

Making the Links:

**Learning, Teaching and High
Quality Student Outcomes**

**Proceedings of the 9th Conference
of the
New Zealand Association of Bridging
Educators**

**29 September - 1 October 2010
Wellington
New Zealand**

**Edited by
Jane Terrell**

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New Zealand Association of Bridging Educators

*Hosted by Victoria University of Wellington, at the
Quality Hotel, Cuba Street, Wellington, New Zealand
29 September - 1 October 2010*

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Introduction

Hosted by Victoria University of Wellington, the 9th Conference of the New Zealand Association of Bridging Educators was held at the Quality Hotel Wellington. The wide range of delegates who attended included enabling educators from Australia and Canada as well as bridging educators from throughout New Zealand representing our diverse tertiary sector - Private Training Establishments (PTEs), Institutes of Technology, Polytechnics and universities. A larger delegation than usual from the university sector led to an increased emphasis on successful transition to university study in papers and workshops.

In the context of the NZ Tertiary Education Strategy (2010-2015), the conference theme, “Making the Links: Learning, Teaching and High Quality Student Outcomes”, was particularly timely. The Strategy calls on the sector to provide pathways to higher level qualifications in a climate of increased “efficiency”, where places on tertiary programmes are limited, enrolment of under-25 year olds is prioritised, and completion rates are expected to be achieved at faster and higher rates. For those involved in bridging education, where students are typically from groups under-represented in tertiary study, these demands are especially challenging. The need for effective pedagogical approaches to enhancing student engagement, retention and achievement, underpinned by robust theoretical frameworks, is greater than ever.

In his pre-conference workshop **Professor Ray Land**, from the University of Strathclyde in Scotland, introduced a powerful conceptual framework for programme design and assessment. In this framework the journey towards transformational new knowledge is seen as mediated through “threshold concepts”, which often involve “troublesome knowledge”: key learnings central to mastering a subject which are identified and focused on as “jewels in the curriculum”. In his subsequent keynote address, Professor Land shared practical examples of how educators can support students as they encounter the necessarily uncomfortable world of tertiary education. Through a collaborative approach to knowledge construction involving such pedagogical approaches as loosely defined group projects, students are provided with challenging, meaningful learning tasks that are highly engaging and interactive.

In their keynote address **Associate Professor Liz McKinley and Dr. Irena Madjar**, from the University of Auckland, reported findings from the Starpath project on under-represented students’ experience of transition to university. From among the range of “stumbling blocks and stepping stones” to successful transition, a key intervention they proposed was the provision of student-centred support services, and learning support integrated into the core curriculum.

Papers and workshops presented at the Conference reflected themes of the keynote addresses, emphasising innovative, scaffolded pedagogical approaches that are student-centred and socially engaging. This Proceedings is comprised of a number of those papers as well as references to PowerPoint presentations, a selection of which is outlined below.

In their papers, **Nadine Adams, Sherie Elliott, and Antony Dekkers**, and **Gary Orth and Clare Robinson** address Mathematics, eLearning and distance education. Adams et al. explore the use of interactive Tablet PC technology for Mathematics,

while Orth and Robinson investigate the significance of relationship-focused Maths eLearning and distance education. In addition, in noting the incorporation of these methods into other (non-bridging) programmes at their university Adams et al. provide evidence that what is good for bridging students is frequently good for all students.

Claire Goode and Linus Treefoot, Rosalie Bunn, and Sue Crossan and Susie Jacka address approaches to academic reading and writing, key learning support that is most effective when integrated into the curriculum. Goode and Treefoot report on a method for establishing the difficulty of set texts through an IELTS-based analysis of their vocabulary. Bunn describes the value of using students' own experience and words in critical reflective writing as a means of improving engagement and retention; Crossan and Jacka advocate a "process model" based on the TEC Learning Progressions for Adult Literacy, as opposed to a "transmission model" for the development of essay skills. The Learning Progressions for Adult Numeracy are used by **Glen Bryant and Doreen Smith** to create effective resources and approaches for the teaching of percentages. The learning progressions are also used by **Willfred Greyling and Evelyn McKnight** to devise programme-specific literacy and numeracy surveys as a way of preparing their institute of technology to implement the TEC Literacy and Numeracy for Adults Assessment Tool.

