of short answer assessment questions. This system is based on computer based replication of human marking and feedback decisions; a system we have demonstrated to provide fast turn around and richly detailed, individualised feedback.

With the aid of Curtin IT Services our SAFS system has been created such that it is now integrated into BlackBoard. Students see the ‘front-end’ of the system as the BlackBoard quiz interface presented to them in the format of a short answer quiz. Student responses are stored within the BlackBoard database and then exported to the custom built SAFS ‘marking engine’. This is a .NET based web application hosted in Microsoft’s cloud platform and represents the ‘front-end’ from the markers perspective. The grades and feedback responses provided by the marker are collated by this same application and automated emails are then sent directly to students. It is anticipated hosting this application within the ‘cloud’ will enable multiple concurrent usage as uptake of the system increases.

Early trials of the system are very encouraging with significant reduction in marking/feedback time demonstrated. Additional formally assessed trials are to be conducted examining both student and marker perspectives of the system. It is anticipated this work will be disseminated in relevant peer-reviewed journals.

Keywords: feedback, computer-mediated, assessment

Conference Themes: Practical solutions
Assessing the tricky attribute: creating a rubric for intercultural understanding

Veronica Goerke (v.goerke@curtin.edu.au)
Office of Assessment, Teaching & Learning, Curtin University

Kathryn Lawson (kathryn.lawson@curtin.edu.au)
Office of Assessment, Teaching & Learning, Curtin University

Victor Chuang (v.chuang@curtin.edu.au)
School of Pharmacy, Curtin University

The workshop is designed for academics interested in creating and delivering activities with aligned assessment criteria that assess graduate attributes related to intercultural perspectives and global understanding. Most Australian universities allude explicitly to the development of these attributes, both at a whole of university level through to a course level, however, creating measurable criteria for the attributes in this often affective domain can be difficult. In a clearly aligned curriculum it is not enough to say graduates have developed skills around the generic attributes; the outcomes of the tasks must be measurable and students afforded the chance for feedback and hopefully then the chance to improve and continue learning at a deeper level.

Using a case study from pharmacy as the catalyst for discussion, participants in the workshop will examine an assessment task – and the related learning activities – that attempt to assess intercultural awareness. The case study will highlight the process of incorporating such a task and the resulting feedback and assessment criteria.

The objectives of the workshop are to:

- examine ways in which assessment tasks can incorporate an intercultural perspective
- discuss possible ways to ‘measure’ intercultural understanding
- begin working on adapting the criteria for an assessment rubric suited to a variety of learning environments and situational tasks relevant to participants

Keywords: intercultural, rubric, graduate attribute

Conference Themes:  
Leadership  Practical solutions

Go to Program
The use of vignettes to capture clinical psychology practicum competencies: Vignette standardisation and preliminary results

Craig Gonsalvez (craiggg@uow.edu.au) University of Wollongong
John Bushnell (bushnell@uow.edu.au) University of Wollongong
Russell Blackman (russellb@uow.edu.au) University of Wollongong
Frank Deane (fdeane@uow.edu.au) University of Wollongong
Vida Bliokas (Vida.Bliokas@sesiahs.health.nsw.gov.au) Illawarra Area Health Service
Yasmina Nasstasia (yasmina.nasstasia@newcastle.edu.au) University of Newcastle
Kathryn Nicholson Perry (K.NicholsonPerry@uws.edu.au) University of Western Sydney
Chris Allan (callan@uow.edu.au) University of Wollongong
Roslyn Knight (ros.knight@mq.edu.au) Macquarie University
Alice Shires (a.shires@unsw.edu.au) University of New South Wales
Judy Hyde (judy.hyde@sydney.edu.au) University of Sydney

Converging evidence from several health disciplines suggests that field supervisor ratings of student competencies may be affected by systematic leniency and halo biases. Characteristics of the rating scales, rather than unskilled assessors, may be primarily responsible for these unsatisfactory assessment outcomes. The vignette method has yielded positive preliminary results. In the vignette approach, the supervisor is provided with pre-designed vignettes and asked to choose a vignette that best matches the student’s performance. The current study is a multi-site initiative involving six universities in Australia and funded by an Australian Learning and Teaching Council (ALTC) grant. A key aim is to design, standardise, and evaluate a catalogue of vignettes to assess clinical psychology competencies in the field, and to compare outcomes from the vignette and rating-scale approaches. Preliminary results from the study are reported. The vignettes were designed following a rigorous process: (i) A group of experts drafted vignettes (V1) for each of 4 performance levels across 9 broad competency domains (36 vignettes), (ii) V1-vignettes were scrutinised within small group discussions or assigned to an expert in the psychology domain before revised V2-vignettes were produced, (iii) V2-vignettes were evaluated either within a small group of experts or by two blinded experts who independently revised the vignettes. Expert comments were considered before revised V3-vignettes were prepared for pilot testing, (iv) a web-based survey program was used to present the V3-vignettes to a group of experts (n=12) for evaluation and calibration. The experts reviewed each vignette independently, rated the vignettes in terms of their adequacy and efficacy, and calibrated each vignette using a visual analogue scale that ranged from 1 (unskilled) to 10 (competent), (v) The V3-vignettes were field tested by having a group of field supervisors (n=25) use the vignettes and the conventional rating scale to assess the competencies of psychology trainees at the end of placement.

Field-test results found that the vignettes elicited a better distribution across competence levels than distributions previously elicited by rating scales. The majority of V3-vignettes received calibration scores that were satisfactory with regard to distribution across the full range. Vignettes that describe performance levels at either end of the competency continuum elicit calibration scores that suggest good agreement among experts, whereas vignettes depicting intermediate levels generally elicit calibration scores with moderate levels of agreement. Some V3-vignettes did not meet criteria for adequacy and require revision. Practicum competency ratings currently assigned to students by supervisors are likely to be much less reliable than is assumed, and merit urgent attention. Replacing the conventional rating scale with standardised vignettes is an innovation that has yielded good preliminary results and merits further investigation. Although the standardisation of vignettes is an arduous process, if successful, the technique has the potential to provide much more accurate data and appropriate feedback to students and faculty. The approach is also likely to be feasible for other disciplines.

Keywords: vignettes as assessment tool, practicum assessment, field supervisor’s ratings

Conference Themes: Standards
What sessional staff want to know about assessment

Simon Housego (Simon.Housego@uts.edu.au)
Institute for Interactive Media & Learning, University Technology Sydney

In this short paper I report on the concerns and interests of sessional staff in relation to assessment practices, as expressed by participants in workshops on assessment. For several years UTS has run a series of informal professional development activities for sessional staff across the university. Alternating between a week of workshops in one semester and an all-day conference in the other semester, the workshops are 2-3 hours long and cover a range of issues, including “Assessment, Marking & Feedback”, “Teaching in Large Groups”, “Teaching in Tutorials”.

The “Assessment, Marking & Feedback” workshops are very popular, and usually full, with 30-40 participants per session. About 200 sessional staff have participated in this session to date. At the start of the workshop participants are asked to write down 3 issues (at most) about assessment practice that they would like to know more about. The initial intention was to use the responses, following a quick scan, to flag key issues and to identify issues of peripheral or very localised interest that can’t be addressed in the generalised context of a workshop. It became clear from the first workshop that the concerns expressed by participants are remarkably consistent. The responses provide insight into the challenges of improving assessment practices when much of the work of assessment is done by sessional staff who are likely to be the principal point of contact for students about assessment matters.

Following a recent enterprise bargaining agreement at UTS sessional staff are now paid for marking as well as for their teaching. This has brought to the surface a wider recognition of the difference between allocated time per student for marking and feedback as determined by the marking component within the semester contract, and the actual time taken for marking and feedback. Many participants observe that they spend much more time on these issues than the time they are paid for.

With a increasing focus in the assessment literature on issues of the effectiveness of feedback and on the deeper issue of assessment literacy, it makes sense to understand the extent of the gap between the literature’s implications for practice, with its sharp questioning of the appropriateness and characteristics of much assessment feedback, and the actuality of the assessment feedback practices of sessional staff. To what extent sessional staff practices are derived from their own experience as students, or are shaped by their academic coordinators, is unknown. However, with much feedback more likely to be justification for the mark awarded, rather than guidance for how to improve, and with few opportunities to apply feedback (because resubmissions are rarely available) there is a compelling need to support the development of assessment literacy in sessional staff to make more effective use of the time available to them for marking and feedback.

Keywords: sessional staff, assessment literacy

Conference Themes: 📚 Practical solutions 📚 Student Engagement

Go to Program
Leading development of an interprofessional first year curriculum: A key opportunity to improve assessment design and outcomes

Sue Jones (sue.jones@curtin.edu.au)
Faculty of Health Sciences, Curtin University

Melissa Davis (m.davis@curtin.edu.au)
School of Psychology and Speech Pathology, Curtin University

The Faculty of Health Sciences implemented a new interprofessional first year (Y1) curriculum as of Semester 1, 2011 and this provided an ideal opportunity to transform teaching and learning and assessment in the first year. In the new curriculum, approximately 2500 students across 19 health related disciplines share 50% of units and a further 25% of the curriculum supports interprofessional learning through specified option units for subsets of courses.

Fundamental to the design of the teaching, learning and assessment in the new Y1 curriculum was the importance of ensuring that the university and health sciences graduate attributes were embedded and assessed. Best practice in first year experience in higher education principles (Kift 2009) informed key aspects of curriculum design. Timing of assessment ensured an early piece of assessment with feedback was provided to students by Week 4 so that students were aware of the benchmarks required. A series of ‘just in time’ communications were provided so that students knew what to do and by when. Support systems were embedded for students who either failed or did not submit their first piece of assessment and these students were followed up through the Student Transition and Retention Team. Timing, weighting and variety of assessment methods were carefully reviewed to ensure that assessments represented a variety of forms, were aligned with unit learning outcomes, authentic, supported development of writing with academic integrity and were appropriately spread throughout the semester to manage workload effectively. An English Language Proficiency program (SUCCESS) was embedded in a core unit and identified those students who needed additional support with early intervention provided. A Peer Assisted Study Support (PASS) program was embedded in one of the units which had a very high failure rate in previous iterations. Rubrics were provided for all pieces of assessment and exemplars were provided for a large number of assessments.

Results of the first semester have been very encouraging. Retention of students at Census date increased by 1% and the failure rate of combined first year units reduced from 11% to 7%. The number of students who withdrew remained static at 3%, however the percentage of students who failed the unit due to incomplete assessment decreased by 2% suggesting that early intervention support strategies were most likely successful. The distribution of scores across units also improved with an increase in the number of students receiving higher scores. The unit in which the PASS program was embedded improved its pass rate from 73% to 97% and students provided many positive qualitative comments in online unit evaluation feedback.

Leading development of an interprofessional Y1 curriculum has provided us with a key opportunity to improve assessment design and embed and assess key graduate capabilities with successful outcomes. It is likely that the provision of assessment criteria and exemplars, as well as embedded support programs facilitated more positive assessment outcomes.

References

Keywords: assessment design, peer assisted study support, first year curriculum approach

Conference Themes: Leadership
Assessing for evidence-based change in teacher education: What is appropriate evidence?

Barry Kissane (B.Kissane@murdoch.edu.au)
School of Education, Murdoch University

Rosemary Callingham (Rosemary.Callingham@utas.edu.au)
Faculty of Education, University of Tasmania

The CEMENT (Culture of Evidence-based Mathematics Education for New Teachers) is an ALTC funded project that addresses a key identified need in Australia: the provision of quality teachers of mathematics at all levels of the school system through evidence-based improvement of pre-service teacher education programs. One aim of the project is to develop instruments to measure the outcomes of teacher education programs in mathematics in terms of mathematical understanding for teaching (MKT), appropriate pedagogical content knowledge (PCK), and attitudes and beliefs about mathematics (BEL), and hence provide information to participating institutions about strengths and weaknesses in their courses.

In order to collect appropriate evidence in an efficient manner from a large number of students across seven participating institutions, an online tool that could be automatically marked was the only feasible option. This decision in turn constrained the nature of the items used to multiple choice or similar formats, and the length of the proposed instrument.

In addition to these practical constraints, choices were necessary about the content of the questions across the three identified domains. Both MKT and PCK items had to address all components of the mathematics curriculum, such as algebra, geometry and statistics. The PCK items also needed to attend to key aspects of teaching mathematics, including choice of examples, representation of mathematical ideas, and questioning, in the context of classroom teaching. Making decisions about these components proved challenging but also illuminating, providing opportunities for deep conversations about what was valued and important.

A further challenge came from the diversity of courses across the seven participating universities. Some institutions offered post-graduate courses only while others offered 4-year undergraduate courses, and some took account of existing professional experience in schools or training institutions. These pre-service courses attracted students including those straight from Year 12, mature age students with no university background, career-change professionals, and para-professionals such as teacher aides seeking to upgrade their qualifications.

Reconciling these competing demands to develop suitable assessment tools that will provide appropriate, useful evidence to a variety of institutions is an ongoing endeavour. This paper will report on the issues and the potential of the project to provide the kinds of information that will allow universities to improve courses from a sound evidence base.

Keywords: mathematics education, evidence-based change, pre-service teachers

Conference Themes: 📚 Practical solutions
Hunters & gatherers: Strategies for curriculum mapping and data collection for assurance of learning

Romy Lawson (romy.lawson@uts.edu.au)
UTS Business School, University of Technology Sydney

Tracy Taylor (tracy.taylor@uts.edu.au)
UTS Business School, University of Technology Sydney

Eveline Fallshaw (eveline.fallshaw@rmit.edu.au)
International Academic Policies, RMIT

Erica French (e.french@qut.edu.au)
QUT Business School, Queensland University of Technology

Cathy Hall (cathy.hall@rmit.edu.au)
College of Business, RMIT

Shelley Kinash (skinash@bond.edu.au)
Quality, Teaching, and Learning, Bond University

Jane Summers (Jane.Summers@usq.edu.au)
Faculty of Business and Law, University of Southern Queensland

We also acknowledge the contributions made to this project by Mark Whitfield and Tamsin Angus-Leppan of University of Technology Sydney, Australia, and thank all the participants who took part in the survey interviews.

Assurance of learning is a predominant feature in both quality enhancement and assurance in higher education. Assurance of learning is a process that articulates explicit program outcomes and standards, and systematically gathers evidence to determine the extent to which performance matches expectations. Benefits accrue to the institution through the systematic assessment of whole of program goals. Data may be used for continuous improvement, program development, and to inform external accreditation and evaluation bodies. Recent developments, including the introduction of the Tertiary Education and Quality Standards Agency (TEQSA) will require universities to review the methods they use to assure learning outcomes.

This project investigates two critical elements of assurance of learning: 1. the mapping of graduate attributes throughout a program; and 2. the collection of assurance of learning data. An audit was conducted with 25 of the 39 Business Schools in Australian universities to identify current methods of mapping graduate attributes and for collecting assurance of learning data across degree programs, as well as a review of the key challenges faced in these areas.

Our findings indicate that external drivers like professional body accreditation (for example: Association to Advance Collegiate Schools of Business (AACSB)) and TEQSA are important motivators for assuring learning, and those who were undertaking AACSB accreditation had more robust assurance of learning systems in place. It was reassuring to see that the majority of institutions (96%) had adopted an embedding approach to assuring learning rather than opting for independent standardised testing. The main challenges that were evident were the development of sustainable processes that were not considered a burden to academic staff, and obtainment of academic buy in to the benefits of assuring learning per se rather than assurance of learning being seen as a tick box exercise. This cultural change is the real challenge in assurance of learning practice.

Keywords: assurance of learning, curriculum mapping, staff engagement

Conference Themes:  
- Standards
- Practical solutions

Support for this project was provided by the Australian Learning and Teaching Council, an initiative of the Australian Government Department of Education, Employment and Workplace Relations. The views expressed in this paper do not necessarily reflect the views of the Australian Learning and Teaching Council Ltd.
Developing empirically-grounded assessment scales to assure validity and reliability of an assessment and to raise standards effectively

Eva Lui (eva.lui@cityu.edu.hk)
English Language Centre, City University of Hong Kong

This poster outlines a 30-month project to develop writing scales to guide teacher-markers to accurately mark students’ work and to provide effective feedback to help them raise their standard effectively. Students not attaining the required standard may not be allowed to graduate. It is hence important that these students with a relatively low language standard can be provided with useful guidance as they progress through a 144-hour language enhancement or remedial course. Transparency and accessibility of the assessment scales would play a key role in standard-raising. A comprehensive assessment package that explains the standards and expectations thoroughly is crucial to marker reliability and quality assurance of course delivery.

The targeted assessment scales have been developed through thorough analyses of target samples or exemplars. The project team followed the approach of empirically-grounded assessment scale development and studied the exemplars to identify distinguishing features that reflect differences in proficiency levels to assure the validity of the scales. To benchmark the standards to be adopted, the project team referred to available scales and descriptors including the Common European Framework of Reference, the IELTS marking descriptors and criterion-referenced scales produced by the local assessment board.

There are three key phases in this project—initial, small-scale piloting and large-scale piloting. 33 exemplars were used to develop the scales at the initial stage and 92 student samples were used after the small-scale piloting to evaluate and refine the scales. 1600 will be used after the large-scale piloting in April 2012 for the final evaluation and revision of the scales. Evaluation tools include surveys of stakeholders by interviews and questionnaires and statistical analyses of scores assigned. Feedback from 92 students and 5 teachers involved in the small-scale piloting was very positive and confirmed the usefulness of the initial assessment scales but statistical analyses revealed that one assessment domain may be problematic. The findings also confirmed the importance of providing a package of support when promoting the empirically-grounded scales—explanation notes and feedback guidelines, sharing of evaluation findings with teachers, professional development and marker training. The whole package is instrumental in addressing marker diversity issues.

A revised set of scales is being trialled out in the final phase of the project. The same evaluation tools will be adopted in May 2012 to inform the usefulness of the current version of the scales. A benchmarking exercise will be conducted once the final scales can be confirmed. This poster provides a description and design rationales of the different project phases, samples of assessment scales and guidelines, evaluation findings on the initial scales and the approach of developing empirically-grounded scales and a summary of the barriers and solutions in introducing such scales at the two piloting phases.

Keywords: empirically-grounded assessment scales, validity and reliability, assessment standards

Conference Themes: Standards
The Planned Flexibility Model: Supporting authentic assessment through reflective practice

Lynn McAllister (l.mcallister@qut.edu.au)
eLearning Services, Queensland University of Technology

Kim Hauville (k.hauville@qut.edu.au)
eLearning Services, Queensland University of Technology

The QUT Student ePortfolio has been available across the institution since 2003. During that time, over 40,000 students have actively engaged in the ePortfolio process. QUT’s ‘real world’ branding leads students to expect that learning at QUT will incorporate work based activities, either in situ or simulated and will involve the use of ‘real’ tasks for assessing learning. Students have expectations of “authentic assessment” (Wiggins, 2011). Academics at QUT have recognised the process of reflective practice, which is central to a portfolio approach, as a means of supporting authentic work based assessment tasks, thus empowering academics to manage student expectations and, potentially, enhance student outcomes. The ePortfolio program at QUT comprises an online space or ePortfolio as well as a structured approach to reflective practice. The eLearning Services - ePortfolio support team has developed a flexible model of supporting both the technological and pedagogic aspects of the program.

Over the past four years the “action research model” (Reason & Bradbury, 2001) has directed implementation and ongoing development of the model of engagement to ensure academics are effectively supported in their learning and teaching goals relating to the ePortfolio program. This presentation will discuss the Planned Flexibility Model, and its application, through practical examples of authentic assessment in both Undergraduate and Postgraduate units. Examples from the more traditional portfolio areas of Health and Education as well as more recent reflective practice tasks in IT and Law will be presented to show the capacity of a well supported reflective practice approach to enable authentic assessment tasks across the disciplines. Feedback from both academics and students is crucial in the action research process to ensure the support resources and strategies continue to meet user expectations. The session will outline methods of feedback collection and show how this informs the action research cycle.

References


Keywords: reflective practice, ePortfolio, authentic assessment

Conference Themes: Student Engagement

Go to Program
Workshop

Accountability and transparency – applying technology to marking team moderation *

Duncan Nulty (dnulty@griffith.edu.au)
Griffith Institute for Higher Education, Griffith University

Stephen Colbran (stephen.colbran@une.edu.au)
School of Law, University of New England

About the workshop facilitators

Dr Duncan Nulty has more than 20 years of experience in teaching, course and program evaluation, together with policy related research (mostly on assessment), including his doctorate. He has widely provided academic leadership and consultancy on assessment, evaluation, and curriculum design. He has taken a leading role in the development and implementation of a number of strategic university policies and systems including evaluation of programs, courses and teaching, approval and evaluation, program planning, monitoring and review.

Stephen Colbran BCom(Hons), LLB(Hons), LLM (Hons), PhD, Grad Cert HE is a Professor of Law at the University of New England and creator of ReMarksPDF.

Intended audience and degree of expertise/past experience required:

The workshop is designed to cater for anyone involved with or interested in improving the quality of electronic assessment workflows – e-submission, allocation, marking, moderation and release. This includes those responsible for learning management systems, staff of Teaching and Learning Directorates, Academics responsible for learning and teaching, and anyone involved with marking assessment and moderation.

Statement of objectives for the workshop

- Introduction to the issues of consensus moderation
- Modern electronic approaches to marking team moderation
- Accountability and transparency in moderation amongst marking teams

Interactive lecture

What is consensus moderation? Why do consensus moderation? Different approaches to consensus moderation

Activity

Consensus moderation of a large unit involving multiple markers and criterion based marking using ReMarksPDF. Demonstrating how to achieve accountability and transparency in moderation within a marking team. How a modern electronic approach can assist marking team moderation. Key issues:

- Defining a moderation strategy and achieving consistency between markers
- Moderation based on marks or percentages - comparing markers results
- Moderation based on criterion
- Tracking and reporting of moderation

Website, manuals, training films, downloads: www.remarkspdf.com

Keywords: moderation, e-assessment workflows, e-marking feedback

Conference Themes:  ♦ Standards  ♦ Leadership  ♦ Practical solutions

*This workshop is the third in a series of three workshops

Go to Program
Practical examination grading via paper and iPads

Leo Ng (leo.ng@curtin.edu.au)
School of Physiotherapy, Curtin University

Lauren Hewitt (lauren.hewitt@curtin.edu.au)
School of Psychology and Speech Pathology, Curtin University

Emma Turton (e.turton@curtin.edu.au)
School of Physiotherapy, Curtin University

Renee McLennan (R.McLennan@curtin.edu.au)
School of Physiotherapy, Curtin University

Paul Davey (p.davey@curtin.edu.au)
School of Physiotherapy, Curtin University

In many undergraduate health science courses, Objective Standardised Practical/Clinical Examinations (OSPE/OSCE) are used to evaluate learning outcomes in clinical scenarios. The traditional paper-based approach to grading requires considerable time for data collation and provision of feedback, substantial storage space and additionally risks the introduction of human error via manual data input. The rapid implementation of mobile tablet computers in tertiary education (such as the iPad by AppleTM) provide an opportunity to address the shortcomings of paper-based grading by using such devices as an alternative means of grading practical assessments in higher education.

Six physiotherapy students, with varying strengths and weaknesses (based on their past results) were recruited to complete a 10-minute station of an OSPE in manual handling. Fourteen experienced examiners were recruited in the School of Physiotherapy at Curtin University. Each examiner was assigned to grade 3 stations with the traditional paper-based format (‘paper-based’) and 3 using a custom web-based application loaded on an iPad (‘electronic’); each student was graded by 7 examiners using the paper-based system and 7 examiners using the electronic system. Wording was identical on the paper and electronic versions of the grading tool. To examine the reliability of grades assigned using the two systems, an intra-class correlation was calculated. The examiners were also asked to provide ratings of the usefulness and ease of use of the electronic tool via a questionnaire following the examination, and to give qualitative feedback about their experience of using the electronic tool.

The overall mean grade and standard deviation for the paper-based system was 6.3 (1.1) and for the electronic system 6.5 (0.9). The intra-class correlation for the grades assigned using the paper-based and electronic systems was $r = 0.579$ with 95% CI [0.340, 0.749]. Overall, examiners provided positive ratings for both perceived usefulness and perceived ease of use of the electronic grading tool, and in particular were positive about the amount of time saved following examination for data collation. However several issues arose from using the electronic grading system, including lack of familiarity with the equipment, wi-fi connectivity dropouts and ability to type sufficient comments in the time available.

The overall examination grades and variance were similar for the different tools providing some evidence that using an electronic grading tool via an iPad is a viable alternative to paper grading. Additionally, results from the questionnaire indicated that examiners found the electronic tool useful and reasonably easy to use. However, qualitative feedback indicated that future iterations must improve wireless connectivity, the layout of the electronic tool, and examiners’ touch pad familiarisation. Once refined, this tool has potential to be useful in grading practical/clinical examinations in higher education.

Keywords: iPad, OSPE, technology

Conference Themes: 3 Practical solutions

Go to Program
Postgraduate coursework student experiences of 'self assessment'

Nicola Parker (Nicola.Parker@uts.edu.au)
Institute for Interactive Media and Learning, University of Technology Sydney

This showcase presentation examines the experiences of postgraduate coursework students ‘doing’ an assignment in terms of their intrinsic self-assessment processes. Many university faculties continue to make extensive use of essay or report-style assignments, which are therefore important vehicles for learning, academic success and progress. However, writing assignments remains “an essentially private activity” (Hounsell 2005, p. 110). The judgements successful students make of their own work across the timeframe of an assignment have been found to be both complex and significant. These judgements need to be recognised and built upon in order to enhance assessment for all students. This presentation draws on a small scale, phenomenographically-based study (Marton & Booth 1997), that focused on one postgraduate research report assignment in a professional communications program (Parker 2006). Six volunteer students participated in a series of three conversational interviews, conducted over the timescale of the assignment and marking process. Analysis of the interviews featured intensive use of audio recordings, supplemented by verbatim transcripts and in-depth analysis of the interviews.

All of the students in this study were found to be high achievers, and to complete the assignment they negotiated and assessed (for themselves) what they needed to do, across several different dimensions. The students spent an unexpectedly large amount of time during the interviews discussing these aspects of their assessment. The findings presented in the session relate to:

- Qualitatively different categories of experiences of completing an assessment task. Students balanced these while completing their assignment. For example, in the least complex category they had an ‘atomistic’ or quantitative focus (maintaining control); whereas in the more complex categories students took an expansive, holistic and even aesthetic stance (generating a creative development process).
- Different types of judgements of ‘Enough’. These were made by the students assessing their work-in-progress in terms of at least six sets of criteria (Assignment Task; Project Management; Academic Expectations; Professional Portfolio; Evolving Content; and Personal Resonance). In effect these judgements addressed the question for students of ‘Enough for what?’.

These different types of self-assessment were constantly balanced, negotiated and returned to by students during the entire assignment process. Consequently, when thinking about successful assignment products and processes, we should also recognise that students may already be evaluating a complex matrix of factors themselves.

This fine-grained exploration of postgraduate student experiences provides new perspectives on the judgements and self-monitoring that can take place within a single assignment. The hidden nature of these types of evaluations, along with the variety of ways they can be utilised by students to both moderate and drive learning, have important implications for our understanding of student engagement and assessment. This session will provide an opportunity to explore how these findings could help us to develop students’ judgements and self-monitoring more explicitly?

References


Keywords: postgraduate students, self assessment, assignment

Conference Themes: Student Engagement

Go to Program
Design Your Own New Media Assessment

Will Rifkin (willrifkinphd@gmail.com)
ALTC New Media for Science project

Nancy Longnecker (nancy.longnecker@uwa.edu.au)
Science Communication Program, University of Western Australia

Joan Leach (j.leach@uq.edu.au)
Science Communication Program, University of Queensland

Lloyd Davis (lloyd.davis@otago.ac.nz)
Centre for Science Communication, University of Otago

The facilitators of this workshop are principals of the ALTC New Media for Science project, and they have extensive experience in assigning students to create new media in non-media classes. Their ALTC project supports lecturers in development and assessment of podcast, blog, wiki, and video assignments. Evidence indicates that these exercises improve students’ engagement with content and their graduate attributes.

This workshop will enable you to leave with a draft of an assignment where your students create a podcast, blog, wiki, or video.

You will learn about:

• How such ‘authentic’ assignments have boosted student engagement in service subjects.
• Examples that illustrate how new media assignments have provided practical solutions to challenging problems, such as a decrease in funding for laboratory exercises.
• How to become a pioneer in establishing digital media assessment and standards.
• How to participate in an ALTC-funded project offering leadership development workshops, mentoring, and support for action learning projects to spur changes in curriculum and teaching methods in your school or department and to create refereed publications on your efforts.

Workshop Structure and Activities

1. Introduction of facilitators; small group discussions on why you participants are attending the workshop and what you want to get from it. Listing of your aims on the white board. (10 minutes)

2. Overview of examples of new media assignments, e.g., students making video reports on environmental topics in first-year biology. Question and answer. (10 minutes)

3. You participate in a small group of lecturers interested in creating the same type of assignment –
   (a) Student explains a discipline’s concepts in the student’s own words
   (b) Students document a process, such as a site visit or lab
   (c) Students comment / reflect on topics relevant to class
   (d) Peer assessment of team work
   (e) Students report on a research or consultancy project or for public consumption / education.
   Group designs an assignment, and assessment criteria focusing on one member’s class.
   Facilitators circulate to address problems and identify useful strategies. (20 minutes)

4. Your group briefly
   (a) describes what you have designed
   (b) identifies remaining challenges, and
   (c) comments on your inclination toward using a version of what you have created. (10 minutes)

5. Ongoing support for your efforts in this area are outlined – specific experts around the country and a community of practice in new media and ICT with support from the ALTC-sponsored Science and Mathematics Network of Australian University Educators (SaMnet). Through this ALTC Leadership project, you are invited to become one of ‘100 leaders of change’.

Preparatory Work

Participants should visit the ALTC New Media for Science wiki:
http://newmediaforscience-research.wikispaces.com

Keywords: digital media, graduate attributes, authentic assessment

Conference Themes: 🧑‍🎓 Standards 🏢 Leadership 🌐 Practical solutions 📣 Student Engagement
Student engineers and the assessment of Professional Skills: Involving first year students in peer assessment

Helen Rogers (h.rogers@curtin.edu.au)
School of Media, Culture and Creative Arts, Curtin University

Veronica Goerke (v.goerke@curtin.edu.au)
Office of Assessment, Teaching & Learning, Curtin University

In developing engineering units that integrate the ‘hard’ skills together with the ‘secondary’ but equally important soft skills, such as academic literacy, communication skills, teamwork and critical thinking to name a few, the Engineering Foundation Units at Curtin University have aimed to align the assessment criteria for these skills across the course both vertically and horizontally. This paper focuses on the process across two units that also seamlessly integrate two disciplines – Humanities based Communication Skills and Engineering based Design and Processes and Engineering Principles in the Foundation Year. By embedding academic literacy and communication skills in an engineering context, these foundation year units have not only successfully addressed the Engineers Australia Attributes – and the Curtin University Graduate Attributes – they have also done so with direct student engagement in the assessment process. The results show that the student appear to have become more active learners, critical thinkers and they are inevitably more overtly involved in shaping their teaching and learning process. Though an engineering related ALTC report (Carew et al. 2008) recently noted that employers found current graduates had better verbal and team work skills than graduates of the past, the need for the skills related to this attribute need to be continued into the future, as noted by Engineers Australia. Involving students in peer assessment of this capability is proving to be a successful active way to engage students in the evaluation of their learning. This is supported by another ALTC Engineering project (King 2008) which found that students were more engaged and had positive learning outcomes when they were involved in ‘participative assessment methods such as self- and peer-assessment’ (Willey, 2006 cited in King, 2008). This paper examines the benefits of peer assessment and explores how we can make the learning more student-centred and integrate alternative assessment practices to enhance the learning experience. The aim is to empower students to be more active in their learning and in that of their peers (Hernandez 2007) as well as achieve lifelong learning skills that are required for a professional practising engineer. This paper will report on early findings from both Curtin Bentley and Miri campuses.

References


Keywords: peer assessment, student engagement

Conference Themes: Student Engagement
Moderation of assessment in transnational education: Overview of a completed ALTC priority project

Gavin Sanderson (gavin.sanderson@unisa.edu.au)
Learning and Teaching Unit, University of South Australia

This presentation provides a whole-of-project overview of the recently completed two-year ALTC priority project titled ‘Moderation for fair assessment in transnational learning and teaching’. The project team consisted of academic staff from the University of South Australia, Curtin University, Taylor’s University College (Malaysia) and Southern Cross University. The project investigated the experiences of academic and administrative staff across a range of disciplines involved in transnational teaching in Australian universities and transnational partner institutions. The presentation will provide conference delegates with new knowledge through exposure to project outcomes and deliverables that are designed to enhance assessment moderation in the transnational context. This includes an evidence-based online, downloadable toolkit for involving the whole teaching team, including partner organisation staff, in assessment moderation practices. The toolkit also contains a collaboratively authored glossary of transnational education terms that will be useful for stakeholders.

The project obtained ethics clearance to utilise an online questionnaire and semi-structured, face-to-face interviews to gather data. All instruments were pre-tested, then pilot-tested with a small sample of people who shared some characteristics of the target groups. Following this, a total of 85 interviews were conducted across eight locations in Australia and overseas. Interviews were recorded and transcribed, and NVivo8 was used to analyse the interview data. In addition, over 100 responses were received for the online questionnaire: around 30 per cent of the respondents to the online questionnaire were Australian academics in non-project institutions. Statistical Package for the Social Sciences (SPSS) software was used to analyse the online questionnaire data. Research outcomes of the project were instrumental in the project team being awarded ‘best research paper’ at the 2010 Australian Quality Forum conference.

Analysis of data demonstrates that very different concepts of moderation, and attitudes towards it, exist in Australian universities and their transnational partners. Tensions exist between Australian staff wanting to retain control and transnational partner staff wanting to be trusted and, at times, seeking to have a greater role in the development of curriculum content and its assessment. The project has documented moderation approaches that are potentially examples of good practice such as frequent, structured communication, continuity in staffing, building relationships, use of marking guides and the development of shared understandings around assessment.

This project’s outcomes and deliverables have the capacity to benefit a variety of stakeholders on a number of levels. For instance, they can guide moderation practices in individual academic programs. They can assist individual staff members as well as Australian and transnational teaching teams to develop consistent and effective approaches to moderation of assessment in transnational programs. The project also has the capacity to inform university policy associated with moderation of assessment in transnational education. At a broader level, the project’s outcomes and deliverables are meant to contribute to a sector-wide understanding and promotion of good practice in moderation of assessment in TNE.

Keywords: moderation, assessment, transnational

Conference Themes: Standards
Authentic assessment of pre-service teachers and social work students in schools and human service settings

Fran Waugh (fran.waugh@sydney.edu.au) University of Sydney
Peter Reimann (peter.reimann@sydney.edu.au) University of Sydney
Di Bloomfield (di.bloomfield@sydney.edu.au) University of Sydney
Ros Giles (roslin.giles@sydney.edu.au) University of Sydney
Simone White (simone.white@monash.edu.au) Monash University
Wendy Bowles (w.bowles@csu.edu.au) Charles Sturt University
Belinda Chambers (belinda.chambers@sydney.edu.au) University of Sydney
Wai Yat Wong (waiyat.wong@sydney.edu.au) University of Sydney
Suzanne Egan (suzanne.egan@usyd.edu.au) University of Sydney
James Goulding (j.goulding@edfac.usyd.edu.au) University of Sydney

This paper will report on the progress of a current 18 month Australian Learning and Teaching Council funded project on authentic assessment of social work students and pre-service teachers in schools and human service settings. Professional practicum in authentic practice setting and its assessment is crucial to the education of social work students and pre-service teachers. It enables students to move from their intellectual understandings to enacting this in practice. While compliance to professional standards is required, the diverse nature of professional judgment involved means that consistent and equitable assessment presents both challenges and stress for many practitioners and educators. By using the participatory approach to the design of assessment, this project is engaging with design pattern methodology and developing a number of tools to assist with documenting, reviewing and improving assessment practices.

The focus of this paper will be the knowledge developed from the initial stage of data collected across Australian Universities regarding the range and detail of current assessment practices for pre-services teachers and social work students in schools and human service settings.

Keywords: authentic assessment, social work students, pre-service teachers

Conference Themes: Standards, Practical solutions
e-Val: Defining the future of written assessment

Yogesh Shah (Yogesh.Shah@ii-2.com)
Ideas & Innovations Squared Pty. Ltd*

What we know of current formative and summative assessment: typically a student is expected to answer a series of ‘shortish’ questions that are subsequently discussed in tutorials in an informal way under the leadership of the learning facilitator, with the expectation that the facilitator provides model answers. During the unit or module, students may be required to submit an essay or answer to a ‘longish’ question which may be part of a large list of questions. The majority of the final mark or grade comes from an unseen examination, usually taken at the end of the semester/year or unit. Students are normally asked to answer three or four questions of a fairly broad nature but closely related to the material of the coursework and of any associated texts. Typically, a mix of short, long and essay form answers can be required with an average of three to four pages of written committed to.

The purpose of this presentation is to explore and discuss the challenges posed by planning, execution and tracking of written assessment, consistency of grading, methods and frameworks currently in place to address them and how our solution e-Val is able to assist.

It is intended that the outcomes are to facilitate an understanding of the solutions that e-Val proposes to the challenges of assessment. Viability, awareness, validation and continuous improvement is our goal for our e-Val Solution. We seek a means for exploration of awareness, and further development opportunities within the sector.

The Presentation structure is as follows:

• Introduction and Purpose presentation
• Presentation of Assessment types, Manual assessment process and its Challenges in depth, Frameworks addressed by e-Val Software (facilitation and presentation slides)
• Questions, comments, feedback sheet
• Screen cast/Demos live on site before and after the session

Keywords: written, assessment, software

Conference Themes:  ⚫ Practical solutions

*Sponsor of the ATN Assessment Conference 2011
Performance based assessment using direct observation

Zarrin Siddiqui (zarrin.siddiqui@uwa.edu.au)
Faculty of Medicine, Dentistry and Health Sciences, University of Western Australia

Dr. Zarrin S Siddiqui oversees the assessment at the Faculty of Medicine, Dentistry and Health Sciences and has been extensively involved in assessment and evaluation at both undergraduate and postgraduate level. Her responsibilities also include teaching and supervision of postgraduate students in Health Professions Education Courses. Educational interests include Faculty development, mobile learning and assessment.

Purpose

Direct observation of students’ performance in workplace is an authentic means of assessing a range of knowledge, skills and behaviours. In this workshop we will focus on using direct observation as a formative assessment activity.

The intended outcomes of this workshop are:

• to reflect on use of direct observation for assessment within one's setting
• to share and discuss the challenges associated with direct observations as an assessment tool.

Workshop structure and activities

Using experiential learning as the framework for this workshop the participants will be provided with an opportunity to experience and assess a video-clip of a student. This will be followed by discussion related to feedback provided to the student. The workshop will conclude with discussion on challenges and possible solutions to make direct observation a meaningful learning experience for student.

Keywords: performance based assessment, direct observation, clinical competence

Conference Themes: Practical solutions

Go to Program
Student perceptions of assessment and wish list

Zarrin Siddiqui (zarrin.siddiqui@uwa.edu.au)
Faculty of Medicine, Dentistry and Health Sciences, University of Western Australia

Paul Ichim (paul.ichim@uwa.edu.au)
Faculty of Medicine, Dentistry and Health Sciences, University of Western Australia

Assessment in higher education has many purposes, and one of the central functions is to encourage students to learn. There is evidence that the quality of learning is adversely influenced by inappropriate assessment methods. This implies that students are one of the stakeholders in the whole educational process, and their feedback is integral to this process. At University of Western Australia, a wide range of evaluation tools is used for student feedback. These include Student Perceptions of Teaching (SPOT), Student Unit Reflective Feedback (SURF) etc. These include the opportunity to provide open-ended comments as well as to respond to closed-ended statements.

We analysed students’ comments from past evaluations and observed five emerging themes of which assessment is a major theme. In this presentation, we will present an analysis of students’ comments with regards to assessment and how Faculty has addressed the issues to close the loop.

Keywords: feedback, student, evaluation

Conference Themes: Student Engagement

Go to Program
Efficient pre-assessment intervention to enhance student judgements using ReView

Darrall Thompson (darrall.thompson@uts.edu.au)
Faculty of Design, Architecture & Building, University of Technology, Sydney

Romy Lawson (romy.lawson@uts.edu.au)
UTS Business School, University of Technology, Sydney

David Boud (david.boud@uts.edu.au)
Faculty of Arts & Social Sciences, University of Technology, Sydney

Pre-assessment interventions aimed at helping students to understand assessment criteria and standards have led to significant improvements in performance (Rust et al., 2003). However, broad adoption of these interventions has not been widespread, perhaps due to a perception that too much additional time may need to be spent in conducting these interventions. This presentation analyses a tightly-focused intervention to improve students' and tutors' understanding of assessment criteria and their judgement of required standards. It was integrated within an honours degree subject in Design using the web-based marking tool ReView.

The intervention engaged students with the assessment criteria and standards of a design task exemplar using the same criteria that would be used to assess their work on this task. The tutor used 20 minutes of a normal lecture period working with a class of 80 students to grade the exemplar piece prior to the submission date. Onscreen grading sliders in ReView were used by students to show how they judged each criterion. This was accompanied with explanations for these judgements. Tutors were also asked during this live process to grade and provide an explanation for their judgements. Students were then asked to self-assess their own work on ReView at the time of submission using their experience of grading the exemplar for guidance. Once marking was complete, the ReView tool displayed the tutor's feedback as well as both the students' and tutors' grading against each criterion and the total. This clearly exposed the variation between the students and the tutor's judgements for the task.

The students’ performance in this task was compared to results from the 2010 cohort of the same subject, who did not undergo the pre-assessment intervention. The 2011 cohort performed significantly better in each of the criteria and in the final marks. The 2011 students also showed less deviation from the tutors’ marks in their self-assessments than in the previous year. Correlation analysis showed that those students who were more accurate in their self-assessment of their own work had higher grades than those who showed a large difference between their self-assessment mark and the tutors.

There were a number of critical features of the design of this intervention to benefit the development of student judgement: a) making judgements of an exemplar based on the criteria for the task in a context where variant opinions and reasons were expressed; b) self-assessing their own work using the exemplar marking experience for guidance; c) seeing a visual comparison of their self-assessment of their own work against the tutors for assessment criteria and totals.

References


Keywords: self assessment, assessment criteria, assessment standards

Conference Themes: Student Engagement

Go to Program
Overcoming the challenges of assessing professional teaching standards for pre-service teachers during practicum in rural NSW schools

Les Vozzo (l.vozzo@uws.edu.au)
Badanami Centre for Indigenous Education, University of Western Sydney

Caroline Hatton (carolinehatton@hotmail.com)
Badanami Centre for Indigenous Education University of Western Sydney

As professional standards increasingly inform the development of teacher knowledge and are a mandatory framework for accreditation and promotion, teachers are expected to link their practices to these standards. With increasing exposure to technology, pre-service teachers are required to seize the opportunity to demonstrate digital and new technologies that have not characterised the practice of their predecessors, yet are seen as essential markers of their own teacher competency. Supporting assessment of professional teaching standards involves challenges for inexperienced Graduate teachers. These challenges are compounded when Pre-Service Teachers are required to demonstrate standards in practicum and schools that are in remote and rural communities. This paper reports on an ALTC project incorporating Indigenous and non-Indigenous Primary Pre-Service Teachers (PST), which involves the challenges of evidencing and assessing standards and developing effective teachers in remote schools with high Indigenous populations.

Practical solutions are explored by the project team from the University of Western Sydney, Charles Sturt University and the Australian Catholic University and the PST project participants. The dispersed cohorts, institutions and practicum locations have benefited from collaboration using digital technology to breach distance, enable meaningful feedback and PST self reflection about assessment of teaching standards. The extent to which PST in remote locations have been able to share knowledge about teaching practice and quality is reliant on overcoming challenges of inexperience, distance, technology and culture. Are issues of assessment different or more difficult in country practicum and schools compared with urban ones? What challenges exist when teachers make judgements about their professional practice and the ways they present their professional selves to their learning communities? What cultural tensions arise and how can cultural awareness and understanding among and between Indigenous and non-Indigenous pre-service teachers and their school students be developed? How can research projects such as the one considered in this paper, build capacity for new teachers to meet standards that enable them to enter and begin work with Indigenous and rural communities?

This paper explores ways to overcome the challenges of distance and isolation for PST who self assess their professional teaching standards and accreditation evidence. By developing ePortfolios, using Weebly, Skype, videoconference, phone and the internet, technology is investigated in its capacity to facilitate ways to prepare, select, collect, annotate and validate evidence. Such technology has brought its own challenges and barriers to the process of standards assessment so that effective communication about assessment, evidencing teaching standards across distance and within specific timeframes, was not always easy. A challenge that the project aims to address in its final phase is how to develop and sustain the academic and PST/Beginning Teacher learning communities despite the separation of distance and different institutions. This paper will report on practical opportunities and resources that aim to establish professional learning communities for teacher educators, beginning and continuing teachers across geographical distance. If these digital communities can be sustained, an operating model for future assessment of teaching standards can only assist teachers and educators to meet the challenges of maintaining the quality and status of their profession.

Keywords: assessment, professional teaching standards, digital technology, quality teaching

Conference Themes:  🇺 Practical solutions  🇺 Student Engagement

Go to Program
Assessing the practicum: Eliciting cases and design patterns

Fran Waugh (fran.waugh@sydney.edu.au) University of Sydney
Peter Reimann (peter.reimann@sydney.edu.au) University of Sydney
Di Bloomfield (di.bloomfield@sydney.edu.au) University of Sydney
Ros Giles (roslyn.giles@sydney.edu.au) University of Sydney
Simone White (simone.white@monash.edu.au) Monash University
Wendy Bowles (w.bowles@csu.edu.au) Charles Sturt University
Belinda Chambers (belinda.chambers@sydney.edu.au) University of Sydney
Wai Yat Wong (waiyat.wong@sydney.edu.au) University of Sydney
Suzanne Egan (suzanne.egan@usyd.edu.au) University of Sydney
James Goulding (j.goulding@edfac.usyd.edu.au) University of Sydney

This poster will report on one element, namely the workshop format, of an 18 month Australian Learning and Teaching Council funded project on authentic assessment of pre-service teachers and social work students in schools and human service settings. Professional practicum in authentic practice setting and its assessment is crucial to the education of social work students and pre-service teachers. It enables students to move from their intellectual understandings to enacting this in practice.

Information on how complex competencies get assessed based on performance in a practicum or field placement can be found in explicit form in documents, and in tacit form in the “heads” of those involved in the assessment. In order to tap into the tacit knowledge, we have developed a workshop format, and formats for assessment case descriptions and design patterns. These three are demonstrated in this poster. In a next step, we will make cases and design patterns available on-line, in corresponding repositories.

Keywords: assessment, cases, design patterns

Conference Themes: 🗺 Standards 🗺 Practical solutions
Patchwork texts and feedback

Ann Wilson (annwi@unsw.edu.au)
Learning and Teaching, University of New South Wales

Assessment is an essential element in the learning cycle, as it is through their assessments that we know our students, and know too if our teaching has been successful. Assessment is important for both the learner and the teacher, and in determining the students’ success. However assessment does not have the same dialogic element that learning and teaching now has. While feedback is a key element in formative assessment, we do not know how our feedback is understood by the learner, or what meaning they make of it. What makes good feedback? The current language of learning and teaching is underscored with the concept of student engagement with the curriculum. However, the language of assessment remains in the realm of judgement and the way it is conveyed is clearly in the transmission model of teaching where rigidity, standards and rules stand in place of dialogue, flexibility and learner centeredness.

In response to a programme review we introduced the assessment method of Patchwork texts. Winter (2003) explains:

The essence of a patchwork is that it consists of a variety of small sections, each of which is complete in itself, and that the overall unity of these component sections, although planned in advance, is finalised retrospectively, when they are ‘stitched together’ (Winter 2003).

Feedback is intrinsic to the efficacy of patchwork text, students are required to submit their first ‘patch’ – for which they get feedback and can then resubmit increasingly refined ‘patches’ until the assessment task is completed. Often we do not provide opportunities for learners to demonstrate if they have understood our feedback, and thereby an important opportunity is lost in the learning cycle. In fact, the cycle incomplete because the final stage of it must be that the learner has opportunity to respond to our feedback. Patchwork texts offer this opportunity.

In developing a concept of student engagement with assessment Nicol (2006) provides a useful framework - cognition, motivation and belief - and the concept of the self-regulated learner, how feedback can encourage and help students to become responsible for their own learning. Nicol (2010) proposes that feedback should be conceptualised as a dialogue where meaning is constructed. The research area I will focus on will examine the feedback loop; self/peer assessment and self regulation by the learner, the use of dialogue in feedback, the role of emotion and ego, and the effect on motivation and self efficacy. What kind of feedback will engage the learner?

References


Keywords: patchwork text, dialogic feedback, self assessment

Conference Themes:  ⚪ Practical solutions  ⚪ Student Engagement
iFeedback - a new tool for grading and providing timely, detailed individual feedback to students

Simon Young (simon.young@rmit.edu.au)
Discipline of Pharmacy, RMIT University

It is broadly accepted in tertiary education that feedback from students should be sought both at the institutional level and for individual courses; where these data are employed for course refinement. Considerable emphasis is placed upon such survey results as measures of student satisfaction, engagement and their perception of the quality of the course and teaching staff; both within the institution and as a comparative measure. However, a perennial difficulty exists in the expectation of students (and consequently institutions) to furnish high-quality and detailed personal feedback on assessed works within the time constraints required for the production of such feedback (Denson, Loveday & Dalton, 2010). This is particularly acute where the student cohort is large or where the cohort is especially discerning. Whilst a number of semi-automated systems have been advanced in an attempt to mitigate this difficulty, these have generally been of limited scope or cumbersome and, therefore, of limited impact. iFeedback is a new generic tool conceived and developed to rapidly grade works and provide detailed general and individual feedback by email. The program is based upon the concept that the assessment of a work is comprised of (any number of) weighted components that are graded by the reviewer resulting in an overall mark and grade. Concurrently, the reviewer has the opportunity to add or exclude personal feedback. A number of global feedback and individual feedback output options are available (including rubric descriptors) — with a live preview of the resulting email output displayed. In addition, iFeedback provides security measures to mitigate risks of the “accidental” release of an incomplete or withheld grade. These measures are an efficiency saving to the assessor with a stepwise highlighting of areas requiring attention. Moreover, the detailed event log provides a clear audit trail.