Peter Howland and Dylan Taylor and others address socially engaging pedagogies. Howland reports on his successful intervention, drawing on the work of Dee Fink and others, to create a team-based creative learning approach to improve retention and success, along with socio-education outcomes. Similarly, **Dr Elana Curtis, Sonia Townsend and Dr Airini** report on the successful use of team-based learning and culturally-appropriate interventions in supporting Māori and Pasifika students. **Elizabeth Chinlund and Meegan Hall** advocate convincingly for whānau learning environments for improving Māori engagement, and **Elizabeth Chinlund, Yvette Erasmus, and Kate Messent** report on the value of integrated assessment in improving success for Māori and other bridging students.

Rowan Jeffrey and Julie Hardie, and Julie Willans and Karen Seary address issues for mature age students; Jeffrey and Hardie advocate for the continued right of mature students to access university study easily, by pointing out that they bring more value than problems to university; Seary and Willans describe emotional and intellectual scaffolding as a powerful pedagogy for mature age learners, using a "learning journey" conceptual framework.

Jessamyn Clarke and John Clarke report on the unrealistically high self-expectations of Sudanese refugee students as a stumbling block to success, and advocate a broad-based collaborative community response to meeting the needs of refugee students.

Appendix 1 provides links and a list of PowerPoint presentations given at the Conference that are accessible from the NZ Association of Bridging Educators' website <http://www.bridgingeducators.org.nz/conference2011.html>. Appendix 2 provides an overview of the Conference Programme.

Jane Terrell
Te Wānanga o Aotearoa
June 2011

Videos that Click: Helping Bridging Mathematics Students Make the Connection

*Nadine Adams, Sherie Elliott and Antony Dekkers
Central Queensland University*

CQUniversity's Mathematics Learning Centre (MLC) Head, Antony Dekkers, commenced using a Tablet PC in 2003. Initially its use was limited to in-class instruction and the occasional marking of tests. Now the technology enables the development of instructional videos to support bridging mathematics textbooks and undergraduate students. It also facilitates the marking of external tests, the majority of which are submitted, marked and returned electronically, creating almost paperless courses. The use of Tablet PC technology within the MLC has evolved in a way that not only actively engages bridging mathematics students but enhances their learning irrespective of the mode of delivery. This paper provides a brief overview of the preparatory programs offered at CQUniversity; an outline of the history of Tablet PC use by the MLC; and a detailed explanation of how the Tablet PC is currently utilised to enhance the delivery of the suite of mathematics bridging courses offered. It is clearly evident that the MLC has embraced eLearning as a powerful learning and teaching strategy, facilitating the active learning, engagement and subsequent success of bridging mathematics students. As this success is recognised across the university, others are incorporating it into their programs. A rollout of Tablet PCs has recently occurred within Academic Learning Services, with Language and Learning colleagues currently investigating methods of use in their courses. Additionally, the Tablet PC is now being utilised by the Engineering Department – a direct result of the successful use of the Tablet PC in the MLC.

Background

CQUniversity Australia has six campuses in Central Queensland – covering an area three-to-four times the size of Victoria, with 65% of its 11626 students studying externally (by distance) (CQUniversity Dashboard, 1/8/10, 18:12). With the recent appointment of a Pro-Vice Chancellor of Learning and Teaching, CQUniversity has demonstrated its commitment to a Learning Paradigm (Barr & Tagg, 1995). Rather than simply providing programs of study, CQUniversity's goal is to produce student learning through flexible learning environments and personalised support. As noted by Barr and Tagg (1995, p. 13), a university's "purpose is not to transfer knowledge but to create environments and experiences that bring students to discover and construct knowledge for themselves, to make students members of communities of learners that make discoveries and solve problems". As noted by the Vice Chancellor, Scott Bowman (n.d.), "CQUniversity has supported mature learners for decades and recognises a range of qualifications and life experience".

CQUniACCESS

CQUniACCESS is a suite of free preparatory programs that have been developed by CQUniversity to assist prospective students with gaining entry into undergraduate programs. CQUniACCESS provides an alternative pathway for people wanting to achieve their educational goals by giving them the opportunity to gain the confidence, knowledge and skills required to successfully study at university. Regardless of prior academic achievement, cultural background or socioeconomic

status, CQUniversity has a program to meet the needs of prospective students, including the flexibility of delivery options to suit the student's lifestyle. The virtue of these programs has been recognised by other institutions. At the Second Annual Social Inclusion in Education Conference, Mazzolini (2010, p. 3) highlighted CQUniversity Access programs as best practice within the Australian university sector commenting on the "impressive suite of free preparatory programs".