Unlike most other offerings in the market, iFeedback runs as a stand-alone application on the assessor’s computer; removing the frustration of web-based interfaces. Whilst this approach introduces some security concerns, these are thoroughly mitigated by the registration and activation processes together with the requirement to be inside the University firewall to send any email. Using a simple workflow, the net result is a considerable improvement in the efficiency of the marking process.

In development, consistent anecdotal evidence supporting a substantially reduced assessor workload together with the rapid delivery of results and feedback to students has resulted; and impact has been noted in course feedback statistics. An unforeseen outcome was a marked reduction in the tendency for students to challenge a grading decision; itself a considerable efficiency.

References

Keywords: automation, grading, feedback

Conference Themes: ⚪ Practical solutions
Full Papers – Peer Reviewed
ePortfolios for assessment and learning: student perceptions, opportunities and challenges arising from Curtin University’s iPortfolio use in diverse disciplines

Leslie D. Almberg (lalmberg@curtin.edu.au)
Dept. of Applied Geology, Western Australian School of Mines, Curtin University

Jude Comfort (j.comfort@curtin.edu.au)
School of Public Health, Curtin University

Courtenay Harris (c.harris@curtin.edu.au)
School of Occupational Therapy and Social Work, Curtin University

Beverley Oliver (b.oliver@curtin.edu.au)
Office of Assessment Teaching and Learning, Curtin University

ePortfolios are playing an increasingly important role in both university and employment contexts. This paper provides background on iPortfolio, Curtin's bespoke ePortfolio system and a discussion of three case studies chosen to illustrate the diverse uses of iPortfolio across different disciplines. The implications for assessment and learning are also presented. ePortfolios have the potential to be a valuable learning and teaching tool in a variety of settings including use with large student cohorts, particularly in first year when they are introduced, facilitating subsequent learning and professional development within the university context. iPortfolio illustrates the use of a new technology to encourage course-wide learning and reflection with links to developing and substantiating graduate attributes, all of which contribute to student engagement.

The paper explores student perceptions of using iPortfolio within the student-learning environment. This includes linking to assessable tasks, opportunities for reflection on work-integrated learning and the student experience. Case studies drawn from geology and health sciences illustrate the diversity of iPortfolio usage within a student-focused learning environment. The case studies discuss the implications and considerations of iPortfolio implementation for formative assessment and feedback, summative assessment with large first year cohorts as well as opportunities for final year students to reflect upon and record their professional practice experience.

Curtin’s iPortfolio provides a dynamic environment for students to assess their achievement of graduate attributes and engage in self and peer evaluation. In a world increasingly dependent on Web 2.0 technologies, graduates of the future need to be able to reflect on their learning and present themselves in digital as well as face-to-face contexts. Using iPortfolio can assist students in developing graduate attributes throughout a degree and building greater employability. As with any new learning environment, authentic assessment is evolving. The paper concludes with a discussion on the limitations, lessons learnt so far and the potential future use and rewards from adopting ePortfolios within university teaching environments.

Keywords: ePortfolios, student engagement, reflective practice

Conference Themes: Practical solutions
Student Engagement

Go to Program
Introduction

The Australian higher education sector, like its counterparts in the United States and the United Kingdom, is entering a period of increased accountability (Coates, 2010a; Ewell, 2010; Harris & Webb, 2010). The forthcoming establishment of the Tertiary Education Quality and Standards Agency (TEQSA) will mean increasing emphasis on assuring standards of achievement in generic and discipline capabilities (Hawke, 2011; Tertiary Education Quality and Standards Agency, 2011). This regulatory environment builds on a tradition of quality assurance and course accreditation by professional bodies in many disciplines. While degree programs have different and unique learning outcomes, universities in Australia generally focus on encouraging their graduates to achieve common attributes that generally fall into seven main clusters (Oliver, 2011). These common attributes, which include communication skills, learning and working independently and collaboratively, and ethical engagement with communities, cultures and nations, are frequently embedded in discipline and professional learning outcomes.

While it is commonly acknowledged that assessment drives learning, assessment of large cohorts and focus on generic graduate attributes is contentious and challenging (Coates, 2010a, 2010b; James, McInnis, & Devlin, 2002; Knight & Page, 2007). Excessive use of summative assessment through traditional testing and measurement techniques has the potential to encourage surface approaches to learning (Ramsden, 2003). Yorke (2008) claims, furthermore, that traditional summative assessment practices need urgent attention and that measuring student learning, particularly of ‘wicked’ generic attributes, is flawed and should give way to judgements based on evidence. Shifting the emphasis from teacher-led summative approaches to student-led evidence approaches, according to Yorke (2008), is a key to fixing assessment and better preparing students for employability. The student should be challenged to present a mixture of evidence, which ‘would require the collation of a portfolio of achievements’ (Yorke, 2008, p. 189).

Yorke’s promotion of the concept of portfolio approaches to assessment of achievement is not new to practitioners in Australia and worldwide who are adopting electronic portfolios, or ePortfolios (Chen & Light, 2010; Hallam, Harper, McAllister, Hauville, & Creagh, 2010; Joyes, Gray, & Hartnell-Young, 2009). These are generally commercial products, aspects of existing learning management systems or tailored systems (Hallam et al., 2008). Curtin University developed an electronic portfolio, called iPortfolio, for use by students and staff in 2009 (Oliver, von Konisky, Jones, Ferns, & Tucker, 2009). Following pilot testing, it was implemented in February 2010, with student uptake predominantly driven by use in formal assessment. iPortfolio is in use in all four faculties of the university. A particular feature of this bespoke system is its focus on graduate attributes for employability and lifelong learning (Oliver et al., 2009). iPortfolio’s tab structure enables aggregation of reflections and corresponding evidence.

iPortfolio is a tool that affords teaching staff new ways to design and shape the curriculum focus through assessment practices. It is particularly advantageous for managing known challenges such as large classes, first year and capstone transition pedagogies, and student engagement. Longitudinal studies of the first year experience in Australian higher education (James, Krause, & Jennings, 2010; Krause, Hartley, James, & McInnis, 2005), have long pointed to the need to reform assessment practices to facilitate successful engagement with commencing students. Kift’s First year curriculum principles: Articulating a transition pedagogy makes reference to engagement and assessment, particularly the importance of enabling active and collaborative learning, promoting learning communities through active and interactive learning opportunities and providing other opportunities for peer-to-peer collaboration and teacher-student interaction (Kift, 2009). It is also seen as critical, especially in the first year curriculum, that ‘students should receive regular, formative evaluations of their work early in their program of study to aid their learning and to provide feedback to both students and staff on student progress and achievement’ (Kift, 2009).

Portfolio systems that enable collaboration, feedback and self and peer assessment have a role to play in catalysing these principles. Such self-managing learning spaces build on several principles of good feedback practice, including: clarifying what is good performance; facilitating the development of self-assessment (reflection) in learning; delivering high quality information to students about their learning; and providing opportunities to close the gap between current and desired performance (Nicol & Macfarlane-Dick, 2006). Portfolio approaches also have the potential to enact the assessment propositions of Boud: in best assessment practice, ‘students and teachers become responsible partners in learning and assessment …students progressively
take responsibility for assessment and feedback processes … students develop and demonstrate the ability to judge the quality of their own work and the work of others against agreed standards’ (Boud, 2010).

ePortfolios, as one of the newer technologies within the university teaching and learning environment, have the potential to provide practical solutions to the above learning and assessment challenges. ePortfolios have demonstrated potential to promote student engagement through reflective practice as well as the opportunity for peer and tutor feedback. We present three case studies that examine current uses of iPortfolio to engage students, enhance their learning, and provide a unique assessment environment.

iPortfolio assessment and fostering employability in a final-year Health Promotion unit

Professional Practice in Public Health 383 was one of the first units to adopt the iPortfolio as a tool for assessing work integrated learning (WIL), a combination of conventional campus based learning and workplace experience with course relevance (Gronewald, 2004). This unit was a core unit for students undertaking a health promotion degree. Students used iPortfolio in their third year to collect evidence of learning against Curtin’s graduate attributes and to reflect on their professional placement. They then shared this work with peers and submitted it to their fieldwork coordinator as an assessment task.

This unit requires completion of a 100-hour placement with an external agency and focuses on the transition to the workforce, with content directed at developing and demonstrating employability. iPortfolio was introduced to enhance this WIL experience by integrating knowledge and skills from the academic and workplace settings (Coll et al., 2009). It also facilitated assessment tasks involving self-reflection and evidence collection against graduate attributes in an environment that allows peer and lecturer feedback. In addition to completing their professional placement, students are required to solicit feedback from their agency supervisor. While iPortfolio use was not required for these assessments, students had the option to include them in their portfolios.

This unit used iPortfolio extensively:

1. Develop a professional portfolio, including a résumé and completion of the “About Me” page;
2. Upload evidence of achieving Curtin’s graduate attributes;

In addition to the specific assessable tasks listed above, iPortfolio use in this unit encouraged students to consider their learning across their entire university course together with skills attained in non-credited university activities (e.g. volunteering and part time employment). Using iPortfolio allowed students to consider their whole skill set and identify employability strengths as they collected, organised, displayed and shared with peers and lecturing staff evidence of their varied learning. This included using the “My Ratings” tab to rate their attainment of Curtin’s graduate attributes. Figure 1 is a sample of a student “About Me” tab illustrating the organisation of iPortfolio under seven tabs.
Essential for integrating theory into practice in this WIL unit is the requirement for students to reflect during and after their experience (Coll et al., 2009). iPortfolio is a convenient tool to record and share this using the “My Journals” tab. Here, as an assessable task, students recorded a reflection on their professional practice and shared this with two peers and their fieldwork coordinator, all of whom could provide feedback through iPortfolio’s comment tool.

Results

In 2010, 114 students in public health, including 54 health promotion students, completed this unit. Feedback from the health promotion cohort was collected informally through facilitated classroom discussion and more formally through Curtin’s online eVALUate system, which provides students an opportunity to rate unit aspects and comment on the teaching component (Oliver et al., 2008). eVALUate responses were received from 18 students (15.8% of the total student group). eVALUate allows for qualitative comments from students, which provided specific comments on iPortfolio use.

Additional evaluation of student and staff iPortfolio experiences is required, especially of its use for formal assessment. From the eVALUate responses, however, it is clear that students perceive significant gains from a final-year unit with a practical workplace component. Students also saw development of a professional portfolio as a valuable outcome.

Some students clearly understood the necessity of collating skill evidence for employability by using iPortfolio beyond the areas of assessment and that this provided a place to organise and display evidence of lifelong and life-wide achievement. By inviting one another to see their iPortfolios and providing peer feedback, these students also demonstrated enhanced engagement with the unit. iPortfolio provided a valuable preparation tool for transitioning into the professional work world. Several students found technological challenges detracted from iPortfolio use.
The assessment required students to address graduate attributes, through inserting evidence into the “My Ratings” section. While all students inserted evidence to address attributes, there was wide variation in linkage and understanding of specific attributes.

Future student cohorts in this unit will be introduced to iPortfolio in first year (see subsequent case studies). Thus, they will be able to draw on years of collected evidence to demonstrate graduate attributes development. It is anticipated that future final year students will have more experience using and, hence, understanding the philosophy behind iPortfolios, allowing them to more fully engaged with it as a tool to enhance employability.

Assessment and interprofessional collaboration using iPortfolio in Health Sciences common foundation year unit

iPortfolios were introduced into Faculty of Health Sciences common first year at Curtin in Foundations for Professional Health Practice (FPHP) 100 during semester 1, 2011. FPHP 100 is a large generic core unit undertaken by all students in health sciences in their first semester of study, with an enrolment of 1,700 students. The learning outcomes required students to demonstrate: academic integrity and credible information search strategies; professional oral, written and interpersonal communication skills; an understanding of Australian and international health care systems; ethical decision making within an interprofessional health context; and knowledge of quality and safety in client centred health care.

The aims for using iPortfolios within this unit to meet the learning outcomes included:

1. Engaging students early in their university career to consider their professional goals and mechanisms for realising their aspirations;
2. Providing an online forum for students to showcase their achievements to other students and tutors;
3. Providing a forum for students to reflect on their work and learning process;
4. Promoting Curtin’s graduate attributes, particularly technology skills, communication skills, lifelong learning and professional skills;
5. Creating an environment for formative assessment and feedback, which allowed the use of self, peer and tutor feedback;
6. Providing a forum to enhance the student’s interprofessional experience by inviting peers to review work and reflect on others work.

To facilitate these aims, two weeks of classes were dedicated to creating iPortfolios and teaching skills required to share personal information and upload assessments. Students were assigned to interprofessional groups and these groups shared their iPortfolios with each other and their tutor. Students were provided further assistance through the iPortfolio support team and a sample iPortfolio created for FPHP 100. This sample iPortfolio, named Howard Healthy, showcased exemplar pages, including his skills, goals and plans for the future. The Howard Healthy iPortfolio also demonstrated appropriate folder structure, modelled reflective comments from tutors and peers, and provided templates and assessment exemplars. Table 1 lists the uses of iPortfolio for FPHP 100 assessments throughout the semester.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Due</th>
<th>% of unit assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a. Create an iPortfolio, complete the “About Me”, and upload class work (activity sheet)</td>
<td>Week 3</td>
<td>Pass / fail</td>
</tr>
<tr>
<td>1b. Access and provide feedback to 2 peers on their iPortfolio</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Upload to iPortfolio Assessment #3. A summary and reflection from the oral presentation, including a reflection on the group and individual feedback</td>
<td>Week 8</td>
<td>10%</td>
</tr>
<tr>
<td>3. Assessment #5. Course Reflection. Topic: Working as a health professional in an interprofessional team working ethically within client centred care.</td>
<td>Week 12</td>
<td>20%</td>
</tr>
</tbody>
</table>
Results

Students were surveyed at the end of the semester regarding the use of elearning strategies in FPHP 100. Students were asked two questions regarding iPortfolios: first, did they have iPortfolio skills and how confident were they using iPortfolios before commencing the unit and upon completion; second, students were asked how the use of two particular iPortfolio tasks (completing the “About Me” page, and inviting peers to form a collaborate network) assisted them to meet the course learning outcomes of:

1. Developing academic writing and presentation skills;
2. Understanding the meaning of interprofessional education;
3. Working within a student interprofessional team.

Before commencing FPHP 100, 38 percent of respondents reported skills and being at least “reasonably confident” with using iPortfolios, whereas 98 percent of respondents reported skills and being at least “reasonably confident” using iPortfolio upon completion of FPHP 100.

Table 2 shows how respondents felt the use of iPortfolio assisted with meeting the FPHP 100 learning outcomes. Over 50 percent of respondents reported that developing their iPortfolio, including completion of the “About Me” personal information (summary page, including goals and plans) was useful in achieving the FPHP 100 learning outcomes. Additionally, over 60 percent of respondents felt inviting a collaborative network assisted with attaining an interprofessional understanding and experience.
Table 2 Respondents’ perceptions of how iPortfolio assisted in meeting FPHP 100 learning outcomes

<table>
<thead>
<tr>
<th>N = 342</th>
<th>% of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strongly agree</td>
</tr>
<tr>
<td>1. Developing academic writing and presentation skills</td>
<td></td>
</tr>
<tr>
<td>a) Completing the iPortfolio “About Me page”</td>
<td>21.3</td>
</tr>
<tr>
<td>b) Inviting an iPortfolio collaborative network</td>
<td>17.1</td>
</tr>
<tr>
<td>2. To understand the meaning of interprofessional education, as defined by CAIPE, (CAIPE, 2002)</td>
<td></td>
</tr>
<tr>
<td>a) Completing the iPortfolio “About Me page”</td>
<td>15.5</td>
</tr>
<tr>
<td>b) Inviting an iPortfolio collaborative network</td>
<td>17.6</td>
</tr>
<tr>
<td>3. Working within an student interprofessional team</td>
<td></td>
</tr>
<tr>
<td>a) Completing the iPortfolio “About Me page”</td>
<td>16.6</td>
</tr>
<tr>
<td>b) Inviting an iPortfolio collaborative network</td>
<td>18.6</td>
</tr>
</tbody>
</table>

These results demonstrated that using iPortfolios within a large first year unit context, supported student engagement. Using iPortfolio for formative assessment with self, peer and tutor feedback throughout the unit provided opportunities for students to engage by receiving and providing feedback. This also provided critical feedback for first year students’ learning experience (Kift, 2009). The iPortfolio assessment requirements of self-reflective practice provided opportunities for students to engage with the curriculum. Additionally, inviting the collaborative iPortfolio network enhanced the student’s learning community. Students reported that this assisted development of graduate attributes and provided experience working within an interprofessional team. The outcomes of this case study supported the continued use of iPortfolios in FPHP 100 into Semester 2, 2011, although some modifications were made to the frequency of use and number of assessments uploaded to the iPortfolio.

Reflective practice and formative assessment supplementing formal assessment using iPortfolio in Applied Geology foundation unit

In Semester 1, 2011 iPortfolio was integrated into Geology 101 to enhance student engagement and feedback. The aims for iPortfolio use were four-fold:

1. Assist students to think about themselves as learners and reflect on their own learning processes;
2. Promote Curtin’s graduate attributes, especially technology skills, communication skills, lifelong learning and professional skills;
3. Engage with students early in their university career about their professional goals and mechanisms for realising their aspirations;
4. Create an online environment for rapid formative assessment and feedback, which students could use for self and peer evaluation.

To facilitate these outcomes, students had access to a series of templates to use within their iPortfolios. The templates were designed to guide students through reflective processes, assist them with structuring their first and second writing assignments and collectively construct group contracts. Students were required to complete the reflective exercise in order to gain entry to a group for their final presentation, but all other components were supplementary.

The first template, a student attribute questionnaire, asked students to answer a series of short questions about themselves as students, their background in geology and the group work role in which they feel comfortable. The
questionnaire provided a series of prompting questions to guide them through a reflection on self-perceptions at the beginning of their academic career. Many students self-identified potential hurdles they would need to overcome during the semester (e.g. English proficiency, writing skills, organisation, time management, etc.) in this template.

The two guides for the progressive project gave students a series of prompts to help approach an unconventional assignment. For the first part of the assignment, students were asked to write a proposal for their project they would build on throughout the semester. The iPortfolio template started with general instructions on how to use the template to generate ideas, solicit and receive feedback and the specific instructions for the assignment. The instructions were followed by sections for brainstorming project topics, outlining the relevant unit topics, and an example showing the length and proper formatting for the proposal. Students were encouraged to replace the instructions and prompting questions in each section with their own ideas.

The second part of the assignment required students to think outside of the box and build their initial idea into a short research piece written as a letter to the journal Science. The template included explicit assignment instructions, followed by a series of prompting questions to help students address the criteria and plan their letter. Within the template, students were asked to consider their audience and provided with a link to directly access to real letters to Science.

Students had the opportunity to solicit early feedback from their demonstrators and peers, who were equipped with the marking rubrics and, hence, able to provide informed comments, throughout the semester. Early feedback from the lecturer on the second writing assignment was limited, therefore, students encouraged to engage in peer assessment as an alternative.

**Results**

Two key issues in this unit, specifically formative feedback and guidance through an unconventional assessment, were addressed by incorporating iPortfolios. The first major improvement from previous years was a complete feedback loop. In Semester 1, 2011, formative feedback was provided to nearly 50 students via their iPortfolios before the first submission date, compared with 16 via email in Semester 1, 2010. Proactive students also benefited from demonstrator and peer feedback.

Two online surveys helped gauge student perceptions of this feedback mechanism. Half way through the semester and again at the end of the semester students were asked to anonymously rate the project itself and the use of iPortfolio to facilitate their project work (Table 3). Forty students responded to the mid-semester survey, with 35 percent responding that they liked giving / receiving feedback to / from their peers using iPortfolio, in contrast to 28 percent that did not. More than a third of the cohort was either ambivalent about this aspect or did not use their iPortfolio to give and receive feedback with their peers. The response rate at the end of the semester was lower (N = 25), but the impression of using iPortfolio for peer feedback had shifted to slightly more negative, 28 percent did not like this whereas only 24 percent did.

The two surveys also asked students to rate the usefulness of the iPortfolio templates for generating project ideas. Mid-semester, 55 percent agreed that the iPortfolio templates were helpful, whereas a mere 13 percent did not find them useful. A third of the students were either ambivalent about the templates or did not use them. By the end of the semester, more students developed an opinion about the usefulness of the templates, a strong majority (56%) considering them useful and a vocal minority (16%) viewing them as unhelpful. In the qualitative comments, only students who found the templates useful expounded.
Table 2 Online survey results directly targeting student perceptions of iPortfolio

<table>
<thead>
<tr>
<th>Survey Question</th>
<th>N</th>
<th>T1</th>
<th>T2</th>
<th>T1</th>
<th>T2</th>
<th>T1</th>
<th>T2</th>
<th>T1</th>
<th>T2</th>
<th>T1</th>
<th>T2</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>The templates in my iPortfolio were helpful for generating ideas</td>
<td>40</td>
<td>25</td>
<td>8</td>
<td>34</td>
<td>48</td>
<td>30</td>
<td>24</td>
<td>8</td>
<td>12</td>
<td>5</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>I did NOT like giving / receiving feedback to / from my peers in iPortfolio</td>
<td>40</td>
<td>25</td>
<td>3</td>
<td>4</td>
<td>25</td>
<td>24</td>
<td>30</td>
<td>40</td>
<td>30</td>
<td>12</td>
<td>5</td>
<td>12</td>
</tr>
</tbody>
</table>

Using iPortfolio for formative student assessment and feedback was not the only new initiative for Semester 1, 2011, but it was the most significant change from 2010. The broader impact is reflected in eVALUate (Oliver et al., 2008) quantitative item 5: ‘feedback on my work in this unit helps me to achieve the learning outcomes.’ In Semester 1, 2010, this item had 75 percent agreement, whereas 86 percent agreed in 2011. The kurtosis of the distribution also shifted significantly to ‘strongly agree’.

Discussion

The three cases illustrate the diversity of iPortfolio use at Curtin University and how this provides practical solutions to several challenges. Curtin has proactively addressed the emergent demand for students to have an ePortfolio experience. Integration of iPortfolio into units, for both assessment and non-assessment tasks, provides a tool to exhibit core graduate attributes. The most salient enhancements are seen in information skills, communication skills and professional skills developed through the assessment tasks.

iPortfolio use by final year health promotion students demonstrated the potential to capture life-long learning through holistic reflection on university studies, including a range of evidence (e.g., résumés, sample work, professional practice logs, reflective journals, etc.). While there was variation in how well students completed this, demonstrating the need for focused attention on student attributes early in their studies, this assessment did guide students to collect examples from across their university career. Students had the opportunity to present themselves to peers and lecturers through their structured portfolio, resulting in self perceptions of work readiness. Students indicated increased confidence in their preparedness for graduate careers.

The challenges of finding effective strategies for student engagement in large classes and for first year students are well documented (James, Krause, & Jennings, 2010; Kift, 2009; Krause, Hartley, James, & McInnis, 2005). Case study two, a large first year unit with an enrolment of 1700 students, demonstrated that shaping a unit curriculum to use eportfolios is an effective strategy. The majority of students reported the eportfolio activities assisted them to achieve the course learning outcomes, which illustrates the effectiveness of iPortfolio for meeting these challenges.

For the second and third case studies, we note that students’ perceptions of value are strongly correlated with assessment. In the case of the geology students, their iPortfolio work was not directly assessed, therefore few students took the initiative to use the templates fully. Apparent student dissatisfaction with iPortfolio was also strongly correlated with the student’s general sentiment toward the assignment, leading some students who did not engage with their iPortfolio to claim a strong dislike for it simply because they disliked the assignment as a whole.

iPortfolio is a useful tool to facilitate self and peer assessment and greater student engagement. In the second two cases, it supported an interprofessional learning environment, allowing students work together across disciplines, an area gaining interest across Australian universities. The last study highlighted iPortfolio’s potential to generate creative ideas in a supportive pre-assessment environment and illustrated the usefulness of self reflection to
engage students in examining their perceived learning strengths and weaknesses, allowing feedback and support at a very early stage of their university study. The resulting assessment work showed marked student improvement over previous years.

Limitations and conclusions

While iPortfolio has many advantages, there are also challenges for both students and staff. There was resistance from a minority of lecturing staff and students who likely felt intimidated by technology or failed to see the lifelong learning potential of the tool. Integrating iPortfolio across multiple units and providing greater support to users may help overcome this. Future assistance needs to cover both technical facets as well as best use practices. Especially important is demonstrating the unique capabilities of assessment tasks that advantageously use peer feedback. Staff also need to convey more clearly potential outcomes to their students.

Different levels of technology literacy and interest were demonstrated within all case studies. There is often an assumption that students, particularly younger cohorts, use other social media such as Facebook and would have a proclivity and affinity for iPortfolio. In practice, student technology competency was varied. One of the challenges in assessment tasks, then, becomes ensuring we are assessing discipline content not technological skills.

For many students, portraying skill attainment and reflective practice requires greater guidance from lecturers as does provision of peer feedback. Reflecting across a whole degree and beyond, rather than focusing on a single assessment task, requires a complete paradigm shift for most students.

This paper presents a snapshot of how Curtin’s iPortfolio is used in three separate areas for assessment and feedback. The diversity of use highlights one strength of ePortfolios within a university context. The use of iPortfolio at Curtin is still in its infancy, however, it has the potential to address several pressing challenges in university education.

iPortfolio provides many advantages, chiefly it is a space controlled by the student. It facilitates learning and reflection at different points throughout a course and lecturers can use this to gain insight into student learning to arrive at authentic assessment. It is a unique learning and assessment environment that allows guided interactivity between peers, students and lecturers. iPortfolio can also be used to map graduate capabilities. With the increasing use of electronic portfolios in various settings, including the employment sector, iPortfolio provides Curtin students a tool to highlight their skill acquisition using an innovative technology.

While Curtin University is committed to promoting iPortfolio use across the university, offering resources and support to both students and staff, there is a need to respond to the assessment challenges described above and further evaluate iPortfolio use by different stakeholders to make this new tool successful. As staff become more familiar and confident using iPortfolio, exciting learning and assessment opportunities can flourish.

References


Oliver, B., Tucker, B., Gupta, R., & Yeo, S. (2008). eVALUate: Developing and validating an instrument which gathers students’ perceptions of what helped and hindered their achievement of learning outcomes.


Evaluation of the usefulness of self-assessment, peer assessment and academic feedback mechanisms

Stephen Colbran (stephen.colbran@une.edu.au)
School of Law, University of New England

This exploratory quantitative case study examined students’ perceptions of the usefulness of assessment feedback provided by academics using ReMarksPDF, student self-assessment and student peer assessment. ReMarksPDF is an enterprise level e-marking system designed by the author integrated with Blackboard 9.1 and Moodle 2.1 – see www.remarkspdf.com. The ReMarksPDF workflow includes e-submission, allocation to markers, marking, moderation, and return of annotated PDF assessment submissions to students and marks into Grade Center. A summary is presented of the positive and negative aspects of different types of feedback annotations and how feedback may be improved. 78.7% of students found ReMarksPDF feedback better than that they have received in the past and 70.2% of students agreed or strongly agreed that other courses should adopt the ReMarksPDF system. Students found written comments, text boxes, assessment rubric, underlining, ticks, colour coding, spider chart (with average), spider chart, and smileys to be significantly valuable feedback in that order of preference. Students indicated that ReMarksPDF feedback was easy to read and understand, it was beneficial to have comments appear in a side column note and to have a visual breakdown of results according to assessment criteria. Students were ambivalent about inclusion of either audio or video comments and did not prefer audio to written comments. Students appear to prefer text-based rather than more abstract presentations of feedback. Students who completed a self-assessment rubric or peer assessment rubric reported that this assisted in their understanding of the associated marking rubric and the results they received for their assessment. In contrast, students who received a peer assessment and also completed a self-assessment rubric were negative in their assessment of whether these two measures in concert assisted in the ir understanding of the marking rubric and the results they received for their assessment. There was only a weak level of accuracy in student self-assessment and peer-assessment ability compared with professional marking. E-marking software, such as ReMarksPDF, will have a positive effect on student engagement and perceptions of feedback mechanisms by enabling markers to efficiently provide detailed individual feedback, outlining strengths and weaknesses of the student assessment submission and avenues for self-improvement.

Keywords: assessment feedback, self-assessment, peer assessment, smileys, ReMarksPDF

Conference Themes: Practical solutions

Introduction

Assessment drives student learning and effort (Kendle & Northcote, 2000) and in turn influences the direction and quality of student learning (Maclellan, 2004). Numerous literature reviews indicate that feedback is critical to improving the standard of student work and learning (Black & William1998a; Hattie 1999; Heinrich 2006, Huber & Mowbray 2011) and that both formative and summative assessment directly affect student engagement. The structure of assessment designs often includes formative feedback for self-improvement rather than summative feedback concerned with marks and grades. Feedback, at its best is individual in focus, outlining strengths and weaknesses and avenues for self-improvement (Linn & Miller, 2005; Heinrich 2006). Electronic feedback management systems such as ReMarksPDF are promoted on the basis that they offer opportunities for improvement in assessment practice and outcomes for students, including:

- E-submission, allocation, marking, moderation and assessment return via a learning management system.
- Extensive annotation and commentary features, including rubrics, stamps, electronic dashboards and charts.
- Links to electronic portfolios classified by learning outcomes or graduate attributes.
- Quality management including consistency among markers, reporting or results, and self-reflection amongst markers.
ReMarksPDF, Blackboard 9.1 and Turnitin all contain enterprise level feedback systems. ReMarksPDF is the most comprehensive of the three – in terms of annotation types and sophistication, moderation and on and offline capabilities.

ReMarksPDF has extensive PDF annotation capabilities including:

- Automatic insertion of text based comments, known as Auto Text;
- Automatic insertion of sound based comments (enabling mark by voice), also known as Sounds;
- Automatic insertion of video based comments (enabling links to streamed video);
- Share text and sound comment libraries with colleagues over the Internet;
- Associate marks, criteria and comments with student assessment;
- Automatic addition of marks;
- Highlight colours with designated meanings, or in other words, Colour code your documents;
- Specialist stamps designed for marking, showing the emotion of the marker for more personalised feedback to students;
- Ability to designate macros for Auto Text, Sounds, and Video links;
- Import and export .csv database files, linking marking to student documents, and uploading to a reporting system.
- Drag and drop graph gallery, indicating individual and relative student performance.
- Style tool specifically designed to rapidly incorporate English Style and Grammar comments for essays, plus the ability to build specialist comment libraries in any discipline;
- Advanced moderation capabilities enabling statistical and visual comparison of markers, individual and global moderation of student assessment; and
- Integration with Learning Management Systems – Blackboard 9.1 and Moodle 2.1.

Examples of annotation types provided by the ReMarksPDF system appear in Figure 1.

![Spider chart, Spider chart (with average), Smiley scale](image)

A lecturer simply downloads the software, installs it on their desktop or tablet PC, creates an assessment in their Learning Management System for e-submission, allocates submissions to markers, opens a student assessment submission and starts marking. Once marking and moderation is complete the marked assessment is automatically returned to students and marks stored in Grade Center. The student logs into their Learning Management System and can retrieve and view all the marking annotations made on their PDF assessment submission. The e-marking workflow is complete. The objective is to provide high quality, consistent feedback for a reasonable exertion of effort by the academic and cost to the academic unit or department. Lecturers and markers can save considerable time by reusing annotations relating to common student errors, and in moderation practices.

The primary purpose of this exploratory case study was to examine student perceptions of self-assessment, peer assessment and assessment by an academic marker as alternative and cumulative approaches to student feedback using the ReMarksPDF Feedback Management System. The study produced a range of statistics useful for planning a later mixed method research project exploring assessment feedback, particularly that employing enterprise level automated systems, such as ReMarksPDF.
Lew et al (2010) found that overall correlations between the scores of self-, peer and tutor assessments suggested weak to moderate accuracy of student self-assessment ability, together with an 'ability effect'; i.e., students judged as more academically competent were able to self-assess with higher accuracy than their less competent peers. Lew concluded that there is no significant association between student beliefs about the utility of self-assessment and the accuracy of their self-assessments.

A subsidiary purpose of this exploratory case study was to examine Lunt and Curran (2010) results that suggest electronic audio feedback has advantages compared with written feedback and that students were 10 times more likely to listen to audio commentary than open written comments. Student opinions were sought on their preference for audio feedback.

**Method**

Third year Law students enrolled in LS377 Information Technology Law (n= 60) at the University of New England voluntarily completed a survey on feedback received in relation to an assignment submitted in PDF format in satisfaction of 30% of their grade. A single marker marked student submissions using ReMarksPDF without knowledge of each student's self or peer assessment marks. All assessment was based on 8 criteria and marked on a 5-point LIKERT scale from excellent to very poor. Volunteer students were randomly assigned to one of four groups. Each group had 15 participants. Refer Table 1.

<table>
<thead>
<tr>
<th>Groups</th>
<th>Feedback type</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1</td>
<td>Self-assessment</td>
<td>15</td>
</tr>
<tr>
<td>Group 2</td>
<td>Peer assessment of Group 3</td>
<td>15</td>
</tr>
<tr>
<td>Group 3</td>
<td>Self-assessment + Peer assessment from Group 2</td>
<td>15</td>
</tr>
<tr>
<td>Group 4</td>
<td>Control group</td>
<td>15</td>
</tr>
</tbody>
</table>

There is nothing to suggest that the implications of this exploratory study would not be generalizable to students of other disciplines. The assessment task was an essay on a topic of student choice in the field of Information Technology Law. This is not unlike any essay requiring student discipline based research. The focus of this research is on feedback not discipline specific content.

All students were provided with academic feedback consisting of an assessment rubric (Appendix A), colour coding of their text according to a colour key (Appendix B), pre-prepared comments based on a marking guide, and a final mark. Marking was done electronically using ReMarksPDF <www.remarkspdf.com>.

A survey instrument was prepared and administered on-line using Qualtrics <www.qualtrics.com>. All four groups were evaluated on their perceptions of the usefulness of the feedback they received.

**Results**

Students were asked to rate the overall value to them of the types of feedback annotations received. The results appear in Figure 2. A one-sample *t* test indicated all were significant at the 5% level (*p* = 0.000). A one-way ANOVA and post-hoc multiple comparisons did not reveal any association with sex, age, mark received, type of smiley, mode (full-time, part-time), equivalent full-time year of study or age, or group. In total, 76.1% of students of all groups combined reported that the feedback received was above average or excellent. There was no significant difference between groups.
Students rated the different types of annotations they received on a 5-point LIKERT scale from 1=Useless, 3=Neutral, through to 5=Very Useful. The average ratings are shown in Table 2. The table indicates that all forms of annotations were significantly more useful than a neutral value of 3.

Table 2 ranks the annotations from the most useful to the least according to student perceptions. Written comments are rated as most important, with more abstract annotations, such as colour coding and statistical representations rated of lower importance. The most abstract annotation in the form of a smiley indicating the emotional rating given by the marker was rated as least valued, though still significant.

Table 2: Annotation data

<table>
<thead>
<tr>
<th>Annotation</th>
<th>n</th>
<th>1 (0.0%)</th>
<th>2 (0.0%)</th>
<th>3 (8.9%)</th>
<th>4 (57.4%)</th>
<th>5 (28.2%)</th>
<th>Mean</th>
<th>t</th>
<th>p*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written comments</td>
<td>47</td>
<td>0 (0.0%)</td>
<td>4 (8.5%)</td>
<td>16 (34.0%)</td>
<td>27 (57.4%)</td>
<td>0 (0.0%)</td>
<td>4.49</td>
<td>15.585</td>
<td>0.000</td>
</tr>
<tr>
<td>Text boxes</td>
<td>45</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>4 (8.9%)</td>
<td>19 (42.2%)</td>
<td>22 (48.9%)</td>
<td>4.40</td>
<td>14.368</td>
<td>0.000</td>
</tr>
<tr>
<td>Assessment rubric</td>
<td>47</td>
<td>0 (0.0%)</td>
<td>2 (4.3%)</td>
<td>6 (12.8%)</td>
<td>26 (55.3%)</td>
<td>13 (27.1%)</td>
<td>4.06</td>
<td>9.554</td>
<td>0.000</td>
</tr>
<tr>
<td>Underlining</td>
<td>40</td>
<td>1 (2.5%)</td>
<td>1 (2.5%)</td>
<td>7 (17.5%)</td>
<td>21 (52.5%)</td>
<td>10 (25.0%)</td>
<td>3.95</td>
<td>6.862</td>
<td>0.000</td>
</tr>
<tr>
<td>Ticks</td>
<td>43</td>
<td>2 (4.7%)</td>
<td>11 (25.6%)</td>
<td>20 (46.5%)</td>
<td>10 (23.3%)</td>
<td>0 (0.0%)</td>
<td>3.88</td>
<td>7.045</td>
<td>0.000</td>
</tr>
<tr>
<td>Colour coding</td>
<td>46</td>
<td>0 (0.0%)</td>
<td>4 (8.7%)</td>
<td>11 (23.9%)</td>
<td>18 (39.1%)</td>
<td>13 (28.3%)</td>
<td>3.87</td>
<td>6.318</td>
<td>0.000</td>
</tr>
<tr>
<td>Spider Chart with average</td>
<td>46</td>
<td>2 (4.3%)</td>
<td>3 (6.5%)</td>
<td>9 (19.6%)</td>
<td>22 (47.8%)</td>
<td>10 (21.7%)</td>
<td>3.76</td>
<td>5.084</td>
<td>0.000</td>
</tr>
<tr>
<td>Spider Chart</td>
<td>46</td>
<td>2 (4.3%)</td>
<td>5 (10.9%)</td>
<td>11 (23.9%)</td>
<td>18 (39.1%)</td>
<td>10 (21.7%)</td>
<td>3.63</td>
<td>3.950</td>
<td>0.000</td>
</tr>
<tr>
<td>Smiley</td>
<td>47</td>
<td>3 (6.4%)</td>
<td>4 (8.5%)</td>
<td>19 (40.4%)</td>
<td>15 (31.9%)</td>
<td>6 (12.8%)</td>
<td>3.36</td>
<td>2.406</td>
<td>0.020</td>
</tr>
</tbody>
</table>

* Sig. (2 tailed) One-Sample t test based on a neutral response of 3.

An independent samples t-test confirmed there was no association between responses and age, mode, and attendance. One-way ANOVAs and post-hoc multiple comparisons did not reveal any association with equivalent full-time year, age, smiley type, mark, or group.

Students were also asked a series of questions on what they thought of aspects of ReMarksPDF, self and peer assessment, based on a 5-point LIKERT scale from 1=Strongly disagree, 3=Neutral, through to 5=Strongly agree. The results are shown in Table 3.
### Table 3: Question data

<table>
<thead>
<tr>
<th>Question</th>
<th>n</th>
<th>1 (2.1%)</th>
<th>2 (12.8%)</th>
<th>3 (55.3%)</th>
<th>4 (23.4%)</th>
<th>Mean</th>
<th>t</th>
<th>p*</th>
</tr>
</thead>
<tbody>
<tr>
<td>All students [Groups 1-4]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The ReMarks system provides better feedback than I have experienced in the past.</td>
<td>1</td>
<td>3 (6.4%)</td>
<td>6 (12.8%)</td>
<td>26 (55.3%)</td>
<td>11 (23.4%)</td>
<td>3.91</td>
<td>6.932</td>
<td>0.000</td>
</tr>
<tr>
<td>Other units should adopt the ReMarks feedback system.</td>
<td>2</td>
<td>0 (0.0%)</td>
<td>12 (25.5%)</td>
<td>21 (44.7%)</td>
<td>12 (25.5%)</td>
<td>3.87</td>
<td>6.317</td>
<td>0.000</td>
</tr>
<tr>
<td>ReMarks feedback is easy to read.</td>
<td>2</td>
<td>4 (8.5%)</td>
<td>6 (12.8%)</td>
<td>22 (46.8%)</td>
<td>13 (27.7%)</td>
<td>3.85</td>
<td>5.490</td>
<td>0.000</td>
</tr>
<tr>
<td>It is beneficial to view side column comments.</td>
<td>0</td>
<td>0 (0.0%)</td>
<td>3 (6.3%)</td>
<td>19 (40.4%)</td>
<td>25 (53.2%)</td>
<td>4.47</td>
<td>16.224</td>
<td>0.000</td>
</tr>
<tr>
<td>ReMarks feedback is easy to understand.</td>
<td>2</td>
<td>4 (8.5%)</td>
<td>4 (8.5%)</td>
<td>21 (44.7%)</td>
<td>16 (34.0%)</td>
<td>3.96</td>
<td>6.063</td>
<td>0.000</td>
</tr>
<tr>
<td>It is beneficial to have a visual breakdown of my results according to assessment criteria.</td>
<td>1</td>
<td>0 (0.0%)</td>
<td>9 (19.1%)</td>
<td>15 (31.9%)</td>
<td>22 (46.8%)</td>
<td>4.21</td>
<td>9.163</td>
<td>0.000</td>
</tr>
<tr>
<td>Audio comments should be included as a form of feedback annotation.</td>
<td>4</td>
<td>11 (24.4%)</td>
<td>16 (35.6%)</td>
<td>9 (20%)</td>
<td>5 (11.1%)</td>
<td>3.00</td>
<td>0.000</td>
<td>1.000</td>
</tr>
<tr>
<td>I would prefer audio comments to written comments.</td>
<td>7</td>
<td>20 (43.5%)</td>
<td>14 (30.4%)</td>
<td>4 (8.7%)</td>
<td>1 (2.2%)</td>
<td>2.39</td>
<td>-4.437</td>
<td>0.000</td>
</tr>
<tr>
<td>Video comments should be included as a form of feedback annotation.</td>
<td>9</td>
<td>15 (32.6%)</td>
<td>16 (34.8%)</td>
<td>5 (10.9%)</td>
<td>1 (2.2%)</td>
<td>2.43</td>
<td>-3.821</td>
<td>0.000</td>
</tr>
<tr>
<td>Students who completed a self-assessment rubric [Groups 1 and 3]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Completing a self-assessment rubric has assisted my understanding of the marking rubric.</td>
<td>1</td>
<td>1 (2.9%)</td>
<td>6 (17.6%)</td>
<td>19 (55.9%)</td>
<td>7 (20.6%)</td>
<td>3.88</td>
<td>5.849</td>
<td>0.000</td>
</tr>
<tr>
<td>Completing a self-assessment rubric has assisted me to understand the results I received for this assessment.</td>
<td>1</td>
<td>2 (5.9%)</td>
<td>8 (23.5%)</td>
<td>16 (47.1%)</td>
<td>7 (20.6%)</td>
<td>3.76</td>
<td>4.667</td>
<td>0.000</td>
</tr>
<tr>
<td>Students who completed a peer assessment rubric for another student [Group 2]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Completing a peer-assessment rubric has assisted my understanding of the marking rubric.</td>
<td>0</td>
<td>1 (5.3%)</td>
<td>7 (36.8%)</td>
<td>3 (15.8%)</td>
<td>8 (42.1%)</td>
<td>3.95</td>
<td>4.025</td>
<td>0.001</td>
</tr>
</tbody>
</table>
### ATN Assessment Conference 2011: Meeting the Challenges

<table>
<thead>
<tr>
<th>Question</th>
<th>n</th>
<th>1 (0.0%)</th>
<th>2 (42.1%)</th>
<th>3 (15.8%)</th>
<th>4 (42.1%)</th>
<th>5 (42.1%)</th>
<th>Mean</th>
<th>t</th>
<th>p*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completing a peer-assessment rubric has assisted me to understand the results I received for this assessment.</td>
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<td>Students who received a peer assessment and also completed a self-assessment [Group 3]</td>
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<td>0 (0.0%)</td>
<td>8 (42.1%)</td>
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<td>2 (14.3%)</td>
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<td>3 (21.4%)</td>
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* Sig. (2 tailed) One-Sample t test based on a neutral response of 3.

An independent samples t test did not reveal any gender or mode differences at the 5% level. One-way ANOVA’s and post-hoc multiple comparisons did not reveal any associations except as follows. Whether participants preferred audio to written comments: Smiley ($F = 3.356, p = 0.019$), Mark ($F = 3.527, p = 0.015$). I.e. in the case of the Smiley only 5% of the cases would have an F ratio equal to or above 3.356 if the $H_0$ (that the population means have identical variances). Whether video comments should be included as a form of feedback annotation: Age ($F = 3.432, p = 0.016$). In relation to students who completed a self-assessment, whether the self-assessment assisted in understanding the marking rubric: Type of Feedback ($F = 3.617, p = .026$). A one-way ANOVA detects the presence of significant differences in the means, not which of the means differ significantly as revealed by post-hoc multiple comparisons.

The general impression of the ReMarksPDF feedback management system was quite favourable. 78.7% of students indicated agreement that the ReMarks system provides better feedback than they had experienced in the past. 70.2% agreed that the system should be adopted in other units they were studying. They reported that ReMarksPDF feedback was easy to read (74.5%) and understand (78.7%). 93.6% of students agreed that it is beneficial to be able to view side column comments. This was not a comment on the quality of the comments, but rather the method by which they were displayed to students. Other PDF readers display clickable bubbles, which hide feedback. 78.7% of students agreed that it is beneficial to have a visual breakdown of their results according to assessment criteria.

In considering audio comments students reported that they did not agree with the results of Lunt and Curran (2010). While no audio comments were included in annotations, students preferred written to audio comments. Students were ambivalent as to whether audio comments should be included as a form of feedback annotation. Students were also not in favour of including video commentary. Further research, including actual audio and video annotations in groups is necessary to explore these initial exploratory results.

Of those students who completed a self-assessment rubric, 76.5% agreed that the exercise assisted their understanding of the marking rubric. 67.7% agreed that the exercise assisted them to understand the results that they received for the assessment. These results suggest that inclusion of a self-assessment process based on a rubric is a beneficial exercise. Of those students who completed a peer assessment rubric for another student, 57.9% agreed that the exercise assisted their understanding of the marking rubric. 57.9% agreed that the exercise assisted them to understand the results that they received for the assessment. These results while lower than those for self-assessment included a higher percentage of strong agreement. These results although based on a small sample, suggest that the inclusion of a rubric based peer-assessment process, is seen by students as a beneficial exercise. Instructors know and the literature suggests that peer assessment is beneficial – what these results indicate, is that students also share this common perception.
Students who received a peer assessment from another student and also completed a self-assessment were less impressed with the peer assessment - 50% disagreed (35.7% agreed) that the exercise assisted their understanding of the marking rubric and 42.8% disagreed (35.7% agreed) that the exercise assisted them to understand the results that they received for the assessment. These results suggest that the receipt of a student peer assessment may not be perceived as enhancing the understanding of students who receive them. It is important to note that we are not assessing student learning, only perceptions – students may nevertheless have learned from the approach.

The data enabled a comparison of the correlation between marks awarded by self-assessment compared to marker results and also marks awarded by peers compared with marker results. Pearson correlation coefficients were calculated in relation to self-assessments, peer-assessments, marker-assessments and total mark % awarded by the marker. See Table 4.

In contrast to Lew et al (2010), the overall correlations between the marks given in self, peer and marker assessments only indicated weak (rather than moderate) levels of accuracy in student self-assessment and peer-assessment ability. There was a moderate correlation between self and peer assessment results. There was no evidence to suggest the ability effect reported by Lew et al (2010). Students judged as more academically competent were unable to self-assess or peer-assess with higher accuracy than their less competent peers. Consistent with Lew et al (2010), it is concluded that there is no significant association between student beliefs about the utility of self-assessment and the accuracy of their self-assessments. Students' low perceptions of the utility of peer assessment did match the inaccuracy of peer-assessments.