The STEPS Program

Skills for Tertiary Education Preparatory Studies (STEPS) is a CQUniACCESS program that commenced in 1986. The program was initiated at the Capricornia Institute of Advanced Education (later to become CQUniversity Australia), Rockhampton, Queensland, Australia in response to, and funded by, a government grant aimed at bridging the gap between tertiary education and under-represented groups of people – which included Aborigines, migrants, women, and people from low socio-economic backgrounds and those from isolated areas (Doyle, 2006).

The success of this program has spread and it is now run on five CQUniversity campuses in several different modes and also as an external program. According to Adams and Hayes (2009, p. 2) "the program has evolved to meet the changing needs of people who have not been able to attain their educational goals through traditional educational pathways". In addition to providing the academic knowledge required for an undergraduate degree, students believe it increases their self-confidence (Adams & Hayes, 2009).

The Mathematics Learning Centre (MLC)

One of the central roles of CQUniversity's MLC is the delivery of bridging mathematics courses through CQUniACCESS programs. The MLC offers the following suite of mathematics courses:

- ***Transition Mathematics 1 (TM1)*** – a course in elementary mathematics designed to have the student commence work on the foundation concepts, rules and methods of basic mathematics. The main aim of this course is to provide a refresher course in those fundamentals of basic mathematics which are necessary to develop mathematics as a unified body of knowledge. Modules include: the study of mathematics; operations; percentages; algebra; solving algebraic equations; statistics; exponents; graphs and linear equations; and units and conversions.
- ***Transition Mathematics + (TM+)*** – an intermediate preparatory course designed to follow on from TM1 and a co-requisite for TM2. TM+ contains five core and four elective modules with the choice of electives governed by students' future study plans. Modules include: simultaneous equations; inequalities; quadratics; logarithms; functions; geometry; trigonometry; series and sequences; variation, ratio and proportion; statistics and standard deviation; probability; finance; and annuities.
- ***Transition Mathematics 2 (TM2)*** – a technical preparatory course designed to follow on from TM+. TM2 meets the prerequisite requirements for

engineering and applied science. The combination of TM+ and TM2 provides a mathematical foundation equivalent to Queensland Mathematics B. Modules include: additional algebra; trigonometric functions, ratios and graphs; plane and analytical geometry; vectors; differentiation; and integration.

One significant issue faced by the MLC staff is catering for the diverse mathematical backgrounds of students. This is particularly difficult when delivering programs externally, which is the only mode of delivery for TM+ and TM2. Although students are provided with extensive resources in the form of Study Guides and detailed textbooks, it is extremely difficult for some students to learn from text-based materials, especially when their mathematical background is limited. Additionally, many bridging students struggle with learning mathematics externally and miss having a teacher. “The nature of mathematical sciences dictates that students need to hear the instructor explain the concepts and ideas” (Amin & Li, 2010, p. 47).

In order to overcome known difficulties and provide a quality learning environment, MLC course developers are guided by the Seven Principles for Good Practice in Undergraduate Education (Chickering & Gamsen, 1987) that are endorsed by the CQUniversity Academic Board. According to the Seven Principles, good practice in undergraduate education:

1. Encourages contact between students and staff
2. Develops reciprocity and cooperation among students
3. Encourages active learning
4. Gives prompt feedback
5. Emphasises time on task
6. Communicates high expectations
7. Respects diverse talents and ways of learning.

Principles 1 and 2 are not only easily achieved with internal classes, but through the use of discussion forums set up on the Learning Management System (LMS) and through regular email contact from markers and course coordinators, external students are also fully supported as well. TM1 external students often seek the support of fellow students and ask questions via discussion forums. The forums are also regularly monitored by MLC staff to answer queries and check that student responses, when provided, are correct.

In regard to Principle 3, the MLC adopts a constructivist approach, viewing the learner as the centre of knowledge creation with knowledge being constructed through the learner’s experiences, actions and activities (Oliver, 2004; Hadjerrouit, 2007; Lee, 2009). In the MLC bridging programs, learners are driven by tasks and problems to engage with the content and discover things themselves. Course coordinators and lecturers serve as guides providing a supportive learning environment and activities that engage students with learning. This is achieved through the utilisation of the Tablet PC.

Tablet PC Use in the MLC

History

A Tablet PC is a laptop computer that is equipped with a touch screen and stylus (pen) enabling the user to annotate (write on) the screen. Antony Dekkers introduced the Tablet PC into his classroom in 2003. This early instruction included using the Tablet PC in combination with Windows Journal[®] to annotate Microsoft PowerPoint[®] slides, very similar to how other MLC staff use the Tablet PC in-class today. He also experimented with the use of the Tablet PC for marking and the creation of teaching videos. In 2006 the first external STEPS class commenced. This program proved to be pivotal in how we use Tablet PCs. In an attempt to overcome the isolation associated with external study and to provide students with step-by-step instructions, as would be given in a classroom, Nadine Adams and Antony Dekkers created videos to coincide with the textbook. Initially these videos were only available to the external students via the LMS. They were created using a combination of Microsoft PowerPoint[®], Windows Journal[®] and Camtasia[®], with the Microsoft PowerPoint[®] slides made available to students to encourage note taking as they watched the videos. The comments received from the students in this initial year were very encouraging:

The Tablet was great. It allowed us to see exactly how to solve the problem, step by step, and allowed the teacher to explain his thinking as he went along. It is always better to see it worked out in front of you than to look at the already made answer and try to decipher it (TM1 external student, 2006).

Later in that same year Sharon Cohalan developed videos for all of the sample assessment pieces. The following year compact discs (CDs), containing the complete course, were provided to all students both internal and external. This overcame the problems associated with viewing videos over slow internet connections. Internal students were provided with a way to review material before and after class.

The first external class relied on paper based marking of formative tests to provide students with feedback on their progression in the course. A significant issue arising from this was the lengthy turnaround time for returning marked tests to students. It would take approximately three days for the test to arrive at the MLC central office in Rockhampton, two to five days for the test to be marked and then another three days for the test to be returned. This meant that students would not receive feedback on their performance for almost two weeks. Since Antony Dekkers and Nadine Adams, who were totally responsible for this initial class, were on two different campuses the problem was exacerbated. As the fourth principle of good practice is to give prompt feedback it was essential that this issue was addressed, which is why the MLC moved to electronic marking before the end of 2006. Students were invited to submit their assessments by post, fax or e-mail. E-mail submissions were converted to a Portable Document File (PDF) (as required), paper submissions were scanned and saved as PDFs and faxes were automatically received as a PDF. These PDFs were then saved to the student's folder, ready for marking by MLC staff on any of the six campuses. All marked tests, regardless of form of submission, were e-mailed back to the student via their CQUniversity e-mail account. This is the

procedure currently used for all mathematics bridging courses, resulting in a turnaround time of two to five days, dependent on staff workloads.

Whilst the first videos created used Microsoft PowerPoint® as the base document, most are now created using Microsoft Word®. These documents are then converted to PDF and PDF Annotator® is used to 'ink' on the document. Adobe® has now created Adobe Acrobat Pro® that allows direct 'inking' onto PDFs.

Encouraged by the success of videos for the TM1 course, MLC staff are compiling videos for all transition mathematics courses. It is envisaged that in the near future all courses will be supported with a full complement of videos.

Annotated documents

Mathematics can be difficult and time consuming to type. Often in the MLC, external students will e-mail staff members with a mathematics problem they are either unable to perform or which requires further explanation. If the problem is not too involved, staff will use their Tablet PCs to write the solution, complete with annotations, as shown in Figure 1. Different colours are used to aid readability. Regardless of the program used to create the document (usually Windows Journal®) we have found it is always advisable to convert it to a PDF before e-mailing the student. For more complex questions videos are more appropriate.

$$y = \frac{8}{x^2+4}$$

$$= 8(x^2+4)^{-1}$$

8 is a constant so $\frac{d}{dx} 8(x^2+4)^{-1} = 8 \frac{d}{dx} (x^2+4)^{-1}$
 (page 667)
 now we use the chain rule to find the derivative of $(x^2+4)^{-1}$
 (you could use quotient rule if you prefer)

$$\frac{dy}{dx} = \frac{dy}{du} \cdot \frac{du}{dx} \quad \text{or simply derivative of inner function times derivative of outer function}$$

let $u = x^2+4$
 $\frac{du}{dx} = 2x$ derivative of a power (page 666)

$$y = u^{-1}$$

$$\frac{dy}{du} = -u^{-2}$$

$$\therefore 8 \frac{dy}{dx} = 8(-u^{-2} \cdot 2x)$$

$$= 8(-(x^2+4)^{-2} \cdot 2x)$$

$$= -8(x^2+4)^{-2} \cdot 2x$$

$$y' = \frac{-16x}{(x^2+4)^2}$$

for the second derivative we take the derivative of the 1st derivative

$$y'' = -16(x(x^2+4)^{-2})$$

continued next page

Figure 1. An annotated solution to a student problem. Prepared by Nadine Adams.