Open-ended questions sought to elicit positive and negative aspects of ReMarksPDF and the types of feedback annotations provided. Selected results appear in Table 5.
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<td></td>
<td>Sig. (2-tailed)</td>
<td>0.259</td>
<td>0.294</td>
<td>0.507</td>
<td>0.813</td>
<td>0.836</td>
<td>0.214</td>
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<tr>
<td><strong>P6</strong></td>
<td>Pearson</td>
<td>-0.395</td>
<td>0.311</td>
<td>0.238</td>
<td>0.086</td>
<td>-0.302</td>
<td>0.431</td>
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<td>0.259</td>
<td>0.381</td>
<td>0.507</td>
<td>0.813</td>
<td>0.397</td>
<td>0.214</td>
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<tr>
<td><strong>P7</strong></td>
<td>Pearson</td>
<td>-0.408</td>
<td>-0.061</td>
<td>0.423</td>
<td>0.153</td>
<td>0.134</td>
<td>0.218</td>
<td>-0.267</td>
<td>-0.468</td>
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<td></td>
<td>Sig. (2-tailed)</td>
<td>0.242</td>
<td>0.866</td>
<td>0.224</td>
<td>0.674</td>
<td>0.713</td>
<td>0.545</td>
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<td>0.173</td>
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<tr>
<td><strong>P8</strong></td>
<td>Pearson</td>
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<td>0.286</td>
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<td>0.357</td>
<td>-0.250</td>
<td>-0.688*</td>
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<td></td>
<td>Sig. (2-tailed)</td>
<td>0.067</td>
<td>0.375</td>
<td>1.00</td>
<td>0.424</td>
<td>0.486</td>
<td>0.311</td>
<td>0.486</td>
<td>0.028</td>
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</table>
### Table 5: Annotation positive and negative aspects

<table>
<thead>
<tr>
<th>Positive</th>
<th>ReMarksPDF</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>• It makes the marking feel fair as it seems systematic, it makes you understand where you need to improve.</td>
<td>• It's very truncated - I had to manually add up my marks to see my total - that should be evident from the start. I personally do not like peer reviews - this marker obviously did not take the time to read the legislation in making adverse comments on my conclusions (which were limited to the legislation - no cases yet to be heard on this topic either); marker did not appreciate my argument. At least comments were not personal or vindictive. I feel somewhat cheated that my paper was marked by a fellow student with limited knowledge on the topic I chose rather than by my teacher. I would rather have had a set question rather than a choice.</td>
<td>• I don’t think there was any aspect of this that was what I would consider negative.</td>
</tr>
<tr>
<td>• Comprehensive and clear in the areas assessed</td>
<td>• Providing peer feedback was difficult I was afraid of being too hard. Other than that no negatives.</td>
<td>• It's still only as good as the person who uses it and I don't believe it is possible to remove the subjectivity from marking.</td>
</tr>
<tr>
<td>• Very detailed and specific feedback. Provides more guidance on areas for improvement.</td>
<td>• An evaluation from peers is important.</td>
<td>• To me the spider chart is a bit of a gimmick and seems a complex way to provide the average mark, it could just be provided next to the individual students mark in each criteria section.</td>
</tr>
<tr>
<td>• An evaluation from peers is important.</td>
<td>• Easier to interpret, clear and direct.</td>
<td>• I did not find the spider chart very useful.</td>
</tr>
<tr>
<td>• Easier to interpret, clear and direct.</td>
<td>• Easy to read at a glance, appears comprehensive.</td>
<td>• Not sure how it works- how much is human generated and how much is computer generated.</td>
</tr>
<tr>
<td>• Easy to understand.</td>
<td>• The strength of the ReMarks feedback system is that it focuses the students on the marking criteria that have been used. Further it gives a clear indication of the areas that can be improved.</td>
<td>• Little hard to find a mark at first glance.</td>
</tr>
<tr>
<td>• The text boxes were very useful. It much easier that trying to read illegible hand writing.</td>
<td>• Indicating my marks against each criterion; mapping my performance against the mean for all enrolled students.</td>
<td>• What is the smiley face about. I think I understood how I went before that!</td>
</tr>
<tr>
<td>• The text boxes on the side are easy to read and understand, rather than pencil or pen handwriting. Many times I have had assignments returned and have not been able to read the comments so have not been able to improve my work.</td>
<td>• I like the spider chart - I can really gauge how well I performed in comparison with the rest of the class.</td>
<td>• It may not be as personal, it seems a little robotic but I think the clarity it provides outweighs this.</td>
</tr>
<tr>
<td>• The text boxes on the side are easy to read and understand, rather than pencil or pen handwriting. Many times I have had assignments returned and have not been able to read the comments so have not been able to improve my work.</td>
<td>• The text boxes were very useful.</td>
<td>• For research because it has been drilled in to me previously that it is unreliable and disreputable.</td>
</tr>
<tr>
<td>• A good range of comments is made and allow the student to compare where they believe they have succeeded but have lost marks and understand why.</td>
<td>• Sometimes the side column comments were a little too brief.</td>
<td>• Sometimes the side column comments were a little too brief.</td>
</tr>
<tr>
<td>• Students are able to get a clear and concise breakdown of their results, the colour coding proves to be very useful, previous marking systems (mostly handwritten) are not so effective given.</td>
<td>• I'm still trying to get used to it, I'm not sure yet</td>
<td>• Spider chart took some extra time to understand what it meant, you couldn't just glance at it and appreciate what it meant immediately.</td>
</tr>
<tr>
<td>Positive</td>
<td>ReMarksPDF</td>
<td>Negative</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>• The handwriting may not be legible and/or difficult to read. So I think it's fantastic overall and should be adopted by other units.</td>
<td>• The only thing I did not like was the spider chart. I found it very difficult to understand.</td>
<td>• Some of the graphs didn't make much sense</td>
</tr>
<tr>
<td>• Being able to compare our self-assessment against the actual feedback system - makes for an interesting and constructive comparison.</td>
<td>• It's hard to sort through all the data and compare it - please note for me this is a matter of what a person becomes accustomed to, for instance if I was in the habit of receiving assignment.</td>
<td>• A bit confronting and challenging I think.</td>
</tr>
<tr>
<td>• Receiving specific feedback, provision of detailed marking criteria.</td>
<td>• It could be matter of time that I need to be used to this new ReMarks system, but it took some time to understand the marking measures and how the system works.</td>
<td>• I prefer the personal touch in explaining where I had gone wrong.</td>
</tr>
<tr>
<td>• The whole system is structured well.</td>
<td>• The comments and colour coding were extremely helpful in distinguishing the strengths and weakness of my essay.</td>
<td>• Takes longer for the assignments to get back to students when there marked. Different approaches are taken by the reader and the writer (e.g. feedback on my assignment had mentioned using Google to find material where as I never use a generic search engine.</td>
</tr>
<tr>
<td>• Text boxes were very useful as they pinpoint comments to particular text. It overcomes the inclusion of general comments, which sometimes fail to provide constructive feedback.</td>
<td>• Good visual aid and comprehensive. I like the colour.</td>
<td>• It’s very truncated - I had to manually add up my marks to see my total - that should be evident from the start. I personally do not like peer reviews - this marker obviously did not take the time to read the legislation in making adverse comments on my conclusions (which were limited to the legislation - no cases yet to be heard on this topic either); marker did not appreciate my argument. At least comments were not personal or vindictive. I feel somewhat cheated that my paper was marked by a fellow student with limited knowledge on the topic I chose rather than by my teacher. I would rather have had a set question rather than a choice.</td>
</tr>
<tr>
<td>• The comments and colour coding were extremely helpful in distinguishing the strengths and weakness of my essay.</td>
<td>• Where the comments were illegible due to poor handwriting.</td>
<td>• Where the comments were illegible due to poor handwriting.</td>
</tr>
<tr>
<td>• Good visual aid and comprehensive. I like the colour.</td>
<td>• The spider graph provides a very visual form of feedback and the markers comments are very easy to read provided constructive feedback that was easy to understand.</td>
<td>• Feedback is more structured and detailed than what I have received in the past.</td>
</tr>
<tr>
<td>• Where the comments were illegible due to poor handwriting.</td>
<td>• Clear and easy to read unlike some markers handwritten comments is also very helpful.</td>
<td>• Feedback is more structured and detailed than what I have received in the past.</td>
</tr>
<tr>
<td>• The spider graph provides a very visual form of feedback and the markers comments are very easy to read provided constructive feedback that was easy to understand.</td>
<td>• Feedback is more structured and detailed than what I have received in the past.</td>
<td>• Easy to understand, objective, provides feedback on areas where improvement possible.</td>
</tr>
<tr>
<td>• Clear and easy to read unlike some markers handwritten comments is also very helpful.</td>
<td>• I don’t think there was any aspect of this that was what I would consider negative.</td>
<td>• Providing peer feedback was difficult I was afraid of being too hard. Other than that no negatives.</td>
</tr>
<tr>
<td>• Feedback is more structured and detailed than what I have received in the past.</td>
<td>• More detailed.</td>
<td>• It’s still only as good as the person who uses it and I don’t believe it is possible to remove the subjectivity from marking.</td>
</tr>
<tr>
<td>• Easy to understand, objective, provides feedback on areas where improvement possible.</td>
<td>• Great to see where you’re at compared with peers.</td>
<td>• To me the spider chart is a bit of a gimmick and seems a complex way to provide the average mark, it could just be provided next to the individual students mark in each criteria section.</td>
</tr>
<tr>
<td>• Great to see where you’re at compared with peers.</td>
<td>• Clear, great structure to understand how assignment marked.</td>
<td>• I did not find the spider chart very useful.</td>
</tr>
<tr>
<td>• Clear, great structure to understand how assignment marked.</td>
<td>• More detailed.</td>
<td>• Not sure how it works- how much is human generated and how much is computer generated.</td>
</tr>
<tr>
<td>• More detailed.</td>
<td></td>
<td>• Little hard to find a mark at first glance.</td>
</tr>
<tr>
<td>Positive</td>
<td>ReMarksPDF</td>
<td>Negative</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Easy to use, easy to understand. Succinct comments. Many assignments</td>
<td>What is the smiley face about. I think I understood how I went before that!</td>
<td>It may not be as personal, it seems a little robotic but I think the</td>
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<tr>
<td>are scrawled with markers handwriting and it is hard to understand, this system lets me comprehend all.</td>
<td></td>
<td>clarity it provides outweighs this.</td>
</tr>
<tr>
<td>Comments and compare them to an overall marking system.</td>
<td></td>
<td>For research because it has been drilled in to me previously that it is unreliable and disreputable.</td>
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<tr>
<td>Was not really sure how this works but the spider format was useful to visualize.</td>
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<tr>
<td>I can easily see what my strength and weakness are so that I can more focus on the weakness in the future studies.</td>
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<tr>
<td>It is a new system and as such should be given a chance to shine.</td>
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<tr>
<td>I found the written comments most useful. Also to be able to see the average mark of class was nice.</td>
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<tr>
<td>Beneficial to see where you rank in each part in relation to other students as provided in the spider. I appreciate written comments such as those in the text boxes.</td>
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<tr>
<td>You can really see where you have gone wrong or right. It is precise and highlights where you need improving.</td>
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<tr>
<td>I can see where I need to improve.</td>
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<tr>
<td>I felt that the ReMarks system gave a very interesting and easy to understand visual guide. Also, the comments were far easier to read. I have had many assignments in other units.</td>
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<tr>
<td>The colour coding is an excellent way to indicate the strengths/ weaknesses of the assignment it is far better than the usual system of just receiving a tick next to the text, the feedback is also very clear due to it being typed as opposed to the usual handwritten feedback which is usually very difficult to read, the visual breakdown of marking criteria and results for that criteria.</td>
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<td>Some of the graphs didn't make much sense</td>
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<td>It's hard to sort through all the data and compare it - please note for me this is a matter of what a person becomes accustomed to, for instance if I was in the habit of receiving assignment.</td>
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<td>A bit confronting and challenging I think.</td>
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<td>It could be matter of time that I need to be used to this new ReMarks system, but it took some time to understand the marking measures and how the system works.</td>
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<td>I prefer the personal touch in explaining where I had gone wrong.</td>
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<td>Takes longer for the assignments to get back to students when there marked. Different approaches are taken by the reader and the writer (e.g. feedback on my assignment had mentioned using Google to find material where as I never use a generic search engine.</td>
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</table>
An open-ended question sought to elicit how the ReMarksPDF feedback system could be improved. Representative responses appear in Table 5.

Table 5: Improvement suggestions

<table>
<thead>
<tr>
<th>ReMarksPDF</th>
<th>Feedback Suggestions</th>
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<tbody>
<tr>
<td>• Maybe a little bit of a high level introduction on how to read it?</td>
<td>• I really liked the colour coding and found it helpful. The ability to see the actual criteria and mark received is brilliant.</td>
</tr>
<tr>
<td>• Provide an overview of how the software works via a web link.</td>
<td>• Audio would be a great improvement to ReMarks.</td>
</tr>
<tr>
<td>• Seems to be fairly well explained as is.</td>
<td>• I like it. Maybe a little more instructions concerning the purpose of the graph.</td>
</tr>
<tr>
<td>• Found the spider chart confusing at first glance, don’t see the need for it.</td>
<td>• I’m not sure, I haven’t had enough experience with the feedback system given this is the first unit marked in this manner. I do think it achieves its purpose and should be adopted in other units.</td>
</tr>
<tr>
<td>• Remove colour coding. Text boxes linked to the relevant paragraphs are sufficient. Spider chart is good, but simply putting the average in brackets next to my mark on the rubric would be sufficient. I do appreciate seeing my mark compared to course average in each section.</td>
<td>• Perhaps a bell curve or similar statistical model of the spread of student marks for the assessment. Other than that, very little needs improving.</td>
</tr>
<tr>
<td>• There doesn’t seem to be any need to include statistical measurements such as standard deviation, as some may not know what it means and how it applied to their mark.</td>
<td>• I think this is a better way forward than the marking feedback I have received in the past.</td>
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</tbody>
</table>

Future research should concentrate on determining which form of annotation is most useful for student learning. Further research could also be conducted to compare the final marks of students in relation to the mechanism for receiving feedback. If the assessment had been a formative draft provided with feedback in preparation for a summative assessment submission, it would be possible to assess the extent to which students actually employed various feedback types in improving their final summative submission. A secondary consideration is to address student’s responses to actual audio comments and compare students' perceptions as against other forms of annotation commentary enabling further examination the results of Lunt and Curran (2010).

Comment

While there were both positive and negative aspects reported for ReMarksPDF and the types of annotations discussed, ReMarksPDF was nevertheless reported by students to be a valuable new tool for assessment feedback. 78.7% of students found ReMarksPDF feedback better than that they have received in the past and 70.2% of students agreed or strongly agreed that other courses should adopt the ReMarksPDF system. These results suggest that use of ReMarksPDF may have a positive impact on teaching and learning.

Students found written comments, text boxes, assessment rubric, underlining, ticks, colour coding, spider chart (with average), spider chart, and smileys to be significantly valuable feedback in that order of preference.

Students indicated that ReMarksPDF feedback was easy to read and understand, it was beneficial to have comments appear in a side column note and to have a visual breakdown of results according to assessment criteria. Students were ambivalent about inclusion of either audio or video comments and, while not having experienced audio comments, noted that they did not prefer audio to written comments. Students appear, while not having experienced audio or video recorded comments, to prefer text-based presentations of feedback with less inclination to more abstract forms of commentary. These perceptions need to be tested in future research including audio-visual commentary.

Students who completed a self-assessment rubric or peer assessment rubric reported that this assisted in their understanding of the associated marking rubric and the results they received for their assessment. In contrast, students who received a peer assessment and also completed a self-assessment rubric were negative in their assessment of whether this combination assisted in their understanding of the marking rubric and the results they received for their assessment. One possible explanation relates to the master apprentice model of education – students may place little or no value on the perceptions of their anonymous peers, but valued their own self-improvement processes.
In contrast to Lew et al (2010), the overall correlations between the scores of self, peer and marker assessments only indicated weak (rather than moderate) levels of accuracy in student self-assessment and peer-assessment ability. There was a moderate correlation between self and peer assessment results. There was no evidence to suggest the ability effect reported by Lew et al (2010). Students judged as more academically competent were unable to self-assess or peer-assess with higher accuracy (higher correlation with an academic’s mark) than their less competent peers. Consistent with Lew et al (2010) it is concluded that there is no significant association between student beliefs about the utility of self-assessment and the accuracy of their self-assessments. Students’ low perceptions of the utility of peer assessment did match the inaccuracy of peer-assessments.

The results have several implications for teaching and research. The correlation between self, peer and marker assessments may be impacted by other factors such as training, self-reflection and consensus as to the meaning of assessment criteria and how to rate them. Openly discussing peer review processes may improve student appreciation, understanding and engagement with the process. The ability differentiation within the student cohort may not have been sufficient to enable observation of ability effect reported by Lew et al (2010). Several measures for ability may need to be derived for subsequent research. It would also be interesting to evaluate the impact on perceptions of the utility of peer assessment, if students peer assessed were informed of the ability of their peer assessors.

Software such as ReMarksPDF offers the opportunity to use types of feedback that would otherwise be impractical to manually implement - such as dashboard charts and auto comments. Dashboard charts are calculated from the internal database of student marks captured by ReMarksPDF and displayed graphically. An example appears in Figure 1. Auto comments are comments saved in a re-useable library designed to decrease the time associated with annotating repetitive comments. An example appears in Figure 4.

![Figure 4: Example Auto comment – student identifier obscured](image-url)

It is anticipated that e-marking software will have a positive effect on student perceptions of feedback mechanisms by enabling markers to efficiently provide detailed individual feedback, outlining strengths and weaknesses of the student assessment submission and avenues for self-improvement.
References


Huber, E., & Mowbray, L. (2011) Greening the paper trial: Improving the efficiency of assessment feedback through sustainable online assignment submission.


Appendix A

Rubric – Self-Assessment  LS377 2010 Assignment (Group 3)

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Excellent</th>
<th>Good</th>
<th>Average</th>
<th>Poor</th>
<th>Very Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic goals:</td>
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</tr>
<tr>
<td>Identification of relevant source materials</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Accurate citation</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Identification of primary issues</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Structured themed arguments</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Higher order goals:</td>
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</tr>
<tr>
<td>Intellectual initiative</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Analytical ability</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Interpretative ability</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Skills:</td>
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</tr>
<tr>
<td>Argue and express an informed opinion based</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>upon a critique of the relevant literature</td>
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</tr>
</tbody>
</table>

How to complete

For each criteria, shaded in yellow above, rate your performance on the 5-point LIKERT scale from Excellent through Very Poor. Type an X after the number in the cell, which you believe best reflects your assignment performance in the row for each criterion. The measures for each criterion are defined below.

Once you have completed your self-assessment please attach a copy and email it back to Professor Stephen Colbran (Stephen.Colbran@gmail.com).

Definition of Measures

1. **Identification of relevant source materials** – This measure is a value judgment assessing the extent to which the source materials have been identified which are relevant to the topic. Five measures are presented: **Excellent** – All relevant major primary and secondary sources are detected, **Good** – Most relevant primary and secondary sources are detected, **Average** – Some relevant primary and secondary sources are detected, **Poor** – Few relevant, but some irrelevant primary and secondary sources are detected, and **Very Poor** – Numerous irrelevant primary and secondary sources are detected.

5. **Accurate citation** – Five measures of compliance with the Australian Guide to Legal Citation

6. <http://mulr.law.unimelb.edu.au/go/aglc> are presented: **Excellent** – No errors detected, **Good** – Less than 2 errors detected, **Average** – Between 3 - 5 errors detected, **Poor** – Between 6 – 10 errors detected, and **Very Poor** – More than 10 errors detected.

7. **Identification of primary issues** – This measure is a value judgment assessing the extent to which all primary knowledge issues have been identified. For example specific terminology and facts, conventions, trends, classifications, criteria, principles, theories or structures. Five measures are presented: **Excellent** – All relevant primary issues are detected, **Good** – Most relevant primary issues are detected, **Average** – Some relevant issues are detected, **Poor** – Few relevant, but some irrelevant primary issues are detected, and **Very Poor** – Numerous irrelevant issues are detected.

8. **Structured themed arguments** – This measure is a value judgment assessing the extent to which comprehension of structured themed arguments has been demonstrated. Has an understanding of facts and ideas through organisation, translation, interpretation and extrapolation, been demonstrated? Five measures are presented: **Excellent** – All themes are well structured, **Good** – Most themes are well structured, **Average** – Some themes are detected with reasonable level structure evident, **Poor** – One
theme is detected is detected, but is poorly structured, and Very Poor – No structured themes are detected.

9. **Intellectual initiative** – This measure is a value judgment assessing the extent to which information has been synthesised by combining information in new ways, creating new insights or alternative solutions. Five measures are presented: Excellent – Information has been completely synthesised, Good – Most information has been synthesised, Average – Some information has been synthesised, Poor – Lacks evidence of information synthesis, and Very Poor – No synthesis is detected.

10. **Analytical ability** – This measure is a value judgment assessing the extent to which information has been examined and broken down into parts identifying motives, causes, or linkages. Have elements, relationships, and organisational principals been considered in making inferences and in the provision of evidence in support of the arguments presented? Five measures are presented: Excellent – Information has been completely analysed, Good – Most information has been analysed, Average – Some information has been analysed, Poor – Lacks evidence of analysis, and Very Poor – No analysis is detected.

11. **Interpretative ability** – This measure is a value judgment assessing whether the author of the assignment has conducted an evaluation by presenting and defending opinions, making judgments about information, the validity of ideas, or the quality of others work based on a set of criteria. Five measures are presented: Excellent – Information has been completed evaluated, Good – Most information has been evaluated, Average – Some information has been evaluated, Poor – Lacks evidence of evaluation, and Very Poor – No evaluation is detected.

12. **Argue and express an informed opinion based upon a critique of the relevant literature** – This is a skills based measure requiring four elements: identification of the relevant literature (see criteria 1), critique, argue an opinion, express that argument coherently. Five measures are presented: Excellent – All four elements are present to a high standard, Good – All four elements are present, Average – Three elements are present, Poor – Two elements are present, and Very Poor – No elements are present.

**Appendix B**

<table>
<thead>
<tr>
<th>Colour Key</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour:</td>
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<td>Important</td>
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<tr>
<td>Useful</td>
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<tr>
<td>Background</td>
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<tr>
<td>Irrelevant</td>
</tr>
<tr>
<td>Incorrect</td>
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</table>
Assessing spoken language through the oral proficiency interview

Katie Dunworth (k.dunworth@curtin.edu.au)
Curtin University

In response to the identification of the level of English language proficiency of students in Australia’s universities as an issue of concern, many universities have introduced post-entry language assessments (PELAs), either at an institutional level, or within a specific disciplinary area. Most of these instruments take the form of a writing assignment, but there is a growing recognition that many students may require further development of their oral language, and that this, too, should be assessed. This paper presents the findings of a small-scale study which sought to explore the differences in language produced by the same candidates in different types of oral proficiency interview. This particular form of assessment was selected not only because it is commonly used in a variety of pre-tertiary and post-entry contexts to assess oral language proficiency, but also because academic course and unit coordinators often participate in one-to-one interviews or meetings with students, and may make judgements about their oral language capabilities on the basis of those encounters. The study compared candidates’ oral language use in the context of three different interactive formats: a scripted interview with a live interlocutor, an unscripted interview with a live interlocutor, and an ‘interview’ comprising responses to a set of pre-recorded prompts. The study was conducted with twelve participants from a range of language and cultural backgrounds, all of whom spoke English as an additional language (EAL). The results indicated that while some significant differences were observed according to which of the three formats the candidates had undertaken, it also appeared that the influence of the live interlocutor on candidates’ language output might have extended beyond that associated with the format of the test to differences in the interlocutors’ personal styles. The paper concludes that the identification of differences, even in the brief extracts of language produced within the study, reinforces the need to exercise caution when designing and conducting an oral PELA, so that candidates are not disadvantaged by the format of the assessment.

Keywords: post-entry language assessment, oral proficiency interview

Conference Themes: Standards Practical solutions

Introduction

The issue of the English language proficiency levels of Australian university students has been under a particularly intense spotlight since the publication of an article in People and Place (Birrell, 2006), which criticised the English language levels of former international students who had graduated from Australia’s universities. The government responded by convening a national symposium in 2007 through Australian Education International (AEI) and the International Education Association of Australia (IEAA), which led in turn to the publication of a series of recommendations for universities, including “a more generalised use of English language diagnostic tests (for all students) including post-entry” (AEI, 2007, p. 17). The pressure from government and other external authorities has continued to be maintained on universities, not only from commissioned reports (Bradley, Nunan, Nugent, & Scales, 2008; Baird, 2010) but also from university audits by the Australian Universities Quality Agency (AUQA), many of which comment on student English language proficiency. In 2009 the Good Practice Principles for English Language Proficiency for International Students in Australian Universities (DEEWR, 2009) were published and have been widely accepted within universities (Murray, 2010). These, too, included as a principle “Students’ English language development needs are diagnosed early in their studies and addressed, with ongoing opportunities for self-assessment” (DEEWR, 2009, p. 3). As a consequence, many universities have either introduced, or intend to introduce, some form of PELA (Dunworth, 2009), either at an institution-wide level, or within specific disciplinary fields. Most of these instruments take the form of a writing assignment, but there is a
growing interest in the assessment of oral proficiency, which EAL students themselves sometimes identify as a particular concern (Berman & Cheng, 2001).

Research into the testing of oral language proficiency has been a fruitful field, and has led to many improvements in testing practices over the years. The studies which have led to those improvements have examined assessment of oral proficiency from a range of different perspectives, including the nature of the construct to be measured, the appropriateness of the task to measure that construct (e.g. Johnson, 2000; Kormos, 1999; van Lier, 1989), the meaning of the scores awarded to candidates and the rating performance of the examiners (e.g. Brown, 2000).

One particularly common form of assessment is the oral proficiency interview (OPI), which was the form of assessment examined in the study that this paper describes. It was selected as it is found in a range of tertiary and pre-tertiary educational contexts, for example in placement tests in bridging courses, and PELAs. There has been considerable research into scores obtained from OPIs. For example, Brown (2003, 2004) analysed interviewer input and found that the language elicitation techniques used impacted on language output and subsequent scores obtained by the candidate; O’Loughlin (2002) investigated the impact of interlocutor gender, finding that gender did not have a significant impact on the outcomes; and McNamara & Lumley (1997) studied the impact of interlocutor competence, finding that this variable impacted on the scores allocated by raters.

In acknowledgement of the possibility of interlocutor bias, high-stakes testing organisations have sought to develop oral tests that are ‘interlocutor proof’ by such means as introducing scripted OPIs or, in the case of computer based or ‘semi-direct’ interview tests (SOPIs) that use pre-recorded prompts, completely eliminating a live interlocutor from the oral assessment process. This in turn raises other issues, such as the loss of spontaneity, and the psychological impact of the absence of human interaction (Qian, 2009). Whatever the format, when scoring an OPI according to a construct of oral language proficiency that is based on the candidate’s output only, raters have ‘no alternative but to remove [the interviewer’s role] from the equation when making their judgment’ (Brown, 2004: 278).

The study

The intention of the study which this paper reports was to investigate whether a different kind of language output would be produced by the same candidates in different forms of OPI: a scripted interview, a non-scripted interview and pre-recorded prompts in a SOPI. The study involved the administration of a brief oral proficiency test to twelve volunteer students, utilising the three different test approaches. The tests were recorded and examined to uncover the differences between the candidate output on the different types of test, according to criteria explained below. As the tests had no repercussions for candidates, brevity to reduce the impact of intervening variables, such as fatigue or language practice, was prioritised over concerns about ensuring candidates had the maximum opportunity to demonstrate their capabilities, and the tests were set at four minutes. In any case, the study was not intended to identify the quality of candidate output as an end result, but only as a means to identify the differences between the formats of the type of language used. With this in mind, the need to ensure that candidates had enough time to produce the full range of language of which they were capable was not a concern.

Table 1: Number of oral tests

<table>
<thead>
<tr>
<th>Semi-direct oral test</th>
<th>Scripted oral test</th>
<th>Unscripted oral test</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 candidates</td>
<td>Interlocutor A: 6 candidates</td>
<td>Interlocutor A: 6 candidates</td>
</tr>
<tr>
<td></td>
<td>Interlocutor B: 6 candidates</td>
<td>Interlocutor B: 6 candidates</td>
</tr>
</tbody>
</table>

Table 1 illustrates the tests taken by the 12 candidates. In the first (SOPI) approach, candidates responded to prompts which had been previously recorded and were transmitted to the candidate through an audio playing device. A specific time was allocated for candidate responses, with candidates being informed in advance of the time they had for their response. At the end of the allocated time a bell sounded and the recorded voice of the ‘interlocutor’ asked the next question or provided the next prompt.

In the second (OPI) approach, candidates were interviewed by a live interlocutor, using a script provided, and in the third (OPI) approach, candidates were interviewed by a live interlocutor, who was provided with the same
topic areas for each section of the test, but was permitted to ask her own questions and follow up on candidates’ observations with contextually and culturally relevant questions or comments.

There are numerous factors that contribute to candidate performance in language testing. In order to minimise the intervention of variables other than those being measured, steps were taken to control other key elements that contribute to performance: the characteristics of the test setting and the test rubric (Bachman and Palmer, 1996). With regard to the test setting, the tests were held on the same afternoon, in the same location, in three adjacent classrooms. The rooms were set up in a similar way. Candidates were guided to the appropriate interview room at the appropriate time by an administrator, and all tests were timed.

Characteristics of the test rubric include such items as timing, instructions and scoring. The tests were timed using electronic clock-timer devices, with interlocutors provided with a demonstration for their use. Candidates were briefed about the test process both in writing in advance of the test date and when they arrived to take the tests, although they were not given the specific task instructions, as this was part of the interlocutor’s role.

With regard to the interlocutors, their gender, age and level of testing expertise were not items to be measured in this study, so in order to reduce the intervention of these variables the interlocutors were selected because of the similarity of many of their features: both of them were female and aged between forty and fifty, were highly experienced oral proficiency examiners, and had an L1 proficiency level of English. The two interlocutors (Interlocutor A and Interlocutor B) swapped test type halfway through the process so that each of them conducted six scripted and six unscripted tests.

To minimise variation in the test conditions in terms of the test content, all tests had the same theme (education) and candidates were allocated the same kinds of task in the same order. First, they were invited to make some introductory personal comments about themselves, their families, their jobs or study and their interests. Then they were asked to describe a picture that was placed in front of them, and finally they were asked some more abstract questions about education in general. Because of the similarity of the content and the fact that each candidate performed three times on one afternoon, it was expected that the candidates might either appear to improve in terms of proficiency and output with each subsequent test as the material became more familiar, or become increasingly reticent if they became bored with the topic. In order to measure whether this might be the case, tests were conducted in a different order for the three test types (SOP-I, scripted OPI-2, and unscripted OPI-3) for batches of candidates: one group took the tests in the order 1, 2, 3; a second in the order 2, 3, 1 and the third in the order 3, 1, 2.

To minimise the impact of cultural and first language based factors, candidates were selected, using quota sampling (Milroy & Gordon, 2003), from different nationalities and both genders. Of the twelve students, seven were male and five were female; four were from Saudi Arabia, three were from China, three were from Japan, one was from Korea and one was from Indonesia.

**Method of analysis**

The interviews were analysed using key measures identified by Brown, Iwashita and McNamara (2005) in their examination of test-taker performance on EAP speaking tasks. Using their research as a model, the transcripts from this study were analysed according to features grouped under two main categories: linguistic resources (which subsumed ‘content’) and fluency.

Linguistic resources were broken down into four areas: grammatical accuracy, grammatical sophistication, textualisation and vocabulary. For this small scale study, feature-level ‘grammatical accuracy’ was measured according to the number of non self-corrected errors that occurred in each transcript regarding the use of inappropriate tenses, subject/verb agreement (for example, the use of ‘is’ instead of ‘are’), number errors (such as the omission of the plural ‘s’), inappropriate use or omission of articles and the incorrect use or omission of prepositions. Accuracy at a global level was assessed by calculating the number of clauses (independent or dependent) that were free from error. Grammatical sophistication was measured by the frequency and use of complex constructions, and vocabulary was identified, as in the Brown, Iwashita and McNamara (2005) study by using the internet-based VocabProfile program (Cobb, 2002). Transcripts were analysed in terms of the total number of word tokens, the number of different word types and the number of words occurring above the most frequently used thousand words of English.
Fluency was measured in several ways. The total number of words produced by the candidate in each test, used to measure vocabulary, were also be taken as a measure of fluency on the basis that speed of speech contributes to that construct. In addition, hesitation devices (e.g. ‘um’, ‘er’, ‘ah’) were calculated, as were the number of silent pauses (together with the length in seconds of those pauses) and occurrences of repairs, partial repetitions or reformulations.

There were some very small variations in the duration of the tests with the live interlocutors. An extension of 16 seconds was allocated to the recorded test to compensate for the additional words required on the recording to explain items which in a live situation would make use of shorter phrases. Perhaps for this reason the recorded test was the longest of the three for eight of the twelve candidates. Of the remaining four candidates, two had their longest test with interlocutor A and two with interlocutor B. The recordings produced the shortest test for three candidates, while Interlocutor B conducted the shortest test with four candidates and Interlocutor A with five candidates. In spite of the time variations, for ten of the twelve candidates the longest test of their three did not produce either the most words spoken or the most complex language. In summary, the tests were analysed according to the following criteria:

<table>
<thead>
<tr>
<th>Linguistic resources</th>
<th>Fluency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grammatical accuracy: errors and error-free clauses</td>
<td>Total word tokens</td>
</tr>
<tr>
<td>Grammatical complexity</td>
<td>Pauses and hesitation devices</td>
</tr>
<tr>
<td>Textualisation: connectives</td>
<td>Repairs and reformulations</td>
</tr>
<tr>
<td>Vocabulary: word type and word range</td>
<td></td>
</tr>
</tbody>
</table>

**Results**

The results were analysed by conducting the non-parametric Wilcoxon Matched-Pairs Signed-Ranks test. This particular test was used because it is a robust instrument and because the underlying assumption for parametric tests, that the data will follow a normal distribution, could not be applied in this study. Significance was initially calculated to a probability level of 0.05 on the basis that small samples are more prone to Type II errors of accepting the null hypothesis too readily (de Vaus, 2002:230). The data were analysed in three different ways: (1) grouped in the order in which the tests were taken by the candidates in order to determine whether there was a correlation between performance and the candidate’s increasing familiarity with the task format and test topic; (2) grouped according to whether the test taken by the candidate was unscripted with a live interviewer, scripted with a live interviewer, or a SOPI; and (3) grouped according to whether the candidate took the test with Interlocutor A, Interlocutor B or the SOPI.
The first six candidates (candidates A to F) undertook the unscripted tests with Interlocutor A.

In the table above, the results have been presented according to the second category: grouping by test format. The first six candidates (candidates A to F) undertook the unscripted tests with Interlocutor A.

In no case were the results statistically significant for any measure for the data sets when categorised according to the order in which the tests had been taken. This was considered to be an indicator that the candidates had not been significantly affected by the order in which they had taken the tests. When the language features of the candidates were compared according to whether they had taken a scripted or unscripted test, the results indicated that there were no significant differences between the tests with regard to the fluency markers of pauses, hesitation devices and reformulations or repair. In terms of the total word count, nine of the twelve interviews with the highest number of word tokens for each candidate fell into the category of scripted OPIs, the difference being significant when measured against both the unscripted OPI (p<0.05) and the SOPI (p<0.01). There was also a significant difference in the number of words produced in the unscripted OPI and the SOPI (P<0.05).

### Table 4: Results by criterion according to test format US=unscripted, Sc=scripted

<table>
<thead>
<tr>
<th>Candidate</th>
<th>Format</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
<th>K</th>
<th>L</th>
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</thead>
<tbody>
<tr>
<td>Word tokens</td>
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<td>203</td>
<td>310</td>
<td>185</td>
<td>211</td>
<td>220</td>
<td>264</td>
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<td>200</td>
<td>146</td>
<td>264</td>
<td>322</td>
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<tr>
<td></td>
<td>Sc OPI</td>
<td>178</td>
<td>265</td>
<td>296</td>
<td>212</td>
<td>180</td>
<td>250</td>
<td>336</td>
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<tr>
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<td>191</td>
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<td>167</td>
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<td>233</td>
<td>224</td>
<td>187</td>
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<td>Total pauses</td>
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<tr>
<td></td>
<td>Sc OPI</td>
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<td>2</td>
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<tr>
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At the same time, the distribution was such that the highest number of word tokens for each candidate occurred with Interlocutor A in nine of the interviews, and with Interlocutor B in three. This anomalous result indicated a trend that was considered worth investigating further, and is explored in more detail below.

In terms of vocabulary, significant differences were observed in the variety of word types produced in the SOPI compared with the both tests with live interlocutors (p<0.01), candidates producing a wider range of word types in the latter. There was also a significant difference in the number of different word types used by the candidates according to whether the OPI was scripted or unscripted (p<0.05), with candidates using a wider range of word types in the scripted tests. In terms of the number of words produced above the most common 1000, the only significant difference lay between the unscripted tests and the SOPI (p<0.05).

Candidates made significantly fewer grammatical errors in the SOPI compared with either one of the OPIs with the live interlocutors (p<0.05). However, the unscripted OPIs produced more error-free clauses than the SOPIs at a significance level of p<0.01. No other significant differences occurred in any of the other language features; the occurrences were in any case too low.

When the features of the candidates' language were compared according to whether the test had been taken with Interlocutor A, Interlocutor B or using the SOPI, there were no significant differences to be observed other than those already described. Only one noticeable difference was observed in the number of words used above the most commonly occurring thousand. In 8 of the 12 cases, they were higher in the tests with Interlocutor B than those with Interlocutor A, though not to a level significant for this study (p=0.06). A check was made as to whether these words were candidate repetitions of words initially produced by the interlocutor in unscripted prompts, but in only one instance – the word ‘college’ – was this the case.

Discussion

The results indicated that there were significant performance differences, as measured by word count, word type, the production of error-free clauses and number of errors between the live tests and the SOPIs. With the exception of the number of errors produced by the candidates, the live tests produced a higher-level performance than the SOPIs. The lower number of uncorrected errors produced in the SOPI reflects the findings of other studies, and has been explained by Shohamy (1994) as being because candidates are more conscious of the fact that the SOPI is a test and that they should therefore ‘pay attention to linguistic accuracy and to monitoring their language’ (Shohamy, 1994: 115). At the same time, there were no significant differences between the interview types on a range of other criteria, including grammatical sophistication, textualisation, hesitation devices and pauses. From the results in this study, therefore, it appears that tests with live interlocutors had a marginal, though not overwhelming, advantage in terms of candidate performance on a wider range of factors than those with pre-recorded prompts where the task format was almost the same; and that scripted OPIs had an advantage over unscripted OPIs.

The main circumstance in which there were substantial differences in performance in the live tests lay in the number of words produced by the candidates. However, the results appeared at first to be anomalous: the most words were produced by nine of the twelve candidates in their scripted tests, but also by nine of the twelve candidates in the tests with Interlocutor A. After discounting the possibility that Interlocutor A’s tests had been longer and therefore provided more opportunity for language to occur, an explanation was sought for the anomaly by analysing the language used by the interlocutors. The most obvious explanation would have been that Interlocutor A commenced with the six scripted tests and then, having memorised the prompts, unconsciously reproduced them in the subsequent six ‘unscripted’ tests. However, it was Interlocutor B who had commenced with the scripted tests so this could not have been the reason. Moreover, an examination of the prompts themselves revealed that both interlocutors had used markedly similar prompts across all the tests, possibly drawing on their experience of high-stakes testing.

The total number of prompts produced by each interlocutor was then calculated to determine whether Interlocutor A had produced fewer prompts, allowing a candidate to develop an idea before being interrupted. This exercise demonstrated that, on the contrary, Interlocutor A had in fact produced the greater number of prompts in the majority of the tests; an average of 14.6 per test compared with Interlocutor B’s average of 13 per test. If this was meaningful in any way it suggested on the face of it the very opposite of the original supposition: Interlocutor A had provided candidates with less time to reflect on and add to their answers before a new
prompt was introduced. At the same time, the tests with Interlocutor B had not produced a significantly higher number of pauses.

Another possibility was that Interlocutor A had produced fewer words herself, thereby providing the candidates with more opportunity to speak. However, this did not turn out to be the case, with Interlocutor A producing across all interviews a total of 983 words and Interlocutor B producing a total of 794 words.

Perhaps an explanation was found when the average number of words per second produced by the candidates in each test was calculated. Overall, a mean of 1.05 words per second was produced by the candidates in the tests run by Interlocutor A, and a mean of 0.94 words per second was produced in those run by Interlocutor B. Since there was no significant difference in the range of words used when candidates were grouped by interlocutor, it is very unlikely that differences in word length would provide a convincing explanation for the figures. One possible explanation, given that both candidates and interlocutor produced more tokens in the tests with Interlocutor A, may be one which aligns with the precepts of accommodation theory (Giles & Coupland, 1991): that the pace of the interviews set by the interlocutors had differed, with Interlocutor A establishing a brisker pace to which the participants conformed. This may also explain why Interlocutor B’s OPIs had resulted in a marginally higher number of words used above the most common thousand – as the pace was slower students may have had time to think more carefully about the precise word they wished to use.

Conclusion

The evidence from this study suggests that the interlocutor, or the absence of one as in a SOPI, can have a measurable impact on candidate output in an OPI, even under strictly controlled conditions using highly trained interlocutors in a context of very limited language production. Having a script appeared to advantage the candidates in terms of the word output, even though both examiners were highly trained and experienced in elicitation techniques. In what way, and indeed whether, these differences in language output would also have affected the scores allocated to each performance was not a factor under consideration in this study. Nevertheless, the results do indicate that we should exercise caution when conducting and marking OPIs. In this study, both examiners had very similar backgrounds and were very experienced testers, but in spite of this the same candidates undertaking very brief OPIs under the same testing conditions on the same day still performed in a different way on each test, particularly in terms of their total output and choice of words.

References


Allocating academic workload for student consultation assessment and feedback

Sonia Ferns (s.ferns@curtin.edu.au)
Office of Assessment, Teaching and Learning, Curtin University

Assessment is a high priority across the university sector. It is what drives student learning and monopolises much of the academic’s workload. Planning and implementing authentic assessment patterns which are relevant to the students’ learning are time consuming and challenging. Marking assessments to ensure consistency in judgements and criteria presents dilemmas as it is dependent on many variables. Curtin has recently developed the Academic Workload Management System (AWMS), a university-wide system for allocating academic staff workload. One aim of the system is to ensure transparency and equity for staff workloads across the University. One of the categories for allocation of time is Consultation Assessment and Feedback (CAF). The CAF category is used to allocate time dedicated to consulting with students, assessing student performance and providing feedback to students. Factors such as the skills and experience of staff; preparation and feedback provided during the assessment process; student ability; and complexity of tasks impact on the time it takes to perform tasks associated with the CAF category. A key element of the CAF category is the marking of assessments - allocating time to this activity requires informed judgement. This research is an effort to gather evidence to inform discussion on the time allocation for the CAF category in the AWMS. As universities move into a regulatory environment where outcomes and standards will be actively scrutinised, the assessment experience and the quality of student feedback will be of critical importance. It is in the interests of the university to resource consultation, assessment and feedback adequately.

Keywords: workload, consultation and feedback

Conference Themes: Standards, Practical solutions

Background

Issues of academic workload and the associated stresses have gained momentum in recent years as universities are under increasing scrutiny to produce employable graduates and provide a service that meets the needs of students, community and government agendas cost effectively (Yorke, Bridges & Woolf, 2000). Assessment strategies and outcomes are high on the agenda for institutional accountability measures (Bloxham, 2009). These increasing accountability requirements and intensive reporting mechanisms directly impact on academic staff workloads. Allocating a definitive timeframe to specific tasks of a teaching academic is challenging. While there is a plethora of literature on assessment and the issues associated with assessment and many articles conveying the dilemmas of the academic’s workload, there is little that specifically discusses workload in relation to the intensity of tasks associated with assessment in the higher education sector.

According to Hersh (2007) assessing learning is crucial to quality and accountability. Hersh argues that ‘transparent, systematic learning assessment can be a powerful force for improvement’. The high stakes attributed to assessment and student outcomes reinforces the need for the higher education sector to examine the diversity of assessment practices, the skill levels of staff and the time it takes for an academic to implement the assessment cycle within their workload. Bloxham (2009) recognises that assessment is fraught with the dilemma of inherent inconsistencies of marking practices and standards. This factor impacts on both the workload and stresses for staff charged with planning, marking and facilitating student assessments to ensure accountability and improved student learning.

Staff workload is increasingly an issue for universities and according to Race and Pickford (2007) the most significant element of the work of teachers in post-compulsory education is generated by assessment processes. Stress resulting from the diversity and complexity of an academic’s work is on the increase (Hogan et al, 2002; Kearns & Gardiner, 2007) thus impacting on the retention and attraction of quality staff. The biggest issue confronting the higher education sector is the attraction and retention of academic staff (Review of Australian
Higher Education Final Report, 2008). Increased workloads and pressures are the key factors in reduced staff morale and satisfaction in the higher education sector (OECD 2008).

It is becoming increasingly apparent that there is an urgency to monitor academic staff workload in an attempt to balance the teaching and research nexus and acknowledge the time commitment required to develop and implement authentic, reliable and fair assessment and provide constructive and meaningful feedback to students (Ferns et al, 2009). Disengaged and overworked staff have the potential to compromise the integrity of the assessment process, thereby making the institution vulnerable in accountability measures. Furthermore, these factors contribute to increased staff attrition.

Due to its complex nature, allotting time to duties associated with assessment are arguably the most difficult. Assessment is a multifaceted undertaking with good assessment practices encompassing a cyclic approach of development, reflection and constant revision. Yorke et al (2000) argue that there are many tasks associated with the assessing of students in a university context. Assessment development, marking and feedback are recognised as the most time consuming of all academic activities and the timeframe for these tasks is variable depending on staff expertise and experience; the nature of the assessment task; complexity of moderation; student ability; the quality of the completed assessment; the number of students; and the type of feedback. The expansion of online delivery adds another dimension to the complexity of marking and feedback. Smith & Coombe (2006) believe the role of the marker is pivotal to the integrity and quality of the student experience, increasingly so in an online environment.

Curtin University has developed the Academic Workload Management System (AWMS), a system designed to allocate academic workloads. This is in response to increasing concern about academic workloads as expressed in the Curtin Voice Survey (Discussion Paper, 2009). These concerns are shared by other higher education institutions where there is a perception of inequity in staff allocations of workload (Gillespie, 2001). The intention of the AWMS is to ensure fair, equitable and transparent workload allocation for academic staff and accommodate the diversity of tasks required of an academic. The application also provides accountability measures for managers of academic staff. The AWMS has attempted to categorise the various responsibilities of an academic role and allocate time according to the category. Perhaps the most challenging of these categories is the Consultation Assessment and Feedback (CAF) category. This allocation covers all activities in relation to consulting with students, assessing student performance and providing feedback to students (Academic Workload Management System Categories and Parameters in Detail, 2010).

There is an abundance of literature on the academic’s workload and the stresses it produces (Hogan, 2002) but very little that focuses on the energy and time dedicated to designing, implementing and marking assessments (Smith & Coombe, 2006). The majority of literature discusses the academic workload from a broad perspective and does not isolate specific tasks such as assessment design, administration and feedback to students. The quality of assessment and marking practices is also a well documented topic but there is little literature which discusses workload in relation to assessment. Articles on workload generally place assessment under the collective banner of ‘teaching’ in an effort to interrogate the research versus teaching dilemma. Bloxham (2009) argues that the process of marking has not been examined in depth and there is little evidence available to quantify time dedicated to the range of tasks associated with assessing students in a higher education context.

Universities are undergoing significant change as a result of both internal and external drivers resulting in an increased intensity in the academic workload (Soliman, 1999). The quality and integrity of the assessment process is also under scrutiny and is becoming a key accountability indicator for the sector. It is imperative that the competing agendas of academic workload and assessment quality do not compromise the course experience and overall outcomes for the student. It is timely that an investigation into the time invested into assessment design, assessment marking and student feedback (including consultation with students) should be undertaken.
Research questions

The overall aim of this research was to gather evidence to identify the factors that impact on the time it takes to mark common assessment tasks. This study is intended to initiate research in this area and provide the foundation for further investigation.

The research questions are:
1. What are the timeframes allocated to marking assessments in a first year undergraduate unit?
2. What are the predominant factors that impact on the time needed for marking assessments?
3. What are the ways in which consultation with students is undertaken and what are the time impacts of the various approaches?
4. What are the time impacts of utilising different approaches to providing feedback to students?
5. Does the research highlight the efficiencies that may be implemented to facilitate consistency in marking and streamline marking practices?

Research design and method

This investigation combined a cross-sectional research design and a comparative approach. A range of both qualitative and quantitative data was sourced to maximise the reliability and validity of the results. The combination of the cross-sectional and comparative models enabled variation between staff profiles, assessment profiles and unit profiles to be quantified in a systematic manner. Ethics approval number OATL-3-11 was granted on 18th March 2011.

Sample of data

This study focussed on 10 large undergraduate subjects, 2 of which were online units, from across all four university faculties. A total of 16 staff participated in the study. With the increase in demand for units offered online, and the additional stress this places on staff, two large online units were included in the investigation. Templates were developed to gather profiles for units/subjects, assessments, feedback mechanisms employed, consultation procedures and staff.

Data collection methods

Unit information was collated through contact with the Unit Coordinator of each unit. A profile of the assessments in each unit was created using a matrix outlining the criteria with additional information provided by the Unit Coordinator. Unit Coordinators completed a timesheet reflecting the time designated to marking, consultation and feedback and details about the nature and frequency of student consultation. Staff also included the number of assessments marked for each task in the unit. The documents were created so they could be completed online. Following the initial meeting, the documents were emailed to staff early in semester 1, 2011. Based on the total marking time and the number of tasks marked, an hourly rate was calculated for each staff member for every task they were required to mark.

Assessments were categorised using specific criteria including weighting, preparation practices, assessor, assessment type, assessment format, assessment purpose, feedback mechanism and approaches to student consultation. Assessments were then clustered into 9 assessment types under the headings of essay, case study, exam, oral presentation, research assignment, quiz/test, laboratory, poster and reflection on the basis of these criteria.

Level of experience, frequency of delivery of the unit, demographic information and level of responsibility were the areas captured in staff profiles.

Results

To determine the variables that impact on the efficiency and effectiveness of marking and providing feedback to students, a profile of each of the teaching staff participating in the study was collated. Figure 1 below shows the variation of the employment status of staff while figure 2 highlights the diversity in teaching experience. Figure 3 illustrates the spread of age brackets of staff who participated in the study.
The staff profiles indicate that over half the staff were either part time or sessional and 62% had been teaching for less than 5 years. The bulk of the staff fell into the 40 to 50 age bracket. Of the 16 staff, 12 were female and 9 were employed as Unit Coordinators while the remaining 7 were tutors. All tutors were employed on a sessional or part time basis. The variation in the demographics of staff may account for the diversity in assessment marking time and consultation methods.

The most frequently occurring assessment tasks were written tasks usually in the form of an essay. Exams, research tasks and quizzes or tests were also popular choices for assessing students (See Figure 4 below).

Figure 4 demonstrates the average marking time for each of these tasks. The essay, on average, takes longer to mark while a quiz or test assessment type takes the least time. However, much of the time invested in marking the essay was devoted to providing constructive feedback, thereby enhancing the learning experience for students. Interestingly, all the exams were marked by sessional staff and feedback was in the form of a numerical
result. Feedback in the form of only a grade or result has little impact on informing future assessments from a student perspective. While assigning a numerical result takes less time than providing other forms of feedback, it does not provide the student with constructive or empowering comments which will inform future assessments and enable the student to apply the feedback to a range of contexts.

Some assessment types showed relative consistency in the time taken for marking while others varied greatly (See Figure 5 below).

**Key**
1 - Essay  
2 – Case Study  
3 – Oral Presentation  
4 - Exam  
5 – Research Assignment  
6 – Laboratory  
7 – Quiz/test  
8 - Poster  
9 – Reflection

![Marking Time per assessment type](image)

**Figure 5. Marking time per assessment type**

Figure 5 shows the average time for marking an assessment in each of the assessment types for every staff member included in the study. The greatest variation in time spent occurs with essays, research assignments and oral presentations. Exams, quizzes, laboratories and poster activities show greater consistency in marking time although occurred less frequently as an assessment type.

Figures 6 and 7 below demonstrate the relationship between teaching experience and the time taken to mark an essay and exam. This data suggests that time taken to mark assessments decreases with teaching experience.