Creating videos

There are two types of videos created by the MLC:

- a) **Quick videos to address student questions as they arise.** These videos are often created when a student contacts an MLC staff member for help with a problem that cannot be easily explained over the phone or via e-mail. The MLC staff member will often use Windows Journal[®] and Camtasia[®] to create a video that will walk the student through the solution to the problem in question. Windows Journal[®] allows the staff member to ink directly on the screen. Camtasia[®] is used to record the screen and sound as the staff member writes and explains the solution (for the base document staff have also experimented with using Microsoft Word[®] and its built-in annotating functions or converting the students e-mail to PDF). Once the video has been recorded it is rendered as a Flash[®] or Windows Media Player[®] file and e-mailed to the student.

These videos are relatively quick and easy to make as they require virtually no preparation, rarely require editing and can be e-mailed directly to the student, thus enabling external students to be provided with help within a very short time (usually within 48 hours) of contacting the MLC. This capability of the Tablet PC is extremely powerful as the student is able to see and hear the solution unfold, step-by-step, as if they were seeking help face-to-face. Additionally, these videos are created not only for external bridging mathematics students but also for undergraduate students experiencing problems with a mathematical component of their program. Therefore, as the number of distance students at Universities across the world increases, this capability has extensive benefits not only in mathematics but in other disciplines as well. Harry (2003) notes that in many countries during the past thirty years external study has moved into the mainstream of higher education. According to MacKeogh and Fox (2009, p. 147) "one vision of the future of universities is that virtualisation and remote working technologies will enable us to study at any university in the world, from home". As universities are pressured to implement eLearning technologies into mainstream higher education, the Tablet PC provides the opportunity to achieve this.

- b) **Professional videos to support the content covered in CQUniversity's bridging mathematics textbooks.** Microsoft PowerPoint[®] or Microsoft Word[®] are used to create the video slides. Although some believe that it is more authentic to have handwritten slides (Harrison, Pidcock & Ward, 2009), it is less time consuming to use the textbook files to create the outline of the slides. The staff member then converts these slides to an Adobe[®] PDF document and inks directly onto the slides (using PDF Annotator[®] or Adobe Acrobat Pro[®]) whilst recording the screen using Camtasia[®]. An example of a slide template with annotations is provided in Figure 2.

Whereas some staff choose to record the sound simultaneously, others add the sound as a narration after the video has been created. Once the video has been created, any necessary editing is conducted and the video

is rendered as a Flash® or Windows Media Player® file. These videos are provided to students via the LMS or on a CD. One added benefit of creating slides using Microsoft PowerPoint® or Microsoft Word® is that they can be used for face-to-face lectures as well. The lecturer simply inks directly onto the pre-prepared slides when instructing the students and students can even participate by inking on the slides. Additionally, using a program such as Microsoft Word® to create the slides allows the capability to make them visually stimulating, whilst also allowing for the creation of a theme for the different modules (through the use of headers, footers and the use of colour). A Microsoft Word® slide with annotations is provided in Figure 3 and can be compared with a previous version in Figure 2.

The Rules of Algebra

Distributive Property

$$\begin{aligned} &2(a+b) \\ \Leftrightarrow &2a + 2b \\ &2(a+b) \end{aligned}$$

$$2(1+3) \quad 2(1+3)$$

$$2 \times 4 \quad 2 + 6$$

$$8 \quad 8$$

Figure 2. An example of a Microsoft PowerPoint® slide, with annotations, prepared for TM1 (2007). Developed by Antony Dekkers, annotated by Nadine Adams.