![Teaching Experience versus Essay Marking Time](image)

**Figure 6. Teaching Experience versus essay marking time**
Figure 7. Teaching experience versus marking time

Time devoted to academic misconduct varied depending on the assessment types. Academic misconduct tended to take more time for units which had predominantly written assessments. An online unit recorded the highest time of 7 hours for the unit. However, the sample of online units was insufficient to make a generalisation about time devoted to tasks associated with assessment in a totally online environment. Unit Coordinators appeared to take the bulk of the responsibility for cases of academic misconduct. Time allocated for moderation varied from 12.5 hours to 1 hour over the semester. More tutors were involved with large numbers of students which ultimately increased the time needed for moderation activities. However, the variation in time for moderation did not appear to show a consistent trend based on student numbers or assessment type.

Strategies for time devoted to consultation varied greatly between staff. Eight of the 15 staff reported that they saw 10 to 20% of the students for individual consultation. The Coordinator of an online unit consulted individually with up to 50% of the student cohort. This consultation included telephone calls. The majority of consultation sessions dealt with assessment clarification and feedback with only one staff member reporting the need to provide support for a personal issue. Nine staff stated that consultation sessions were usually up to a half hour in duration. Subjects that included laboratories tended to have less time devoted to consultation as the staff felt that a laboratory session allowed for intensive one on one feedback which negated the need for further individual consultation. Unit Coordinators generally devoted more time to consultation than sessional staff, possibly due to the ready availability of full time staff. Part time staff reported that they spent a lot of time on individual consultation, frequently in their own time and via telephone. All staff listed email and Blackboard as mechanisms for additional consultation and support. Written assessments clearly required the most additional consultation in comparison to other assessment types. However, when a draft proposal was submitted for feedback as a formative task, consultation time was considerably reduced. Weekly student newsletters and weekly tutor meetings were identified as strategies that reduced the need for intensive one on one consultation with students as information is disseminated widely and is easily accessible.

All staff reported the difficulty in defining consultation as opposed to feedback as the distinction between the two is blurred. Many staff commented on the convenience of electronic forms of communication but also highlighted the time spent emailing students. This time was considered difficult to quantify as it was not an isolated activity and usually happened while the staff member was working on other tasks.

The study highlights the complexity of administering and marking of assessments. Timeframes for marking assessments varied considerably and were dependent on experience of staff, the assessment type and the inclusion of formative tasks.

Discussion

Consultation, assessment and feedback involve a series of time intensive tasks that are difficult to quantify. The assessment process is deemed to be the key driver of learning which has the greatest impact on student satisfaction and overall experience (Ramsden, 2003). The widening participation agenda and the massification of the higher education sector will result in a more diverse student cohort (Mertova et al, 2010) and the quality and
extent of feedback on which students rely to progress in their studies. The challenge of providing constructive feedback based on rigorous assessment tasks will increase and the need for streamlined and efficient processes will become more evident.

While much of the literature attests to the importance of constructive feedback in the learning cycle, it is interesting that both staff and students are not always aware feedback is occurring. The experience of staff also varies highlighting the need for targeted professional development activities focusing on assessment and feedback practices. The process of attempting to separate feedback and consultation made staff aware of the frequency with which they provide feedback.

From this study it appears that well designed formative assessment tasks scaffolded with in summative tasks, ultimately result in a better quality student submission which reduces the time invested in marking. Traditionally, assessments have been considered as isolated events in a subject/unit. The concept of scaffolded assessment tasks may challenge the conventional approach to assessment in higher education.

Through conversations with participants of this study, it appears there are many tasks such as data entry and academic misconduct which may demand many hours of work and are impossible to predict and therefore allocate workload. Staff also commented on the instability of online systems for entering data and the stress caused when information technology issues prevent staff from uploading results in a timely manner.

The concept of providing meaningful and relevant consultation, assessment and feedback is dependent on many variables. Future research could focus on time allocations for specific assessment types in an effort to gather more focussed data. Comparison of the time intensity and effectiveness of specific feedback strategies for assessments would also provide valuable data to inform future practices. An investigation to determine the impact of feedback strategies on student results and satisfaction levels and across different disciplines would possibly produce some interesting results. In addition, a benchmarking exercise to investigate how other institutions manage academic workloads associated with assessment and feedback would be worthwhile. This study did not include any subjects with fieldwork components, an area that presents an additional level of complexity. In addition, time devoted to assessment design was not factored into the academic staff workload for this investigation. Assessment design is a critical element of the assessment cycle and ultimately impacts on the marking and feedback time.

Assessment and feedback are what drives student learning and engagement and impacts on the overall student experience. Academic staff cite assessment as the most challenging aspect of their academic role (Race & Pickford, 2007). To provide constructive and meaningful feedback for well designed assessments is clearly time consuming and requires a great deal of support.

Conclusion

Quantifying the academic’s workload is a topical issue within higher education institutions. With the increase in accountability measures and mandated outcomes for universities and the challenges of staff attraction and retention, the topic of allocating workloads has become more prominent. In addition, assessment practices and evidence of student achievement is under increasing scrutiny across the sector. Undertaking research which provides evidence of workload associated with assessment is both timely and pertinent to the current climate. It is especially relevant for Curtin University as the AWMS is implemented across the institution. This small study has revealed the need to interrogate consultation, assessment and feedback processes in greater detail. Clearly there are strategies that minimise time devoted to individual consultation but they appear to be implemented randomly with no systematic approach for disseminating and sharing methods of efficacy associated with consultation. According to Ramsden (2003) assessment involves making ‘fallible human judgements’ and is a process fraught with uncertainty and doubt. Ensuring rigorous, fair and equitable assessment practices which can be accommodated within the academic’s workload is complex as there are many variables that impact on managing the assessment process. While some assessment methods require less time to implement, consideration needs to be given to the rigour and integrity of the assessment task and the value of the student’s learning experience as a consequence.
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Does feedback enhance learning? Regional students’ perception and experiences of feedback in a social work program

Kalpana Goel (kalpana.goel@unisa.edu.au)
Centre for Regional Engagement, University of South Australia

Bronwyn Ellis (bronwyn.ellis@unisa.edu.au)
Centre for Regional Engagement, University of South Australia

Students’ perceptions and their own conception of learning are guided by feedback received on assessment. Studies provide evidence that feedback is valued by students; however, they are also often dissatisfied with the feedback provided. While many research studies have focused on effective feedback, very few studies to date have focused on incorporating students’ perceptions and experiences of feedback to improve teaching and learning with a disciplinary focus. A recent investigation focused on the effectiveness of current feedback strategies and how these impacted on students and contributed to engaging them in their learning.

The paper is an outcome of a broader research project that aims to understand and increase the effectiveness of feedback to enhance student engagement with learning in an undergraduate social work program delivered from two regional locations of the University of South Australia. The findings discussed in this paper are based on both quantitative and qualitative methods of data collection. Initial online survey data were fleshed out with student focus group discussions to achieve a more in-depth understanding of the phenomenon ‘feedback’. The findings, relating to satisfaction, quantity and quality, timeliness, usefulness, and suggestions for improvement, provided a basis for judging the effectiveness of current feedback delivery and identifying strategies for giving effective feedback. Other themes that emerged related to affect – the emotional implications of feedback – and the advantages experienced by students at a small campus in clarifying with teaching staff their expectations and feedback.

Keywords: feedback, perception, experience, student engagement, social work program

Conference Themes: Student Engagement

Introduction

In the current higher education environment there is an increasing emphasis on enhancing student engagement with learning (Yorke, 2006, cited in Zepke & Leach, 2010; Coates, 2005). Many factors interact in multiple ways to enhance student engagement or trigger disengagement. The literature demonstrates that feedback is an important mechanism in student engagement with learning (Black & William, 1998; Ramaprasad 1983; Biggs & Tang, 2007; Ramsden, 2003; Hattie 1997), and hence such engagement could be achieved by providing students with effective feedback on their learning progress (Gibbs & Simpson, 2004).

According to quality assurance guidelines provided for higher education institutions in the United Kingdom, ‘institutions should ensure that appropriate feedback is provided to students on assessed work in a way that promotes learning and facilitates improvement’ (cited in Rust, 2002, p. 152). Coates (2005) also comments that quality assurance systems should look into students’ activities, including seeking guidance from staff. In congruence with this, our University’s assessment policies underpin feedback practices:

"Feedback is one of the most important aspects of the learning process and serves the critical function of enabling students to make timely and informed judgements about their performance so that subsequent assessment can be undertaken with improved likelihood of success and enhancement." (UniSA, 2011, p. 13)

While there are many strategies described in the literature that suggest what good or poor feedback looks like (Weaver, 2006; Carlless, 2006; Hounsell, McCune, Hounsell & Lirjens, 2008; Nicol & Macfarlane-Dick, 2006), what seems to be lacking are clear guidelines for what is effective feedback. Price, Handley, Millar, & O'Donovan (2010, p. 287) have argued that measures related to quantity and quality such as ‘timing, frequency, quantity and..."
externally judged quality’ are not in themselves sufficient to judge the effectiveness of feedback. Based on the literature surveyed, Huxham (2007) categorises poor feedback as ambiguous and opaque, negative, late and uncertain about criteria and contexts, and suggests avoiding these problems if feedback is to be effective.

Feedback has an impact on student learning, which includes a ‘relational dimension’ and can be judged by students and staff involved in this relational process (Price et al. 2010, p. 285). Poulos and Mahony’s research found that ‘effectiveness of feedback extends beyond mode of delivery and timeliness to include the credibility of the lecturer giving the feedback’ (2008, p. 143). Another aspect considered important in judging the effectiveness of feedback is the understanding of its purpose by both staff and students (Orsmond, Merry, & Reiling, 2005). Price et al. (2010) affirm that clarity of purpose is required to measure the effectiveness of feedback. A study by Hounsell et al. (2008) highlighted the value of feedback that involves all aspects of assessment, including examinations. The seminal work of Sadler (1989) in formative assessment postulated students’ holding a concept of quality similar to that of teachers as crucial for engagement with feedback. A lack of congruence in student and teacher understandings of expectations can pose difficulty in achieving the learning outcome. This clearly points out that, to be effective, feedback should include a quality statement. Furthermore, Nicol and Macfarlane-Dick (2006) reconceptualised good feedback practice principles for helping students develop as self-regulated learners.

There is also recognition that students’ individual subjective perceptions of their learning context and how they approach their learning is important in engagement (Entwistle, 1991; Gijbels & Dochy, 2006; Reid & Johnson, 1999; all as cited in Rowe, Wood & Petocz, 2008). Sadler suggests that ‘how students perceive and interpret feedback is consistent with focus on student-centred learning’ (2010, p. 537).

While many research studies, as above, have focused on what constitutes effective feedback, few studies to date have focused on students’ perception and experiences in incorporating them to improve teaching and learning with a disciplinary focus. Recent studies acknowledge that research on students’ perceptions of feedback is thin (Poulos & Mahoney 2008; Rowe & Wood, 2008).

Recognising the value of subjective perception and self-conceptualisation of learning as key components of the self-regulated learner, we believe that assessing students’ perceptions of the feedback experience and how they approach feedback will help develop strategies to enhance students’ engagement with learning. If feedback helps students to become life-long learners, then it is important that students engage with it. The value of this paper is in giving voice to students’ perceptions and illuminating their experiences of received feedback and its utility.

The study described was carried out in a specific social work unit operating from the University of South Australia’s Centre for Regional Engagement (CRE), which has two regional locations, Mount Gambier and Whyalla.

**Aims, research design and methods**

The research questions focused on here are: ‘How effective are the current feedback strategies used in the CRE Social Work program?’ and ‘What are students’ perceptions and experiences of feedback and its impact upon their learning?’ The data are drawn from the first phase of the research project: ‘Developing effective feedback strategies to enhance students’ engagement in a social work program in an Australian University’. The later phases are: exploring staff perceptions and experiences of providing feedback; developing a framework for feedback mechanisms; formulating strategies; implementing them; and evaluating effects on student engagement with learning.

The paper draws on findings from an online TellUS survey administered in 2010 (UniSA, 2009) and focus groups designed to explore students’ perceptions of feedback based on their experiences in the social work program.

The anonymous survey sought students’ views on the feedback received on assessments throughout their course of study. It gathered information on their current and past experience regarding the timing, quality, and varieties of feedback given, plus ways in which they used feedback.

Besides this, two student focus groups at each campus were conducted to get an in-depth understanding of feedback processes and modalities in the social work program. These focus groups helped in probing in detail students’ experiences of feedback in course work and the field practicum. As the feedback issue is a sensitive aspect of assessment practice, students may not be willing to share openly their experiences with a known faculty.
member; hence focus groups were conducted by research assistants who did not share any power relationship with students. Focus groups were audio-recorded and transcribed by the facilitators.

Data collection and analysis

The TellUS survey included both quantitative and qualitative types of questions: basic profile questions on year level, location and study mode; and questions regarding students’ perceptions of the nature of feedback, modalities of feedback delivery, quality of feedback, preferences for feedback, its timeliness and usefulness, its influence on their learning, its emotional impact and their overall satisfaction with the feedback received. The survey was completely anonymous and responses were non-identifiable. The TellUS application collated the responses. Similar areas were explored in the focus groups, and there was also the opportunity for suggestions for ways of improving feedback. Owing to small numbers at each year level, focus groups were not held separately for each year level.

The quantitative data were analysed in percentages to show the majority and minor responses towards a particular aspect of feedback; qualitative responses were categorised in themes that were recurrent in TellUS responses and focus group discussions. The two sets of data obtained were constantly referred to in order to draw a unified understanding of students’ experiences and perceptions of feedback.

Findings

Online survey

The TellUS survey attracted 41 responses, a 32.5% response rate. The largest group of respondents were from the Mount Gambier Regional Centre (48.8%), then Whyalla campus (36.6%), the remainder (14.6%) being external students who study online only. Students represented all year levels; however, most were from year levels 1 and 2 (35% each), then fourth year (17.5%) and third year (12.5%).

Focus groups

Thirteen students participated in focus groups, 7 in Whyalla and 6 in Mount Gambier; 8 of these were first year students, 3 second years, and 1 third year. Most (10 out of 13) were adult entry students. In addition, one fourth year student unable to attend a focus group asked to e-mail responses to the focus questions.

In what follows, the quantitative data are from the survey, while qualitative data come from open-ended survey questions and from the focus group discussion. Description and discussion focuses on students' perceptions and questions relating to the enhancement of learning through feedback.

Students’ conceptualisation of feedback

A number of themes emerged in students’ responses to an open-ended question about their understanding of the term ‘feedback’. The majority perceived feedback as written or verbal comments on assessed work, and information about an assessment provided by the lecturer or tutor. Some students also mentioned clarifying written feedback and peers providing feedback. Students conceptualised feedback as information on their current performance level and made reference to feedback as ‘constructive criticism’ or ‘critical assessment’ of performance. The ‘feed forward’ function of feedback was articulated in their responses: feedback was ‘information aimed at enhancing learning’; it helped in ‘future learning’ and ‘development’; and was ‘a guide for improvement’. Table 1 shows students’ responses on how they considered feedback influencing their learning.
Table 1: Influence of Feedback upon Learning

<table>
<thead>
<tr>
<th>Impact</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrects errors</td>
<td>70.7%</td>
</tr>
<tr>
<td>Identifies gaps in knowledge</td>
<td>80.5%</td>
</tr>
<tr>
<td>Explains ways to improve academic writing</td>
<td>58.5%</td>
</tr>
<tr>
<td>Suggests ways to structure my writing</td>
<td>53.7%</td>
</tr>
<tr>
<td>It shows my level of achievement against the marking criteria</td>
<td>73.2%</td>
</tr>
<tr>
<td>Identifies strengths and encourages me to do better on future assignments</td>
<td>68.3%</td>
</tr>
<tr>
<td>Feedback does not influence my learning</td>
<td>4.8%</td>
</tr>
</tbody>
</table>

General level of satisfaction with feedback

Respondents’ overall satisfaction was quite high, as 88% reported general satisfaction with the feedback that they had received during the social work program. Reasons for satisfaction and dissatisfaction can be drawn from comments below on the type of feedback that was valued.

Quality and quantity

Although students’ responses on comprehensibility (90% agreement that feedback was easy to understand) and helpfulness (90%) suggest that overwhelmingly students were satisfied with the quality of feedback received on assessments and in course work, qualitative responses on quality and quantity of feedback received provided much deeper understanding of variations in students’ experiences and their perception of valued feedback. The particular issues related to demand for more ‘in-depth’ detailed feedback, particularly for first years, and indications of ‘an area to focus on more’ in order to improve, including for the better students, as it seemed that ‘the better the marks you get, the less comments you get’.

While feedback given to the whole class provided some understanding of their performance, individual feedback was generally preferred. On the other hand, the opportunity to ask further questions after assignments had been returned was appreciated, as it ‘gives you another option to just talk about it again’, and can be ‘like a debriefing’.

Although verbal feedback was considered good for clarifying things and developing ‘in-depth understanding of the subject’, written feedback could be referred to when doing the next assignment and so used more easily as a basis for improving performance. Nevertheless, for people with auditory learning preferences, verbal feedback met their needs. Just over 50% of respondents expressed their desire for conversation with the tutor about the feedback received. This was particularly important after receiving negative feedback, ‘to gain clarification and direction for the future’.

With regard to the balance of positive and negative comments, students saw that it was easier for lecturers to point out the negatives to be remedied, and they needed this so as not to ‘make the mistake in the next assignment’. On the other hand, feedback that consisted of ‘just criticism all the way through, but it wasn’t constructive’ was discouraging and not helpful. They craved positive feedback to affirm and encourage them to persevere. As a fourth year student stated:

> While I see the value in [negative feedback surrounding improvements], I believe students would have more motivation if tutors would include positive feedback as well as what could be improved.

Value of feedback in learning – Valued feedback

Comments made by teachers on assessed work were highly valued by students; the majority of the respondents (95%) rated these comments as either ‘very important’ or ‘important’ for their learning. Only a minority considered them ‘moderately important’, and no-one reported feedback to be unimportant or not worth consideration. This was reinforced by the majority of respondents (78%) claiming to consider the comments and grade from feedback as equally important.
Detailed feedback was prized, and so detailed feedback sheets were also preferred. Actual marks (now discontinued) had been appreciated, particularly by a student hoping to do Honours, as she wanted to keep track of her Grade Point Average to make sure that it was high enough. Specific feedback, indicating ‘where and what you may have done wrong’, was much more useful than overall comments. Feedback needed to explain what needed to be rectified, and elaborate on the ways to improve things. An exemplar was helpful for seeing ‘the right way to do things’ and to compare one’s own efforts with it.

Students valued feedback that improved their ability to perform better in future assessments: ‘I can keep a check to not repeat the same mistakes.’

I think it’s the constructive feedback that’s more helpful, because then you know what to expand on and what to improve, or you know what you’ve done right for the next assignment.

They found ‘in-text comments helpful to see mistakes’, particularly when ‘direct examples in correction rather than open-ended critical statements’ were provided, and comments were made on each of the marking criteria. Although feedback that is clear, elaborate, appropriately worded and not just using academic discourse is valuable for all year levels and all ages, the findings indicate that there should be special consideration given for ‘first years’ and ‘mature aged’ students. The staged assessment in one course, with the second part building on the first, was really useful for helping new students to learn to write academically: ‘the more clarification that is given, the more you can use it’. They appreciated comments providing ‘insight as a professional worker’ and ones ‘affirming the quality of work’. One student appreciated feedback that extended engagement with the topic area, by referring the student ‘to further research on the topic’.

Good feedback also had an impact on student retention:

… feedback about essay structure and poorly developed concepts, allowed me to develop my essay writing skills; this saw my grades improve dramatically … Without this feedback, I probably would have withdrawn…

Hence, the feedback that was valued was detailed, specific, constructive, elaborated, explanatory, and contributed to the student’s academic and professional development. Written feedback had the advantage of being ‘stuff that you can look back on’.

**Barriers to effective feedback**

Despite the generally positive comments about the usefulness of feedback, some students also recognised differences and inconsistency in feedback.

I have often found that lecturers and tutors differ with their understanding of course requirements and that incongruence leads to confusion and frustration for students.

Reasons given by those who found that feedback provided was not very useful included: ‘having limited feedback or no suggestion for improvement’; use of monologue such as ‘grammar errors, need to expand more’; these comments do not seem to have provided clarity on errors and corrections. One respondent went so far as to say, ‘Sometimes I get discouraged with the feedback, it makes me feel inadequate. That I have no place to be at University’, demonstrating the effect of negative feedback. (See also the following section for more on emotional aspects.) Feedback received late could limit its usefulness for the next assignment.

**Emotional dimension of feedback – the affective domain**

Another significant area was the emotional effect of feedback on students. A majority of respondents (82.5%) had experienced the positive impact of feedback on their learning and only 17.5% had felt its negative impact. Students appreciated a balance in positive and negative comments. Negative feedback outweighing the positive was regarded as unhelpful, particularly when a lot of work had been put into the task. Negative feedback could cause stress and fear about future assessment tasks. On the other hand, positive feedback could motivate students to perform better.

Post-assignment debriefing could help alleviate stress. Late return of assignments also caused anxiety, as students wondered whether they would get them back in time to use the feedback for the following assignment. Consciousness of the power element in lecturers’ feedback was evident in one response:

‘… lecturers and their feedback are very powerful … when used for good’.

A lack of positive feedback led to frustration, especially when the grade indicated otherwise:
I’ve had really, really detailed, great feedback, lots of feedback, all negative feedback, and had a distinction from it.

Getting just a grade and praise, without ‘any feedback as to how to get to the next level’ was ‘… positive, but also frustrating …’, whereas affirmation of good points helped build self-esteem and confidence.

Lack of feedback on examinations was considered frustrating ‘because you don’t find out how well you went in the actual exam’.

**Acting on feedback**

Feedback-inspired action ranged from seeking clarification from the lecturer regarding comments that were unclear, either in person or by e-mail, to devising strategies for approaching subsequent assignments. Sometimes approaches to lecturers brought reminders of things that they should have known, referring them to course information on the website, which then led to further action.

Learning from feedback could simply mean receiving ‘something to think about for next time’, which could be used as ‘another learning resource’. Some, however, used feedback more actively, using an assignment planner (developed in conjunction with the learning adviser), and copying previous feedback into that:

… so I know that there are particular things I need to improve on. I mark them off as I’m doing my assignment so I have improved on those, and keep going on with that.

Others printed the feedback sheet to refer to when doing the next assignment, which was then ‘like having that lecturer there, saying to me, “OK. Don’t forget to do these things, because they are the things that you’re missing.”’ Feedback also highlighted things to avoid, so as not to make ‘the same mistakes on the next assessment’. Another added that, as well as reading and rereading the feedback sheet, she also wrote down ‘anything that I need to clarify before I try and do the next one, so that it gives me a bit of time to talk to the lecturers and … go back to the course information book’ to check things. One student used a highlighter to draw attention to the ‘good things … that puts a positive spin on it’. For the feedback to be useful, it had to be ‘well spelt out’, whereas ‘if it’s “good”, “bad”, whatever, there’s not that much that you can do with it really’.

There was recognition of the student’s responsibility to follow up on aspects of feedback that had not been understood. One would seek clarification of feedback via e-mail, but was unwilling to approach the lecturer regarding the grade.

**Discussion**

The research questions had a dual focus: understanding students’ perceptions of feedback and its value for enhancing their learning; and whether feedback received actually helped them improve their learning.

The breadth of qualitative data suggests that students had conceptualised feedback both as assessment of performance and constructive criticism that helps in future learning. Others have found a similar conceptualisation of feedback, with a high percentage of students acknowledging using feedback for future learning (Budge & Gopal, 2009). Our respondents’ comments show that the ‘feed forward’ function of feedback was ingrained in their mindset. This has positive implications for student engagement as their conceptualisation of feedback is aligned to what it is expected to be. This view was further strengthened from quantitative data. (See Table 1.) However, it must be acknowledged that other studies have found that ‘students failed to recognise what feedback is’, which could be a possible reason for a quarter of their respondents reporting no or minimal feedback (Rowe, Wood & Petocz, 2008, p. 304).

Contrary to studies which reported low scores on feedback adequacy (McCune & Hounsell, 2005) and helpfulness of feedback on written work (Hartley & Chelsworth, 2000, cited in Huxham, 2007), this study reports an overwhelmingly high satisfaction rate with feedback. Having small classes at the regional campus allowed for such a satisfaction level, as was also evident in qualitative data where respondents had drawn comparisons with city-based campuses. It must also, however, be acknowledged that our respondents are not necessarily representative of the whole regional social work student cohort – it is possible that those who agreed to participate were among those students most likely to make good use of feedback. A similar point has been made in a United Kingdom study context: ‘self-selecting volunteers are bound to skew the results’ (Duncan, Prowse, Wakeman, & Harrison, 2003/2004).
Although there was a reported high level of satisfaction with helpfulness and comprehensibility of feedback in the program, the qualitative statements revealed a different experience for some respondents. These deeper insights affirm the value of students’ lived experiences and need to be incorporated in understanding the results. The common issues identified related to lack of comprehensive and helpful feedback for high achievers, and demand for ‘in-depth’ feedback for first year students. Inconsistency in marking and quality and quantity of feedback led to confusion and frustration for some students. This valuing of consistency in marking across the program is supported by McCallum, Bondy and Jollands (2008, p. 1), who used the term ‘tut lotto’, where marks depended on the marker.

Criticism that was constructive was valued for enhancing learning. Feedback that was inappropriately worded and focused more on negatives than positives was found to be damaging to self-esteem and could impact on student retention rates; Weaver (2006, p. 392) suggests that this can be resolved ‘by providing appropriate guidance and motivation’ and not just ‘diagnosing problems and justifying the marks’. Students also felt ‘power’ exercised in this process by the tutor and their position as a powerless person. Such findings have been endorsed by Boud (1995) and Ferguson (2011). Consequently, there was a clear call for a balance in negative and positive feedback, which has been echoed in other studies (Weaver, 2006).

Written feedback had the advantage of being on paper and not forgotten. However, 50% of respondents also preferred individualised or personal feedback through dialogue with lecturer/tutor to get clarity on written feedback. Interestingly, some responses also attached a therapeutic value to this dialogue (including in a class context), which could provide an opportunity to debrief.

There is considerable debate in the literature about whether students value marks or grade. Do they read feedback? Contrary to earlier studies suggesting that students should be given only feedback, and not grades, in order to engage them with feedback (Gibbs & Simpson, 2004; Rust, 2002), this study suggests that students value both. This finding is corroborated by Higgins, Hartley and Skelton (2002): students were conscious of their efforts and wanted a return on their investment.

Suggestions for how feedback should be framed, based on what students experienced and valued in receiving feedback on written assessments, include: clear, explanatory, detailed, timely feedback, in-text comments to highlight and explain mistakes, exemplars, comments against each of the marking criteria, and staged assessments where feedback given for the first stage has value for the next stage, especially important for students ‘finding their feet in an academic world.

Although ‘accurate measurement of feedback effectiveness is difficult and perhaps impossible’ (Price et al., 2010, p. 287), it can still be measured to some extent by assessing whether students act on it or not. ‘Feedback is deemed to be ineffective if students do not act on it’ (Gibbs & Simpson, 2004, cited in Price et al., 2010, p. 287), whereas an indication that feedback has been acted on provides evidence of its effectiveness. The findings portray students as ‘conscientious consumers’, a term first used by Higgins et al. (2002, p. 59). Students were not just passive recipients of feedback: they received it, in fact they had internalised it and acted on it and were keen to improve their learning and engage with feedback processes, thus confirming Higgins et al.’s findings (2002). The processes involved in receiving and working on feedback are important indicators of its effective usability. The study revealed that students used feedback in different ways, pointing towards some creative strategies that they used in making effective use of feedback.

**Conclusion and implications**

Our findings on students’ perceptions and experience of assessment feedback resemble earlier work in the literature and thus cannot be claimed as new; however, they were the unique experiences of students studying social work at a regional campus. In spite of their predominant satisfaction with feedback, the critical insight into students’ individual and collective experiences indicated some important areas in the feedback system that warrant the attention of both academics and institutions to adopt measures that are inclusive of all ages, year levels and achievement levels.

Concern about inconsistency in marking/grading and feedback provided to students relates to an area where variations will remain because of individual knowledge and capability differences among academics/tutors. To minimise these differences in feedback provision, institutions may have to invest more resources to train staff in providing feedback. This also indicates that provision of feedback should be guided by institutional policy to
ensure consistency, transparency and standardised approaches for feedback provision (Rust, 2002). Regarding other researchers’ assertion that students should receive feedback only, and not a grade, in order to ensure that they engage with it (Gibbs & Simpson, 2004; Rust, 2002), this may not be applicable until there is a change in institutional focus towards an ‘outcome based model of course design’, as proposed by Rust (2002, p. 155).

By increasing their awareness concerning the types of feedback that are most valued by students, academic staff, including hourly-paid tutors, will be able to tailor the feedback that they provide so that it is most likely to be read and acted upon. As well as acknowledging needs for improvement in some of the more mechanical details relating to feedback, and in the quality of the written feedback provided, our study suggests that the emotional component needs deeper consideration in feedback strategies. Markers would be advised to attempt to ‘put themselves into their students’ shoes’ and try to assess the impact that their words will have. An opportunity to debrief or deal with emotions should be given to students through open communication and dialogue. By enhancing student engagement with feedback we will be enhancing their ability to improve their learning and performance in varied assessment tasks.

Although our findings are most relevant to the discipline and location where they were generated, the study has wider application across disciplines and university campuses catering for all year levels, ages and diverse student cohorts. This study can be further extended to include perspectives of other regionally based students to get a broader and comparable view of their experiences and perspective on feedback.

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References


Facilitating student self-reflection in a blended learning environment

Amanda Gudmundsson (a.gudmundsson@qut.edu.au)
Graduate School of Business, Queensland University of Technology

Linda Laing (c.laing@qut.edu.au)
School of Management, Queensland University of Technology

Business postgraduate education is rapidly adopting virtual learning environments to facilitate the needs of a time-poor stakeholder community, where part-time students find it difficult to attend face-to-face classes. Creating engaged, flexible learning opportunities in the virtual world is therefore the current challenge for many business academics. However, in the blended learning environment there is also the added pressure of encouraging these students to develop soft managerial or generic skills such as self-reflection. The current paper provides an overview of an action-research activity exploring the experiences of students who were required to acquire the skills of self-reflection within a blended learning unit dominated by on-line learning delivery. We present the responses of students and the changes made to our teaching and learning activities to improve the facilitation of both our face-to-face delivery as well as the on-line learning environment.

Keywords: self-reflection, online, portfolio

Conference Themes: Practical solutions

Introduction

Professional managers, business executives and researchers continue to proclaim that managers require an increasing level of competence with soft managerial skills such as interpersonal and intercultural competence and an ability to successfully manage conflict (Michelson & Kramar, 2003). Similarly, Roglio and Light (2009) suggest that it is important for managers to develop reflective abilities whereby executives critically question their own mental models and past behaviour to develop personal mastery. As business educators we share the responsibility of assisting our students to develop these competencies for mastery in the workplace. Self-reflection requires students to think critically and analyse their own behaviour with a view to developing a greater understanding and awareness of the impact of their actions on others and on business. The ultimate ambition being that a reflective practitioner is able to change their actions to improve professional practice (Schon, 1983).

Although the incorporation of reflective practice into business curricula is not a new phenomenon, we note that both curriculum content and process should reflect the needs of the society it serves (Ratcliff, 1997). Recent business professional body guidelines (i.e., AACSB http://www.aacsbd.edu/; AMBA http://www.mbwoworld.com/) recognise that technological advances mean that the pedagogy and delivery mechanisms of higher education are changing rapidly with the introduction of new technology-mediated facilities. Postgraduate programs are increasingly being undertaken by students who are maintaining full-time work responsibilities and as a consequence are studying part-time and often report being time-poor. Our courses are also increasingly diverse, with students from many cultural and academic backgrounds. In response, within our business postgraduate coursework program, we have begun exploring ways of creating learning environments which respond to the needs of our 21st century students, and have thus increased our focus on delivering courses in blended learning environments that combine both face-to-face and on-line learning modes. Accordingly, this paper offers an example of teaching and learning activities designed to support the use of critical reflection in a blended learning environment.
Teaching and learning context

The unit is a postgraduate elective on ‘self-leadership’ located within the human resource management (HRM) field and uses a blend of face-to-face and on-line learning modes. While located in the HRM discipline, the unit is offered to all enrolled postgraduate students of the University and therefore is taken by students of other business disciplines such as finance and accounting as well as those from other schools such as education, engineering and information technology.

Focusing on self-leadership skill awareness and development, the unit thus requires that students engage in a critical self-reflection process. Critical reflection implies that the learner undergoes a perspective transformation, recognising that many actions are determined by a set of beliefs and values that are often unconsciously assimilated, and as a consequence need to be reviewed (Leung & Kember, 2003). Student evidence of critical reflective learning is provided in a personal portfolio. The basis of the portfolio is to identify in a self-leadership context what the student did; might have done; to identify their abilities and weaknesses; their learning needs; and to demonstrate an ability to plan and reframe. The introduction to self-reflection was initially facilitated through a face-to-face workshop, however, the dominant vehicle for facilitating the self-reflective process were the on-line learning resources provided via the Blackboard learning management system. Specifically, on-line discussion forums, chat rooms and a personal blog were provided to encourage the students to be actively engaged (Wang & Gearhart, 2006), consistent with the social constructivist perspective (Nagy & McDonald, 2007).

Within the literature there are a range of interpretations given to the term reflective learning. The portfolio used in this unit adopts a method that requires the students to explore their personal engagement with the unit content (self-leadership) and their individual learning processes to enable the student to determine their own focus (Pavlovich, Collins & Jones, 2009). Personal reflection enables the student to examine themselves, and according to De Janasz, et al. (2006) is “a necessary skill for synthesising information relevant to professional and personal effectiveness” (p. 8). When students are encouraged to reach even deeper levels of learning they are engaged in critical reflection where they will critically analyse the situation, event, or experience and come to a decision for action. Specifically, in critical reflection the learner develops a new perspective which leads them to make a decision about the necessity of change in action (Anderson & Krathwohl, 2001).

The on-line environment in this unit uses what Laurillard (1994) describes as a student centred model. This model recognises there is a role for the facilitator to present students with conceptual knowledge (e.g. content knowledge of self-leadership) while students are also encouraged to contribute their own conceptual and experiential knowledge to reflect upon and adapt their actions accordingly. The link between the two occurs through on-line discussion with the interaction between the facilitator and the student considered necessary to facilitate critical reflection (Laurillard, cited by Brockbank & McGill, 2007). To encourage the required interaction between students and the facilitator, the learners are expected to prepare and post answers to given discussion questions focused on integrating and critically analysing self-leadership issues (Dykman & Davis, 2008). Walker (cited by Boud, Keogh & Walker, 1985) states that use of on-line discussions helps learners to share, in their own words, what was taking place. Such preparation is designed to enable the student’s ability to demonstrate critical reflection in their personal portfolio.

Personal Portfolio: Our assessment of the student’s development of self-reflection occurred through the use of a personal portfolio whereby each student explored their strengths and weaknesses, identified a specific skill that they wished to improve, documented the course of action they pursued to achieve that ambition as well as their reflection on that process. The self-reflection portfolio thus captured the students’ skill progression through an experiential learning process, as well as their ability to critically reflect and analyse their own behaviour and mastery of the identified skill (Kolb, 2007). Experiential learning has been used in management education as it supports the construct that “Learning is taking place all the time – perhaps implicitly, perhaps haphazardly as part of a manager’s day to day work and life activities” (Stuart, 1984, pg.13). The personal portfolio assessment approach was designed to contribute formatively to the students learning as they reflected and reported upon their learning progressively across the semester using the on-line discussion forum, chat room and blogs mentioned previously. The portfolio was also summatively assessed using criterion referenced assessment and thus resulted in the provision of a graded mark. As the ability to conduct self-reflection was a critical learning outcome for the unit, the student’s personal portfolio of learning was the dominant assessment item and as such was given a value of 60% of the total unit assessment.
Unit Management Strategies: To create a learning environment in the on-line mode, we needed to ensure that all participants had a ‘social presence’. The development of social presence is the key to developing a social climate in which the students feel as if they belong within the learning environment, contributing to the students’ motivation, involvement and satisfaction (Wegerif, 1998). The first few weeks of a course have been identified as the most critical in terms of establishing a social presence with Tu (2001) emphasising that social relationships and friendly attitudes must be encouraged otherwise students will hesitate to interact on-line. Accordingly, before the unit commenced we emailed the students a welcome letter, identifying our teaching philosophy, provided links to access the unit, and clarified the required texts (Clark-Ibañez & Scott, 2008). We placed a personal biography and photo of ourselves on-line, summarising our background, experience and expectations to help set the tone for the unit as well as encouraging the students to develop their own ‘social presence’ (Dykman & Davis, 2008). We asked students to place information about themselves as well as photos in a designated on-line social page. Our ambition was to enable students to practice ‘doing’ the on-line class in a low stress environment, to begin community building, as well as allowing latecomers to join in the class without missing any content.

As a vital part of our on-line discussion was to keep students actively engaged and to “defend, clarify, elaborate and reform” their views (Wang & Gearhart, 2006, p.64), we required the students to be engaged and participating with their classmates using the materials presented on the Blackboard learning management system. Engaging discussion is one way of promoting active learning. This is consistent with the social constructivist perspective, where collaboration and social interaction are at the heart of learning, where students engage in shared experiences and knowledge creation (Nagy & McDonald, 2007). Threaded discussions were designed to help students “share solutions, ask questions, debate ideas, and read about topics of interest” (Driscoll, 1998, p.115). This approach supports scaffolding, multiple perspectives, as well as providing feedback. Feedback from the facilitator is necessary as without the face-to-face contact, body language or tone of voice to inform students as to ‘what is most important’ students can misunderstand and take the wrong approach (Dykman & Davis, 2008). In addition, we needed to play an active role in monitoring the students’ progress and social cohesion through the group discussions (Salmon, 2002).

Other forms of scaffolding were incorporated into the unit. In past semesters we noted that some students appeared to struggle with the concept of reflective writing. As a result, we spent time discussing, or showing the students, reflective writing as well as placing a format developed by Pavlovich, Collins and Jones (2009) on-line. Boud and Walker (1998, p. 193) are critical of using, what they term a ‘recipe following’ approach where aspects of models of reflection are used as check list which students work through in a “mechanical fashion without regards to their own uncertainties, questions or meanings”. However, Lebcir, Wells and Bond (2008) identified that international students relied on the teachers’ ability to give structure to the material and in particular international students rely on extra information put in web based learning. “Confucian heritage culture (CHC) students want to be told what they need to know and precisely how to prove that they have learnt it” (Hofstede & Hofstede, cited by Nguyen, Terlouw & Pilot, 2006, p.10). In addition, according to Salmon (2002) we needed to make clear that in a reflection we are looking for participants’ views, feelings, experiences and ideas, and to further explain to the learners that they can start their sentences with “I”. Salmon also suggests encouraging students to end their message with a question or challenge to others thereby encouraging other students to also reflect.

As identified, the student centered pedagogical model aligns with the critical reflective learning focus of the unit. However, this may present difficulties for postgraduate international students who face not only language and cultural challenges, but also new learning challenges from this learning approach (Ballard & Clancy, 1997). According to Biggs (1999) CHC students are steeped in a rich Confucian educational heritage which places greater emphasis on a conserving approach rather than an extending approach to knowledge, inherent in critical reflection. Given that the CHC student may not have exposure to reflective learning what appropriate structure or scaffolding needs to be incorporated into the curriculum to facilitate their development of reflective learning?

Student and staff reflections

Participants: The analysis and evaluation of the unit was conducted using an action research process across the first semester of 2010. A total of 52 students were enrolled in the unit, 90% of whom were international students, 45% were from Confucian heritage culture, and 7% of the cohort were from non-business disciplines. Students providing the data reported herein did so voluntarily. Data were collected from student participants using a number of methods, first a focus group was conducted in week 9 of the semester to elicit responses to the characteristics deemed to be relevant in the literature, next a questionnaire collected feedback in final week of the
semester (week 13) repeating questions asked of the focus group, and finally an interview was undertaken with the course coordinator/lecturer at the end of the semester after the conclusion of the final assignment (week 14).

Focus Group: In week nine (approximately two-thirds of the way through the semester), six students were interviewed in a face-to-face focus group environment. The use of a focus group allowed issues to be probed more deeply, as well as to raise aspects not previously considered. Questions based on the following identified issues relative to self-reflection were posed:

- What do you believe are the steps to undertaking a reflection?
- What are the goals of the reflection?
- What is the role of the teacher in assisting your understanding of the reflection process?
- What help would you like from the facilitator to better undertake the reflection?

Questionnaire: In week thirteen (the final week of the semester) additional data were collected from all students attending the final face-to-face workshop using a qualitative anonymous self report questionnaire (52% response rate). Students were once again asked similar questions based on those posed previously during the focus group. The data collected was analysed using a pattern matching of responses to the open-ended questions to establish categories or clusters. The responses from the focus group, questionnaires and interviews were triangulated against each other to support the findings from the pattern matching (Miles & Huberman, 1984).

Outcomes: During the focus group (week 9) when asked about reflection, a number of students stated they felt that “reflection was about thinking about their goals for the future” and “what they had to do in order to achieve their goals”. Feedback from the focus group also identified a number of the students had not engaged with the on-line resources, even though the students had been invited to develop a social presence prior to the commencement of the semester, and were further encouraged to visit the on-line site during the first face-to-face workshop. At the end of the session, the students wanted the lecturer to go through notes concerning reflective practice that had been previously uploaded to the on-line environment. During this discussion, the group became more engaged. However, it was also noted during this discussion that although it was now week 9 of the semester, many of the students were only up to week 5 or 6 with their study, and more disturbingly some had yet to commence the first week of activities.

The questionnaire feedback provided at the conclusion of the semester included the following general response captured in a quotation from one student: “I did not like sharing personal information with people I did not know”. Whilst another summed up the confusion felt by many initially when trying to construct the personal portfolio: “I did not know how to write and what kind of language I should write in”. Feedback suggested that they understood the process of reflection but did not wish share their sensitive journal information with their peers, only with the lecturer. Many students wanted regular feedback to ensure their reflection was being “done the right way”. Another common response identified that the facilitator still played a central role to “explain in class” and to “provide the ideas”.

Some of the themes that have emerged from the feedback support the idea that many of the students, both domestic and international, appeared to be challenged by the collaborative on-line method used to enhance the self-reflective practice. It is important to recognise that an overwhelming majority of the students in the unit were international (90%), with many comprising Confucian heritage culture (45%). According to Hoare (2004) Western facilitators and CHC students may have conflicting ideas as to what constitutes a non threatening environment. For some CHC students making a mistake is painful, and to admit to not knowing infers one has not spent sufficient time to find the answer (Chiu, 2009). If this is done publicly using the unit’s on-line resources it often remains for the semester in the discussion history and may thus inhibit the student’s use of these forums. However, in contrast some of these students appeared to be more engaged with the chat rooms in the on-line environment in comparison with the face-to-face environment. In the on-line environment the international students actively contributed to conversations and asked questions, whereas in the face-to-face workshops they would remain silent and wait until the end of the session to privately seek advice from the facilitator.

However, it would be myopic to consider teaching strategies solely based on stereotypical constructs regarding cultural differences. Another perspective to consider, consistent with the feedback received, is that of Zobel and Hamilton (2007) who argue that many students (both domestic and international) can struggle with using a student-centred learning approach. There may be an assumption implicitly embedded in the concept of reflective learning that suggests students are open to experience, and not defended against it. Behaviour emerges out of deeply held patterns and unconscious processes that both encourage and discourage learning from experience. Some individuals become defensive or protective when encountering information that is inconsistent with their self concept and “fear finding out that we are not all we would like to be” (Carlpio, Andrewartha, & Armstrong, 2001,
Piaget (cited by Wilson & Beard, 2003) claimed that sometimes a response to an experience is to find it so alien to our expectations or way of seeing the world, that we reject it as being atypical, biased or incorrect. Research (cited by Entwistle, 1986) suggests that experiential learning in higher education is met with resistance from the students themselves. Adults are often resistant to the idea that they can learn from their own experience (Usher, 1985).

The concerns associated with undertaking reflective practice may be exacerbated in an on-line environment. Conrad and Donaldson (2004) suggest many students, regardless of culture, may take time to develop interaction and collaborative learning approaches, especially those who have been educated in a predominately lecture based environment. Further, they state that learners may find it difficult to quickly build trust and interdependence with others, especially in an on-line environment. They identify the facilitator as having the responsibility to ensure that learners connect with others in the learning environment and design course elements that encourage growth of learners in these new relationships. Students need to feel that the learning environment is a safe place to interact (Bender, 2003), so facilitators need to establish an atmosphere of trust. This view is supported by Rourke (2000, cited by Kreijns, Kirschner & Jochems, 2003, p.341) who states that “if students are to offer their tentative ideas to their peers, if they are to critique the ideas of their peers, and if they are to interpret others’ critiques as valuable rather than personal affronts, certain conditions must exist. Students need to trust each other, feel a sense of warmth and belonging, and feel close to each other before they will engage willingly in collaboration and recognize the collaboration as a valuable experience”.

Facilitator and Unit Coordinator Reflection: Feedback from the class facilitator suggests that she was aware, and actively tried to establish what was considered to be a safe learning environment, and as identified in the feedback, some students seemed to thrive in this unit. So whilst our initial concern was to investigate the challenges encountered by the CHC students undertaking reflective practice, feedback from both domestic and international students, suggest that many of them struggled, albeit in different ways, with reflective learning, particularly in the on-line environment. Based on the feedback we received it appears that as facilitators we need to explore options to ensure a safe learning environment for all students was developed, to clarify facilitator and learner roles, to establish guidelines for interaction, to address potential barriers for interaction, and to incorporate scaffolding to assist CHC students with the process of critical reflection.

Revised teaching activities

Toohey (1999) identified a number of beliefs that underpin education which tend to surface in the curriculum design. The aim of the unit is to assist the learner to develop greater insight into their thinking and behaviour, as well as seeking information and feedback from others to increase personal effectiveness. Based on this model the unit is taking an experiential or personal relevance approach where the facilitator designs the curriculum in line with the students’ needs and interests. The student identifies, within the boundaries of the unit, the skills and knowledge they would like to develop. Toohey’s model (1999) places a considerable emphasis on the importance of creating a learning environment that facilitates encouragement of collaboration and support among students, and openness and authenticity by the facilitator.

As a consequence of the action research and evaluation process undertaken, the unit co-ordinator and academic staff were concerned that the initial feedback suggested that the learning environment did not provide sufficient support for the reflective process by establishing trust, acceptance, appropriate risk taking and mutual respect for others (Knapp, 1992). Additional activities were therefore incorporated prior to the next offering of the unit. These activities included greater use of the Blackboard on-line learning environment and additional face-to-face workshops to facilitate greater engagement with the on-line technology.

Changes to the First Workshop: According to Boud and Walker (1998) a learning environment that facilitates reflection requires a level of trust commensurate with the levels of disclosure required. McIvadzuan (2001, p. 58) identifies that “learning will only take place if the environment encourages risk, and feedback is sensitively, rapidly and unambiguously steered by experienced facilitators with an understanding of the participants’ needs and capabilities in a risk free setting”. The unit was redesigned with the inclusion of three face-to-face workshops to complement the substantial amount of on-line resources. Prior to the first workshop, we continued to send students an email invitation and link the unit’s on-line learning resources and encouraged them to develop an on-line social presence. In the first workshop we then used activities that helped establish a collaborative learning environment. For example, the first activity incorporated an icebreaker so that students could discover personal information about each other, e.g., students were asked to find somebody in the class who has the same or similar hobby or find somebody or others who like the same music, or to find someone has travelled overseas recently. According to Cutler (1995, p. 326) “the more one discloses personal information, the more
others will reciprocate, and the more individuals know about each other, the more likely they are to establish trust, seek support, and thus find satisfaction”.

According to Brookfield (1987) tensions will inevitably arise between what facilitators ask the students to do and what they would prefer to do. Brookfield claims it is important that students know why we are committed to certain activities. Allison recommends (1996) that facilitators explain the learning environment to the learner and clearly articulate that it is not possible to consistently satisfy everybody’s learning styles. We thus clearly identified to the students the collaborative approach used in the unit, what it entailed, and how it would be used. We explained that our insistence on particular ways of working is grounded in a set of examined and informed beliefs about what facilitators should do, what education should look like, and how learning should happen. We needed to make known to the students that sometimes the ‘different’ approach used in this unit may make them feel uncomfortable, or confused when considering the advantages and limitations of our espoused and tacit views on our self-leadership skills. During this workshop students formed small groups and explored the following questions:

• “How do I (the student) normally prefer to learn?”
• “What should I (the facilitator) be doing in my role as a facilitator?”

We wanted the students to discover for themselves their perceived role of a student or a learner. During debriefing, we made explicit the students expectations of the role of the facilitator (in particular during the on-line component of the unit). This established the basis of the reflective approach for the weeks to come. That is, we bring the whole of our life, aspects of our past, our expectations, and feelings to a learning situation. Basically we do not see a new situation but tend to relate to an experience in terms of our past experiences (Boud & Walker, 1996). As a result, learning needs to examine these beliefs and assumptions to ascertain if they still have currency. In subsequent workshops we ensured that a component of the session also addressed their feelings and reactions to the reflective process.

Wylie (2007) identified that when facilitators operate in a learning environment where critical reflection is needed, an ongoing open dialogue is accomplished by sharing and identifying the possible tensions and challenges. Boud and Miller (1996, p. 10) claim “emotion and feelings are the key pointers both to possibilities for, and barriers to, learning.” However, therein lays the problem, the potential of barriers to learning. So, barriers that prevent open interaction and reciprocal communication will need to be addressed. The challenge appears to be finding the right balance between presenting students with chaos on the one hand, and cut-and-dried solutions on the other, where all the interesting conceptual work has been done (Biggs & Tang, 2007). According to Allison (1996, p. 122) “we work with increasingly diverse communities it is essential to continue to educate ourselves about the perspectives of our constituents, not about what we think they think or value but what they actually tell us they think or value”.

As a result, during the first workshop group discussions were used for the learners to clarify and identify:

• The on-line behaviours required in the unit, specifically identifying what they believe are good ground rules for on-line discussion and participation (York, Yang & Dark, 2007);
• How to politely challenge another’s idea. In a group setting, some students suppress their personal desires, avoid conflicts and criticising their peers (Nguyen, Terlouw & Pilot, 2006);
• How to address the barriers that also occur in on-line communication, including flaming as well as concerns that their postings are not clever, educated or interesting to others (Tyler-Smith, 2006); and,
• Class and on-line participation. Research (cited by Arkoudis, 2006) has indicated that international students are often not aware of what participation in class actually means in an Australian tertiary context.

This approach is supported by Misanschuk and Anderson (2001) who identify that in an on-line learning environment participation is critical, and as a result the facilitator should make allowances for the students to shape the participation. The results from these discussions were placed on our Blackboard learning management system as a record of our shared expectations. During the workshop, the students worked together in small groups of four, being the optimum group size, according to Hess (2007) to encourage participation and reduce free rider. Working in groups will also support the critical reflective process used in this unit. Whilst reflective processes can take place in isolation, Boud (2001) recommends, when learning is the outcome, working in pairs or groups helps to challenge old patterns of thinking. He suggests that it is only through working with others that critical reflection can be promoted as others may pose challenges that encourage the learner to question their thinking.
As a result of these recommendations we planned for the students to keep the groups that were formed in the workshop to become e-groups for their on-line discussions as well as provide each other with support. An initial group leader was appointed, to model the leadership behaviour. This approach is consistent with research by Chiu (2009) who identifies using a leader (or shepherd) to model the desired behaviours may encourage the other students to follow the example and participate in on-line forums. The leadership role within the group is intended to change throughout the semester so that all have the opportunity to lead. It is also recommended that CHC students be given the opportunity to share their culture (Tu, 2001). As an element of the unit addresses cultural perspectives this would be an ideal topic for the CHC students to lead and feel they had something special to contribute. The strategies used in the first workshop are consistent with findings from Hoare (2004) who identified CHC students would prefer facilitators spend more time going through introductions; pay more attention to building relationships; work in small groups as well as model skills for the students.

The inclusion of a second workshop: During the next iteration of the unit a second face-to-face workshop was introduced to facilitate the students further development of the critical reflection process as so many of the students had been confused and unsure about how to approach the personal portfolio assignment and associated activity. The second workshop was held four weeks after the first. By this time the students had engaged or attempted to engage with the critical reflective journal component of the unit using the on-line Blackboard facilities. At this time, the students should be in an ideal position to raise their concerns with the reflective process. To actively engage the students, an activity was designed in which they were asked to identify what help they would offer to a group of students to assist them with the critical reflective process. Brookfield (1986) advocates that we create conditions under which all voices can speak and be heard to enable educational processes to be open to negotiation. Through the use of the scenario we encouraged the students to reflect upon their own thoughts or learning needs and to use this reflection in order to provide recommendations for how to engage with the critical reflection activity.

Activity:

- The lecturer has a problem with teaching students to undertake critical reflection in their journal. The lecturer has found in the past that some students do it really well. They are able to:
  - describe a personal experience,
  - describe how they felt
  - their reaction and specific emotions
  - able to analyse the situation using prior knowledge or feelings
  - link what happened to literature
  - identify what was learnt
  - what will they do differently next time
- However some students have difficulty with this process. I would like you to give guidelines to the lecturer on what the lecturer can do to help these students. What advice and guidelines can you offer?

The above restructured workshops and a modified Blackboard on-line teaching environment is currently being evaluated by unit co-ordinator and academic staff with the next cohort of students. The unit continues to grow in popularity, with recent enrolments exceeding 80 students, with the majority of them derived outside of the human resource management discipline for which the unit was designed and increasingly from non-business disciplines.

Implications and limitations

The main implication derived from this action research activity is the importance of collecting feedback so that we may "see ourselves through our student eyes" (Brookfield, 1986, p.92) which enable us to become more aware of the different worlds (Perry, cited by Brookfield, 1986) in the same classroom. Whilst, operating in classrooms and on-line on the basis of stereotypes and paradigms, such as CHC and western students, can have negative impacts for students, facilitators need to use strategies that assist all students to cope with cultural differences and teaching approaches, which support learning opportunities. There are limitations to this study. The sample used in this reflection was small and consisted of a convenience sample and as a result lacks generalisation.
Conclusion

The results presented herein from student responses to the use of critical self-reflection in a blended learning environment have important implications for learning facilitation. It seems that this approach to learning may be new and uncomfortable for some students. However, many students overcame the perceived difficulty of an alternative approach to teaching and learning, and ultimately reported that they enjoyed the experience, as well as gaining different perspectives on learning and leadership skills. This, and the growth of flexible learning environments, supports the benefit of exploring teaching strategies to support the development of critical reflection among all students. The on-line environment creates a number of opportunities that may be utilised that specifically support CHC and other students to express themselves and take chances, with less fear of embarrassment, in their ongoing learning and development. This reflection has highlighted the need to provide appropriate support to help all students transition into the new learning environment which will allow them to achieve and develop regardless of their cultural background and experience.

References


The student as customer model and its impact on the academic leadership role in higher education

Linda Laing (c.laing@qut.edu.au)
School of Management, Queensland University of Technology

Gregory Kenneth Laing (glaing@usc.edu.au)
Faculty of Business, University of the Sunshine Coast

This paper posits that the 'student as customer' model has a negative impact upon the academic leadership which in turn is responsible for the erosion of objectivity in the assessment process in the higher education sector. The paper draws on the existing literature to explore the relationship between the student as customer model, academic leadership, and student assessment. The existing research emanating from the literature provides the basis from which the short comings of the student as customer model are exposed. From a practical perspective the arguments made in this paper provide the groundwork for possible future research into the adverse affects of the student as customer model on academic leadership and job satisfaction in the academic work force. The concern for quality may benefit from empirical investigation of the relationship between the student as customer model and quality learning and assessment outcomes in the higher education sector.

The paper raises awareness of the faults with the present reliance on the student as customer model and the negative impact on both students and academic staff. The issues explored have the potential to influence the future directions of the higher education sector with regard to the social implications of their quest for quality educational outcomes. The paper addresses a gap in the literature in regard to use of the student as customer model and the subsequent adverse affect on academic leadership and assessment in higher education.

Keywords: teacher leadership, student assessment, student as customer

Conference Themes: Leadership

Introduction

Over the last two decades, political, technological and social changes have altered the face of higher education throughout the western world (Lake, 1999). In Australia government initiatives have been driven by cuts in public funding as well as the neo-conservative belief that education is a private good for which the user should pay (Biggs & Tang, 2007). As a result, the management approach of Australian universities has changed to reflect a corporate perspective with an emphasis on credit based curriculum, accountability and quality assurance (Biggs & Tang, 2007). In turn this emphasis on students has lead to the adoption of the 'student as customer' model in universities (Bailey, 2000) with the focus on customer service practices based on the assumption that education is a resource which students seek to acquire and universities are the providers (Gross & Hogler, 2005). The quality and success of the service is captured by means of student evaluations of teaching, degree graduation rates and the Australian Government Graduate Survey.

However, according to Schwartzman (1995) a student's vision of quality is short sighted and tends to focus on short term self-serving goals of passing a course. Touzeau (2005) found that academics are expected to keep their customers happy and outcomes from assessment affect the student/customer perceptions of satisfaction. As a direct result, grade inflation has been associated with use of the student as customer model (Hassel & Lourey, 2005). The purpose of assessment, according to Boud (1990) should firstly be to improve the quality of learning, and secondly, to address concerns regarding the certification of knowledge or performance. Whilst, an underlying assumption of the student as customer model is to address quality of learning, the application results in a greater emphasis on student satisfaction, rather than learning outcomes. This privileging of students at the expense of other stakeholders, such as academics and future employers (Bayer, 1996), can create an imbalance of power affecting academic leadership. In the Higher Education sector, academic leadership maybe exercised in the
setting of the curriculum, teaching and assessment activities (Marshall, Orell, Cameron, Bosanquet & Thomas, 2011). However, the student as customer model imposes limitations on the extent of this leadership through the imperative to satisfy the customer’s needs and wants, predominately in the form of inflated grades. This paper posits that the use of the ‘student as customer’ model has a negative impact upon the assessment and the academic leadership role within a University.

The strategy employed in researching the literature involved using the databases EBSCO Host, ProQuest and Science Direct to search for terms such as "academic leadership", "assessment", and "student as customer". Refinements were made through the application of the advanced search techniques to ensure the identification of literature reviews, research studies, scholarly and more recent literature.

Quality context

Quality has become a global policy discourse, across private and public sectors, including education (Treleaven & Voola, 2008). To address quality issues in education, governments and/or agencies within the U.K, Europe, U.S.A. and Australia have introduced quality reforms. In the case of Australian universities, the state and federal governments created the Australian Universities Quality Agency (AUQA) in 2000 to conduct quality audits of all academic activities (Woodhouse, 2006). However, certain faculties and/or schools have chosen to seek accreditation from other bodies in an effort to gain competitive advantage to attract domestic and international students. This has been driven by a perception that the degree is a commodity and the customer is seeking assurance of the quality of the product (Biggs & Tang, 2007). This is evident in the growth of accreditation in business schools, particularly in Australia, the United States and Europe, where accreditation by bodies such as the Association to Advance Collegiate Schools of Business (AACSB), European Quality Improvement System (EQUIS), focus on quality outcomes such as assurance of learning (Treleaven & Voola, 2008).

Student as customer model

To support this quality focus a number of universities, both in Australia and internationally, use the student as customer model which was developed from total quality management applications in educational settings. The underlying principles of the educational TQM model are that by empowering students to make their own decisions in the learning process, whilst focusing on continuous improvement, students will take ownership of their learning and be more satisfied with their experience (Halbesleben & Wheeler, 2008). When universities view their students as customers they reengineer their business programs (Chung & Mc Larney, 2000) and spotlight their value, reputation, rankings, and programs to try to gain as many ‘customers’ as they need to meet their enrolment goals and revenue needs (Touzeau, 2005) essentially providing a competitive advantage (Martin, 2008).

The use of the student as customer model may improve communication, increase employee morale and productivity, improve process efficiency, and reduce defects and costs (Motwani & Kumar, 1997). To achieve this Chung and Mc Larney (2000) posit that student needs must be catered for to develop effective educational programs and this in turn carries an expectation that Faculty staff will engage in continual improvement and customize educational experiences. Subsequently, use of this model encourages teaching staff to improve and be responsible for the quality of their teaching (Zell, 2001). However, academic principles do not sit well with this model and a number of concerns have been raised by both academic and general staff in Universities globally (Halbeslehen & Wheller, 2009; Martin, 2008; Zell, 2001). The inseparable nature of services and consumer, necessitates the intimate involvement of students in the service provision creating a number of challenges (Chung & Mc Larney , 2000).

Academic leadership

About 35,000 books, research and magazine articles have been written about leadership (Dubrin & Dalglish, 2003). This combined with the complexity of leadership has led to it being defined in many different ways. The majority of leadership models in education draw from the organisational sciences resulting in a number of misinterpretations and under-developed models (Burke, 2010). This view is supported by Vilkinas, Leask & Rogers (2007) who posit that literature on academic leadership is characterised by contradictory and under-developed definitions which tend to focus on the role of senior academic staff, such as heads of school, who have a formal leadership role. This approach is consistent with traditional leadership theory which emphasises the power and influence of a single individual to direct their followers (Burke, 2010). More recently 'top-down'
approaches to university governance have been increasingly abandoned in favour of more democratic and participatory models, one of which is based on the notion of distributed leadership (Menon, 2005).

Distributed leadership was defined by Spillane and Diamond (2007, cited by Burke, 2010) as a frequently used synonym for democratic, shared and collaborative leadership, however definitions become more varied and general as this theory has entered other discourses. There is general agreement on two underlying principles of distributed leadership; firstly that it is a shared approach in which several individuals contribute; and, secondly, that arising from the interactions of diverse individuals a group or network is formed from which essential expertise is derived as a dispersed quality (van Ameijde, Nelson, Billsberry & van Meurs, 2009).

Bolden, Petrov & Gosling (2009) argue that the structure and nature of tertiary institutions are not well suited to ‘top-down’ leadership. They reported that the majority of research on leadership in the tertiary sector concludes that leadership in universities is widely distributed, or should be distributed, across the institution. This view is supported by a study (Marshall et. al, 2011) that examined academics’ perception of the nature of ‘leading’ in six Australian Universities. The research identified that responsibility for the leadership of learning and teaching was shared across a range of individuals and groups at three distinct levels. The Institutional level, with an external and internal focus; the Meso level, a Faculty and Department focus; and the Micro level, focused on the program or unit of study. Specifically, the micro level includes unit coordinators, teaching teams and staff (such as lecturers, tutors, etc) as well as students. These different levels in turn imply that there is a range of styles of academic leadership displayed in higher education (Ramsden, Prosser, Trigwell & Martin, 2007). Whilst the provision of a specific definition of academic leadership is problematic, a review of the literature by Marshall et al (2011) indicates that the general purpose of leadership, as it relates to learning and teaching, is to achieve enhanced student learning.

Identification and analysis of key issue

The term ‘student as customer’ is a metaphor intended to assist in the analysis of the concept (Carlopio, Andrewartha & Armstrong, 2008). The use of ‘student as customer’ metaphor is used to trigger a subconscious response which taps into preconceived notions of ‘customer is always right’ and ‘customer focussed service’, effectively changing the student faculty relationship. According to Chung and Mc Larney (2000) there is an implicit, hidden orientation in this metaphor that places the wants of the students as the central focus, around which the school revolves and according to Schwartzman (1995) is not just semantics but leads to a change in culture. Foucault (1980) posits that our views of the world are constructed through social structures and practices associated with regimes of power where individuals may have some measure of creativity, which is limited by a regime of power. Power is “a process that can be used to advance individual’s and groups’ goals, or to frustrate them” (Kabanoff, 1995, p. 6).

Use of this metaphor, with the image of consumerism, can confer more power on the ‘student buyer’ at the expense of other stakeholders, such as faculty and academic leaders, resulting in an imbalance of power and interests (Gross & Hogler, 2005). According to these authors when the student-as-customer becomes a privileged stakeholder, who has purchased the services of the teaching staff, they demand that the academic, not them, should be responsible for their learning outcomes. Subsequently, poor results are not tolerated by students. When students do not get the grade they believe they deserve they exercise their authority and displeasure through the process of appeal, and through teaching and unit evaluations where the teaching staff are blamed (Hassel & Lourey, 2005). With a University/School focus on quality, negative evaluations can seriously affect an academic’s career and promotion (Chung & Mc Larney, 2000). As a result, many academics feel forced to issue higher grades to students (Carlson & Fleisher, 2002), effectively ‘inflating’ the students’ grades. Grade inflation is defined as “an increase in grade point average without an associated increase in overall student ability” (Scanlan & Care, 2004, p. 475) and refers to the deterioration of the external validity of grades (Oleinik, 2009). Hassel and Lourey (2005) argue that the inflation of grades is a direct consequence of identifying the student-as-customer who believes they are entitled to a product (pass) they have purchased. This leads to a lowering of academic assessment standards undermining of the credibility of the university, the relevant degree, and enhanced student learning. This effectively strikes at the heart and purpose at both the university identity and academic leadership.

As a consequence of inflating grades, academic leaders have undermined their own power and that of the institution (Zell, 2001). The student as customer model is contributing to a social process that is altering the power relations in a faculty to the benefit of a particular interest group, specifically the students (Morley, 2001).
Assessment is a form of hierarchical judgement where the student's disclosure is subject to the normalising gaze of the institution and its experts (Barrow, 2006), in order that the student "may be subjected, used, transformed and improved" (Foucault, 1991, p. 136). The gaze is now directed towards the institution and the academic leaders as a result of business related concerns of the faculty. With a focus on quality service, university management are sensitive to negative feedback from students who may eventually be alumni and potential donors; where success of programs are measured by market acceptance (i.e. positive student and alumni perception); and the prominence of business school rankings for attracting top students which are reliant on student evaluations (Gross & Hogler, 2005). The challenges associated with the use of this model are the focus of this paper.

**Assessment and academic leadership**

Consistent with the purpose of assessment, the use of the ‘student as customer’ model, was intended to encourage academics to engage in continual improvement in order to improve service encounters. However, according to Gross and Hogler (2005) when institutions use the ‘student as customer’ model the teaching becomes less discretionary and more routine, while, faculty and administrators, fearing a drop in university rankings, enforce a range of rules and regulations pertaining to quality control issues affecting student satisfaction (Zell, 2001). As a direct result, these processes mediate the academic leaders’ autonomy and expertise to ensure the students achieve the required learning outcomes. Ramsden et al. (2007) identified that teaching quality may be moderated by the perceptions of the academic environment which is partly determined by the academic leadership practices.

In addition, the purpose of assessment is the certification of knowledge or performance (Boud, 1990). Unit, or course, curriculum may be set by both external and internal factors, such as the needs of professional bodies, content of other universities, staff numbers, personalities and personal interests; and/or may include a collaborative process of learning, with the teacher and student acting as co-constructors of knowledge (Fraser & Bosanquet, 2006). The later approach is more in line with the student as customer model, whereby the customer is intimately involved in the process and in making decisions in the learning process as well as taking responsibility for their learning (Chung & Mc Larney, 2000). However, according to Zell (2001) students are not interested in their own intellectual pursuit but attend universities to advance their own careers or get a pay increase, desiring high results for little effort. Paradoxically, the quality of the product in education depends heavily on the hard work of the customer! Quality education becomes a cause of concern if the service is entirely driven by what the students want.

The argument made by Bailey (2000) and Zell (2001) is that in order to receive good student evaluations, student desires are permitted to drive programs and curricula content. Yet, how is a student fully informed of what they should learn or of gauging what is a quality education? This view is supported by Hassel and Lourey (2000) who argue that students lack the accountability and understanding as to what is required to achieve the necessary academic outcomes. As a result, it would appear that academic leaders are responding, not to a student's quality educational and assessment requirements but, to the demands of a privileged customer desiring instant gratification, with the power to rouse faculty wrath!

Grade inflation (Scanlon & Care, 2004), associated with the student as customer model, has also contributed to the undermining of the academic leadership of the teaching staff who lead the tutorials and are responsible for the marking and assessment activities. In Australia, the role of tutor is more likely than not, to be undertaken by sessional or casual academics who according to the Bradley Review (2008) undertake an estimated 40 to 50 per cent of all teaching in Australian higher education. As identified in this paper, the general purpose of academic leadership is to achieve enhanced student learning (Marshall et. al., 2011). Research, cited by Hassel and Lourey (2005), found that on any given day 30% of students do not attend class as they do not believe lack of attendance will affect their grade. Essentially, use of the student as customer model encourages students to develop an entitlement attitude (Harbesleben & Wheeler, 2008), high absenteeism, and a belief that 'good' classes are those that result in high grade for little effort, resulting in a lowering of academic standards (Hassel & Lourey, 2005). Tutors cannot enforce attendance, which in turn affects the attainment of the required academic standards. However, they are often pressured by the unit coordinator to have minimal fail rates, regardless of the standard, which compounds the problem as, according to Smith (1977), when poor performance receives a pass the incentive to be motivated by grades is all but lost. Alternatively, many students who are unhappy with the grade allocated by their tutor learn they only need to confront the coordinator for their grade to increase. To be fair,
the “wilting professional backbone” of academic staff (Baker, 1994, p.3) is a result of business related concerns of the faculty. Poor student evaluations are recorded into personnel files, influencing promotion decisions, and may affect future student class numbers which leads to grade inflation as academics’ attempts to curry favour with the students (Zell, 2001). Further, pressure on full-time faculty staff to ‘publish or perish’ means academics don’t have the time or energy to engage in the appeal process and often take the “path of least resistance” (Scanlan & Care, 2004, p. 476).

Hassell and Lourey (2005) posit that grade inflation appears to be particularly pervasive at elite institutions where the customers has higher expectations citing 91% of students at Harvard University graduated with honours. These authors argue that, if the direction grade inflation is taking at the oldest institution of higher learning in the United States is any indication, then the future of assessment in universities is bleak. In essence, pandering to 'student as customer' has effectively undermined academic leadership and negated the purposes of assessment which according to Boud (1990) should be concerned with accrediting the knowledge and performance of students.

According to Schwartzman (1995) universities may be acquiescing to students’ requests that might be unrealistic, irrelevant, or not fully developed because “the customer is always right” and warns that this response may buy immediate satisfaction at the expense of the long-term best interests of the student and university. In an attempt to provide quality education, the feedback mechanisms such as student evaluations, degree graduation rates and graduate exit surveys circumvent the intended outcome. Whilst it is important to address the needs of the consumer, a service can only be effectively provided if the provider is true to their purpose or mission (Chung & Mc Larney, 2000). When a university embraces grade inflation, the assessment process fails to provide the appropriate checks and balances in terms of ensuring that the students have achieved the requisite level of knowledge. In particular, Australian universities need to ensure they meet the regulations released by Tertiary Education Quality and Standards Agency (TEQSA, 2011) in April, 2011, requiring universities to demonstrate that their graduates have the capabilities that are required for successful engagement in today's complex environment.

Academic leadership has been undermined by the emphasis on meeting student-as-customer demands. This in turn has had a negative impact on job satisfaction and increased stress levels in the Australian higher education work force (Martin, 2008). This is a concern for the higher education sector as longitudinal research (cited by Robbins, Judge, Millett & Waters-Mash, 2008) produced by the Australian Government identified that job satisfaction for academics in Australian universities is dropping at a significant rate. This notion was supported more recently by the Bradley Review (2008) which identified that the biggest issue facing the higher education sector in the next decade will be attracting and retaining high quality academic staff.

Conclusion and future directions

At present, the student as customer model does not support a number of the key functions and stakeholders of the university, academic leaders, students and faculty. Universities need to engage in processes to execute policies and procedures that enable academic leaders to be part of, rather than targets of, the educational process. Academic leadership is influenced substantially by the organizational context in which the roles are to be performed. Academic leadership should be concerned with valuing student learning, not student satisfaction, to support high quality teaching (Ramsden et. al., 2007). Lack of support and compatibility between the academic leaders and the prevailing patterns of belief, power and practice in the organization will ultimately result in leadership failure (Smylie & Denny, 1990). Changes in student accountability and standards may begin with the academic leaders, however, these must be supported by the whole system. For academic leaders to be successful they require the authority and support to accomplish the tasks assigned to them, that is, the establishment and maintenance of appropriate academic standards. Further, Universities needed to consider the adverse effect that the ‘student as customer’ model has on their teaching staff, their leadership role and the impact this has on job satisfaction.

When quality is defined in terms of student/customer wants, the vision of quality is short sighted and there is a high probability that in taking a strong position in meeting the needs of the students, the educational institution may no longer achieve other aspects of their academic mission (Zell, 2001). When business schools or faculties become revenue driven and focused on measuring their performance based on student satisfaction then it is time to review and reassess their fundamental precepts of higher education and in effect ask the questions: “What is
my school about? What is my pedagogy? What do we do here?" (Chung & Mc Larney, 2000, p. 448 - 449). If the students are not achieving the required graduate outcomes, this may ultimately affect the market perception of the university, its ranking and accreditation. The university and faculty need to use structures and processes that align and balance student satisfaction with educational objectives. It is to everyone's benefit to inform students of what is required of them and have their grades tied to achievement. Academic leadership at all levels needs to support and establish high standards. Taking an integrative approach supports the view of Biggs and Tang (2007), who indicate that teaching takes place in a whole system, embracing classroom, departments and institutional needs.

This paper has identified a number of implications for academic leadership and universities that result from using the student as customer model. Exploration of this metaphor assists to better understand how existing mental models can affect and influence teaching. Academic leadership at university is moderated by the political environment of the classroom; by the distribution of power in the class and the norms which govern its use. In a wider context, an understanding of the power relationship between the student and academic leaders is needed to enable teachers to incorporate teaching, assessment and leadership roles that are effective and appropriate for all stakeholders.

References


‘Take away from the dry sixties style marking’: lecturer and student perceptions and experiences of audio feedback

David Pick (d.pick@curtin.edu.au)
School of Management, Curtin University

Tania Broadley (t.broadley@curtin.edu.au)
Curtin Business School, Curtin University

Brian von Konsky (b.vonkonsky@curtin.edu.au)
Curtin Business School, Curtin University

Providing audio feedback to assessment is relatively uncommon in higher education. However, published research suggests that it is preferred over written feedback by students but lecturers are less convinced. The aim of this paper is to examine further these findings in the context of a third year business ethics unit. Data was collected from two sources. The first is a series of in-depth, semi-structured interviews conducted with three lecturers providing audio feedback for the first time in Semester One 2011. The second source of data was drawn from the university student evaluation system. A total of 363 responses were used providing ‘before’ and ‘after’ perspectives about the effectiveness of audio feedback versus written feedback. Between 2005 and 2009 the survey data provided information about student attitudes to written assessment feedback (n=261). From 2010 onwards the data relates to audio (mp3) feedback (n=102). The analysis of the interview data indicated that introducing audio feedback should be done with care. The perception of the participating lecturers was mixed, ranging from scepticism to outright enthusiasm, but over time the overall approach became positive. It was found that particular attention needs to be paid to small (but important) technical details, and lecturers need to be convinced of its effectiveness, especially that it is not necessarily more time consuming than providing written feedback. For students, the analysis revealed a clear preference for audio feedback. It is concluded that there is cause for concern and reason for optimism. It is a cause for concern because there is a possibility that scepticism on the part of academic staff seems to be based on assumptions about what students prefer and a concern about using the technology. There is reason for optimism because the evidence points towards students preferring audio feedback and as academic staff become more familiar with the technology the scepticism tends to evaporate. While this study is limited in scope, questions are raised about tackling negative staff perceptions of audio feedback, the effects of audio feedback on student learning, and the characteristics of effective audio feedback that are worthy of further research.

Keywords: audio feedback

Conference Themes:  Leadership

Introduction

Effective feedback is a valuable learning tool, and widely recognised as playing a key role in teaching and learning (Bloxham and Boyd, 2007; Hughes, 2011; Ramsden, 2003). However, it is often seen as being an onerous and sometimes frustrating task by academics (Bailey and Garner, 2010) and not always used appropriately (if at all) by students (Price, Handley, Millar and O’Donovan, 2010). One of the most important aspects of student assessment feedback is that it is ‘effective’ (eg provides constructive criticism on how to improve) and ‘credible’ (given by an able lecturer) (Poulos and Mahoney, 2008).

Research interest in the role of feedback in learning continues to grow, particularly regarding how to provide effective feedback (eg Nicol and McFarlane-Dick, 2006). However, little attention has been paid to the relative effectiveness of different modes of feedback. Lunt and Curran (2010) and Merry and Orsmond (2008) compare electronic (mp3) audio feedback with written feedback. Although, the sample size in both these studies is small, they do raise some interesting questions worthy of further research, particularly in the areas of efficiency, quality
and acceptance by staff and students. These and other studies that examine audio feedback suggest that it minimises problems associated with timeliness, quality and detail (eg. de la Harpe, Mason, Wong, Harrisson, Sprynskyi, and & Douglas, 2009; Northcliffe and Middleton, 2007; Savin-Baden, 2010).

There is a relatively low number of published studies into audio feedback. This is most likely due to the fairly modest level of its use in universities. However, given that the existing evidence in the literature points to audio as being a preferred method for providing feedback, it is important to undertake more research. Firstly to further assess this finding and secondly to establish problems and potential benefits for improving learning outcomes. To this end this study focuses on the perceptions of academics and students about the effectiveness of audio feedback compared to written feedback in a third year undergraduate business ethics unit.

The assessments in the unit consist of two case studies in which the student must make decisions about how they would respond to a given situation. The first is designed to assess students’ understanding of, and ability to apply, ethical theories that underpin differing ideas about deciding the right thing to do (ie libertarianism, deontology, utilitarianism and virtue ethics). This assessment has both summative and formative elements. It is summative in the sense that it assesses students’ understandings of the foundational elements of the unit. It is also formative in that the feedback is designed to provide guidance on how students can improve for their next more complex assignment. The second assignment is summative in that it assesses students’ understandings of the unit as a whole.

Feedback is given by applying rubrics that serve as a basis for determining the grade and lecturer comments. Lecturers record their feedback using the audio recording software package Audacity (2011). The recording is then converted to mp3 format and uploaded with the grade into the Blackboard electronic learning management system where it is accessed by students. Lecturers receive training in how to use the systems and are given access to audio feedback provided to students in earlier semesters by the unit coordinator.

The nature and format of the feedback fits well with the pedagogy of the unit. The approach adopted is that one cannot ‘teach’ business ethics in the traditional sense of the word. The emphasis is not on content or reaching any ‘correct’ answers to particular questions. Instead classes are informal and dialogical in which students engage in problem solving activities, discussion, debate, role plays, etc. As the classes progress students explore values such as being critical (for example looking beyond what is there, testing out one’s own assumptions, etc) using conceptual tools and techniques that then provide the means for examining and acting on ethical issues. For example, students are introduced to testing their own assumptions through examining heuristics, tacit knowing and bias. Through case study, students challenge first the perceptions and decision of characters in the case, then each other’s and then finally their own. The results of this approach are transformative for both academic staff and students. For academic staff it poses the challenge of how to transform the curriculum and what we do in order to bring about improved student engagement. For students it is the challenge of being asked to approach issues and problems conceptually and think critically – to become more deeply engaged.

Given this approach to teaching and learning, the need for audio feedback is clear. Providing written feedback is problematic because assessing in this unit is more about judging the extent to which students achievements fitted within a set of expectations as set out in the rubrics rather than attempting to ‘measure’ achievement, and the importance of context and value positions (Yorke, 2011). Indeed assessment in this case is for learning as well as of learning (Hughes, 2011).

Method

To investigate the lecturer experience, a series of three semi-structured in-depth interviews were conducted with three lecturers undertaking audio-feedback for the first time during Semester One, 2011. Two of the lecturers were male and one was female. They each had between two and five years’ teaching experience. The cultural backgrounds of the lecturers were diverse (Chinese, South Asian and mainland European) and they had differing communication styles and accents. The first interview focussed on their expectations of giving audio feedback as opposed to written feedback and any challenges they thought would be encountered. The second interview was conducted after their first experience of providing audio feedback. This interview focussed on how they went about giving feedback and their general experience. The third interview was taken at the end of the semester after two assessments had been assessed. This interview focussed on gaining their general perceptions of giving audio feedback over a whole semester. The interviewees were given assurance of confidentiality and anonymity, and their interviews were audio-recorded and transcribed.
The interview transcripts were analysed using a process of thematic analysis (Miles and Huberman, 1994). Responses of participants were then compared and contrasted. Initial codes were developed that referred to the similarities and differences between the interviews, and codes were categorised to reflect the experiences and perceptions of participants. Further, coding and categorisation were cross-checked by the researchers to ensure consistency.

With regard to student perceptions that are reported in this paper, data were extracted from responses provided by 363 students to the University student evaluation system. The data provided useful ‘before’ and ‘after’ student perceptions about the effectiveness of feedback in general. In particular, the data spans a period that captures student views for different cohorts both before and after the introduction of audio as a feedback medium. Between 2005 and 2009 the survey data provided information about student attitudes to written assessment feedback (n=261). From 2010 onwards, audio (mp3) feedback was used (n=102). The type of assessment remained the same thus controlling for the effect of assessment style. In the survey students were asked to respond to a series of questions using a five-point Likert scale ranging from strongly disagree (1) to strongly agree (5). The questions about assessment in the survey were:

**Feedback on my work in this unit helps me to achieve the learning outcomes.**

**The assessment tasks in this unit evaluate my achievement of the learning outcomes.**

The results were presented as percentage agreement and a comparison made between these to determine whether any significant change of student perceptions occurred after the introduction of audio feedback.

At the end of the survey, students were asked to make comments about positive aspects of the unit and how the unit can be improved. Comments about assessment were extracted to provide additional dimensions to the quantitative data.

**Results**

The lecturers participating in this study had not provided audio feedback to student assessment before. They had, however, provided general verbal feedback to students in class or spoken to individual students when necessary. In the initial interviews conducted before their first experience of providing audio feedback, each participant demonstrated quite different expectations. Participant A was quite sceptical:

> My feeling is that students would prefer to have a hard copy. They like to have notes.

Participant B was positive but concerned about spoken communication because:

> Everybody has an accent. Sometimes no matter how clearly you speak, some students have problems with receiving the communication. I am going to be as polite and diplomatic as possible because when you are writing it is totally different.

Participant C was comfortable with the notion of providing audio feedback:

> There is a trend over the last two or three years, more and more students. record [the] lecture. I think this (audio feedback) is a good addition to it. It is going to be great on the bus or whatever.

These differing reactions are not surprising given the relative newness of audio feedback. Savin-Baden (2010) points out that it is generally disliked by academics because of the perception that it is time-consuming and is really no different from written feedback in terms of improving student performance. In contrast, Lunt and Curran (2010) found that academics staff had a positive attitude. The results in this study seem to bear out the mixed results apparent in the literature.

These concerns were reflected in the challenges that each lecturer anticipated. Participant A was concerned about the validity of audio feedback:

> You really need to rely on whether they (students) actually take it seriously. Do they listen to the feedback and then come back to class and ask questions? I think students prefer written feedback because it's in front of them and they can bring it to class.
Participant B saw it as a fairly straight-forward process.

We are just shifting from written to audio feedback.

Similarly, Participant C observed,

The only challenge I see is administrative. The first time is always difficult. Once you figure it out it's easy. I don't see a challenge in the actual giving [of] feedback, nor do I see challenges for students.

When asked about the potential benefits, the differing perspectives of the participants were evident. Participant A thought that benefits simply related to the notion that:

Students are more tech savvy now.

Participant B saw the benefits somewhat more broadly:

It will be the same as if I have written something but I’m speaking that thing. But the ease of doing things maybe [will be better].

Participant C saw the benefits in a similar way but also expressed the view that audio feedback improves the standard of feedback:

I think it’s going to be easier. It’s lovely to read papers and to write comments but it's always the dreading part because after a while your hands get sore then you start summaising things briefer and briefer. With the voice it's different.

The second interviews revealed that the process for giving the audio feedback adopted by each participant varied a little. Participant B began by trying to ‘script’ their feedback. However, they later changed this approach:

Initially I thought that I should use ‘track changes’ and mark the assignment and give the feedback. Then I thought it will be too laborious. I started with that and then I reverted to reading the assignment and then putting the assignment and grading criteria in front of me and looking at both and giving my feedback.

Participants A and C both made notes around which they framed their feedback:

At first I thought I would not be making notes because it would save some time and then I realised “Oh I don’t know what I’m saying! (laughs)” … So I ended up making some notes so I know what I’m supposed to say. (Participant A)

I looked at the papers and wrote comments and marked them … Then I did the recording. (Participant C)

This idea of making notes extends Lunt and Curran’s (2010) finding that lecturers should have a set of criteria to work from to ensure consistency. In this study the lecturers did have this provided, however they also found that having a set of notes for each student also assisted them.

The interviews conducted after the participants gave audio feedback for the first time suggest that their experience did not always accord with their expectations. For Participant A, they discovered that in spite of at first thinking that students preferred written feedback to audio feedback, stating that:

I was worried about [pause] did they hear what I was saying? At least no complaints.

In the case of Participant B, their concern about communication was also allayed by experience. For them, audio feedback:

Is a very interesting and unique method and I like it.

But then found the main challenge to be technical in that they had to download a software package LAME from the internet in order to convert Audacity files to mp3 format. However it did not present a problem because:

It's not hard. I searched how to do from Audacity into LAME. It's just one click. Audacity gives you suggestion and you do it one time and it's smooth.
In contrast to their initial confidence Participant C found that:

I felt stupid for the first five (assignments)! It was very uncomfortable speaking to a microphone and how I was going to start. After the first five you get a certain rhythm. After the sixth or seventh I became very confident. It’s really funny – after a while you get really excited about doing this.

Participant C also faced some initial technical problems with students being unable to access their audio files from the learning management system. But they worked around this by emailing them directly to students. It was subsequently discovered that this was related to the naming convention being applied to the mp3 files that had caused the problem.

Such problems have not been reported in the literature. However, de la Harpe, et al. (2009) do discuss technological issues but not in the same context as this study.

The perceptions of the participants about the overall benefits of providing audio feedback became much clearer to them after their experience. Participant A remained fairly sceptical stating:

The audio feedback and written feedback is pretty much the same.

Participant B also preferred written feedback because students are able to bring written feedback to the lecturer for further discussion which cannot be done with audio files. However when asked about what happens when students wanted further discussion about audio feedback, they stated:

No, that’s interesting. No one has approached me yet. Maybe they were satisfied and didn’t need to talk about it.

However, they found that providing audio feedback was less onerous than they expected:

I think it actually did save time because after all you speak faster than you write.

This corroborates Lunt and Curran’s (2010) comparison of marking times for two lecturers using audio and written feedback. They found that the process of giving audio feedback was a generally easier and more efficient than either by writing or typing.

The analysis of the data also produced some unexpected issues. Firstly, there was the degree of detail that could be provided. Participant A stated that audio feedback was not as detailed as written feedback:

I don’t usually go into too much detail when I’m using audio feedback because I talk from the top of my mind.

It also seems that the style of feedback is somewhat different in that as Participant B states that unlike written feedback:

In audio feedback you can’t go through line by line. If someone has not put a reference at point A in audio feedback you will say ‘your in-text referencing was not correct’.

This is similar to the findings of Merry and Orsmond (2008) who argue that it is sufficient to point out verbally the points in an assignment to which the comments refer.

Participant C felt that using audio resulted in more thorough feedback because they went through each assignment making notes then went through each one again as they recorded their feedback:

I marked the assignments twice, but it didn’t take me any longer than marking them once on paper.

The analysis indicated that audio feedback is qualitatively different to written feedback in that it allows for a broader discussion of assignments rather than ‘red ink’ specific marking. As participant A states:

It doesn’t mean that the tutor can’t give more reflective and critical feedback using the audio feedback system but they need to be mindful of that possibility.

The themes of marking the assignment twice and providing reflective and critical feedback are taken up by Participant B but in a different way. They saw audio feedback as perhaps creating more space for discussion because:
When a student will come back and say, ‘What did you say about my assignment?’.
I won’t be able to remember so it will be just like revisiting the assignment all over again. I will say, ‘Bring your assignment, I really need to read it’.

Finally, Participant B alluded to issues of finding appropriate space to record feedback. While written feedback can be provided sitting in an office, at home or in any public situation, audio feedback requires a relatively quiet background so as to alleviate interference with the voice recording:

I knew I had time [and space] constraints. So it’s an important point – like how and where.

Overall the strongest common theme themes were that of needing practice to become more competent at giving audio feedback. One participant suggested specific training, which is interesting in that there is little pressure from new lecturers to provide training in giving written feedback. This might indicate the request for training is more technical in nature. This is point is supported by the technical problems encountered by the participants during their first experience of providing audio feedback (e.g. having the correct software installed, getting the file naming correct and the time taken to upload feedback).

Now that lecturer expectations and experiences have been examined, it is useful to compare these with student perceptions and experiences of audio feedback, spanning the period over which audio feedback was introduced to the unit.

**Student experience**

The survey data reveals a noticeable change in student attitudes to assessment after the introduction of audio feedback. The results here suggest that not only does the use of audio improve student perceptions of feedback it also improves student attitudes to the assessment itself (Table 1). The effects of these changes are more evident when compared to survey responses to other questions in the survey that remained fairly constant (+/- 5%)

<table>
<thead>
<tr>
<th>Survey Question</th>
<th>2005-2009 Average agreement (Before audio feedback)</th>
<th>2010 Average agreement (After audio feedback)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feedback on my work in this unit helps me to achieve the learning outcomes</td>
<td>86.2%</td>
<td>93.5%</td>
</tr>
<tr>
<td>The assessment tasks in this unit evaluate my achievement of the learning outcomes</td>
<td>85.6%</td>
<td>93%</td>
</tr>
</tbody>
</table>

Interestingly, responses to the question: **The learning resources in this unit help me to achieve the learning outcomes** also showed a similar increase from an average of 85.5% agreement before the introduction of audio feedback to an average of 92% agreement afterwards. Considering that the introduction of audio feedback was the only major change in the unit in 2010, this result is worthy of further research. Perhaps the students in some way equate feedback as a learning resource.
The were no negative comments about feedback from students and several students included a comment about audio feedback in the space available for positive aspects of the unit, for example:

- Unique form of assignment feedback.
- The vocal feedback given on BB (Blackboard) on each of the major assignments.
- I enjoyed the unique format of evaluation and comments for assignments.
- Excellent use of online tools such as the recorded assignment feedback.

Student responses also suggest that audio is preferred to written feedback, for example:

- I really liked the audio feedback, I took a lot more in listening to it then I would have done just reading it.
- The feedback of the assignment through mp3 is fantastic. This allows the teacher to give more detailed feedback, not just a few words on the cover page.
- Thank you for giving me verbal feedback via the mp3 file response to my assignment. It is more informative than the red pen approach and feels more personal to my learning experience.

More detailed comments also suggest that audio feedback was found to be useful and informative and provided evidence to students that their lecturers took time to read their work:

- The feedback was also great, as well as the way in which it was given (audio). I found it really helpful.
- Feedback for the assignments were terrific, they were in depth, detailed and clear which allowed me to better understand where I need to improve. The mp3 was a very useful tool and shows that [the lecturer] had really spent a great time on each student’s piece of work.
- Gave very good and thorough feedback on assignments. Feedback I received from the first assessment allowed me to improve my marks (going from a pass to getting a distinction).

For students, receiving audio feedback was a positive experience and they placed more value on audio than they did written feedback. This supports the conclusions of Lunt and Curran (2010) and Merry and Orsmond (2008). This view is in contrast to some of the perceptions expressed by lecturers in this study there was really little or no difference between audio and written feedback, and that students actually preferred written feedback.

In reflecting on Poulos and Mahoney’s (2008) conclusions that effective feedback has three characteristics (Perception, Impact and Credibility) it seems that introducing audio feedback has a positive effect on all three of these. Students seem to see audio feedback in a more positive light than written feedback and as a result it has more impact and credibility to them. Indeed while there is debate about the usefulness of using audio feedback, the effectiveness of written feedback is also not fully established (Bailey and Garner, 2010).

This analysis suggests that introducing mp3 feedback might be a fairly difficult task in that small (but important) technical details must be paid attention to, and lecturers need to be convinced of its effectiveness and that it is not necessarily more time consuming than providing written feedback. It seems that the main issue is one of confidence in using the technology, especially the challenge of recording one’s own voice. For students there seems to be a clear preference for audio feedback. As Participant C pointed out:

- Take away from the dry sixties style marking. The students can connect with the [audio] feedback.

Conclusion

Although the data in this study was collected from different sources and at different times, it lends support to the findings of previous research into audio feedback suggesting that it has the potential to be one solution to the problem of providing effective feedback quickly and efficiently. Data indicating that students are more accepting
than their lecturers present challenges for the academic community and reasons to be optimistic. It is a challenge given the scepticism on the part of some academic staff reported by Savin-Baden (2010) and apparent in this research that seems to be based on assumptions about what students prefer and a concern about using the technology. It is also a cause for optimism because the emerging evidence points towards students preferring audio feedback and as academic staff become more familiar with the technology much of the ambivalence tends to evaporate.

Rigorous research into audio feedback is certainly in its infancy. This study is limited to a single unit of study in one university. More research needs to be undertaken particularly regarding academic staff perceptions of audio feedback, the effects of audio feedback on student learning, the characteristics of effective audio feedback and how students use it. Other areas of interest include the relative effectiveness, quality and nature of audio versus written feedback and the way academics ‘voice’ feedback in the different media.

References


Educational assessment in virtual world environments

Torsten Reiners (t.reiners@cbs.curtin.edu.au)
School of Information Systems, Curtin University

Sue Gregory (sue.gregory@une.edu.au)
School of Education, University of New England

Heinz Dreher (h.dreher@curtin.edu.au)
School of Information Systems, Curtin University

Facilitating and empowering learners and teachers through technology has primarily concentrated on content and management aspects rather than on assessments aspects of the education enterprise. Recent developments in virtual world technology have sparked a raft of projects exploring the possibilities to enhance learning outcomes. In this article, automated support for educational assessment is focussed on via three case studies implemented in Second Life, the 3D virtual world implemented by Linden Labs. This paper discusses the assessment tasks, the methods used and provides an analysis of our results. The University of Hamburg case study involves scenario-based software development projects. The Curtin University case study focuses on simulating the business processes of the Automated Assessment Lab, which provides automated assessment opportunities to staff of the Curtin Business School, and in which a virtual world model of the entire assessment life cycle is created. A third case study from the University of New England, VirtualPREX (Virtual Professional Experience), explores self, peer and academic formative and summative assessment in virtual world role-play scenarios. Each case study comprises a description of intent and implementation, followed by evaluative comments from the role players, providing insight into the benefits that may accrue from the use of virtual world technology for students, teachers and educational administrators.

Keywords: automated assessment, virtual worlds, second life

Conference Themes: Practical solutions

Introduction

Teaching and Assessment in education are fundamental to student learning. As teachers, we seek to provide rich learning experiences for our students and have been ready to embrace educational technology and innovations in learning systems. Perhaps the most prominent example of this is the use now being made of Learning Management Systems (for example Moodle, BlackBoard or Sakai) and the proportion of educational offerings (called “units”, “subjects” or “study units” in some Australian universities, and “courses” elsewhere) that now have an on-line component. Educational administrators also are eager to take advantage of the new technology and wish to promote consistency, quality, increase efficiency, reduce costs, all the while making the educational offering more attractive in the marketplace. Research, development and application of technology to Teaching have seen considerable change over the last decade or two. By comparison, the attention paid to technology support for Assessment is in its infancy.

One technology now receiving increased attention is that of virtual worlds, popularized by Second Life. Within the past five years, virtual worlds have matured to become an educational environment to equip the academic with a variety of tools to implement innovative educational scenarios and methodologies for both teaching and assessment (Montalbano, 2010) or simulations (Farley, 2007).

Our investigations observed virtual worlds to explore how they can be utilized to improve the engagement in classes and projects and support the assessment process itself. Via three case studies we describe how educational assessment may utilise virtual world technology. This paper explores three case studies outlining how students used the virtual world (Background and Context), the Case Studies, the methods for assessment (Methodology) and discussion on the analysis of the assessment tasks (Analysis of Case Studies), concluding with Future and Conclusions.
Background and context

Virtual worlds are “well suited for project-based experiential learning” (Jarmon et al., 2009) where the focus is set on the experience for, and involvement of, the learner. Traditional lectures presenting slides and encouraging discussions are possible and widely done (Anderson & Sommer, 1997), even though this would neglect the real advantage of the technology. Benefits often associated with virtual worlds are, among others, communication, collaboration, social interaction, shared spaces, immersive and persistent environments, enhancing motivation, and realizing opportunities for ideas (Gregory, Reiners, & Tynan, 2010). Therefore, virtual worlds are often applied in the context of simulation and role-play, where real-world scenarios are transferred for experiments in safe environments; safe with respect to health (flight simulator, propagation of viruses), economic (modification to supply chains, influence of changing markets), society (changes on tax or health system, influence of crime statistics), or individuals (anonymous role-play, therapy). In comparison with other learning environments, virtual worlds emphasis is on collaboration, communication, and, therefore, on social skills, which implies the opportunity of enhanced assessments taking, not only the gained knowledge but also, the whole experience into account; see Kim and Kim (2010) for examples in the context of mental illness. Incorporating scripted scenarios and automated avatars (bots - non-player characters), virtual worlds allow individualizing the environment and gaining independence from others to perform a role-play (Park et al., 2009). The number of experiences can be multiplied for therapy and training as well as controlled to provide the same conditions independent of mood and exhaustion of others over an exam or testing period. Training extreme situations can require realistic settings often not achievable in the real world. While fire-fighters or nurses should have real-world training, routine and rare situations can be trained and assessed in virtual worlds (Chodos et al., 2011; Beard, et al., 2010). Authentic learning activities can be undertaken in a virtual world where it is either impossible or difficult to undertake in a real world (Lombardi, 2007).

In contemporary education environments, nearly all documents are created in digital form as ‘Word’ files, ‘PowerPoint’ slides or PDF documents, for example. In terms of process efficiency it is compelling to provide a digital ecosystem for the entire life-cycle of such documents. In the case of assignments, this includes the submission, acceptance, grading or assessing, feedback provision and results release phases. Better control and management of the entire process is a distinct advantage over a paper-based system, but when automated assessment and feedback provision is added to the life cycle, such as is possible using the MarkIT™ Automated Essay Grading System (www.essaygrading.com), additional benefits may accrue from reduced cost, drastic shortening of assessment cycle (to just a few minutes as opposed to many days) and superior consistency of assessment. In combination, these factors provide a considerably enhanced assessment experience for the student and an overall improvement in the quality of educational offering through the use of digital ecosystem based technologies and processes.

Assessment in virtual worlds, and especially defining a rubric, is still subject to further research. A recent development can be found in Weinberger et al., (2011). IGGY (2010) shows that educators apply traditional rubrics as they would do for projects but do not consider the unique features of virtual worlds. In-world (in Second Life) is seen as an extension of the real classroom, where the final assessment is done. Most educators use, to some extent, formative assessment. It might be important to mention that an observed increase in quality might result from getting credit for mere participation and that the sample of students in virtual worlds is biased, as it is more likely for better students to choose experimental environments.

On the other hand, some rubrics can be found that include categories for the environment and social interdependencies with others. Even though most would be valid in traditional Web-environments, the specialized rubrics emphasize the difference to a classroom and the new skills students can and must learn, and encourage students to take advantage of the offered features rather than just doing the assignment. Examples for specialized categories are art and design (to what extent are the features of the environment used to improve the results), digital skills (usage of the interface and taking advantage of available tools), netiquette (communication, use of language, and behaviour towards other participants), interactivity (implantation of scripts and how they interact with the environment), and collaboration (integration in the team and working as a team) (VieW, 2011; Morillo et al., 2010).
Case studies in second life

The island *University of Hamburg (UHH)* opened in 2007 and focussed on projects initiated and undertaken by the students as part of their software development education. Prior to the use of virtual worlds, a shift was noticed towards learning about technology and programming, with other stages of the software development process almost having no influence. This resulted in low motivation and the students’ main focus was not on the programming. Moving to Second Life, the time for getting acquainted with the tools and the script language is minor compared to understanding PHP or JavaScript, allowing for more time on the planning and specification of tasks. The use of objects and messages – the main form of communication between objects in Second Life – for interaction goes along with the concept of object-oriented languages and thus mediated the same knowledge as previous courses on programming and software development. The core concepts and ideas could be transferred to virtual worlds without losing the context of the course, while the strong focus on visualization even support learners who had difficulties understanding abstract methods. In addition, the environment encouraged students to engage in new ideas and go beyond a prototype stage, as it was immediately public; see the next section on case studies for further feedback and details about how the projects were assessed. An overview of projects is given in Reiners (2010).