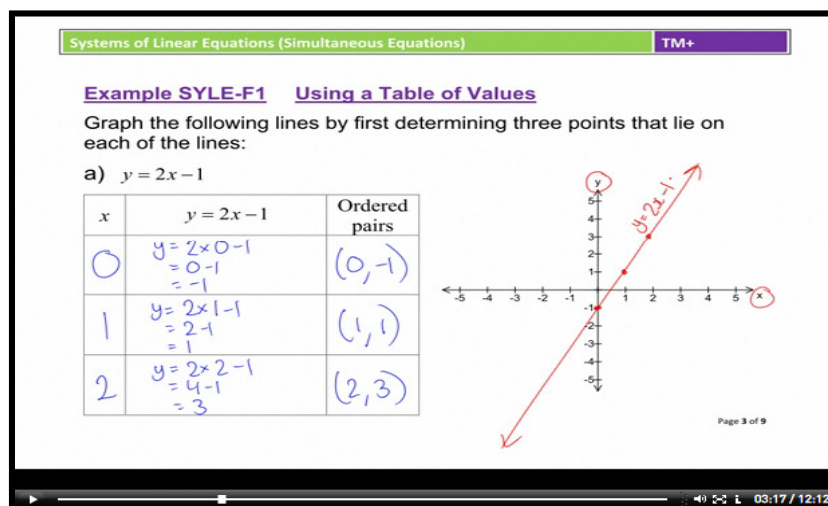


Figure 3. An example of a Microsoft Word slide, with annotations, prepared for TM+ (2010). Developed and Annotated by Sherie Elliott.

Enhancing Learning with a Tablet PC

Learning resources

Each of the bridging mathematics courses is supported by a:

- Course Profile;
- Study Guide outlining the requirements of the course, including a study schedule, a detailed explanation of the assessment and sample tests for all assessment;
- Textbook, developed by the MLC, that provides excellent course notes, fully worked examples, exercises and fully worked solutions for each of the modules covered in the course;
- LMS website that contains all of the materials outlined above in addition to lecture slides and videos supporting the text (where available); videos supporting the sample tests; and module forums, facilitating collaboration and discussion amongst students.

External delivery

Universities have traditionally used Tablet PCs to enhance lectures in engineering, mathematics, computing and chemistry (Galligan, Loch, McDonald & Taylor, 2010). Whilst attending the Australasian Tablets in Education Conference (ATiEC) in 2009 we discovered most institutions use a single Tablet PC, with the lecturer delivering the material; others use a single Tablet PC coupled with interactive clickers that enable the students to interact with the lecturer; while other wealthy institutions require all students to purchase a Tablet PC, with the Tablets connected thus creating interactivity in the lecture. Unfortunately, although all of these methods are worthwhile, none cater for the increasing number of university students who are studying externally.

In 2009 approximately 63% of all students enrolled at CQUniversity were enrolled in an external mode (CQUniversity Dashboard, 24/7/10, 15:20). These students had a pass rate of 77% while students enrolled internally had a pass rate of 86% (CQUniversity Dashboard, 24/7/10, 15:20). Our records indicate that there has been a 5% increase in the pass rate of external students in the past four years. We can only speculate the reasons for the increase but assume it is partially due to the university's current practice of recording video-conferenced lectures and making them available to all students via the LMS.

Approximately 78% of students enrol in the CQUniversity bridging mathematics courses externally. Following a similar trend to the rest of the university, pass rates within bridging courses have experienced a slight rise over the past few years. If comments such as the following are any indication, it is envisaged that the development of supporting videos for the suite of bridging mathematics programs will further increase the pass rate:

I would like to thank you for putting together such an interesting and challenging course. I found the videos an invaluable resource for me personally and I believe other external students would feel the same. The videos are the reason, I believe, why I have exceeded my personal expectations in the maths component of this course (TM1 external student, 2006).

Currently all TM1 students are provided with extensive video support for their learning. Videos are provided for all of the modules covered, all sample End of Module tests, all sample Assessment tests and the sample End of Course test. TM+ students are provided with videos for their core modules only and students have been commenting that they miss having videos for all of the modules:

I loved having the videos for the first few modules of TM+ and really miss them now I have moved on. The videos really helped me understand some of the more difficult concepts and it was great hearing the explanations and solutions, rather than just reading them from the book (TM+ external student, 2010).

It is envisaged that TM+ will have a full set of videos at the commencement of Term 1 2011 and TM2 will have a set by the end of 2011 (TM2 has recently undergone a total rewrite) with both courses having the same video support as is available in TM1.