In 2009, *Australis 4 Learning*, an island in Second Life, was created to pursue several projects. Curtin University (Curtin) created a simulation of their real-world Automated Assessment Lab (Dreher, Dreher, & Reiners, 2008) business processes. Besides providing students with access to in-world tools to submit assignments and review their results, the technology was used to demonstrate the whole process from assignment specification through assignment submission and to (automate) marking; especially to advertise the advantages and lower the barrier for non-technology adverse educators. Users are guided along the different stages, receive an insight viewed by automated avatars and could experience various technologies for assessing assignments. The Automated Assessment Lab was established to provide a university-based automated essay grading service and research centre.

The University of New England (UNE) also established a space on *Australis 4 Learning*. A primary school and playground were created where students could meet, discuss assessment tasks, attend virtual tours and excursions, interact with guest lecturers, go on web quests, learn basic building and scripting skills and participate in role-play activities. More recently, further classrooms have been created for synchronous role-plays of teaching in a virtual world where pre-service teachers undertake the role of either a teacher or primary school student and role-play a short lesson (VirtualPREX – virtual professional experience). The pre-service teacher presented their own lesson to peers who were provided with roles to play as primary school students that were either “good” students or “naughty” students. The Second Life space has been created so that authentic learning activities can take place through formative and summative assessment of role-plays, through reflection and machinima (in-world video).

Over the past three years, virtual worlds have been applied in the context of assessment from several perspectives. The following overview depicts three examples and derives models of how to project the lesson learned on future scenarios; i.e. with respect to the ongoing project Virtual Professional Experience (VirtualPREX project information: Gregory & James, 2011 and http://www.virtualprex.com).

The island, *University of Hamburg*, was focussed on student projects. Originally, this was a course unit about developing software artefacts by teams of two to five students. Knowing about the different work environments and how the projects were approached, a rubric was adopted for assessing software development; especially integrating achieved and applied (technological) skills with respect to managing the process and the teamwork. Even using tools to monitor activity and authorship of submitted documents, the authenticity could only be identified by questioning the results through oral exams. Furthermore, a decrease in interest was noticed as projects often resulted in (unfinished) products in archives rather than being sustainable and accessible afterwards. Moving to virtual worlds contributed in multiple ways. First, by keeping the island public, access by supervisor and public was given at all times, encouraging the students to focus on their work and achieving a finished product. The additional (formative) feedback from sources other than the supervisor supports this engagement and results in higher marks. Second, the progress is visible at all time, allowing for immediate intervention in case of deviations from time plans and specification done in the first stages of the project. Rather than requesting (executable) milestones, the construction site can be visited any time. Third, monitoring of involvement is improved. Even though others could control avatars, they would be confronted with a higher risk
of getting caught due to the publicity. The importance of working as a team where everyone contributes to the outcome were discussed in advance and agreed on by all participants.

In addition to scenario-based projects on the island University of Hamburg, addressed were the self-guided learning and assessment of students. The harassment simulator is one example briefly discussed here as it demonstrates the advantages of avatars and scripted environments for formative assessment of specific situations in a self-guided environment (Reiners et al., 2010). The challenge for this project was having an environment where individuals could learn about workplace harassment in a secure setting to identify potential risks. Rather than having real-life role-play situations involving other real humans, the simulator enabled selection from a range of different avatars to experience everything while keeping a distinct distance. In the current simulator, the avatar has to cross an open-space office in different outfits while comments from co-workers are played. The answers have to be ranked (good, neutral, offending) for later evaluation, where experts put the outcome in relation to expected reactions. Each successful simulation is analysed and summative as well as formative feedback is provided to the students.

Curtin University on Australis 4 Learning focuses on a backstage perspective to assessment. A guided walk-through tour demonstrates the processes in a digital ecosystem view through the Automated Assessment Lab (AAL) and visualizes opportunities for the future by utilizing innovative technology such as automated essay grading (Dreher, 2009; Dreher, et al., 2008; Dreher, 2006).

Stakeholders of the assessment life-cycle, for example, students, educators, markers, or educational administrator, can visit each step and experience these by interacting with the digital artefacts. That is, receiving an assignment specification in the lecture hall, writing text, submitting it in a drop box, reading about how marking is done and viewing formative feedback on an individualized wall or mobile device. The AAL is also part of a software development course where students build artefacts for assessing virtual world projects as well as improving the AAL at the same time.

VirtualPREX on Australis 4 Learning is a project exploring self, peer and academic formative and summative assessment in virtual world role-play scenarios. Pre-service teachers are provided with the opportunity to experiment with their teaching prior to embarking on real professional experience. Formative assessment is embedded in a way that is valid, reliable and feasible to implement. The formative assessment procedure for VirtualPREX follows Boud’s seven propositions for assessment, (Boud, 2010): assessment is used to engage students in learning that is productive; assessment is recognized as a learning activity that requires engagement on appropriate tasks; feedback is used to actively improve student learning; students and teachers become responsible partners in learning and assessment; students are inducted into the assessment practices and cultures of higher education; assessment for learning is placed at the centre of subject and program design; assessment for learning is a focus for staff and institutional development; assessment provides inclusive and trustworthy representation of student achievement. Assessment around engagement, appropriate tasks and feedback were addressed in the design of assessment tasks providing authentic learning and assessment for students. A set of structured, collaborative role-plays were developed to provide scenarios of common and challenging situations faced by teachers in the classroom that pre-service teachers may need to address during their real classroom professional experience. The role-plays were created after a focus group meeting with current and past teachers to establish common classroom teaching scenarios. The system is designed with three major formative features: personal ejournals, peer and educator assessment and reflective opportunities. Pre-service teachers reflected on virtual world and real professional experiences in an ejournal to be shared with their educator. After the virtual world role-plays, pre-service teachers were asked to reflect on their feelings/perceptions of the role-play, discussing what worked, what didn't and how the workshops could be improved which were recorded. Feedback suggested that the role-plays should be conducted with off-campus students to provide authentic learning, as this is a method these students use to receive their learning. Finally, machimina (in-world video, see http://virtualprex.com/machinima.html) have been created to be used as formative and summative assessment. Pre-service teachers can view the machimina to discuss how the lessons could be improved.

Methodology

Overall, mixed-methods were used to gain a deeper understanding of how virtual worlds enhance assessment. For projects on University of Hamburg and Australis 4 Learning Second Life Islands, qualitative feedback was collected through inspection of the process – mainly observing how students performed group work and
challenged problems that occurred, including interviews at several stages of the project duration. Over a period of three years, we performed a qualitative benchmark of virtual worlds for assessing the outcome in projects by comparing preliminary expectations to interviews afterwards. The interviewees were asked to compare their experience to other projects they were enrolled in before. Due to a relative small number of students per semester (< 20 in the fields of computer science, information systems and psychology) and the large variety of projects, we did not pursue quantitative experiments. The overall feedback was used to adjust subsequent projects based on the knowledge gained about problem and risk areas as well as highlights to improve the experience.

VirtualPREX is in the early stages of data collection. First year pre-service teachers have undertaken a role-play testing the virtual world environment. Role-play lessons required students to act as either a teacher or primary school student, swapping their role between teacher/student or as a “good” or “naughty” student. At the completion of their role-play, pre-service students completed a survey collecting both quantitative and qualitative data on their experiences of using a virtual world and their perception of the role-play to assist with their PREX. Questions were also asked of their experience of technology prior to commencing their studies. Discussions were also held (and recorded) reflecting on the pre-service teacher’s perceptions of their activity. They then undertook professional experience in a real classroom and have since completed a further survey to discover whether they felt that their role-play lessons assisted them in their real PREX. During this time pre-service teachers kept an ejournal to record their reflections of their activities, both virtual and real.

Case study analyses

University of Hamburg – UHH – Analysis of student participation and success in their studies

Virtual worlds were approached with high expectations on students’ projects. That is, the upcoming lack of interest in programming among Information Systems and Business Administration students had been anticipated. Virtual worlds were mainly chosen as they allow for advanced results even without deep knowledge in programming, while students still require software development and programming skills and learn about the concepts. Besides general feedback about the unrestricted and collaborative environment, the following quote shows the success of using virtual worlds:

I enjoyed it. Compared to Java, it is much easier to implement the user interface using prims. The object-oriented concept is easy to understand, if real objects are used. All I had to do was implement some functions to have my objects communicate with each other and react on input by avatars.

The in-world projects turned out to be far more successful. Students reported that the open access, simultaneous collaboration and expressiveness motivated them. For the supervisor of the projects the ‘anytime’ access allowed for a continuous monitoring and intervention in case of deviation from the plan. The assessment allowed the inclusion of further aspects as feedback from external resources (visitors, international reviewer), team work, social skills and application of tools could be observed and evaluated without extensive effort.

Curtin – Analysis of Automated Assessment Lab business processes

In building the software artefacts to model the AAL business processes associated with automated assignment assessment and feedback provision, students kept a ‘development journal’ in which aims, expected outcomes, actual outcomes and personal reflections of each of the tasks associated with such an enterprise were recorded.

Typical tasks modelled included ‘the assignment box’ which was endowed with intelligence to accept assignments only in accordance with given parameters such as ‘before due date/time’, ‘submitted and authored by qualified student’, and ‘correct format’. There are many such processes which are normally in need of ‘human’ attention but which can be readily automated in a digital environment. Students responded positively to the demands of writing program code in the Linden Scripting Language (LSL) and to the new environment for software development as exemplified by the following comments:

*Working in 3D was an amazing experience. The project gives students the freedom of creativity which allows them to innovate. In addition, the project requires students to exploit the knowledge they have acquired during their course. This includes project management, database, programming, communication and other relevant skills; and The project encompasses a steep learning curve in respect to creating artefacts in Second Life, scripting the objects using LSL, and also navigating around Second Life.*
In addition to the primary business functions, there was some supportive secondary functionality required. All users of virtual world technology experienced the steep learning curve referred to above, some of which relates to simply moving about with avatars. In this case avatar movement is not of primary importance and therefore some ‘super-movement’ devices were created, such as a ‘3D-lift’ or generalised transporter module with inbuilt security features. This prompted the following reflections:

I really like the freeform structure, that is, that you give us a goal and we have to think of and implement our own solution. I enjoy this as most units in university I feel that I’m being led too much through the assessments and coming up with and creating my own ideas is quite enjoyable.

It is the most attractive unit in my uni life. Everything in this unit is fresh, it is not only study, but also have a lot of fun. Using a game to teach student how to manage a project well, how to be creative, how to be successful. It not just game, it can be connected with the real life. I really think that will help me a lot in my future life; and

All in all I think it was interesting and in a sense informative as it forced me to think outside the box and confines of what I was used to.

Reflections, comments and appraisals such as those above are indicative of the invigorating and exciting approach and the motivation which is relatively easily achieved within a digital ecosystem 3D virtual world. Naturally, not all comments are positive. In the “not so good” reflection category was:

Sometimes the game speed is very slow in the uni, the 1700mb Internet usage is still not enough for the student who use computer in uni frequently. Moreover, because it is the first time I play the Second Life, I hope the lecturer could provide more resources for us if possible.

indicating that one must always be mindful of the technological demands such educational interventions, or ‘adventures’ as we prefer to think of them, require to be met so as to produce as stress free and supportive environment as possible.

Whilst the particular projects were deeply immersed in technology, students were able to take a broader perspective as seen in the following reflection:

It’s a great experiment. SL brings possibilities to learn, have fun and practice at the same time. The good thing is this unit is good for my future career.

UNE (VirtualPREX) – analysis of teacher/student role-plays in Second Life

At the time of publishing, only data from the Pilot survey had been collected. The survey was conducted immediately after the completion of the VirtualPREX role-play activity. There were 72 responses to the first survey. The survey asked demographic questions and queried pre-service teacher’s knowledge of virtual worlds prior to their workshop and their thoughts and feelings of the workshop. In Table 1 are the results where pre-service teachers were asked to rate the importance of the learning benefits of virtual worlds. The results indicate that students were close to the middle (3.5) with all responses. Ratings were 7 being “extremely” and 1 being “not at all” to the words describing the learning benefits; confusing, difficult, irrelevant, interesting, easy to use, useful, boring, enjoyable. The areas which had the higher (more extreme) responses were that the pre-service teachers found undertaking teaching/student role-play activities interesting, easy to use, enjoyable and useful. The negative indicators (confusing, difficult, irrelevant, boring) received lower responses, indicating the activity was worthwhile, from the pre-service teacher point of view. (More analysis of the data can be found in Gregory, et al., 2011)

Table 1: VirtualPREX – Overall rating of virtual worlds role-play activity

<table>
<thead>
<tr>
<th>Confusing</th>
<th>Difficult</th>
<th>Irrelevant</th>
<th>Interesting</th>
<th>Easy to use</th>
<th>Useful</th>
<th>Boring</th>
<th>Enjoyable</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.75</td>
<td>3.41</td>
<td>3.26</td>
<td>4.77</td>
<td>4.47</td>
<td>4.08</td>
<td>3.49</td>
<td>4.44</td>
</tr>
</tbody>
</table>

Pre-service teachers were asked to rate how often they used various elearning tools prior to commencement of their studies. The results indicated that pre-service teachers used the Internet (97%), Facebook (81%) and Smartphones (42%) on a daily basis, but almost never used networked games such as World of Warcraft (3%) or virtual worlds, such as Second Life (0%). This also demonstrates that the pre-service teachers had a significant
amount of learning to be able to use the virtual world for their role-play. Figure 1 provides a visual overview of pre-service teacher usage of various learning tools prior to commencing their studies at UNE.

![Figure 1: eLearning Tool Usage](image)

After pre-service teachers had completed their role-play activities, a further question in the survey asked students to rate the importance learning benefits of virtual worlds. These were:

- a) They can assist learners in developing familiarity with a place and the objects within it;
- b) They can be motivating and engaging for learners;
- c) They can lead to improved transfer of learning to real situations;
- d) They can enable more effective collaborative learning;
- e) They can allow learners to learn through experience in context.

Pre-service teachers rated these according to their importance with “Extremely Unimportant” being the lowest and “Extremely Important” being the highest. Figure 2 signifies that the pre-service teachers were all in the range from “Neutral” to “Very Important” with very few rating below “Neutral” or above “Very Important”. This indicates that, overall, the pre-service teachers valued their learning and experiences in their role-play of VirtualPREX.

![Figure 2: Importance of learning benefits of virtual worlds](image)

To provide the reader with a context of the virtual classroom, Figure 3 provides images of classes in action and demonstrates methods the teachers undertook to engage their class in their lesson. Students began sitting at their tables (as depicted in the first image) and then were provided with roles to act out. The first image shows students at their desks, one wandering around the classroom and another standing in front of the teacher. The second image demonstrates the teacher using strategies to engage all students in their class. This teacher requested students to go to the front of the classroom and undertake a dance lesson. This gave the ‘wandering’ students a task that they wanted to participate in.
Future and conclusions

Assessment in a real classroom is well documented but in a virtual world, educators are still gathering knowledge on how to ensure that authentic learning and assessment tasks take place. The ideas and experiences presented in this report demonstrate that there are authentic assessment tasks being undertaken in the three cases however, it is not part of mainstream education practices at this time.

The advantages of assessment in a virtual world are that students are provided with the opportunity for authentic assessment tasks in settings that are scripted and adapted to the user. Students are also able to undertake peer and self-assessment in realistic scenarios. Our outcomes demonstrate the importance for role-play that requires effort and a number of people to do so in reality. For some people they would feel uncomfortable role-playing, such as the workplace harassment scenario, but in a virtual world it is easier in a neutral, safe and potentially anonymous capacity. Also, in a virtual world, people can undertake role-play practice with bots to automate this procedure.

The assessment rubric used in real classroom situations is, again, well documented. However, in a virtual world, the use of a rubric is in a preliminary stage and this has implications as to the authenticity of the assessment tasks. There are no clear guidelines established as yet. Further exploration of assessment in a digital ecosystem, for example, Second Life, will inform educators interested in realising the potential beneficial and superior learning outcomes for their students.

References


Indigenous knowledge, cultural awareness and communication skills for information technology, engineering, mathematics and environmental disciplines

Diana Quinn (Diana.Quinn@unisa.edu.au)
Learning and Teaching Unit, University of South Australia

Andrea Duff (Andrea.Duff@unisa.edu.au)
Division of Information, Technology, Engineering and the Environment, University of South Australia

Tina Brodie (Tina.Brodie@unisa.edu.au)
Division of Information, Technology, Engineering and the Environment, University of South Australia

Kathy Darzanos (Kathy.Darzanos@unisa.edu.au)
School of Computer and Information Science, University of South Australia

Elizabeth Smith (Elizabeth.Smith@unisa.edu.au)
School of Natural and Built Environments, University of South Australia

Mike Carmody (Mike.Carmody@unisa.edu.au)
Division of Information, Technology, Engineering and the Environment, University of South Australia

Joy Makepeace (Joy.Makepeace@unisa.edu.au)
David Unaipon College of Indigenous Education and Research, University of South Australia

Brenton Dansie (Brenton.Dansie@unisa.edu.au)
Division of Information, Technology, Engineering and the Environment, University of South Australia

Higher education has the potential to play an important role in fostering the national reconciliation agenda - bringing together Indigenous and non-Indigenous Australians through teaching, learning and assessment. In 2005, the University of South Australia (UniSA) took a proactive role to reconciliation by embedding Indigenous content in all of its undergraduate programs (ICUP). The result of the ICUP approach was the addition of three new indicators to its graduate qualities and assessment policy: Indigenous knowledge; social and ethical perspectives and communication. The first iterations of ICUP policy were ‘stand-alone’ approaches, with mandatory Aboriginal studies courses being included in undergraduate programs (health, humanities and business). The second methodology took an ‘embedded’ approach where ICUP learning took place within a discipline context (information technology, engineering, mathematics and environmental studies). Learning objectives and assessment were linked closely with career and professional practice in first year courses within the Division of Information Technology, Engineering and the Environment (ITEE). Significant and authentic learning opportunities were designed at different year levels of programs. This paper presents brief case studies of the approach and shares observations of the profound and often surprising impact these experiences have had on learners and teachers alike.

Keywords: indigenous, culture, engineering

Conference Themes:  📡 Practical solutions

Background

The time has now come for the nation to turn a new page in Australia’s history by righting the wrongs of the past and so moving forward with confidence to the future ... a future where we embrace the possibility of new solutions to enduring problems where old approaches have failed. A future based on mutual respect, mutual resolve and mutual responsibility (Rudd, 2008).

Kevin Rudd's national apology to the ‘Stolen Generation’ sets the tone for the story we are about to tell about our institution’s efforts, through policy and practice, to right the ‘wrongs of the past’ and move ‘forward with confidence to the future’ (Rudd, 2008).
Reconciliation is a bringing together - a joining of Aboriginal and non-Aboriginal Australians - to redress the systemic harms caused by European colonialism across decades (displacement from lands; genocide; the Stolen Generations; social injustices). Reconciliation advocates (for example Leigh, 2002) argue that, attitudinal change of non-Aboriginal Australians toward Aboriginal Australians, will have the most impact long-term. This involves ‘forging stronger interpersonal relations and creating a better sense of understanding’ among the diverse groups in our society, where responsibility rests with both Aboriginal and non-Aboriginal Australians (Leigh, 2002). Bretherton and Mellor (2006) explain that reconciliation is about relationship building to promote harmony by addressing the lack of ‘positive and empathetic attitudes’ toward Aboriginal Australians.

There are right leaning and left leaning definitions of reconciliation, but (as Bretherton and Mellor suggest) it is a dynamic ‘process’ rather than a ‘state’ of being. Leigh explains that the process of reconciliation can be uncomfortable for non-Aboriginal Australians as they need to interrogate the inherent institutional practices (including those in universities) which reinforce ‘white privilege’ (e.g. McIntosh, 1988). Shields cites Friere’s (2010) assertion that, although education is not an end in itself for societal change, change cannot occur without education.

University policy

Universities, as educators of future professionals, have an important role to play in developing the cultural competence of Australians to move positively towards ‘a future based on mutual respect, mutual resolve and mutual responsibility’ (Rudd, 2008). Institutions – including universities - construct and implement policies and practices that impact on Indigenous Australians through the services they provide (Nolan et al., 2010). However, the curriculum taught to the future generations of Australian professionals is often based upon little or no knowledge or understanding of Indigenous cultures, histories or contemporary realities (Nolan et al., 2010).

In 1997, the University of South Australia (UniSA) became the first university in Australia to issue a formal commitment to Australian reconciliation between Indigenous and non-Indigenous Australians. To better prepare our graduates to work in environments that were inclusive and understanding of Indigenous perspectives, UniSA required all of it’s undergraduate programs to adopt content with Indigenous perspectives. This policy, called the Indigenous Content in Undergraduate Programs (ICUP) Policy, was launched in 2005, with the requirement that ‘Indigenous content will be compulsory and assessable component of all undergraduate programs in the University by 1 January, 2010’ (UniSA, 2005).

UniSA’s assessment policy requires that all assessment, and feedback to students about their assessment, are linked explicitly to the attainment of the graduate qualities defined for a particular program. To ensure that the ICUP policy could be achieved, in 2006 all program approval documentation was required to stipulate how Indigenous content knowledge and perspectives would be assessed. The generic qualities that defined a graduate of the University of South Australia were adjusted to include three new indicators to assess Indigenous knowledge, perspectives and communication. These are presented in Table 1 (UniSA, 2009).

<table>
<thead>
<tr>
<th>Graduate Quality</th>
<th>New Assessable Indigenous indicator</th>
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<tbody>
<tr>
<td>1. A graduate of the University operates effectively with and upon a body of knowledge of sufficient depth to begin professional practice.</td>
<td>Demonstrates an understanding of the needs, interests, protocols and perspectives of Indigenous groups.</td>
</tr>
<tr>
<td>5. A graduate of the University is committed to ethical action and social responsibility as a professional and citizen.</td>
<td>Considers the relationship between the construction of power and privilege and the ability of the discipline to perpetuate or dismantle social inequality with respect to Indigenous groups.</td>
</tr>
<tr>
<td>6. A graduate of the University communicates effectively in professional practice and as a member of the community.</td>
<td>Demonstrates a knowledge and understanding of Indigenous community protocols and communication styles.</td>
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</table>
Approaches to teaching Indigenous cultural competence

Rogers-Sirin (2008) highlights how decisions around developing cultural competence in programs require careful consideration around design, learning objectives and instructional strategies. The implementation of ICUP was adopted differently across UniSA: a predominate 'stand-alone' form (Ranzijn, 2008), as well as 'embedded' forms (e.g. Skillen et al., 1998).

Program design

By 2008 three of the four major Divisions at UniSA had implemented the new ICUP assessment policy. This implementation typically included a new ‘stand-alone’ core course in undergraduate programs in the form of ‘Aboriginal Studies’ (Ranzijn et al., 2008). The ‘stand-alone’ program design decision was influenced by faculty perceptions that the curriculum of their programs was already overcrowded; the material was considered peripheral to the discipline; and there were no obvious models to follow. Staff also predicted high levels of student resistance (Ranzijn et al., 2008). Most of these compulsory stand-alone courses were taught by Indigenous staff from David Unaipon College for Indigenous Education and Research (DUCIER) (Nolan et al., 2010) or team taught with non-Indigenous faculty (Ranzijn et al., 2008).

The academic staff within the remaining Division of Information, Technology, Engineering and the Environment (Div-ITEE), were concerned that students would be resistant to studying a one-of ‘stand-alone’ course and asked to explore ways in which Indigenous knowledge, perspectives and communication could be incorporated within a range of current courses by aligning the approach more closely to engineering and science related topics. This ‘embedded’ approach has a good deal of traction in learning and teaching literature. Often associated with fostering generic communication skills, the embedded approach (Skillen et al., 1998; Ferris et al., 2010) was used to bring in the cultural aspect. Using the ‘embedded’ approach is a recognition that the generic (in this case, cultural awareness and professional practice) is like hand-in-glove with discipline specific material, you cannot separate the two from the employability attributes of the graduate.

To initiate the ICUP transformation, a Reference group was formed in Div-ITEE that included Indigenous academics and experts from DUCIER, Indigenous engineers and interested academics from the Division. The work of the Reference group included:

- identification of the themes of ‘sustainability’ and ‘systems thinking’ as areas of clear synergy between the Division’s program outcomes and Indigenous expertise.
- refinement of program outcomes; e.g. the development of effective communication skills (Graduate quality 6) was refocused to emphasise culturally appropriate communication skills.
- pin-pointing of project-based learning assessment pieces within courses in each program as ideal areas to embed Indigenous social and ethical perspectives related to the professional practice of engineering, computing and science.
- favouring of a scaffolded ‘embedded approach’, with learning opportunities of increasing richness available across students’ programs.
- selection of authentic learning activities and assessment (Herrington, 2002) that were tied to discipline-based learning.
- appreciation that online approaches were needed to support students’ learning.
- adoption of the team teaching model recommended by Ranzijn (2008), where Indigenous and non-Indigenous academics co-teach classes, as an overt model of reconciliation for our students.

Beginning in the first year of any undergraduate program within Div-ITEE, assessment items were redesigned to include opportunities to develop cultural diversity and raise initial awareness of socio-ethical perspectives impacting on Indigenous Australians. In later stages of their program of study, there would be opportunities for students to be assessed on their developing communication skills by interacting with Indigenous people as part of discipline-specific projects and service learning opportunities.

Learning objectives

To help realise our university’s reconciliation objectives, we needed to ensure that what was experienced by learners in our Div-ITEE ICUP learning opportunities, was significant, and would impact on students beyond graduation. For this, we drew on the work of Fink (2003) who designed taxonomy for describing the hallmarks
of significant learning that goes beyond content mastery. Fink explained that by incorporating all the dimensions of significant learning into learning objectives, the inter-relationship between the elements would stimulate other kinds of learning and therefore prove to be more valuable to students (Fink, 2003).

Figure 1. The interactive nature of significant learning (Fink, 2003)

To ensure the learning would be significant, the elements of Fink’s taxonomy were related to the ICUP learning objectives as the ICUP Reference group interpreted it for Div-ITEE programs and are presented in Table 2.
Table 2: Relating Fink’s Taxonomy of Significant learning to ICUP objectives in relation to information technology, engineering, mathematics and environmental disciplines (Div-ITEE)

<table>
<thead>
<tr>
<th>Taxonomy of significant learning</th>
<th>Reflective questions (Fink, 2003, p 75).</th>
<th>ICUP objectives (DUCIER, 2009) in Div-ITEE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foundational knowledge</td>
<td>What key information and ideas are important for students to understand and remember in the future?</td>
<td>General background in Indigenous studies including spirituality and belief systems, families and family structures, relationships and interconnectedness with land, languages, identity, the impact of historical processes on identity, community and individual responses to colonialism, the broad characteristics of contemporary Indigenous communities. Awareness of Indigenous contemporary issues such as housing, poverty and unemployment.</td>
</tr>
<tr>
<td>Application</td>
<td>What kinds of thinking are important (Critical, Creative or Practical)? What skills do they need to learn? What complex projects do they need to manage?</td>
<td>Communicating effectively with Indigenous clients and communities as stakeholders in projects. Appropriate communication styles and protocols, avoiding stereotyping or pre-judgments about Indigenous clients or communities.</td>
</tr>
<tr>
<td>Integration</td>
<td>What connections should students recognise in the course between this course and other courses between this course and the students own personal, social and work life?</td>
<td>Critical examination of the nature of the information technology, engineering, mathematics and environmental professions. Self-reflection to better understand the students’ own culture. Appreciation that a student’s prior education develops values and attitudes that impact on professional decision making. Appreciation of the linkages between systems thinking and sustainability in Indigenous and non-Indigenous knowledge structures in the information technology, engineering, mathematics and environmental professions.</td>
</tr>
<tr>
<td>Human dimension</td>
<td>What can or should students learn about themselves? What can or should students learn about understanding and interacting with others?</td>
<td>Exploration of personal attitudes and values. The use of language in perpetuating Indigenous stereotypes, prejudice and discrimination particularly in the media.</td>
</tr>
<tr>
<td>Caring</td>
<td>What changes are sought in what students care about, that is changes in their: Feelings? Interests? Values?</td>
<td>Developing personal/professional cultural competence. Appreciating the cultural specificity of the science and engineering disciplines and appreciating the extent to which these assumptions impact negatively on the relationships between roles and functions of professionals. Understanding the relationship between the authority of the discipline and perpetuation of power/knowledge in maintaining or overcoming social inequality.</td>
</tr>
<tr>
<td>Learning to learn</td>
<td>How do students best learn this course? How do students become self-directed learners?</td>
<td>Connecting learners to appropriate sources including communication conventions, awareness of relevant social indicators, national and international legislation and obligations of the profession.</td>
</tr>
</tbody>
</table>
Instructional design

ICUP experiences were planned across the year levels and programs offered in Div-ITEE. Some have been realised and some are still in the planning stages. The Appendix at the end of this paper provides a snapshot of progress in multiple areas and year levels.

First year courses

UniSA recognises that student success in the first study period of their first year at university is hinged on strong feelings of motivation, belonging and shepherding through new academic approaches (Lowe & Cook, 2006; Duff & Quinn, 2006; Wlodkowski, 1999). The approaches taken to instruct students in ICUP in Div-ITEE needed to be mindful of the imperative to build the skills and competencies of students who were facing the daunting task of submitting their first assignments at university. For our first year ICUP experiences, we particularly wanted to avoid the intensely provocative and emotional role play learning activities, such Jane Elliot’s Blue Eyes Brown Eyes (Elliot, 2006). These activities are employed in humanities courses and staff development at UniSA but we believed that this degree of challenge to identity (Rogers-Sirin, 2008) was excessive for our largely young male (68% <24 years; 82% male, over last 10 years) undergraduate student cohort.

Therefore we designed constructive and reflective learning experiences that were likely to change our first year students’ interpersonal attitudes and attitudes to professional practice when dealing with culturally diverse groups and (in particular) Aboriginal communities. Brodie (2010) in describing professional practice as it relates to social workers, explained how the goal of cross-cultural training in a professional context should be one which allows for understanding and relationship building (Dean in Brodie 2010). She cites Maidment, who says that ‘crucial to developing cultural sensitivity and awareness is being able to understand ourselves before we attempt to understand others.

We adopted online approaches with self-reflection and assessment within our first year courses. Concise reusable online learning support resources, called In a nutsheils (Quinn, 2010), were created in collaboration with the Learning and Teaching Unit and Indigenous and non-Indigenous engineers to support reflection (Hussin et al., 2009), cultural awareness (Quinn, 2009), the relationship between culture and values (Reeves & Quinn, 2009) and Indigenous cultural intersections with science and technology (Thompson & Quinn, 2009). A colourful 30-item online self-assessment quiz of Indigenous foundational knowledge, rich in developmental feedback, was also created.

Once foundational knowledge had been introduced, students were then asked to apply their new insights in a professional context to design with cultural sensitivity (Evans & Darzanos, 2010). Indigenous tutors were employed to facilitate online discussion groups that support students’ learning and to act as Indigenous consultants and assessors for students developing proposals that impact on fictitious or real Aboriginal stakeholders. Introductory lectures from inspiring individuals external to the university were used in programs to explain the professional linkages and connections to Indigenous issues and content.

Subsequent years

Experiential learning opportunities were created for students to further explore Indigenous awareness and communication. These were courses that offered project-based learning or elective service learning courses (see Appendix). These experiential learning opportunities allow senior students to explore reconciliation at an individual level (Leigh, 2002) and work productively in projects with Indigenous stakeholders.

Evaluation

The ICUP team is only just beginning to get a sense of the depth and breadth of the embedded approach adopted. A good deal more research is planned for this very large project (more than 500 undergraduate students each year undertake ICUP assessment), but some early insights from the ways in which course designs have evolved and the reflections of ICUP students and staff, give a good indication that the global reconciliation approaches are going some way to being met.

Taxonomy of significant learning

A useful rubric to begin evaluating the effectiveness of the embedded ICUP approach in Div-ITEE is Fink’s taxonomy of significant learning (Table 2) as it suits the transformative intent of the ICUP approach, linking ‘education and educational leadership with the wider social context in which it is embedded’ (Shields, 2010 p. 559).

**Foundational knowledge**

Foundational knowledge provides students with the basic understanding that is necessary for other kinds of learning (Fink, 2003). Foundational knowledge has been achieved through online resources and examining ‘culture’ at its starting point through first year online discussion fora – mine, yours and theirs. An undergraduate student reflects:

I have discovered that each individual has their own perspective on culture. Furthermore, I have gained a greater understanding of Indigenous culture and the importance of being culturally considerate, particularly in a business environment (Student C).

**Application and integration**

Application is realised when students’ learning becomes useful as a professional skill. Integration empowers students to make new connections that relate ideas to different ideas, realms of life and people (Fink, 2003). Evidence of application and integration has been achieved through focusing on professional practice in specially designed lectures. A first year student describes how a lecture given about IT and professional practice has demonstrated some of the practical considerations for a design solution for a remote community:

The importance of such [understanding] was evidenced by [the] lecture. [Lecturer] comes from a remote Indigenous community and told us about how there is just one computer for the entire community to share. The computer has to be robust, sustainable and have features that most computers would not have in order to survive the rough terrain. (Student B).

And:

The idea of learning about other perspectives and how they must influence your business conduct really fascinated me. I had been largely ignorant of the different factors one had to consider when conducting business with remote Aboriginal communities, but again I was struck by the similarities between my culture and that of the indigenous communities (Student A).

**Human dimension**

The human dimension informs students about the human significance of what they are learning (Fink, 2003). When assessing students’ writing, one can observe offensive terms arising seamlessly through ignorance. These subtle or covert ‘racial microaggressions’ need to be addressed (Sue, et al., 2007 cited in Rogers-Sirin, 2008). For example, students refer to ‘tribes’ and use incorrect capitalisation of terms such as Aboriginal. Tutors have regard for these, not so much as marks of disrespect, but a lack of professional and interpersonal knowledge about correct nomenclature. Indigenous tutors provide feedback and resources to redress this lack of knowledge and save students from future embarrassment.

**Caring**

To meet the ‘caring’ objective, students need to be energised to learn more about the topic and make it a part of their lives. Without this energy, Fink argues, nothing significant happens (Fink, 2003). Strong community connections continue to grow as ICUP becomes an authentic learning activity for our students. Students are following their values and choosing to undertake courses and electives that put them in a position to work collaboratively with Aboriginal groups within discipline-related projects such as the Marra Dreaming ‘Hands Working Together’ Project and ‘Learning by Walking Together’ (see Appendix).

**Learning to learn**

Learning to learn enables students to continue learning in the future and with greater effectiveness (Fink, 2003). Teaching staff are acutely aware that this program starts with first year university students. The role of staff has not just been to build cultural competency, but to foster academic skills in the expression of their learning. Life-long learning processes are supported through the use of technology which makes the process of reflective learning easier. Tutors also guide students to utilise key resources to build of academic skills as well as those for developing cultural competency and Indigenous awareness.
Impact on staff

The outcomes realised by students has also impacted on our non-Indigenous Div ITEE discipline staff. Their awareness of the fundamental importance of culture to success in professional contexts has been heightened by ICUP, moving them from agreeable compliance to fervent advocates.

An important insight into the long term impacts of ICUP in Div-ITEE can be observed from the perceptions of the Indigenous teaching staff. ICUP staff are both agent and beneficiary of social change and it is partly they who are in the best position to see if the learning objectives articulated through the ICUP aims have been met. Early indications are strong on this front. One staff member (who has been involved in four iterations involving around 700 students) observed a definite ‘change in student perspectives and attitudes towards Indigenous culture’ (ICUP Tutor).

It has been particularly rewarding to observe students’ progress from a fairly limited understanding of Indigenous Australians. As a tutor for ICUP I have noticed that most students really take on board the comments and information we provide to them [and] - their assignments… It shows to me that they have understood what we are talking about and they are beginning to understand the relevance of cultural awareness for their future careers.

Conclusion

The stories in this paper and the examples in the Appendix, highlight how the dynamic spirit of reconciliation has sparked interest and then set aflame, the aspirations of our students and staff to better understand culture – their own, that of Indigenous peoples and cultural diversity as it relates both professional and interpersonal interactions. The task of implementing ICUP across disciplines required a ‘transformative leadership approach’ which (according to Shields, 2010) is underpinned by ‘questions of justice and democracy...addressing both individual and public good’. Three years have passed since the pilot, and the reach of the work gains momentum with each study period. In order for universities to make a real impact, there needs to be a recognition that walking together toward the aim of reconciliation, in ‘mutual respect, mutual resolve and mutual responsibility’ (Rudd, 2008) will need to continue for generations until a complete cultural synergy is achieved. The embedded approach to teaching Indigenous cultural competence needs to be examined more rigorously, but early indications from students, tutors and program staff are showing that the work must continue with thought, but not necessarily pause.

Acknowledgment

The writing team would like to gratefully acknowledge the contribution made by the ICUP tutors over the last three years: Elsie Amamoo, Emily Browne, Carolyn Gyss, Declan Furber-Gillick, Hannah Fyfe, Sarah Landers, Wendy Noble, Heidi Unferdorben, Barry Williams, Tina Brodie and Mike Carmody.

References


## Appendix

Examples of Indigenous content in undergraduate programs (ICUP) implementation in the Division of Information, Technology, Engineering and the Environment (Div-ITEE)

<table>
<thead>
<tr>
<th>Innovation</th>
<th>Target audience</th>
<th>Assessment/task</th>
<th>Some results</th>
</tr>
</thead>
<tbody>
<tr>
<td>The cultural awareness online discussion forum</td>
<td>First year experience in all undergraduate programs</td>
<td>Indigenous facilitators pose four questions:</td>
<td>A festival of colour of images of food, art, festivals and family.</td>
</tr>
<tr>
<td>mine, yours and theirs—Peer to peer consideration of culture and professional practice</td>
<td>in Div-ITEE</td>
<td>1. What is culture? Post a cultural artefact to illustrate your understanding.</td>
<td>Reflective posts and writing about what students knew about culture before the exercise, how the views of others enrich our own; what we have learned about Aboriginal culture in particular and how we apply this knowledge to a professional context.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. How would you describe your own culture? Post an artefact to illustrate this.</td>
<td>Evaluation indicates this to be a point of change for many students in relation to culture and Indigenous awareness and the relationship this has to professional practice. Some students have indicated that they thought this was their first opportunity to ‘meet’ an Indigenous person.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. I came here to study a discipline (e.g. computer science or engineering) — why should I learn about Indigenous culture and heritage?</td>
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<tr>
<td></td>
<td></td>
<td>4. What are some of the cultural differences between Aboriginal and non-Aboriginal Australians?</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>A 500-700 word reflective piece which uses knowledge drawn from discussion forum; a lecture on Indigenous aspects of professional practice; scholarly resources and an Indigenous cultural awareness self-assessment quiz.</td>
<td></td>
</tr>
<tr>
<td>The Marra Dreaming Hands Working Together project</td>
<td>Computer Science students in first year and then in later years</td>
<td>Students asked to develop a brief to address the needs of an Aboriginal cultural and art organisation in local community called ‘Marra Dreaming’.</td>
<td>The project has been earmarked as a Students In Free Enterprise project and has been entered in a national competition.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Staff at Marra Dreaming have helped to develop the brief and mark assignments.</td>
<td>Marra Dreaming has received an actual website product from a student project as well as assistance establishing a Facebook presence and training in how to upload images of artwork.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>In partnership with Aboriginal student support staff and community liaisons, one of the proposals was taken further by two students (one undergraduate and one postgraduate) to build an actual website.</td>
<td>According to liaison staff, this work has really lifted the morale of the Aboriginal community members who volunteer to work in this organisation.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Project awarded UniSA.</td>
</tr>
<tr>
<td>Innovation</td>
<td>Target audience</td>
<td>Assessment/task</td>
<td>Some results</td>
</tr>
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<td>----------------------------------------------</td>
<td>------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Engineers without Borders</td>
<td>Engineering students in first year</td>
<td>Students collaborate on an engineering project to assist Indigenous communities in various locations. They apply the communication principles learnt in their ICUP lecture, the discussion forum and in a report which reflects on this material.</td>
<td>In 2010 (which focused on a development for the Kooma Nation), students presented their projects in an Industry project day and our Indigenous tutors assessed them for cultural relevancy. In 2011, the EWB project was based in an Indigenous community in India, but students were able to apply their ICUP learning to this new context.</td>
</tr>
<tr>
<td>Mathematics Indigenous literature search</td>
<td>Mathematical Communication</td>
<td>From this project, students are asked to look at maths in an Indigenous context and will be offered the opportunity to conduct a much-needed literature search around the topic area.</td>
<td>This assessment will take place for the first time in semester 2, 2011.</td>
</tr>
<tr>
<td>Learning by walking together (Community</td>
<td>Cross-Disciplinary team Div-ITEE and</td>
<td>Six students from UniSA worked with five students from Salisbury High School to develop Kaurna Park at Burton as a site of cultural heritage and exchange. UniSA students negotiate a learning contract and assessment related to communication across cultures.</td>
<td>Our students gained first-hand experience with Indigenous culture through cross-cultural competency training and, in turn, shared their disciplinary knowledge with Salisbury High School students with university aspirations. A paper was invited to the recent South Australian Certificate of Education (SACE) conference: <em>Innovation and Excellence in Aboriginal Education</em>. The secondary curriculum (Integrated Learning and Research Project), has been used as an exemplar by SACE.</td>
</tr>
<tr>
<td>Service Learning Project)</td>
<td>Business</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
DoCS as good as it gets: Planning and implementation of an integrated continuous assessment.

Zarrin Seema Siddiqui (zarrin.siddiqui@uwa.edu.au)
Education Centre, University of Western Australia

Jeffrey Hamdorff (Jeff.Hamdorf@ctec.uwa.edu.au)
School of Surgery, University of Western Australia

Objective Structured Clinical Examination (OSCE) is one of the main tools used to assess clinical competence and is a common form of assessment used in medical schools. The Faculty of Medicine, Dentistry and Health Sciences at University of Western Australia also used OSCE as an end of year assessment for each of the four clinical years. However with increasing number of students it was difficult to conduct four OSCEs during the medical course with adequate sampling and reliability. Therefore the Faculty decided to reduce the number of OSCEs with more robust assessments. A Committee was formed to review the assessment tools and plan a comprehensive assessment. Discussion on Clinical Scenarios (DoCS) was thus introduced as an integrated assessment. It is continuous assessment and scheduled during five clinical rotations spread across final year of medical school. Initial results provide evidence for an effective assessment tool but the process still needs further refining. In this presentation we will outline the stepped process of introducing a new assessment with feedback from both students and assessors.

Keywords: performance assessment, clinical competence, integrated assessment

Conference Themes: Practical solutions

Introduction

The criteria of an effective assessment include reliability, validity, standardisation, feasibility and educational effectiveness (Schuwirth, 2004). This requires a variety of tools with multiple sources of information and multiple occasions to assess as no one tool is comprehensive enough to fulfil the criteria (van der Vleuten & Scuwirth, 2005). In the context of health professional's education a number of tools are already available, which are validated and reliable. Objective Structured Clinical Examination (OSCE) is one such tool that has gained widespread importance since it was introduced in the early seventies (Harden, 1975). In an OSCE, students rotate through a series of test-stations, which assess various aspects of clinical competence. In the Faculty of Medicine at University of Western Australia, OSCE has been in use for a number of years and was administered in every clinical year until 2007 i.e. four times. However, with the increased number of students, it was becoming difficult to organise OSCE. This led to a decision at Faculty level to reduce the number of OSCEs in the medical course. Hence, the OSCEs in year three and six were abolished. The rationale behind this decision was that:

- Year three is mainly an introduction to basic skills in the history taking and physical examination; and
- Year six is a pre intern year where students are almost ready to work in a supervised practice. A common feedback from students was that OSCE in the final year was limiting their learning which was more directed towards getting through the end of year OSCE.

A modular assessment was introduced in year three, and a Working Group was established to plan an alternative assessment for year six with representation from all five disciplines, i.e. Emergency Medicine, Medicine, General Practice, Psychiatry, and Surgery including Anaesthesia with assistance from Education Centre. The principles of assessment as laid down in Faculty assessment policy (Education Centre, 2005) provided the basic framework for development of a new assessment tool (Table 1).
Table 4 Principles of Assessment

<table>
<thead>
<tr>
<th>Assessment in the undergraduate medical curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Assists in the evaluation of learning environment and the maintenance of standards.</td>
</tr>
<tr>
<td>2. Provides ample opportunities for feedback and reflection to both faculty and students.</td>
</tr>
<tr>
<td>3. Offers multiple opportunities to promote and reinforce learning.</td>
</tr>
<tr>
<td>4. Uses reliable and valid tools for measuring and recording students’ progress.</td>
</tr>
<tr>
<td>5. Measures student’s achievement of learning outcomes.</td>
</tr>
<tr>
<td>6. Uses minimum number of assessment tasks required to demonstrate attainment of learning outcomes.</td>
</tr>
<tr>
<td>7. Ensures equitable assessment practices for all students.</td>
</tr>
</tbody>
</table>

Step One: Development of a blueprint

The first step was to identify the core domains that are common to all five disciplines which need to be assessed within year six. After a consultative process, following domains were identified.

- Clinical assessment
- Clinical management
- Follow up and referral
- Clinical Reasoning
- Communication skills
- Professionalism

Step Two: Review of existing instruments

The existing assessment tools within each rotation were reviewed with a literature search on new trends in assessment. It was observed that workplace based assessments are reported to offer more authentic evidence of clinical competence, appropriate professional behaviour and attitudes and can provide constructive feedback to students and trainees (Norcini & Burch, 2007). Workplace based assessment (WPbA) refers to the assessment of day-to-day working practices undertaken in the working environment. As there is a general shift worldwide towards workplace based assessment especially in the postgraduate years it was considered more appropriate to look at the feasibility of introducing some component of workplace based assessment within the final year of the medical course. Workplace based assessment incorporates a number of new tools, which can add to a more reliable and valid judgment of the trainees’ competence within the different domains (Jolly, 2007). These include;

- **Mini Clinical Exercise (Mini-CEX)** is an observation of trainee’s interaction with a patient during a clinical encounter which is followed by structured feedback by the observer.
- **Case based Discussion (CbD)** is an in depth discussion with the trainee on how a clinical case was managed by the trainee.
- **Direct Observation of Procedural Skills (DOPS)** is an encounter where a trainee is observed while performing a practical procedure.
- **Mini-Peer Assessment Tool (Mini-PAT)** is based on the framework of multi-source feedback where members of team are provided an opportunity to assess the professional skills of a trainee. This also involves a self-assessment by trainee to encourage reflective skills.

Step three: Selection of the tool

Initially, the working group decided to use Case based discussions integrated across all five disciplines as it requires less resources and there was more familiarity among academics with this method. It was anticipated that multiple observations of students’ performance using multiple observers will contribute to a higher reliability of the assessment. The other features that make it acceptable were validity i.e. it can test a range of domains as identified in step one as well as opportunity for feedback. It was also discussed that using a single tool may impact on the validity of overall assessment. Therefore, a written examination at the end of the year was introduced. A limitation of this tool was lack of direct observation of technical skills which was taken care of by
each discipline through their own in-term assessments using a variety of tools to assess varied levels of student performance.

**Step Four: Development of descriptors and marking criteria**

A standard based approach was used with statements describing the level of student performance (Holsgrove, 2006). Each domain has six levels of performance, and a level of 4 was considered appropriate for final year students (Table 2).

<table>
<thead>
<tr>
<th>Communication skills</th>
<th>1. Minimally competent, unable to understand/incomprehensible</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2. Often uses a voice too soft or articulation indistinct for listeners, avoids eye contact, has difficulty in clearly stating thoughts, ideas and opinions; seldom elaborates.</td>
</tr>
<tr>
<td></td>
<td>3. Sometimes not audible, breaks eye contact, states thoughts, ideas and opinions but has difficulty in clearly elaborating on them.</td>
</tr>
<tr>
<td></td>
<td>4. Enunciates clearly and speaks audibly, maintains eye contact, demonstrate understanding by staying on the topic, follows a clear sequence, recovers train of thought if briefly lost.</td>
</tr>
<tr>
<td></td>
<td>5. Speaks naturally with poise, precision, effective pacing and proper volume, capably articulates and elaborates on thoughts, ideas and opinions effectively and confidently</td>
</tr>
<tr>
<td></td>
<td>6. Excellent competence in verbal communication with no flaws at all.</td>
</tr>
<tr>
<td></td>
<td>7. Ensures equitable assessment practices for all students.</td>
</tr>
</tbody>
</table>

**Step Five: Implementation**

Finally, DoCS was implemented as an integrated continuous assessment. There were eight DoCS spread across the whole year with slightly different weighting for disciplines depending on the duration of rotation (Table 3). The total weighting attributed to DoCS was 60% while 40% were allocated to the written examination at the end of the year which comprised ten short answer questions (SAQ) and 100 extended matching questions (EMQ).

**How it worked?**

Each student selects two case records of patients they have recently seen and managed. The assessor selects one of these for the discussion. In some disciplines vignettes are used but domains to be assessed remain same.

Assessors are experienced clinicians, usually consultants, general practitioners or senior residents. The discussion is focussed around student’s ability with regards to clinical decision-making and the application or use of medical knowledge in the providing patient care. The discussion takes about 15 to twenty minutes followed by immediate feedback to the students.
### Table 3 Distribution and weighting of cases

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Duration of rotation in weeks</th>
<th>Number of cases</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medicine</td>
<td>Eight</td>
<td>Two</td>
<td>15%</td>
</tr>
<tr>
<td>Surgery including anaesthesia</td>
<td>Eight</td>
<td>Two</td>
<td>15%</td>
</tr>
<tr>
<td>Rural general practice</td>
<td>Five</td>
<td>One</td>
<td>10%</td>
</tr>
<tr>
<td>Emergency Medicine</td>
<td>Five</td>
<td>One</td>
<td>10%</td>
</tr>
<tr>
<td>Psychiatry</td>
<td>Five</td>
<td>One</td>
<td>10%</td>
</tr>
</tbody>
</table>

### Step Six: Review of performance

We used the data regarding students’ performance to answer the following questions:

a. What is the internal consistency of the tool using Cronbach’s alpha measurement?
b. How does this tool correlate to the written examination?
c. How does this tool correlate with OSCE in previous year?
d. Was the standard set for each domain was appropriate?

There were a total of 132 students in the year but only 128 students completed all assessment requirements by the end of year. The mean rating (standard deviation) of DoCS was 73.8 % (4.5). Mean ratings (SD) for SAQs and EMQs were 64.75% (7.3) and 67.5% (7.7) respectively.

Reliability of the DoCS was 0.79 while reliability of SAQ and EMQ was 0.74 and 0.65 respectively which is within acceptable range. Pearson correlations between total scores in DoCS and individual disciplines are shown in Table 4. The correlation between DoCS and components in written assessment is presented in Table 5. Finally we look at the correlation between OSCE from previous years which was 0.36 (significant at 0.01 level).

It should be noted that the correlation between OSCE and DoCS is low, while it is very weak with written assessments. The reason may be that OSCE is a test of discrete skills compared to DoCS which tests the understanding of the examinee in depth with regards to the subject in discussion. Similarly the written assessment relies on objective test items and short answer questions and perhaps is testing the outcomes other than those tested through DoCS.

### Table 4 Pearson correlations between total scores and individual disciplines

<table>
<thead>
<tr>
<th>Component</th>
<th>Pearson Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychiatry</td>
<td>0.6</td>
</tr>
<tr>
<td>Emergency Medicine</td>
<td>0.5</td>
</tr>
<tr>
<td>Medicine</td>
<td>0.3</td>
</tr>
<tr>
<td>Surgery</td>
<td>0.4</td>
</tr>
<tr>
<td>Anaesthesia</td>
<td>0.3</td>
</tr>
<tr>
<td>Rural General Practice</td>
<td>0.5</td>
</tr>
</tbody>
</table>

9. *All correlations significant at 0.01 level*

### Table 5 Pearson correlations between DoCs and components of written assessment

<table>
<thead>
<tr>
<th>Component</th>
<th>Pearson Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short Answer Questions</td>
<td>0.3</td>
</tr>
<tr>
<td>Extended Matching Questions</td>
<td>0.1</td>
</tr>
</tbody>
</table>

Our last question was if the expectations set in terms of standards were realistic and do students perform at the expected level? Figures 1 – 6 shows the frequency of each descriptor in percent for all the six domains identified.
by the Committee. It is evident that the said expectations were achieved. In all there were three students who had struggled to perform consistently but were still able to graduate at the end of year and none of them failed the written assessment or any of the clinical rotations.

Figure 1 Clinical assessment

Figure 2 Clinical management

Figure 3 Follow-up and referral

Figure 4 Clinical reasoning

Figure 5 Communication skills

Figure 6 Professionalism
Step Seven: Feedback from students and staff

Other qualitative assessments of DoCS include feedback from both unit coordinators and students. Student perceptions about DoCS were assessed using a short questionnaire comprising both open ended and closed ended statements. The number of respondents was 44 out of 128 students (34%). The results of closed ended statements are given at Table 7.

### Table 5 Student perceptions regarding DoCS

<table>
<thead>
<tr>
<th>Mean(SD)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I was made fully aware of the nature of examination</td>
</tr>
<tr>
<td>2</td>
<td>DoCs focussed on areas similar to those relevant to that discipline</td>
</tr>
<tr>
<td>3</td>
<td>Time for each discussion was adequate</td>
</tr>
<tr>
<td>4</td>
<td>Discussions were well organised</td>
</tr>
<tr>
<td>5</td>
<td>The number of DoCS was adequate for me to demonstrate my learning</td>
</tr>
<tr>
<td>6</td>
<td>The assessment was a fair test of my learning</td>
</tr>
<tr>
<td>7</td>
<td>The discussions provided me opportunity to learn</td>
</tr>
<tr>
<td>8</td>
<td>The examiners were aware of the examination process</td>
</tr>
<tr>
<td>9</td>
<td>I was assessed on a variety of cases over eight case discussions</td>
</tr>
<tr>
<td>10</td>
<td>I received adequate feedback on my performance</td>
</tr>
</tbody>
</table>

On a scale of 1 – 4, 1= Strongly Disagree, 2 = Disagree, 3=Agree and 4= Strongly Agree

The open ended comments mainly related to less stress, opportunity to discuss the case with an examiner and the feedback provided. Some of the positive comments are;

*I liked presenting cases which were relevant to the selection of cases you saw while on the team e.g. colorectal case whilst doing a colorectal team. I also liked getting feedback from a consultant which prior to this year is something that never happens in this course.*

*I found cases less stressful and easier as the year went on as I have become a lot of better at presenting case. Spread across the year rather than more stress during exam period. Good assessment of competence in a practical sense i.e. identifies weaknesses that need attention before becoming a junior doctor.*

*The chance to discuss a case in a relatively informal manner which enhanced learning because of the information and feedback provided by examiner.*

*They were a discussion, rather than a set answer (as with EMQs for example). This way we could demonstrate our knowledge by discussing why we made certain decisions/answered questions a certain way. More applicable to a real clinical situation than 7 minute OSCE stations. Able to discuss with the examiner strengths and weaknesses, unlike with written examinations/OSCEs where feedback is limited.*

On the other hand the main concern from students was the organisation, standardisation and lack of familiarity among examiners.

*Some examiners treated it as a mere formality, while others expected much more. Some consistency would have been better.*

*Tendency for unfair or biased markings depending on examiner and differing from hospital to hospital.*

The informal feedback from unit coordinators suggested that DoCS was viewed satisfactorily as it allows them to assess the relevant competencies in more depth than earlier. One concern that was raised by the assessors was difficulty in assessing professionalism within a short time frame. The global rating was also considered as a redundant item on the forms as each area of competence has got clear criteria to be assessed. The other comment that was frequently encountered was ‘assessor shopping’. Depending on word of mouth there was a tendency among students to select the assessors who can give them better grade compared to the ones whom student believe that they will never go beyond a certain grade.
Step Eight: Review the process

At the end of year the whole process was reviewed by the curriculum committee for issues identified during implementation. Some of these issues were;

a. Central coordination of data

The whole philosophy behind this assessment was to provide an assessment which is authentic and provide student with meaningful feedback that could help them in further improvement. While this was occurring at the level of examiners there was no timely feedback to the unit coordinator so appropriate steps can be taken to help student. In some cases the forms were not returned till end of year for the unit coordinator to identify a student at risk.

At the same time a couple of disciplines send the aggregate total of marks rather than each domain which again made impossible to provide student feedback on which area they need to further strengthen.

It was decided that all forms will be sent to the unit coordinator within two days of the discussion and results should be tabulated within one week of the term so as to identify any students at risk and development of a mechanism for feedback.

b. Modifying the areas assessed.

There was a general consensus that it is difficult to assess professionalism within a short interaction and the grading should be changed to simple pass/fail if retained.

The other area that was considered redundant was global judgment which was removed from the forms as it again did not provide any meaningful data to assist students.

c. Examiners' variability

As it was the first year of implementation there was a lack of understanding about the process among examiners who are mainly clinicians. More efforts in term of training examiners were highlighted by all and this work is still in progress as there are always new assessors who need to be briefed. It was recommended that each school provide a copy of the unit guide with full details of the process to each assessor.

d. Timing of DoCS

It was also recommended to ensure that no DoCS is planned in the first three weeks of rotation so student are better adjusted to the environment and types of patients encountered in that particular discipline.

e. Equal weighting of all cases.

As all cases test identical domains it was also decided to give equal weighting to all cases. In Rural General Practice setting it was observed that there are problems in testing all the domains and usually it takes them two cases to test all the areas so it was decided to consider two cases from RGP as one case.

f. Feed forward for at risk students.

The major problem identified was to establish criteria that identify a student at risk earlier on and how and when to provide remediation? Concern was also raised on how to deal with a student who does not perform at the expected level consistently and is not fit to graduate at the end of year. This initiated more dialogue among the unit coordinators and a process was finally laid down to identify and monitor student progress Fig 7.

Conclusion: The way forward

Assessment in the medical school is truly a dynamic process and the faculty is constantly engaged in reviewing the assessment practices to make them a meaningful learning experience for students. Introducing a new assessment practice is a very challenging task and needs constant monitoring of the process and outcomes. Our new assessment has appropriate reliability, is considered valid and feasible within different disciplines. There are opportunities for feedback and remediation which is appreciated by the trainees who are about to enter the workforce. There have been problems identified with standardisation which is being addressed through a
continuous process that we are embarking upon through briefing of assessors. In general, it is evident from staff and student feedback that use of an integrated assessment which has both elements of certification and feedback narrows the gap between formative and summative assessment.

Acknowledgements

The authors wish to thank all the unit coordinators and students who participated in this process.

References

Education Centre. (2005). Faculty Assessment Policy and Guidelines (pp.4). Perth: University of Western Australia.


Appendix

A student who scores below “meets expectations” in a minimum of three domains in one DoCS

Repeat DoCS

scores below “meets expectations” in a minimum of three domains in another DoCS

Referred to academic monitor  Repeat DoCS

scores below “meets expectations” in one or more categories in two more DoCS

Re assessment at the end of Year
4 cases to be reviewed
20mins x 4 = 80 mins

A student who scores below “meets expectations” in one or two domains in two DoCS

Referred to academic monitor

A Flow chart to monitor student progress in DoCS
University assessment practices at level 1: Exploring student perceptions of fairness, transparency and authenticity

Peter Whipp (peter.whipp@uwa.edu.au)
Associate Dean (Teaching & Learning), Faculty of Life and Physical Sciences
School of Sport Science, Exercise and Health, The University of Western Australia

The present study aimed to provide understanding of Level 1 undergraduate students’ perceptions about three concepts: fairness, transparency and authenticity, in written exams/tests, group projects, and individual assignments. The sample (N=187) comprised students from the Faculty of Life and Physical Sciences at The University of Western Australia (four different Schools were represented), who were enrolled in their second semester, 2010. A two-part questionnaire was completed by students for each assessment mode (i.e., written exams and tests, group projects, and individual assignments). Part 1 was a series of scale response items. Students used a 7-point Likert scale ranging from 1 (Not at all) to 7 (To a great extent) to rate questions on fairness, transparency, and authenticity. Part 2 of the survey used open-ended qualitative questions that asked students to describe what they (a) liked, (b) disliked, and (c) would change about the assessment. The results confirmed that gender did not influence student ratings of fairness, transparency and authenticity. Exams were perceived to be significantly fairer than individual assignments, and were also perceived to be significantly more transparent when compared to group work and individual assignments. For exams and individual assignments, student perceptions about assessment appeared to be highly dependent upon the final grade they received for the assessment task. Students who obtained high distinctions perceived higher levels of fairness, transparency and authenticity than those who failed. With groupwork, similar results were found for ratings of transparency.

This research was funded by a grant from The University of Western Australia Teaching & Learning Development Fund (2010)

Keywords: assessment, Level 1

Conference Themes: Standards

Introduction and background

Evaluation practices have been shown to influence student attitudes and learning (Struyven, Dochy, & Janssens, 2005). Transparency has been identified, along with feedback, as the most important characteristic of assessment (Winning, Lim, & Townsend, 2005). Moreover, students have more positive attitudes towards multiple-choice tests on the grounds that they are easier to prepare for, easier to take, and may produce higher relative scores (Traub & McRury, 1990). Similarly, students’ approaches to study influence the ways in which they perceive evaluation and assessment (Struyven et al., 2005). Students with good learning skills who have high confidence in their academic ability (Birenbaum & Feldman, 1998) and/or desire deep learning outcomes (Struyven et al., 2005) tend to prefer essay-based assessment rather than multiple-choice assessments. Whilst no gender differences have been reported for student perceptions of examination structure (Zeidner, 1987), others have reported that males have a preference for choice response examinations when compared to females (Birenbaum & Feldman, 1998). In short, students’ perceptions of their learning environment are crucial in determining how they learn (Entwistle, 1991).

Carless (2009) discussed the importance of assessment in stimulating a productive learning environment that facilitates effective student learning. The present study aims to provide further understanding of undergraduate students’ perceptions about different assessment modes. Specifically, their perceptions about three concepts: fairness, transparency and authenticity, in written exams/tests, group projects, and individual assignments. Consistent with the learning styles literature (Dunn, Beaudry & Klavis, 1989; Dunn, 1996; Dunn & Griggs, 2000; Fullan & Stiegelbauer, 1991; Gardner, 1993) students were also asked to identify assessment preferences by
asking what they liked and disliked about the assessment tasks. In this respect, this study aims to capture students’ beliefs about the primary modes of assessment used at Level 1.

For the purpose of this study, *fairness* is defined as an assessment that rewards consistent effort and learning. Fairness comprises beliefs about the extent to which students perceive that they are able to demonstrate their capacity in terms of ability, knowledge and understanding. Fairness also encompasses whether the students feel the assessment reflects the teaching with which they are provided. Typically, alternative forms of assessment such as portfolios, self or peer assessment, and presentations have been perceived as fair as they reward consistent effort, rather than last minute effort (Sambell, McDowell, & Brown, 1997). The effort required to complete an assessment task is seen as criterion for fairness as it represents, in the student’s eyes, a reasonable demand (Struyven et al., 2005).

*Transparency* relates to assessment methods with clear expectations and criteria that facilitate the achievement of all desirable student assessment requirements (Drew, 2001). It has also been shown that transparency is facilitated by using ‘assessment criteria sheets’ that assist students to understand the nature and scope of the assessment as well as how it will be marked (Waldrip, Fisher, & Dorman, 2009).

*Authentic assessments* simulate a real life situation, and measure skills and competencies valuable in real life or professional contexts (not just for the purposes of an isolated assessment). If an assessment task is perceived as arbitrary and irrelevant, there is a tendency for a students’ study to be aimed at learning knowledge only for the assessment with no intention of maintaining knowledge in the long-term (Struyven et al., 2005). Therefore, in an effort to promote learning applicable in many contexts, the challenge for educators is to create assessments that simulate a real life situation whereby the student can clearly perceive the relevance of their academic work to a broader situation outside academia (Sambell et al., 1997).

Further understanding of these three concepts will help to provide teaching staff with an insight to the congruence (or lack of) between existing assessment methods and students’ ideal assessment methods. Exploring students’ perceptions on these concepts will also help staff to recognise perceived strengths and weaknesses of various commonly-used assessment modes. The specific aims of this study were:

- To measure students’ perception of fairness, transparency, and authenticity across different modes of assessment.
- To identify aspects of different assessment modes that students liked, disliked, and/or would like to change.

**Methods**

**Participants**

The sample (N=187) comprised Level 1 undergraduate students from the Faculty of Life and Physical Sciences at The University of Western Australia (four different Schools were represented), who were enrolled in their second semester, 2010. The sample comprised 75 males and 112 females, and the sampling rationale was to recruit students who would have recently been exposed to a range of assessment methods within their first year of university study.

**Measures**

Demographic data including gender, degree programme, course unit, type of assessment and assessment mark were recorded. A two-part questionnaire was then completed by students for each assessment mode (i.e., written exams and tests, group projects, and individual assignments). Part 1 was a series of scale response items. Students used a 7-point Likert scale ranging from 1 (*Not at all*) to 7 (*To a great extent*) to rate questions on fairness, transparency, and authenticity. Example items included, “To what extent did this assessment reward your effort throughout the semester?” (fairness), “To what extent did you know what you had to do to get a good grade?” (transparency), and “To what extent was your assessment relevant to broader situations outside of the university setting?” (authenticity). Part 2 of the survey used open-ended qualitative questions that asked students to describe what they (a) liked, (b) disliked, and (c) would change about the assessment.

**Procedures**

At the beginning of a lecture, students were briefed about the questionnaire and its purpose. Students were informed that the surveys were anonymous and confidential, and that no identifying information would be
collected. The author in this project did not have any current teaching or assessment responsibilities for the student groups sampled. After obtaining informed consent from students, questionnaire completion took place over a period of approximately 10 minutes. Students were instructed to complete only the sections of the questionnaire that were relevant to them. For instance, if they had not completed a group-based assignment during their time at university, they were instructed not to complete the section on group-based work. Ethical approval for the study was obtained prior to the commencement of data collection (Approval RA/4/1/4460).

Data analysis

- Statistical analyses were carried out using SPSS version 19.
- Descriptive data are expressed as mean ± SD for fairness, transparency and authenticity scores.
- Independent samples t-tests were undertaken to explore differences on student perceptions according to gender.
- A series of one-way MANOVAs were used to assess differences on fairness, transparency, and authenticity according to grade received for the assessment task (i.e., one MANOVA for each assessment modality).
- Paired sample t-tests were used to determine within-person differences on perceptions of fairness, transparency, and authenticity across assessment modalities.
- Qualitative comments about what students liked, disliked or would change about each assessment were categorised under fairness-, transparency- or authenticity-related themes.

Results

Quantitative findings

Table 1. Mean scores and standard deviations for each concept, for the whole sample and separately according to gender

<table>
<thead>
<tr>
<th></th>
<th>Fairness</th>
<th>Authenticity</th>
<th>Transparency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole sample (N = 187)</td>
<td>4.79 ± 1.07</td>
<td>4.61 ± 0.97</td>
<td>4.90 ± 1.08</td>
</tr>
<tr>
<td>Male (n = 75)</td>
<td>4.85 ± 1.01</td>
<td>4.52 ± 0.83</td>
<td>4.81 ± 1.11</td>
</tr>
<tr>
<td>Female (n = 112)</td>
<td>4.76 ± 1.12</td>
<td>4.67 ± 1.05</td>
<td>4.79 ± 1.06</td>
</tr>
</tbody>
</table>

Across all assessment types, paired sample t-tests revealed that students rated fairness and authenticity significantly differently, t(184) = 2.67, p = 0.008, with the mean for fairness exceeding the mean score for authenticity. In addition, students rated their Level 1 assessments higher on transparency in comparison to authenticity, t(184) = 2.43, p = 0.016. Independent samples t-tests indicated that there were no significant differences on fairness, transparency, or authenticity according to gender.

Table 2. Mean scores and standard deviation for each concept according to assessment method

<table>
<thead>
<tr>
<th></th>
<th>Exams (n = 176)</th>
<th>Group (n = 73)</th>
<th>Individual (n = 141)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fairness</td>
<td>4.96 ± 1.18</td>
<td>4.87 ± 1.28</td>
<td>4.65 ± 1.37</td>
</tr>
<tr>
<td>Transparency</td>
<td>5.12 ± 1.24</td>
<td>4.80 ± 1.33</td>
<td>4.45 ± 1.47</td>
</tr>
<tr>
<td>Authenticity</td>
<td>4.56 ± 1.11</td>
<td>4.67 ± 1.08</td>
<td>4.72 ± 1.26</td>
</tr>
</tbody>
</table>

Group means and standard deviations for each variable (fairness, transparency and authenticity) are summarised in Table 2. For fairness, paired sample t-tests showed that exams were perceived to be significantly fairer than individual assignments, t(130) = 4.21, p <.001. Exams were also significantly more transparent than groupwork,
\( t(71) = 2.93, p = 0.005 \), and individual assignments, \( t(129) = 6.17, p < .001 \). However, no differences were found for students' perceptions of authenticity across assessment types.

The mean for each concept according to the students’ final grade are summarised in Figures 1, 2 and 3. Figure 1 provides a summary of how students’ perceptions about exams differed according to the grade they received. For exams, a significant multivariate effect, \( F(12, 420) = 8.17, p < .001 \), indicated differences on student perceptions according to grade received. Follow-up analyses indicated significant differences for fairness (\( F(4, 161) = 20.04, p < .001 \)), transparency (\( F(4, 161) = 13.28, p < .001 \)) and authenticity (\( F(4, 161) = 10.89, p < .001 \)) according to the grade received. In comparison to those who failed the assessment task, students who obtained high distinctions reported higher perceptions of fairness (3.41 versus 5.58), transparency (4.10 versus 5.93), and authenticity (3.03 versus 4.87).

![Figure 1](image1.png)

**Figure 1. Differences on student perceptions about exams according to grade received**

Figure 2 provides a summary of how students’ perceptions of groupwork differed according to the grade they received. For groupwork, a significant multivariate effect, \( F(9, 124) = 2.24, p = .024 \), again indicated differences on student perceptions according to grade received. However, follow-up analyses revealed that only transparency was significantly different (\( F(3, 53) = 3.38, p = .02 \)) according to grade received. There were no students who failed groupwork assessment. Students who obtained a high distinction for groupwork reported higher perceptions of transparency than those who received a pass mark (5.43 as opposed to 3.42).

![Figure 2](image2.png)
Figure 2. Differences on student perceptions about groupwork according to grade received

Figure 3 provides a summary of how students’ perceptions of individual assignments differed according to the grade they received. For individual assignments, a significant multivariate effect, $F(12, 320) = 7.13, p < .001$, again indicated differences on student perceptions according to grade received. Follow-up comparisons indicated significant differences for fairness ($F(4, 123) = 26.80, p < .001$), transparency ($F(4, 123) = 25.23, p < .001$) and authenticity ($F(4, 123) = 7.13, p = .001$) according to the grade received. In comparison to those who failed their individual assignment, students who obtained high distinctions reported higher perceptions of fairness (2.75 versus 4.66), transparency (2.67 versus 4.40), and authenticity (3.50 versus 5.16).

Figure 3. Differences on student perceptions about individual assignments according to grade received
Qualitative Findings

Eighty-one percent of students \( (n = 151) \) provided qualitative feedback. This feedback was categorised into comments about each concept.

Fairness

Of the 151 students that responded, there were 132 comments pertaining to fairness (42% of all comments). Of these comments, 56% reflected positive comments, or things that students ‘liked’ about the assessment. For example:

- Good broad range of questions, rewarded people who used the textbook and lectures
- Able to demonstrate understanding
- Tested our skills, very challenging

The remaining 44% of comments reflected negative comments, or things that students ‘disliked’ about the assessment. For example:

- Exam had 12 questions to trick students, didn’t allow us to show enough of what we actually knew
- Too much work for too little marks. Unfairly weighted assessment
- The hardness of marking. Went from 77% first sem to 46% second sem for same quality of work

Transparency

There were 71 comments pertaining to transparency (22% of all comments). Of these comments, 27% were associated with aspects of the assessment students ‘liked’. For example:

- Clearly set out, knew what to do for each section
- Questions clearly described what we were to write and calculate in our report
- Mock exam was very similar to final, so was easy to study for and prepare for it - knew what was required

The remaining 73% of comments were associated with aspects of the assessment students ‘disliked’. For example:

- Instructions about exactly what needed to be included were not clear
- Lecturer and tutor were not willing to help me with feedback/questions
- Guidelines weren’t very clear. Different information was being given by different sources (e.g. lecturers vs tutors)

Authenticity

There were 62 comments pertaining to authenticity (20% of all comments). Of these, 90% of comments were associated with aspects of the assessment students ‘liked’. For example:

- It aimed to give us practise in something we would need to do in the future, not only for psych but in some other units
- Reasonably relevant to wider world
- It applies to a greater context - careers after uni. Forced to learn about our field of work and learn a vital tool in preparing for when you’re seeking jobs

The remaining 10% of comments were associated with aspects of the assessment students ‘disliked’. For example:

- Not applicable to real life/current situation
- Lack of relevance
- Writing out ‘code’ is tedious and a counterproductive way to learn (real world is never like that)

Other Themes

Beyond the three concepts, there were 52 comments about assessment format (16% of all comments). Of these, 65% were associated with aspects of the assessments that students ‘liked’. For example:

- Ability to adjust marks to reward individual group members who put in more effort
- The multiple-choice format, as it is easy to study for and complete
- All multiple-choice and there was always a chance of getting the answer right
The remaining 35% were associated with aspects of the assessments students ‘disliked’. For example:

- Hard to allocate tasks to each group member equally
- Was difficult to do in a group because if one part isn’t done, another part can’t be done, hard to divide workload, therefore very time consuming
- That it was all multiple-choice, it didn’t use short answer questions or long answer

Conclusions

This project sought to contribute to a better understanding of the way in which students perceive fairness, transparency, and authenticity in different modes of assessment. In summary, findings provide support for the following propositions:

1. Gender did not influence student ratings of fairness, transparency and authenticity.

Exams were perceived to be significantly fairer than individual assignments. They were also perceived to be significantly more transparent when compared to group work and individual assignments. The high rating of fairness for exams may reflect an improvement on traditional ‘end-point’ exams. The exam format (e.g. the combination of multiple-choice and short answer questions) often used for Level 1 UG students may be perceived as a better opportunity to test knowledge. This may also be influenced by the Level 1 UG student having exams in combination with a number of other assessments (e.g. reports and quizzes) throughout the semester. The finding that exams were perceived to be more transparent than group work or assignments may be as a result of the students’ experience with each assessment mode and, simply, their understanding of what was expected from them. The students’ relatively positive perception of exams when compared to other assessments, whilst consistent with other findings (Struyven et al., 2005), is potentially an expression of student’s referencing surface learning over deep learning outcomes and distrust for other forms of assessment (Carless, 2009).

Alternatively, in comparison to exams, it is possible that groupwork and individual assessment tasks may be presented to students in a manner that does not explicitly identify expectations.

Consistent with existing work (Wachtel, 2006), student perceptions about exams and individual assignments appeared to be highly dependent upon the final grade they received for the assessment task. Students who obtained high distinctions perceived higher levels of fairness, transparency and authenticity than those who failed. With groupwork, similar results were found for ratings of transparency. It was not possible to determine in this study whether higher perceptions of fairness, transparency, and authenticity actually caused (i.e., preceded) improved final grades, or whether the receipt of a high grade lead students to retrospectively perceive the assessments as fair, transparent, and authentic. Future research that examines this issue would be worthwhile.

Implications for practice

In a general sense, these findings may provide some indication of what factors influence students’ perceptions of the primary modes of assessment used at Level 1. The finding for differing perceptions of assessment according to students’ grade classification is noteworthy. In particular, this suggests that students’ academic achievements may influence their perceptions of assessment, and lends support to the findings of others (Sambell & McDowell, 1998; Wachtel, 2006), who reported that students’ achievements, motivation and orientations to study influenced the ways in which they perceived and acted upon messages about assessment. These findings may have potential implications for student ratings of teaching excellence and unit reviews. Accordingly, stratifying students’ evaluations according to grade achieved may provide a more comprehensive understanding of their course and unit evaluations.

It seems unrealistic to expect teaching staff to present ‘ideal’ assessments for every student, given the unique learning styles and preferences held by each undergraduate (Winning et al., 2005). However, attempting to find patterns, tendencies, and relationships between students’ perceptions, the different assessment methods, and student learning, helps to provide an insight for teaching staff (Struyven et al., 2005).
Improving student perceptions of fairness, transparency and authenticity

Perceptions of fairness could potentially be improved by using a variety of assessment modes to maximise students’ opportunities to demonstrate their learning (Struyven et al., 2005). The allocation of marks for each assessment should reflect the time and effort required to competently achieve the learning outcomes specific to the assessment, rather than having a large proportion of marks allocated to what students may perceive to be redundant tasks such as referencing. In addition, groupwork should include ways to assess individual performances within the group (e.g. peer and self assessment) to better reward students who undertake a greater proportion of work (Biggs, 1999).

To improve transparency, students need to have a clear understanding of the nature and scope of the knowledge required to successfully complete the assessment. Transparency can be facilitated by open communication between tutors, lecturers and students, so that students’ perceive they have some control over and trust in the assessment process (Carless, 2009; Winning et al., 2005). Transparency has also been shown to be improved by providing students with clear assessment criteria, briefs, or marking rubrics that are explicitly linked to the defined learning outcomes (Anderson, Blanksby, & Whipp, 2005; Rust, Price, & O’Donovan, 2003; Whipp, Anderson, Yeo, & Tan, 2006).

Authenticity is improved when students perceive the assessment as having application to situations beyond the immediate university assessment. For the educator, this requires them to determine what students and potential employers perceive to be the ‘real world’, and whether this is congruent to the learning outcomes and assessment (Biggs, 1999; Carless, 2009).

Finally, the majority of students enjoy multiple-choice based assessments. However, a common criticism is that they do not allow the demonstration of higher-order understanding. Combining multiple-choice based assessments together with short answer or essay questions would potentially serve to alleviate this issue (Biggs, 1999).

References


Analytical assessment rubrics to facilitate semi-automated Essay grading and feedback provision

Andreas Weinberger (andreas.weinberger@alumni.tugraz.at)
IICM, Graz University of Technology,

Heinz Dreher (h.dreher@curtin.edu.au)
School of Information Systems, Curtin University

Mohammad Al-Smadi (msmadi@iicm.tu-graz.ac.at)
IICM, Graz University of Technology

Christian Guetl (Christian.Guetl@iicm.tu-graz.ac.at)
IICM, Graz University of Technology & Curtin University

Assessment is an essential part of the learning process, both in formative learning settings and traditional summative assessment. Both types are challenging, as it can be difficult to ensure consistency, reliability and absence of bias. In formative assessment the problem of workload and timely results is even greater, as the task is carried out more frequently. Information technology is able to assist teachers in these challenges to various degrees depending on the type of test items. The essay test item, besides the well-known application to train language skills and to acquire foreign languages, is widely used to test higher order thinking skills and therefore it can be applied in a great variety of subject domains at different educational levels. Evaluating essays is a time-consuming task hence supporting technologies can deliver great advantages. In this paper we introduce a semi-automated approach to essay grading based on analytical assessment rubrics, the use of which facilitate feedback provision. A prototype system is described in terms of requirements derived from the authors' own experience and the published literature, a workflow model. Reflection of the development experience and user feedback informs further development of the system.

Keywords: automated essay grading, analytical assessment rubrics, formative assessment

Conference Themes: Standards Practical solutions

Introduction

Educational processes have significantly changed from being repetitive, mechanized learning to more active learning with understanding in which assessment and feedback has to be an integrated part of the learning process (Bransford, Brown & Cocking, 2000). Despite the given importance of assessment and feedback, it is challenging to provide results in a timely manner especially in subjective question items such as essays. The labour intensive nature of assessing essays provides strong motivation for the creation of technology-based systems to support the work of human assessors. Whilst essays are typically used to test higher order thinking skills and knowledge levels, the large student numbers characteristic of many undergraduate university and college courses has increased the assessment workload and thus overall time spent on grading. Additionally, it has decreased the time available for individual feedback (Carter et al., 2003).

As the greater numbers of essay-type assessment artefacts are created and submitted in digital format, the opportunity and demand for electronic assessment gives impetus for a variety of approaches (Bull & McKenna, 2004). However, existing essay analysis systems specific to essays mostly offer little fine-grained flexibility in criteria when automated evaluation features are incorporated. This stems from the fact that the statistical algorithms being employed for the semantic analysis derive their power from large samples, and are therefore restricted to large class size courses. This situation had led us to initiate research on an alternate solution for essay grading in which we hope to be flexible in the assessment criteria (using a rubric based approach) and also to be applicable to low numbers of students at the classroom level. Teachers should be actively supported in evaluating students' submissions to gain time advantages, and to have more possibilities to give feedback to individual students. We have designed a configurable rubric-based system for assessment and feedback provision, with a scalable and configurable set of modules for semi-automatic essay analysis based on flexible criteria specified in
the rubric. Clearly, this system aims to support teachers by decreasing their marking workload thus making more time to dedicate to formative assessment practices.

**Background and related work**

The most widespread approach to automated essay grading is by employing statistical methods such as Latent Semantic Indexing (Weinberger, 2011) to analyse the semantic content of submitted essays and comparing the derived mathematical model (usually a vector space model) with a previously derived and defined ‘standard’. Once such a system is set-up, literally thousands of essays can be graded fully automatically within just a few hours of computer processor time. The set-up time is however such that unless thousands, or at least many hundreds of essays are involved, the cost is not justified. In addition, these methods do not permit fine-grained and flexible assessment criteria setting, for example via a rubric or parameter-set. These factors suggest an obvious new avenue of research to investigate the feasibility of using assessment rubrics in a semi-automated (or fully automated) tool to assess essay-type assignment submissions (Shortis & Burrows 2009).

Rubrics, in the sense we are using the term here, are predefined evaluation schemes either defined specifically for an assignment task or more generally for a class of similar tasks, necessarily neglecting specific content of a single task. Achievement levels must be clear indicated in conceptual terms, rather by single-term descriptions. The expected performance to reach the respective level on the assessment scale can include short examples to clarify the definition. Different features to be evaluated can be either summed up in a holistic rubric or be evaluated separately in an associated analytical rubric. Moskal (2000) has maintained that the subjectivity in essay grading becomes more objective due to the predefined evaluation scheme comprising a rubric. Common criteria in essay writing are grammar, usage (word choice), spelling, style, organisation (structure), discourse, content (knowledge, topics, ideas) and conventions (citation style, usage of figures, etc.) – these, together with the required knowledge domain semantic content can all be specified in our rubric-based approach.

Focusing on the grading of essays with rubrics, a few computer-assisted approaches are available. Writing Roadmap 2.0 is a tool designed for language training using a holistic rubric in which automatic results can be overridden by teachers (Rich & Wang, 2010). The system is limited as it cannot be used outside the language-training context and teachers cannot correct the additional analytical results. Other rubric-based systems such as iRubric (www.rcampus.com/indexrubric.cfm) only provide tools to design rubrics and electronic grade handling but are not specific to essays and therefore offer no supporting essay analysis or other automatic features.

In the related domain of fully automated essay grading a small number of systems have come to prominence - Project Essay Grade, Intelligent Essay Assessor, MarkIT™, IntelliMetric, E-Rater and e-Examiner for example. Some of these, including derived works such as Criterion, are mainly used in the context of language instruction. As the application of essay-style testing in higher education is broader, the content and concepts to be assessed in the submitted text are more varied than those for assessing basic writing skills making solutions that neglect the content unusable. MarkIT™ is an explicitly content centred approach employing semantic analysis but still needs around one hundred human scored essays in the training phase (Williams, 2006). Similarly, approaches based on Latent Semantic Analysis evaluate the content of essays to determine the similarity between documents (Landauer et al., 1998) as applied in the Intelligent Essay Assessor; it also requires 100-200 pre-graded essays (Palmer et al., 2002).

The aim of this project is to utilise a rubric in which the criteria can be flexibly defined by teachers to assess student essay submissions at classroom level. The lower student numbers allow teachers to review each submission and decide about the grade. The system should support the teachers by providing grade suggestions based on an easy to extend set of criterion-modules, and provide analysis features to support teachers in giving feedback to students.
Requirements and architecture

From our past experience and a review of other approaches we have defined the following requirements:

2. Flexible rubric construction and configuration where the number and level of criteria can be selected and specified by teachers. This flexibility should also provide for the use of the system at different educational levels.

13. Analytical assessment inherently contains feedback for students and also matches with the flexible criteria selection.

14. Interactive on-screen assessment and analysis tools to enable teachers to give in depth feedback, especially in formative settings.

15. Analytical assessment is time consuming for humans, raising the need for automated evaluation, or automated support and analytical tools for use by teachers.

16. The assessment/grading workflow should be consistent across multiple grading sessions allowing teachers to easily resume their work.

17. Content related criteria may require that rubrics are specific to certain assignments and to permit the linkage of rubrics to assignments and to classes. As this data is often available in existing systems (e.g. university-wide Learning Management System), along with the student to class relations, integration into these systems is desired resulting in minimal internal storage of administrative data in the system.

18. The system must cater for simultaneous users and should provide a multiple-grader mode where the workload is either split between multiple persons, or multiple persons grade the same essays.

19. Language independence - the system should be designed to be usable for multiple languages, although we will concentrate on English in the first implementation.

The flexible rubric approach is reflected in the architectural design that uses software module plug-in technology for the rubric implementation. Fig. 1 outlines the overall architectural design with the different modules to facilitate prototype integration into existing Learning Management Systems and to provide a service-based solution. Therefore the assignment module is mainly used to represent the rubric-to-assignment and assignment-to-class (and students) relations. As depicted in Fig. 1 the assignment module would utilize a LMS-Integration module to receive the actual student and assignment data and export student grades and feedback. A key aspect of these modules is to provide an identifier for each student that is internally used to link student submissions and grades. All student submissions are internally stored in the original format and as parsed version, suitable for further processing through the parser module. The DB-Abstraction module is used to support different database back-end systems as may be featured at individual user sites. A database approach was chosen for storage as it allows simultaneous run-time clients thus supporting the multiple user requirement. The necessary user account management can be provided by an extension of the LMS-Integration module.

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GUI – Graphical User Interface; LMS – Learning Management System; DB – DataBase

Figure 1: High-level Architecture Overview
All available criteria are implemented as separate plug-ins managed by the Plug-in Manager module (Fig. 1). The Rubric Module contains a rubric representation constructed from the selected criteria therefore enabling the evaluation of essays through each criterion implementation. Criteria operate independently from each other enabling parallel evaluation. Each criterion should provide essay analysis supporting teachers in giving feedback and may provide an automatic rating as well. Plug-in criteria are therefore split into the basic necessary processing implementation and an optional additional Graphical User Interface implementation. The GUI module is completely independent from the business model or logic model and therefore can be easily replaced with different implementations. As criteria are implemented as plug-ins it is possible to support additional essay languages with different sets of plug-ins or optionally a criterion plug-in can support multiple languages.

**Prototype development**

Quite obviously, when building a prototype some decisions which may later turn out to be in need of change may be taken. We have been very mindful however of the need to provide flexibility in the implementation in order to facilitate 2nd prototype construction; here follow some design choices we made, with reasons for those choices. The prototype system was implemented as a standalone native Java application, as with Java Web Start through the Java Network Launch Protocol the possibility to deploy and update the application on the Internet is given. Essays are parsed into an internal XML (eXtensible Markup Language) representation optimised for common text processing tasks and document display. In addition, the Parsing Module performs Part-of-Speech tagging, word stemming and possibly baseform derivation (e.g. noun singular form). Part-of-Speech tagging is provided through the log-linear Stanford Part-of-SpeechTagger (Toutanova & Manning, 2000) and stemming is performed with the Porter2 algorithm (Porter, 2002). The prototype uses an SQL database to store the essays and analysed data that allows different or multiple clients to operate simultaneously. An abstraction layer allows the use of different SQL database back-ends and the prototype supports either a hosted MySQL database or an internal local database provided through Apache Derby. This allows for faster testing of the prototype on local machines while preserving the option of adapting the system into an existing infrastructure. The Java Plug-in Framework (Lazarou, 2007) was used as a simplified approach as compared to Open Service Gateway initiative (Hall & Cervantes, 2004) frameworks, to support the implementation of Criterion Plugin modules.

By locating and using existing code as published in software libraries were able to deliver a superior user interface experience than if we developed all our own software, the native SWING Java API (Application Programming Interface) is a good example. A core concept used is to support different views that can be configured by the user as found in many integrated development environments. The Infonode Docking Window software libraries were used to implement this approach allowing users to adapt their workbench layout to personal preferences.

The various Criterion Plugin implementations, for example a spellchecker are based on published, open source software libraries. A full list of the used libraries and licenses can be found in Weinberger (2011, Appendix J).

During the development, a unit testing approach was used to verify sub-system operation. The GUI was been tested using interface heuristics during the development cycle (Nielsen, 1993, p. 115-155).
Figure 2: Criterion Rating

User workflow

The typical workflow of a user in the system, after the assignment has been specified, consists of the following steps:

1. The rubric is defined by selecting and configuring criteria for the evaluation. One or more example essay solutions can be added to the rubric to support the criteria configuration.

2. The rubric is applied to the example solutions to check if automatic results are as expected. [Optional step]

3. After the submission deadline automatic evaluation for submitted essays is triggered. This only occurs if criteria providing automatic evaluation features have been selected for the rubric. In this step, ratings for each criterion capable of automatic evaluation are calculated.

4. Teachers use the provided analysis and evaluation data from the rubric criteria to review each essay, provide further feedback for students through additional comments, and possibly to correct automatic ratings (see Fig. 2) by inserting a manual rating. Automatic ratings are corrected in two ways: either by overriding the result in the rubric based analysis, which is possible for every criterion, or by providing some system retraining input by the user, specific for a criterion, followed of course by a re-run (see next step).

5. Another automatic evaluation run is done as appropriate to re-evaluate essays where the teacher has not overridden automatic results. This step only applies if some criteria received retraining input through the user in step 4. [Conditional step]

6. When all essays have been reviewed by a human expert (the teacher), the student results can be published.

The semi-automatic approach is illustrated in step four, in which teachers override automatic ratings is depicted in Fig. 2. The criteria are displayed in a condensed view only showing the actual reached level. When teachers want to correct an automatic rating or provide a manual rating for criteria without automatic evaluation, a click on the criterion pops-up all the defined levels and the correct level can be quickly selected. Beside the direct manual override of automatic ratings criteria can implement an automatic re-evaluation feature.

As described in the User Workflow section, example, or model, essay solutions can be used in the preparation phase to configure the rubric (step two). How the provided example essays are used depends on the criteria implementations. For example the spell-checker criterion uses these essays to discover domain specific vocabulary not found in the default dictionary. In the criterion configuration teachers can review the list of unknown words and mark correct words before the actual evaluation. This minimizes the rate of false positive matches when the submitted student essays are automatically evaluated making the evaluation outcome or rating economic or supply demand trends, or a n competitor. For that matter, perhaps the i. TechAide salespeople who are not new er seminar. Without eliminating these and ot increase in sales at TechAide, the director seminar was responsible for the increase b.
for the criterion more reliable. Fig. 3 shows the detail pane of the spell-checker criterion that offers to mark errors found in student essays as correct. This invalidates all automatic ratings by the spell-checker criterion for the current assignment. The system will trigger an re-evaluation for all students essays with the updated criterion configuration so that teachers have to mark a word as correct only once during the grading process but the results will be updated for all essays. This feature can be provided by any criterion implementation if it allows teachers to supply correction data while reviewing a single student essay.

Turning to the memo’s statistics about the largest twenty companies, the director fails to account for any possible cause of the decline in employee turnover other than the SureSale method. Even if SureSale deserves credit for this decline, it is unreasonable to conclude on this basis that Aura would benefit similarly by adopting the SureSale method. The increase in employee turnover at Aura might

![Figure 3: Automatic Re-evaluation Feature](image)

**Graphical user interface & usability review**

Achieving good user interface can be a challenge especially if there are not enough resources or time available to perform large-scale tests with users. Graphical User Interface heuristics are effectively used during system development. Additionally, the review by an experienced software developer not involved in the project delivered valuable input in adapting the user interface. Finally a test with two different user types was done – the technical specialist on the one hand, and the educator or pedagogue on the other. This partly validated the Graphical User Interface design but also pointed to further improvement possibilities.

The performed think aloud user tests (Lewis & Rieman, 1994) showed that users could confidently use the system after one training session aside from the configuration of criteria for automatic evaluation. As this is specific to each criterion it is much harder to provide a consistent user interface experience, especially where different teacher-developers implement criteria. The different test user background demonstrated how the user knowledge influences the usability of a software system in the sense of how much help and explanation must be provided. Due to their teaching experience teachers naturally understand why criteria need to be weighted, even if they were not familiar with the concept of rubrics, as we have implemented them. On the other hand, software developers were conversant with plug-in based design and therefore were able to use the different criteria more efficiently.

While the plug-in based approach proved to be an efficient solution at the technology level, the Graphical User Interface tests revealed that the approach needs to be hidden from teachers to improve their usability experience. Teachers should only need to concern themselves with which criteria they use for a rubric and how to configure them properly. The concept of using example essay solutions to ease the configuration of criteria was problematic for most users. The usage therefore must be better documented in the program as well as in training material provided to teachers.

**Prototype development review**

The software reusability feature of modern Integrated Development Environments (IDE) was used extensively during the development cycle as the incorporation of assessment criteria as specified in the rubrics proved to be challenging. As we sat together with the teachers who developed the rubrics and reviewed the prototype, new aspects were discovered that needed to be addressed. Whilst use of existing software libraries was helpful, choosing which libraries were suitable and ensuring their flawless operation can still consume much. The
experience underlined the importance of spending enough time evaluating software libraries properly, which includes deploying them in actual code trials. The requirement that multiple essay languages should be supported can be challenging, as many software libraries are natural language specific.

Where a system is adaptable, and changes to operational parameters are made in the interests of superior performance, the issue of the ability to re-compute earlier evaluations arises. After the results have been published to students any automatic rating must persist in the record. This is easily achieved with the storage of results in the database. Nonetheless, this does not address the problem that it must be possible to understand and explain how a certain automatic rating was calculated. For this reason the configuration of each criterion is stored as part of the rubric configuration for each assignment. Additionally the original plug-in implementation must be still available, which is a challenge when plug-ins are updated. Unsolved at the moment is the problem of updates of plug-in specific datasets as for example used in dictionaries. If these datasets are updated the old version must be still available to be able to recalculate previous automatic ratings. As may be seen, some compromise may have to be made regarding these issues.

Summary

The approach to grade essays with flexible analytical rubrics in a semi-automatic system has been successful based on the trials and testing as reviewed in the previous two sections, and provides an alternative and support mechanism for manual grading or assessment of this style of assignment. To refine and further establish the utility of this approach we need to develop some case studies with willing teachers and students. To achieve this end, we need the co-operation of the Learning Management System administrators and technicians to help implement the LMS Integration module (Fig. 1).

References


Improving assessment outcomes through the application of innovative digital technologies

Julia Wren (j.wren@ecu.edu.au)
Edith Cowan University

Alistair Campbell (a.campbell@ecu.edu.au)
Edith Cowan University

John Heyworth (j.heyworth@ecu.edu.au)
Edith Cowan University

Christine Lovering (c.lovering@ecu.edu.au)
Edith Cowan University

Assessing students' live performances is challenging because the marker needs to make complex judgements, often very quickly, while at the same time recording information and watching the performance. This is further challenged when multiple markers are involved and moderation of marks is required. It can be difficult to maintain good assessment principles, such as fairness and validity and to offer students quality and timely feedback.

This paper describes a two phase, qualitative, action research project that trialled the use of an innovative, digital technology supported, assessment tool designed to improve the efficiency and effectiveness of assessment and moderation of live performances. The digital assessment tool enabled students to engage with the assessment and feedback from tutors and peers multiple times. The project was initially trialled with 170 pre-service teachers (in phase one) and then 200 pre-service teachers (in phase two) enrolled in an arts education unit in the third year of their Bachelor of Education course.

Literature is abundant with references of digital technology which is used to automate scoring and marks (Clarke-Midura & Dede, 2010), however, use of digital technology in this project does not replace the marker. Instead, it provides the marker with a tool with which to conduct and easily record rich observations of complex learning and it does so in a paperless, highly efficient and engaging way.

Keywords: cloud, digital assessment, iPad

Conference Themes: Practical solutions, Student Engagement

Introduction

Our Bachelor of Education students (pre-service teachers) are training to be teachers of eight learning areas and work with children ranging in age from 4 to 13. They are required to undertake two units of arts education study over two semesters in the third year of their course. The students are required to showcase the quality and scope of their learning in these units through a number of ways. One way is through short, live, group performances which incorporate visual art, music and drama. Ensuring that the assessment of a large number of groups is effective and efficient while underpinned by the principles of being fair, valid and consistent is a significant challenge. This was particularly so because it involved three markers (who were the tutors) marking the same performances simultaneously. Each marker assessed against the same criteria (creativity, skills, group work) but within a different art form (art, music, drama) which in turn has its own content.

Performance based assessment is specifically chosen for these units as it is best suited for assessing our students’ complex intellectual and psychosocial knowledge and skills (Clarke-Midura & Dede, 2010). The challenge of capturing deep learning and recording the required evidence that has occurred is particularly problematic where the performances are short and ephemeral; such as a speech, a song, a dance or a play. It is easy for markers to get distracted by the need to write/type to record information about the learning in situ (often in low-light conditions) or the need to communicate with other markers to discuss immediate impressions. These types of
activities during performance often distract both markers and performers and increases inaccuracies in marking because the markers have to frequently take their eyes off the performance.

The challenge of providing timely feedback to students after the performances is crucial as research shows that formative feedback soon after the performance is far more effective than if it is delayed (Wiggins, 1993). The challenge of giving feedback to large numbers of students in a relatively short timeframe was significantly delayed by the ‘behind the scenes’ process we had. This process included the scheduling of face to face moderation meetings with markers, manual sorting and amalgamation of assessment records from the three markers, as well as printing and distributing feedback to students. Transferring individual student’s marks from spreadsheet records onto marks submission forms created ‘busy-work’ type of workloads for the markers which took time away from the more professional work associated with assessing which markers perceived as being essential to provide a higher quality of marking and feedback.

Quality of feedback is crucial (Earl, 2003) if it is to enhance learning. Yet, like many educators, we found that despite our best efforts, many of our students did not fully engage with the feedback that we carefully crafted for them. Instead, they seem focused on the final mark (McGuire, 2005). Students told us that they felt external to the assessment process because it was directed by the markers. Wren, Sparrow, Northcote and Sharp (2009) found that higher education students expressed greater anxiety and dissatisfaction with the assessment when they felt external to the assessment process.

**Aims of this study**

We sought to develop a more efficient and effective method of assessing performance-based learning where multiple markers and a large number of student groups are involved. Wireless access to marking keys during the performance and videos of performances embedded into each group’s marking sheet available immediately afterwards and during the moderation process, offers the possibility of a more reliable and instant access to each marker's comments and results. Online communication between tutors during and after the performances can enable the assessment and collation of marks to be an expedited process. Marks and feedback can be distributed back to students with ease and in less time.

This new and innovative approach to assessment can also contribute to student learning by involving the learners in assessment *at* and *for* learning. This can be done by having them analyse videos of previous performances and explicitly discuss and compare the quality of learning evident in these performances. By analysing previous performances, students are also clarifying what is expected of their own performances. This is also relevant for when they partake in group based peer marking and moderation of live performances.

This effort for ‘digitalising’ the process of assessing performance is a two phase study. We have now completed both phases.

**Phase one research questions were:**

- To what extent can the marking of student performances be streamlined by allowing each tutor to instantly see each other’s marks and comments at the time of marking (during the performance) and to enable tutors to communicate with each other via the web, rather than in person during the performance;
- How effectively can the moderation of performances be conducted via the web so that tutors do not need to have face-to-face meetings but rather review and modify their marking by communicating with each other via the web at times suitable to each tutor;
- To what extent can the feedback process be made more educative by embedding the video of each group’s performance into the marking key so that students can view their performance and engage with the tutor’s marks and comments which are placed directly beside the video;
- What is the impact on turn-around time for feedback and marks for the ‘digitalised’ process which includes having the marking keys and videos emailed to students?
Phase two of research questions were:

- To what extent can mobile technology be used by tutors and students to enable them to safely (without cables) access best viewing points around the room during performances;
- To what extent can peers be engaged with the assessment process by being included in the live marking and to what extent is it technologically feasible to make their comments and marks instantly visible to tutors during the marking;
- How beneficial is it to enable the access and sharing of recorded videos to streamline the assessment process?

**Methodology**

We employed qualitative action research. Action research is most suited to this project as it requires the teacher/s to be the researcher/s, working collaboratively in a partnership with one another, the students and technical staff. All were to engage with critical analysis through reflection and to systematically collect evidence to bring about an immediate, innovative change to their practice to enhance learning of students (Cohen, Manion & Morrison, 2011; Wisker, 2001). A cyclical timeline was developed which involved the design, trialing, evaluating and improving the assessment tool. The project was evaluated throughout the semester with the coordinator, tutors and students being interviewed individually and/or through focus group discussions. The students also completed a voluntary online survey at the end of the semester.

**Table 1 - showing the action research cycle over two years**

<table>
<thead>
<tr>
<th>Year</th>
<th>Description</th>
</tr>
</thead>
</table>
| 2010 | Design and development of digitised assessment tool  
Trial of the digital assessment tool during rehearsal performances  
Implementation of the assessment tool during performances by markers  
Review and evaluation of the assessment tool and process  
Recommendations made to improve the digital assessment tool and assessment process |
| 2011 | Refinement of the digital assessment tool and assessment process  
Students view and assess exemplar videos  
Trial of the digital assessment tool during rehearsal performances  
Training of iPad2 by markers and students  
Implementation of the assessment tool during performances by markers and peer groups  
Review and evaluation of the assessment tool and process  
Recommendations made for future research |
Participants

Pre-service teachers

Phase one: 170 education students in the third year of a four year program in 2010.

Phase two: a new cohort of 200 third year education students in the same program in 2011. The students’ performances were assessed in groups of 5 or 6 students. There were 28 groups in 2010 and 36 groups in 2011.

Marker/Tutor participants

The markers in this study were the tutors in the program. In 2010 the three tutors each taught a different aspect of the arts (music, drama and visual art). In 2011, the music and visual art tutors who taught in 2010 were teaching again, but the drama tutor was new. However, the previous drama tutor (although teaching elsewhere in 2011) was still involved with the reflective practices of this project.

The internet based assessment tool

Through the two phases of the project’s action research, we were able to design, develop, trial and refine an internet based assessment tool. Reflecting upon and learning from our experiences in phase one of the project, as outlined in ‘Improving marking of live performances involving multiple markers assessing different aspects’ (Wren, Campbell, Heyworth & Bartlett, 2010), we came to the conclusion that we needed to be able to position ourselves around the performance room to gain best views of each performance for greater assessment accuracy. We found that the iPad2 provided us with an opportunity to trial portable technology. It also enabled incorporating student peer assessment. The touch screen technology of iPad2 enabled tutors and peers to quickly record information by tapping the screen to highlight a box on a rubric and also copy/paste comments from a comment-bank eliminating the need to take eyes off the performance for relatively long periods of time during which time a key aspect of a performance might be missed. The marking key also provided a space for each of the markers to type in additional comments if needed which, communicated feedback to the learner that was specific and critical to their point of need. Quality and precise feedback enables better communication about the learning (Absolum, Munro-Keene & Phillips, 2009) and enhanced motivation towards the learning (Denton, 2001). These comments were generally quickly captured immediately after the performance and refined afterwards.

The Internet-based assessment tool functioned as a password protected marking key with criteria specifically based on the unit outcomes, which were made explicit to students throughout the assessment process. Where the links between the learning and expected outcomes are made explicit to learners, the quality of learning is improved (Brunvand, 2010).

Each marker had instant access to all running totalled marks throughout the marking process. Information was automatically saved so they could also instantly access comments from other tutors and the peer group. In addition, at the tap of a finger, a marker had access to the whole cohort data spreadsheet where they could view each of the assessment criteria marks as well as total marks. This enabled individual markers to compare how they are marking from group to group and in comparison to the other markers. Access to these spreadsheets was usually made during the time immediately after the performance and later during moderation more so than during the performance.

The digital assessment tool imports the names of all students from the central university system and groups them according to their predetermined group number. It then instantly allocates the group marks to each individual in that group. The spreadsheet is downloaded and copied into university spreadsheets in the matter of minutes ensuring no human errors are made in the transfer of marks.

The peer groups (of about 5 individuals) sat together when assessing the live performance. They were familiar with the rubric content from previous work and could see it on the iPad2 while watching the performance. Groups chose to either share the responsibility of recording on the rubric by passing it around or they selected a leader to so. The peer assessing was in itself an assessed task. We needed a record of attendance and this was done simply and quickly by each group holding up the iPad2 and photographing themselves. The photo instantly embedded in the rubric alongside their names.
The students were not at any stage able to see the tutors’ assessments but the tutors could see theirs. Having the tutors able to see the peer assessments sometimes gave the former insights into aspects that might otherwise have been overlooked. In a few instances, it alerted us to investigate these aspects further during moderation.

The tool enabled markers to begin the moderation process in the short breaks between performances. This was done via a confidential markers’ chat box located on the digital assessment tool. As markers were frequently in different parts of the room, comments were posted by markers and instantly accessed by the others. This not only started the moderation process but recorded immediate and prominent observations which were recalled at a later moderation time. In addition, a few times during performances, markers could alert each other via this chat box to information about the group as was necessary.

The process of assessment using the digital assessment tool

As iPad2 technology was new to many, we scheduled the dress rehearsal week of the tutorial time to give ourselves and the students practice using the iPad2. We conducted ‘dummy assessment runs’ to test the assessment tool on dress rehearsal performances.

The performance assessment criteria were designed to measure the students learning across the unit outcomes, e.g. their use of ‘creativity, artistic skills, group work and collaboration’. Each criterion was elaborated for music, drama and visual art and gave a clear indication of what it might address at various levels of achievement. The students were provided with two 2010 video exemplars of performances of different standards with the permission of those student groups in the videos. This was done so that students had the opportunity to identify and make a judgement about the quality of learning these performances showed. They assessed the videos using Microsoft PowerPoint incorporating Keepad ‘clicker’ technologies (LUL Technology, 2011) during the lecture time.

For example: How well did you understand the content and purposes of the performance?

1 = Unsatisfactory 2 = Satisfactory 3 = Commendable 4 = Exemplary

The process of assessing video performances engaged students in discussion about the criteria and assessment requirements. Seeing the trends and engaging with the tutors’ commentary regarding expectations and assessment process enabled this assessment to be made explicit and educative.

The students’ peer assessment rating scale on the iPad2 required the students to consider a different set of criteria to that of the tutor/markers. Their focus was less complex and more targeted at a specific set of outcomes. An example is shown in Table 2.
Table 2 - Rating scale used by students to assess peers’ performances in 2011

<table>
<thead>
<tr>
<th>Student rubric</th>
<th>The content and purposes were difficult to understand</th>
<th>The content and purposes were only somewhat understandable</th>
<th>The content and purposes were clear and understandable</th>
<th>The content and purposes were exceptionally clear and easy to understand</th>
</tr>
</thead>
</table>

How well did you understand the content and purpose of the performance?

- Unsatisfactory
- Satisfactory
- Commendable
- Exemplary

How convincing was the performance?

- Unsatisfactory
- Satisfactory
- Commendable
- Exemplary

How well did the performers maintain your focus and engagement?

- Unsatisfactory
- Satisfactory
- Commendable
- Exemplary

How well did the performers use all the arts aspects of visual, musical, sound & dramatic?

- Unsatisfactory
- Satisfactory
- Commendable
- Exemplary

During the two performance days, performances and peer assessments were scheduled so that every group had the opportunity to perform one week and peer assess on the other. The tutors assessed all groups on both days. Each video was then immediately separated from the rest and labelled its group number. At the end of the day, each video was compressed and embedded into the marking key. Markers had access to the password protected marking keys with the embedded videos within a short time. Markers moderated online at times convenient to each, over one week. They were able to communicate with each other via the chat box, amend their own marks and comments and view each other’s marks and comments.

The process of embedding videos and converting the documents to PDF was done manually. However, collating marking keys from peers and tutors and emailing them to relevant individuals was automated using FileMaker Go (Filemaker, 2011) and this step required little time overall.

True to the nature of action research, the tutor-researchers engaged with ongoing reflection throughout the project cycles by discussing the research processes such as the intervention and the gathering of data. This engagement was done formally and informally, both in person and via email and phone. Notes were taken at these meetings and used to inform future actions.

Student surveys

The students were asked to anonymously complete a survey at the end of their peer assessment task and prior to receiving their marks and feedback. The survey asked questions about the whole assessment process; the use of exemplar videos to make the assessment explicit, the use of iPad2 for group peer marking and if they could see the application of the assessment Internet based tool in their own teaching practice with primary school children.

Results

Streamlining the assessment process:

The process of marking was streamlined because the Internet based tool automatically combined data bases from each tutor. Markers could quickly view how others were marking, what the group feedback and marks looked like and how the group being marked compared with other groups of their cohort. The whole cohort spreadsheet was accessible without delay at any time during and after performances. The data recorded by each tutor was automatically saved to a server and easily accessed from anywhere.
As well as the ‘student view record’ specifically designed for the students in their groups, the tool also provided a ‘tutors view’ of each record for drama, art and music. In this space, each tutor created their ‘bank of comments’ prior to and during the marking process. These comments were inserted in instances where the same comments applied to multiple groups.

The assessment tool enabled the streamlining of the process as it was paperless; busy work associated with preparing and distributing student feedback was eliminated.

As markers, we found that assessing ‘in the cloud’ on the iPads was highly satisfactory. We all liked the fact we could view each other’s marks and comments at any time. We found that, for most part, we only looked at how each other marked after we had marked on our own. We kept notes about points that needed to be referred to later, particularly if the student peer markers noticed something we had not. We felt reassured that we could easily access and review the videos along with our assessments at any time and any place. We only reviewed the videos or parts of videos we felt we needed to. Doing so, did not significantly add to the time we spent assessing, though, as commented, the video touchstones increased our confidence in marking.

Typing on the iPad was a little cumbersome (one tutor had access to a wireless keyboard) but in a short time we got better at it. Several times the wireless connection was cut and it was reassuring that our work was being automatically saved.

**Moderation via the web**

The moderation process was highly effective as, in both phase one and two of the project, it provided the convenience of not having to arrange a face to face meeting. Moderating via the web provided us with the opportunity to engage with the moderation process on multiple occasions as we each logged on and reviewed the marking for varying periods of time when it was most suitable for individuals. As a result, all tutors felt that the moderation process was far more comprehensive than previously where we had limited times in which we could meet. The tutor chat box provided a confidential and silent method of communication between tutors during performance so it did not distract performers. It saved our comments to jog our memories later, so questions that arose *in situ* could be researched and addressed later.

**Feedback to students**

Majority of students, who responded, all reported that they liked their feedback returned to them electronically. They felt that “it is an incredible use of technology” (Student correspondences, 2010) and that it is unique and easy to access on and off campus.

Most of these students reported that they engaged with their feedback multiple times. Miels (1999) emphasises the positive effects and the value that is added to the learning when students are given multiple opportunities to view their videos.

The most common comment received, referred to students seeing value in being able to watch their own performance from the audience perspective and have the tutors’ feedback beside the video for a quick reference. The video recordings of each performance provided visual evidence of the learning. For some students, this challenged or confirmed personal perception of how evident and explicit they had showcased their learning (Romano & Schwartz, 2005). The use of videos is common in performance-based assessment and research confirms their benefits to reflective and higher order learning (Brunvand, 2010; Ladson & Billings, 1998; Song & Catapano, 2008; Romano & Schwartz, 2005; Miels, 1999; Rich & Hannafin, 2009).

Some students reported that they shared their feedback with peers in other units as well as with family. For example,

> The rubric and video were a fantastic way to present our marks. It was good to see what we looked like from the audience’s perspective as it is so different when you are up on stage, also it is nice to have something to show for your work. The family all had a good laugh too! (Student correspondence through survey, 2011)

Several students saw further potential of this electronic feedback and planned to present it as evidence of learning in their electronic resume. In phase two of the project, the students were surveyed on whether they could see themselves using this assessment tool in their own teaching. Over 90% indicated that they saw it as useful to them in multiple of ways. Some students provided a number of creative ideas which went beyond the arts. This level of engagement with their feedback is significantly improved. Prior to this project, evidence
indicated that fewer students engaged with their tutor's feedback, with emphasis and interest mostly on the final mark.

In the subsequent arts unit, next semester, students will be encouraged to use this feedback from tutors and peers to inform their own future learning goals. Constructivist theory underpins the learning in this course and using assessment for and as learning is the process by which students continuously inform themselves about their own learning progress (Stiggins, 2005). A shared view by many students is summed up by one below.

The embedded video was a very convenient and innovative way to organise the assessment information. It was the first time I had seen it used in a unit and I was quite impressed. The feedback was relevant and comprehensive and having the video itself there to view at the same time, was extremely beneficial. The provision of the video will also aid the ability of our group to assess ourselves and reflect on our performance in more detail. (Student correspondence through email, 2011)

Mobility of technology

In phase two of the project, the mobile technology allowed the tutors freedom to move to vantage points around the performance room, where they had greater access to view the performance. The tutors could sit among the audience members rather than as judges at a fixed place in the drama room. Some students reported that they felt nervous seeing the three tutors marking so being able to ‘blend’ in with the audience may have eased some nerves.

A problem that arose from this was that the wireless connection was stronger in some parts of the room than others. Walking into a dark spot meant that the connection was lost and time had to be spent in re-connecting and logging back on. These dropouts happened several times to several markers.

Sitting among the audience members often seemed to invite prying eyes from those around to see how tutors were marking. Tutors reported feeling as if they had to hide their iPad2 screen while marking.

Peer marking

iPad2 enabled the students to take a group photo of themselves, which was embedded into their peer marking layout on FileMaker Go, as proof of attendance at the peer assessment task. As marks were associated with this, it meant that tutors did not have to take attendance records. The photo was only available to markers and not the performing groups, although the performers could see the peer marking group during performance. There were extensive discussions (within another unit where students were learning about assessment and evaluation) about how to give constructive, honest and useful feedback to learners. This was their opportunity to practice this skill in an authentic setting.

The students largely reported that the iPad2 was a useful tool. However, there were a number of problems with the assessment process. Firstly, the wireless connection was severed several times when students walked around with the iPad2. Secondly, some students held onto the iPad2 and did not give an opportunity for other students to use it. Thirdly, some of the text on the screen was too small for all group members to see it at the same time. Some students suggested that 2 or 3 iPads per group would have been better. A few students reported that they were very confident with using iPad2 and some felt that they needed far more training.

I don’t feel that the 5 to 10 minute introduction conducted in one tute was sufficient. As the technology becomes more familiar, I think this will provide a valuable tool to use in peer assessments.

I’m still getting used to all this iPad technology myself, but as we are now living in our technological age when going out into schools we are soon going to be faced with it, so, to have a glimpse of it now was very helpful. From a marking point of view is extremely quick and easy to use.

I’m not sure if it is because we were unfamiliar with the iPads but I actually found that they made it difficult to peer assess. Since the iPads were difficult to use, we weren’t able to get much feedback to our peers as was difficult enough to write and say a few words.

The iPad was clear and easy to follow. We just had to click the buttons and then write a comment— it was very effective in the way of collecting feedback; it just took some groups a long time to do it.
The survey response regarding receiving peer feedback embedded onto their marking key was positive. Many students reported that they appreciated their peers’ feedback about their performance, particularly as they had all watched each other’s performances evolve as they worked side by side throughout the semester.

With past peer marking tasks, we often found that peers’ marks were mostly generous, particularly if they were not anonymously given. With this assessment process, however, we found the peers’ marks comparable to ours. It may be that the exemplar marking and extensive discussion about giving feedback supported this. This is an area of this research which needs further close study.

It is interesting to note that the final peer assessments matched our assessments as follows:

![Figure 1 - showing similarity of grades awarded for performances by tutors and peers](image)

The assessment process

The whole assessment process included the students through participation of peer assessment, assessment of exemplars, and their feedback contributions to surveys and other forms of communication, such as email and personal conversations. A large number of students felt strongly that the process of using exemplar videos, although valuable, was somewhat compromised when they were asked to assess last year’s performances on this year’s criteria (which were marginally different). The singular focus of these few students on the criteria differences meant that they may have missed the benefits of exemplar marking to their own learning.

> Viewing the previous videos was a good idea, however as the criteria was different in some aspects I wasn't able to draw much inspiration from them. In a way, it helped me to see if we were marking the same as the tutors and what to expect when we mark.

A moderate number of students felt they needed to view more performances. A few students did not know how to use key pads. Most indicated that more time to discuss the results would have been beneficial.
Conclusion and future directions

The Horizon Report (2007) states that “the environment of higher education is changing rapidly” (p. 3) and that “higher education is facing a growing expectation to deliver services content and media to mobile and personal devices.” (p.5). This action research project enabled us to use technology as a tool to improve the way in which we assess our students when the capture and evidence of complex learning is required. Our students tell us that they learn better when assessment is clear and explicit, they know what evidence is being collected by the markers and they are involved with the assessment process. Modern mobile technology assisted us in involving them in a practical way.

Assessment can be a time consuming, cumbersome activity where ‘busy work’ is required to sort, collate and distribute feedback and marks to students. Using technology to streamline these tasks frees up valuable time and energy for the markers to engage with a more comprehensive marking and moderating activity. Their comments suggest that this technology-enabled process gave the markers a greater sense of satisfaction with the overall assessment process. In addition, being able to moderate anywhere and anytime meant that markers moderated on short but multiple occasions, rather than just once or twice as with face-to-face meetings. This gave markers a time to reflect and incubate ideas for more critical and comprehensive feedback. This did not seem to add time to the process. It did engage the markers more because they felt they were being more productive.

The students in our course are generally quite familiar with some technology such as accessing emailed attachments. The convenience of receiving their feedback and marks via email, particularly a week after semester’s end, meant that they did not need to travel on campus to collect their marks. This promoted a greater engagement with feedback as did the embedding of the video of their performances. Many people are visual learners (Gault, 2005) and our experience indicates that technology can help make learning and assessment stimulating because it allows easy access to images, video clips and sounds which can illustrate or consolidate key points. Therefore, other technologies we incorporated into this study, including the use of Keepad Interactive clicker technology, afforded increased interactivity, allowing for individual participation and instant feedback on assessment exemplars in the lecture theatre. In addition, with new and easier ways for lectures to be recorded and turned into podcasts, there is potential here to meet an increasing demand for online course delivery and assessment (Sprague, Maddus, Ferdig & Albion, 2007). New technologies offer efficiency and flexibility that will benefit student learning into the future.

The assessment, although developed over two phases of action research, needs further development in a number of areas. Chiefly, we need to (1) reassess the amount of training students require to use iPads, (2) check wireless connection in the performance room to ensure it does not cut out, (3) increase the amount of time each group has to peer assess and (4) discuss with students the value of marking exemplar videos so more see the benefits to their own learning.

The web based tool was refined in phase two and still requires further refining to reduce the time needed to resize and separate videos. The implications of our findings are that the digital assessment tool enables the capture of student learning when the nature of that learning is showcased through ephemeral performances such as talks, speeches, plays, skill demonstrations and presentations. The streamlined marking process utilises the technology to do the manual tasks associated with marks and feedback recording, collation and distribution to students. This frees the marker to invest their time in making professional judgements about the quality of learning. The feedback students receive is educative and engaging.

This technology and assessment process could be used in a variety of education settings from the youngest students to adults, across a range of learning areas. At present, we have three teachers (one in early childhood, one in primary and one in a secondary setting) who have expressed an interest in trialling this tool in their context.

We see a future use of this tool with a range of educational levels used inside and outside classrooms, where students are required to demonstrate complex learning through performance and where assessment is designed to be educative.
References


Strategies for improving intercultural and international learning

Felicia Zhang (Felicia.zhang@canberra.edu.au)
Faculty of Arts and Design, University of Canberra

Ian Maclean (ian.maclean@canberra.edu.au)
Faculty of Business and Government, University of Canberra

Over the last ten years, there has been a dramatic increase in the number of international students studying certain disciplines (such as accounting) in Australia (Davies, 2010). However, many international students graduating from these disciplines lack the requisite English language level to secure professional employment in Australia (Birrell, 2006; Davies, 2010). This trend prompted the research team to investigate issues of international students’ integration into the academic community and their difficulties in academic study, by attempting to follow the linguistic progress and participation of 14 international students throughout first semester 2011 in a group called the University of Canberra (UC) Noodle Club. The Noodle Club is aimed at creating cultural and linguistic networks between sympathetic Australian students such as those who are learning Mandarin Chinese at the University of Canberra and international students including those from the target language culture (in this case the Chinese culture). We used questionnaires and interviews to identify factors that might influence international students’ confidence in tackling academic tasks. Our small-scale project suggests that (i) to assist international students in their academic studies, it is necessary to adopt an in-discipline approach which builds intervention strategies within lectures and tutorials of a unit/course/subject, rather than as an adjunct; and (ii) international students’ needs in writing essays might not be adequately met, at present, by the way tutors and lecturers mark. A new way of enabling tutors and lecturers to provide targeted feedback at the grammatical level is identified and (iii) students can be encouraged to guide themselves during the process of writing using an e-assessment tool. Findings of this project lend support to previous research on the effectiveness of an in-discipline approach to language support (Zhang, F. et al., 2010) and suggest that such an approach may improve the learning of all students in higher education, not merely international students.

Keywords: improving academic performance of international students, feedback on essays

Conference Themes: Practical solutions, Student Engagement

Introduction

International education at the tertiary level in Australia is at a critical juncture, primarily because of changes in Australia’s immigration rules and the appreciation of the Australian dollar. The failing national economies of our competitor providers of tertiary education mean that we can expect them to offer very attractive deals for international students. These factors have effectively pushed Australia’s offer of international tertiary education up-market in terms of cost to the student. It is almost inevitable that Australia will lose market share. We will also lose in terms of profitability unless we can learn how to provide a better service to our international students. We adopt the view that measures directed at providing a better service for international students are most likely to be effective if developed within the context of a holistic, view of higher education. This perspective has been put recently in the following terms: most important of all is that we need ‘a comprehensive rationale for the role of languages in higher education; and in particular we need to put our efforts to develop a humanistic and intellectual legitimation for all education, which would inevitably contain a permanent and central role for languages. Care needs to be taken to devise new understandings of why languages are important for all learners that make cultural, intellectual and generally humanistic reasons central, with the practical application of language proficiency an accrued benefit’ (Lo Bianco & Slaughter, 2009, p. 59). Thus suggestions in this paper are intended to point a possible path in that direction.
Background

The difficulties experienced by international students in content-based courses or degree programs have been widely acknowledged (Maldoni, Kennely, & Davies, 2009; Rochecouste, Oliver, Mulligan, & Davies, 2010). As a result, many tertiary programs have incorporated adjunct courses whereby language is taught through content (Snow and Brinton 1988). However, these programs sit outside the main teaching within the discipline (Arkoudis, S., 2008; Wingate, 2006). Consequently, many international students do not access these services (O’Loughlin & Arkoudis, 2009) due to ‘the high demands on time and emotional effort associated with core courses of study’ (Hirsh, D., 2008, cited in Hirsh, 2007, p. 203). Gravatt, Richards and Lewis (1997) reported some research on program modifications in different disciplines. However, it was not clear what effect these modifications had on student learning. This paper argues that in the context of university courses or degree programs in the 21st century, English language support should be integrated within disciplines and should also involve program modifications negotiated with course lecturers and tutors. With advances in computer technology, a renewal of programs, their assessment regimes and assessment criteria can be beneficial to both domestic and international students. This renewal of our undergraduate programs is fast becoming an imperative for many tertiary institutions in this country.

In 2009, a study (Zhang, F. & Bryant, 2009) investigated 26 Mandarin-speaking students enrolled in a translation unit within the Chinese course at UC. The students’ academic results were examined. The group had between them studied 86 different units. Several tentative conclusions were drawn from an analysis of the data:

- Many students were performing below a reasonable standard, particularly in Business and Management courses;
- Students who were granted Advanced Standing in their first year at the University of Canberra College (UCC) were more likely to fail in their following year at UC. These students were mostly in the Business and Management disciplines;
- Failure rates were highest for students undertaking Business and Management disciplines;
- After comparing the results of this group of students with the results of all students in the same units, it was found that in Business and Management units, international students failed more than domestic students at the rate of 2 to 1; and
- There was a positive correlation between the students’ Universities Admissions Index (UAI) or ATAR scores and their rates of passing and obtaining higher grades.

These conclusions were based on the academic results of a small group of students in 2008. The failure rates of domestic students as compared to international students remained largely unchanged in 2009. Clearly, in order to understand why international students failed twice as often as domestic students, it is necessary to understand the difficulties international students face in their academic studies.

Previous research on challenges for international students in their academic studies

The Australian Learning and Teaching Council funded two important projects involving international students in tertiary education in Australia from 2008 to 2010. These two projects are: “Addressing the ongoing English language growth of International students” (Rochecouste, et al., 2010) and “Strategies and Approaches to Teaching and Learning Cross Cultures” (Lu, Yao, Chin, Xiao, & Xu, 2010).

Rochecouste et al’s project encompassed five Australian universities: Monash University, Edith Cowan University, The University of Melbourne, Macquarie University and Deakin University. The project used an online survey which invited both qualitative and quantitative responses. Almost 800 international students provided a rich source of data. The ages of the students in the sample ranged from 21 to 30. More females than males responded to the survey: 52% of the respondents had a Chinese background; 37.6% were born in China; 47% were undergraduates; and 57% were enrolled in Commerce/Business Studies. 68% had been required to produce an IELTS score for visa entry to Australia but only 51% used it for course entry. Only 44% of the students provided their IELTS scores to the project; 62% were in their second or third year of study in Australia. The sample appears to have been representative of international students in Australia.

Rochecouste et al’s (2010) project made sixteen recommendations on how universities can assist international students in their English language growth throughout their academic studies in Australia. The recommendations
were directed at lecturers, academic support staff, librarians, and teaching and learning support staff. The thrust of the recommendations endorses the central role of information provision as the core educational activity.

While we concur with the 16 recommendations, we cannot help but feel that staff are being asked to take on a lot in order to cater for international students’ English language growth. Without knowing what responsibility students are able to accept for their own English language development, it is very easy to take the position that international students came to Australia to study and therefore they should come with adequate English to start with. So the onus should not be on academic staff to cater for these students.

This position seems to come out of the ignorance that ‘although new international students have technically achieved a level of English acceptable for entry into Australian universities, the levels set by universities are generally at the threshold level only, so that most students need to develop their academic English further after enrolment’ (Coley 1999; Hawlbourne et al 2004; Picard 2007; Bretag 2007; Hirsh 2007). Many international students avoid or are unable to use language and learning support services that have been established within universities (Hirsh, D, 2007; Ransom & Greig, 2007; Wingate, 2006) despite the time and effort that has been invested in providing them (see Arkoudis & Starfield 2007 for a recent review). Nevertheless, there is a need for international students to develop their own strategies to achieve the English knowledge and skills required. However, in our opinion, this cannot be done without guidance or assistance.

Lu et al’s project “Strategies and Approaches to Teaching and Learning Cross Cultures” was similar in scope to Rochecouste, et al’s (2010). 1026 students completed questionnaires. 37.7% of the students were domestic Australian students and 62.3% were international students from 56 overseas countries. This project found that students experience cross-cultural learning difficulties and culture shocks socially and academically, especially in the first year of their study. Academically, they are used to the transmission model of learning; they do not like to offer their own opinions and they tend to rely on rote learning and memorization. In terms of group work, they tend to work in groups with students from their own culture and they tend to have underdeveloped interpersonal communication skills.

On a social level, international students can find living in a new and unfamiliar society very stressful. Perhaps in order to feel safe or less isolated psychologically, some students both study and live with students from their own culture. This kind of lifestyle can result in some students when surrounded by English native speakers, seldom have the opportunity to speak any English at all; tended to interact with only a small group of peers with whom they are familiar.

International students who resort to what they are familiar with in learning and in their social lives do it in order to combat the acculturation stress they are under in a new and foreign environment (Berry, U. Kim, & Mok, 1987). Acculturative stress relates to stress generated from cross-cultural encounters. Yeh and Inose (2003) report that the lack of English language fluency as a significant predictor of acculturative stress (p.23), as were the lack of social connectedness and dissatisfaction with social support (p.23). While an Australian student enters a university course with five years of training in essay writing and with 20000 vocabulary families (Goulden, P. Nation, & Read, 1990), Chinese students tend to come with very little essay writing experience and perhaps a much smaller size of vocabulary. These factors are significant stressors.

While international students may arrive in Australia with the requisite IELTS scores, their ability to use English for interpersonal communication is often lacking. Some might never have been taught in English; Chinese was always used as the medium of instruction. Moreover, some English curricula in China do not require students to learn how to speak in English(Zhang, Y. & Mi, 2009). Anecdotal evidence suggests that international students who do not know how to talk to their lecturers and classmates in a culturally acceptable manner, even though they may have high IELTS scores, run the risk of offending Australians they meet, and giving them the false impression that Australians are racist. Furthermore, nowadays, because we tend to communicate with each other in emails, the international student’s emails, if not written politely, can damage the relationship between lecturer and student (Aguilar-Roca, Williams, Warrior, & O’Dowd, 2009).
In this paper, we believe that it is essential to create a friendly social environment using social networking tools such as TencentQQ or Facebook before students arrive in Australia. We describe some concrete ways of operationalising some of the strategies suggested by the studies cited above. For instance, we will demonstrate how Rochecouste et al's recommendation 3- The project team therefore recommends that tutorial classes are used to enhance communication between students, over and above the traditional format of discussing subject content, can be operationalised and expanded to lectures and tutorials through a number of activities. We also indicate how computer technology can be utilised to implement some of the strategies so that so that international student can directly benefit from them. Specifically, we suggest a way of providing targeted feedback to international students which will not only save lecturers' and tutors' time in marking but also facilitate action by the students in response to the feedback.

Most important of all, our experience of running the Noodle Club at the University of Canberra suggests that strategies aimed at enriching international students' learning experiences need to be designed specifically to reach as many students as possible. For this to happen, teaching staff within different courses, students, learning and technology specialists should all be involved in creating an interactive learning environment where the whole student body's needs and actions become the drivers of learning. Furthermore, strategies need to be embedded within lectures and tutorials in order for them to be truly effective. This way, all students will reap the benefits of such strategies.

Context of the present project

This project was conducted through the establishment of a newly-formed social club called the ‘UC Noodle Club’. The name is a multicultural pun intended to appeal to both Asian and domestic students. Noodles are a popular food throughout Asia. “Noodle” is a slang term in English for “brain”, as in “use your noodle”. The name is also intended to convey, in a light-hearted way, the academic focus of the club. The UC Noodle Club was founded in February 2011 by a linguist, Dr Felicia Zhang, and Dr Ian Maclean and Mr Mark Hughes. Ian and Mark are academics in the Discipline of Accounting, Banking and Finance at the University of Canberra. The aim of the Club is to provide a safe learning environment for enhancing the language skills of UC’s international students to improve their performance in their academic studies and enrich their experience of student life in Australia. The Noodle Club is thus a place for both Australian and international Chinese students to socialise and practice speaking English and Chinese in a safe environment.

The Noodle Club differs from other student associations involving Chinese students. First of all, the Noodle Club’s membership consists of both local Australian students and international students whereas the Chinese student association on the UC campus has a membership of mainly Chinese-speaking students from the People’s Republic of China. The Noodle Club has a Facebook page called the UC Noodle Club which currently has 90 members.

The inspiration and energy for the Noodle Club, however, came from a group of students studying Chinese at UC whom Dr Zhang took to Taiwan in 2010 for six weeks. In Taiwan the students were paired with study “buddies” during their study at the National Chengkung University. These students came to appreciate the importance and benefit of locals who were willing to assist them in a foreign country. Upon their return, they were eager to assist UC’s international students in the same way.

During first semester 2011, in response to student demand, the club met three times a week, each time for approximately two hours. The meetings focussed on different activities. Many of these activities were based on information from international students participating in the club.

Student characteristics

Fourteen international students participated in the Noodle Club at the beginning of semester 1, 2011. All students came from mainland China. Questionnaires were distributed to the students. The questionnaire contained nine demographic questions and three open-ended questions. One question sought information about any difficulties they were encountering in the course of their study in Australia. This question was asked to compare each student’s performance in their studies in Australia with their perceptions of themselves as students in China. Differences between students’ self image in China and self image in Australia are likely to be highly stressful and de-motivating for students. Another question sought information on what they wished to gain from their participation in the Noodle Club. The third question sought students’ perceptions of themselves as students in China. All students gave permission to use the information gathered for research purposes.
The characteristics of the fourteen students in the present study are similar to those in the studies of Rochecouste, et al (2010) and Lu et al (2010). Chinese international students in the Noodle Club were relatively young with an average age of 20 years old. They had spent an average of 19 months in Australia and yet their self-reported IELTS scores were, on average, 5.5 for speaking, 6.0 for listening and reading and 5.0 for writing. These scores are lower than the IELTS score of 6.5 required for entry to UC. Most of them gained entry through articulation pathways between UC and Chinese universities and almost all had spent at least one semester in the University of Canberra College (UCC). Like many similar colleges attached to universities in Australia, the University of Canberra College prepares both Australian and international students for tertiary study.

Results of the questionnaires: open-ended responses

In their responses to the open-ended questions, the students indicated that (i) they found reading academic papers and the texts difficult as it usually took them a long time; (ii) their vocabulary was poor; and (iii) they found it difficult to retain specialist vocabulary. One student’s response to the question ‘In your opinion, what do you find most difficult in your present units of study?’ was typical:

In my opinion, I found it was really hard for me to reading (sic) and understanding (sic) the books. For example, each chapter always has its learning check, problems and practice, I couldn’t find the answer (sic) sometimes.

Moreover, I have very poor vocabulary that make (sic) me confused.

Despite having difficulties with reading and poor vocabulary, this student had applied herself to her academic studies. She was familiar with the structure of the textbook and had tried to do the problems in the textbook. However, she was not sure whether she was going in the right direction. Typically, each student completes four units per semester. The extent of the difficulties experienced by international students can be appreciated by considering that business units at the University of Canberra nominally require ten hours of study per week. This study includes the review of lectures, reading (on average) about 30 pages of text, preparing and subsequently reviewing tutorial questions, and working on assignments. The estimate of ten hours of study per week assumes the student is a competent reader of academic English. Students who experience difficulty reading academic English will need to spend much more than ten hours per week in order to engage effectively with the unit material. While we have not studied the amount of study required by some students, efforts in excess of 20-25 hours per week per unit would not surprise us for some students. Now multiply this challenge by four. Our anecdotal experience is that many students, domestic and international, do not engage as fully as we would wish.

The issues identified by students in the Noodle Club were similar to those identified in the Lu, et al and Rochecouste, et al studies (Lu, et al., 2010; Rochecouste, et al., 2010). Having identified the issues, the next step is to ask questions about how, practically, these issues can be addressed. This prompted the research team to ask the following questions:

1. How to enable students to establish and maintain productive and friendly relationships with academic staff?
2. What can be done to strengthen the retention of in-discipline vocabulary?
3. How can we provide feedback on assessment items to students, especially essays, so that they can improve in future assignments, especially in large units (number of students larger than 100)?
4. How can we reduce the burden of marking on tutors and lecturers in large units?

In the Noodle Club, we experimented with solutions to the four questions through the following activities.

Activity 1

‘How to’ sessions: Many international students are extremely reticent about approaching staff. As an example of a “how to” session, students were provided with examples of the language which can be used in seeking assistance and explanations from staff. International students practised and role-played the scenario of approaching staff by speaking to Australian students.

Another example of a “How to” session explained how to write polite emails to academic staff. In this session, we emphasised the importance of using correct grammar and salutations and provided students with examples of polite English language in emails. International students are often not aware that different registers of language need to be used when writing emails to lecturers. In particular, in writing emails to persons in authority, SMS or texting language should not be used as it may offend the recipient. This view was supported by a study conducted by Aguilar-Roca, Williams, Warrior and O’Dowd (2009). These authors also found that a simple two-
minute training session in class on how to write proper emails significantly increased the quality of student emails and that such training improved student-staff relations, especially when large student-to-staff ratios limit opportunities for one-on-one interactions.

Activity 2

In terms of question 2: we experimented with a word game in the unit Financial Institutions and Markets. We took the “Key Terms” in the chapter on equity markets in the textbook ‘Financial markets, Institutions & Money’ (Kidwell, Brimble, Basu, Lenten, & Thomson, 2011), and created a matching game called ‘Equity_market_1’ using the free software Hot Potatoes Version 6 from http://hotpot.uvic.ca/. The Hot Potatoes exercises ‘enable [the instructor] to create interactive multiple-choice, short-answer, jumbled-sentence, crossword, matching/ordering and gap-fill exercises for the World Wide Web and for learning management systems (LMSs).’ The game requires students to match the definitions in the right column with the key terms in the left column. Figure 1 shows Equity_market_1 as it appears to the instructor. Figure 2 shows the same game as it appears to students.

![Figure 1: The Hot Potatoes matching game Equity_market_1 – instructor view](image)

The matching game is created by the instructor by typing in the list of terms in the left column and the corresponding definitions in the right column. The Hot Potatoes software, not the lecturer, jumbles the right column. After creating the exercise and saving it under a name, the exercise can be exported to a variety of formats, e.g., .html, printing or WebCT. Students can only view the .html version and do not have access to the instructor’s version.
Figure 2 The Hot Potatoes matching game Equity_markets_1 – student view

Once the column with the question marks is clicked, students are to select the correct definition from options contained in the column. This exercise can be used in a variety of ways. In the Noodle Club session, each student was given one definition and a list of words on a task sheet. The definition given to each student matched only one word on the task list. The task was for them to speak to their fellow students and use English language to find all the definitions of the words on the task sheet. Once a definition was found, it was ticked off. The exercise finished when students had ticked off all of their definitions. This exercise created a lot of interaction between Chinese and Australian students. This exercise was a variation of the ‘Find the…’ exercise frequently used in language teaching.

Of course, since the exercise was created using Hot Potatoes version 6, the e-version of exercises created using Hot Potatoes Version 6 can be uploaded easily onto Moodle for further revision. As Moodle can automatically record marks allocated to Hot Potatoes exercises, these exercises can be used to promote vocabulary learning without burdening tutors and lecturers with large amounts of marking.

As for the questions 3 and 4 above, the project team examined a range of materials collected from another unit in the Business faculty in order to gain a better understanding of whether students (both international and domestic) thought feedback provided by lecturers and tutors was adequate and what could be done to enable staff to provide feedback that students are more likely to act on.

The project team obtained the unit outline, marking criteria for assignments, readings and PowerPoint slides for lectures for the unit. We obtained de-identified example of essays representing different grades. When we discussed the marking criteria in a Noodle Club session, students had problems with instructional words such as ‘applied’, ‘critically examine’ and ‘well structured and logical flow of the argument’. They also seemed not to understand what is meant by ‘criticism’. Moreover, our review of extracts from the essays indicated that many of the international students did not know how to use paragraphs to structure an essay, nor was their grammatical knowledge strong. No student attending the session (including Australian students) had heard of ‘coherence’ being applied to sentences and arguments. They did not know what the term meant, let alone how to make their sentences more coherent. At the grammar level, the international students did not know how to use articles and passive sentences. In the Noodle Club, we spent a considerable amount of time getting students in groups to mark de-identified extracts of essays according to the criteria and discuss what constitutes a HD, DI, CR and P in this unit. Both Australian and international students greatly appreciated these activities in the Noodle Club.

However, despite all the effort we made to address students’ difficulties in essay writing by showing them exemplars at each grade level, students still made grammatical mistakes when it came to their own writing. According to Liu and Jiang (2009) the difficulty international students encounter in mastering appropriate academic style can be attributed to their experiences of traditional grammar teaching, which focus on grammatical forms or grammatical correctness **within** sentences while paying little attention to their discourse contexts, thus failing to address adequately when and why a grammatical form is used in a given context. Both
Australian and Chinese international students in the Noodle Club repeatedly requested that tutors and lecturers pay more attention to providing feedback on grammatical mistakes as well as instructing them on how to improve their grammar on this level. International students in Arkoudis and Tran’s recent study made the same request (Arkoudis, S & Tran, 2010).

However, to get markers to provide appropriate grammatical feedback is not an easy task. Anecdotal evidence suggests that markers (especially those who are relatively young) often lack the grammatical knowledge to provide such targeted feedback. This problem is compounded when the tutors or lecturers have to mark hundreds of essays two or three times per semester per subject. Moreover if detailed feedback on grammar and expression were to be provided, there will often be close to one hundred separate comments to be made on a 1500-word essay. Conscientious teachers are driven to exhaustion and end up resigning themselves to doing the best they can within the time available, which generally means reverting to broad statements of the kind found in rubrics, and which students find are of little assistance in improving their writing. This led us to look for alternatives which might improve the situation for both students and teachers.

We explored an e-marking assessment tool to assess its potential to address this problem. The e-marking assessment chosen for this exercise was the ReMarksPDF software (http://www.ReMarksPdf.com). Many of the features of this software can also be performed by the latest versions of PDF and Word. However, ReMarksPDF provides a few additional features. For the purpose of providing targeted grammatical feedback, the most important features are:

- Automatic insertion of text-based comments, known as Auto Text; and
- An easy-to-use English language style tool enabling English Style and Grammar comments to be inserted in student essays, with the ability to build discipline-specific comment libraries.

Auto Text allows a team of tutors to agree on a set of consistent comments over some aspects of an essay while the English style tool allows markers to provide consistent English grammatical feedback to students. Should students be required to follow specific styles in a particular discipline, consistent and agreed-upon advice can be built into the Auto Text and conveyed to students via the feedback process. If the English style on the ReMarkPDF tool is made available to students via the University’s Learning Management System, in UC’s case Moodle, it can also be used as a checklist to guide students’ writing. Since lecturers, tutors and students would then share the same set of standards and meta-language in the English Style Library, comments provided by lecturers and tutors can more easily be correctly interpreted by students. During July to August 2011, a group of colleagues from science, creative writing and business disciplines worked on the relevant features of the English style library contained in the latest version of the ReMarksPDF software. This group sought to develop items in the English style library such that the same library can be shared across different disciplines as suggested by Arkoudis and Tran (2010). ReMarksPDF also has an interface which enables comments to be translated into simplified Chinese characters.

**Discussion**

This paper has described several strategies that could be used to assist international students in their academic studies. However, the Noodle Club sat outside the disciplines and therefore suffered from its ability to attract those students who needed assistance most. Of the 14 students who filled out the questionnaire, only three consistently attended Noodle Club activities. The problem was that even though the activities were perceived as worthwhile, students could not attend due to factors such as timetable clashes and other study and work commitments. In a sense, the UC Noodle Club has not yet achieved its promise of attracting enough international Chinese students in order to establish long term cross-cultural friendships. However, activities such as those in the Noodle Club are still important as they provide a safe environment in which to attempt to engage with Western-style learning processes such as critical analysis rather than rote-learning, and for building friendships - an important part of the socialization process.

A more pervasive approach to enrich the academic experience of international students in Australian universities might involve collaboration between English language specialists, in-discipline lecturers and tutors, students and teaching and learning specialists. In our view, a collaborative cross-disciplinary approach has the best chance of addressing the complex issues associated with enriching international student experience of academe in Australia. Approaches developed and implemented in this way, may well have the additional benefit of reaching many domestic students as well. A similar in-discipline model with collaborative features has been applied to first year
science units in five different universities (Zhang, F. et al., in press). A key factor in the success of this approach to Science education was that the strategies were easy for the in-discipline lecturers to learn and implement. However, with the greater emphasis on the English language skills of international students in business courses, we suggest additional strategies to be included within business-related units and courses.

**Table 1: Useful strategies for an in-discipline approach to supporting international students’ academic studies**

<table>
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<tr>
<th>No.</th>
<th>Strategies</th>
<th>Tasked by</th>
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<tr>
<td>1</td>
<td>Use alumni overseas to establish friendships in the students’ countries of origin. This could be done by establishing a TencentQQ group. This would allow former students to share with prospective students their experiences of studying in Australia, at a particular university or in a particular unit.</td>
<td>University</td>
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<tr>
<td>2</td>
<td>Australian students (such as those learning Asian languages) to make friends with prospective Chinese students before their arrival in Australia. This way, upon arrival, new Chinese students would already have a local friend (“buddy”) who is already interested in Chinese culture (Hirsh, D, 2007).</td>
<td>Chinese language lecturers, discipline staff and students and Student services</td>
</tr>
<tr>
<td>3</td>
<td>Provide guidance on the style of language which should be used to write emails when approaching lecturers and tutors online in the first lecture of a unit (Aguilar-Roca, et al., 2009). Such provision of information can also be done on qq.</td>
<td>Discipline lecturers</td>
</tr>
<tr>
<td>4</td>
<td>Within lectures, use formative short questions via VotApedia (<a href="http://urvoting.com/">http://urvoting.com/</a>) to promote engagement between students, staff and students. This method provides feedback to all students, thereby avoiding the problem of self-selection (Zhang, et al., in press);</td>
<td>Disciplinary staff and learning specialists</td>
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<tr>
<td>5</td>
<td>Introduce international students to the Livescribe Smart Pen. Entrust a responsible international student to take notes and record lectures using the Livescribe Smart Pen. Lecturers can then upload the recording and notes onto learning management systems such as Moodle or Blackboard (Zhang, F., in press).</td>
<td>Disciplinary staff, students and the University</td>
</tr>
<tr>
<td>6</td>
<td>Develop study guides for reading materials (Evans &amp; Rigby, 2008; Falkner, 2011);</td>
<td>Disciplinary staff and learning specialists</td>
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<tr>
<td>7</td>
<td>Utilise learning management systems such as Moodle to re-purpose and re-present lecture and tutorial material online by creating matching exercises, crosswords, fill-in-blank exercises, and multiple choice questions. This way, students will be exposed to the same concepts in different ways and through different modalities throughout the semester (Zhang, F., et al., in press);</td>
<td>Disciplinary staff or the learning specialists</td>
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<tr>
<td>8</td>
<td>Provide targeted and useful feedback on their essays to of students using electronic marking tools such as ReMarksPDF, especially in units with large enrolments;</td>
<td>Disciplinary staff and the learning specialists</td>
</tr>
<tr>
<td>9</td>
<td>Use the same electronic marking tool to provide guidance to students on specific aspects of English grammar, including discipline-specific aspects, to enhance students’ essay writing skills;</td>
<td>Disciplinary staff and learning specialists</td>
</tr>
<tr>
<td>10</td>
<td>Include in a unit’s assessment regime an optional first task aimed at providing formative feedback to all students through the completion of smaller tasks.</td>
<td>Disciplinary staff</td>
</tr>
</tbody>
</table>

The ten strategies listed in Table1 involve many groups of people working together. The implementation of these strategies inevitably will involve a substantial sharing of knowledge, teaching techniques and technology. The first two strategies involve the use of social networking technology to connect Australian students, current

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2 A Chinese social media network.
international students and international graduates with prospective new students. The third strategy involves Australian students who are learning or will learn relevant Asian languages such as Mandarin Chinese as sympathetic native speakers to mentor new international students on their campuses.

These strategies are likely to improve learning outcomes because they involve crucial stakeholders (i.e. both domestic and international students, staff and the university) actively participating in the learning process. Such strategies convey to international students that staff and the university care about their learning and their welfare.

Dr Zhang was an international student herself some 30 years ago; the following anecdote shows how a simple word of recognition can change an isolated international student’s life direction:

When I was in an English boarding school as a Non-English speaking background student, I spent about 2 years not knowing whether I could ever amount to anything. The only life affirming thing I remember was from Mr Churchyard, my Chemistry master. He used to say to me ‘you will break hearts when you grow up,’ and of course, I did not know what that meant until 10 years later. It wasn’t an idiom I was used to but I got the gist – it was a compliment. He also encouraged me to do Chemical Engineering even though I used to break or blow up test tubes in every lab lesson. I somehow regret I did not follow his advice but what stuck with me was the kind word he gave me knowing that, as an Asian girl (this is back in the early 80’s), I must have felt very isolated. I still get emotional when I see a distressed student today at UC and remember that it is an easier thing to do to show kindness to another person if you can.

Epilogue

In this venture of catering for the needs of international students, there are two seemingly immovable mountains as in the famous Chinese fable of ‘A foolish old man moves the mountain’. One “mountain” is the utilitarian/credentialist approach to Western education that many international students bring with them to Australia; the other “mountain” is the “publish or perish” syndrome which impacts greatly on the careers of staff. While in the Chinese fable their persistence persuaded the gods to move the mountains for the people, in this critical juncture in Australian education, we need the universities and the government to place greater emphasis on teaching and learning vis-à-vis research in order to move these two seemingly immovable mountains. Changes seem to be afoot with the proliferation of university colleges and TAFE-based pathways to tertiary study. However, more than structural change is needed if we are to improve the learning and life outcomes for our international students. In our view, successful change in these areas is highly likely to benefit domestic students as well. Such change is, in our view, fully aligned with the broader humanitarian aims of higher education. However, recognition and reward systems for staff who deliver innovative teaching practice need to be, in our view, more substantial, more transparent and more effectively communicated. Managing the balance between teaching and research in support of the broader humanitarian aims of higher education is going to be, as ever, an ongoing challenge for the university sector in Australia.

References


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