Internal delivery

TM1 is delivered internally into the STEPS CQUniACCESS program and the majority of MLC staff use a Tablet PC to facilitate their teaching in the classroom. STEPS classes are not like traditional university lectures as “students find the lecture-tutorial approach too different from what they were used to at school” (Harrison, Pidcock, & Ward, 2009, p. 167). Therefore, in order to support students, lectures are more like classroom lessons, with many lecturers preparing classes in advance, either using the slides that were developed for the instructional videos or creating new slides to support the material to be covered. The pre-prepared slides not only provide structure for the lesson but students can print them beforehand, thus facilitating their note taking. The Tablet PC then allows the lecturer to explain step-by-step solutions, draw pictures, complete graphs, change colours for emphasis and highlight sections of importance. When necessary, lecturers can also add blank pages to the pre-prepared slides. This may be required if it is discovered that students are struggling with a concept and need it explained further, or if they need more practise of a particular skill.

Lectures can be further enhanced with a wireless projector, which allows the lecturer to move around the classroom with the Tablet PC. This means that students are able to answer questions on the Tablet PC, thus actively engaging in the material. Additionally, as many students lack the confidence to go to the whiteboard to answer questions, they are more comfortable completing solutions on the Table PC.

Whilst classes are not recorded with the Tablet PC (mainly due to the time required to render two hour classes and the size of the resulting video files) the annotations can be saved as a record. Students are still able to go home and watch the corresponding video that is provided on the LMS or CD. Additionally, students can prepare for class by viewing the video beforehand.

Marking and feedback

In a discussion on creating a paperless course Hayes and Adams (2009) question how, in a society that demands instant gratification, assessment turn-around time of

several weeks can still exist? The electronic marking system adopted by CQUniversity's MLC is quick and virtually paperless. The choice of submission method (mail, e-mail, fax), ensures that no student is disadvantaged due to the requirement of expensive equipment. All items are converted to PDF and placed in the student's folder for marking and through the use of a shared drive; these files are immediately available to the marker. Marking is completed with the Tablet PC and annotations provide the student with valuable feedback in a timely manner. Some scholars such as Hume (2001) find that the writing surface of the Tablet PC produces poor quality writing and has the effect of making bad writing worse. This seems a poor excuse considering the marker has control over their writing and that with practise, the readability will improve (as illustrated in Figures 1 to 3). Additionally, the pros far outweigh the cons as it is vital for students to have quality feedback returned quickly, regardless of the quality of writing. It was noted by Siozos, Palaigeorgiou, Triantafyllakos & Despotakis (2009), in a discussion on computer based assessment (CBA), that feedback is an important element of the learning process and regardless of the sophistication of the feedback system, CBA is unable to replace a teacher's comprehensive ability to provide personalised feedback. Siozos, Palaigeorgiou, Triantafyllakos & Despotakis (2008), while recognising that those in favour of CBA believe in its pedagogical nature, claiming that it provides immediate detailed feedback, increases the breadth of assessment and encourages regular study and autonomous learning, found these tests to be objective and, as such, more beneficial to the teachers. Smith and Kimball (2010) found that not only does feedback work as an error correction mechanism but timely feedback can reinforce correct responses and promote long-term retention. The following comment indicates the importance of quick feedback to students and staff alike:

Thanks for all the assistance you have given the WIST students who are enrolled in Transition Maths 1 this year. The increasing numbers of students who are submitting work and who are then completing is certainly evidence of your dedication. The quick turnaround of students' submitted work is also one of the key contributors to their success – being able to e-mail in their scanned work and then having it returned so promptly is a great initiative. Our WIST students have had a very successful year and we thank you for your contribution to their success, Regards Robyn Donovan (Coordinator, Women in Science and Technology, CQU, 2007).

French (2007) explains how the Tablet PC can be used by the instructor when marking assignments to ink and save Microsoft Word® documents which can then be viewed on any LMS by the student. The Tablet PC enables teachers to send students an electronic copy of feedback which contains hand-written annotations (Neal & Davidson, 2008). Another benefit of 'e-marking' as seen by Chester (2008) is the reduction in the amount of paper required to be handled when evaluating students. In fact some courses at CQUniversity are completely paperless. All teaching resources, assessments, course profiles, student submissions and feedback are contained in a LMS. The information is stored electronically and at the completion of the course the entire course, can be compressed onto a single CD.

Undergraduate students

In addition to delivering bridging mathematics programs, the MLC is also available to assist undergraduate students with any mathematical component of their program. Given that 65% of CQUniversity students study externally, many students are unable to attend a campus for assistance (CQUniversity Dashboard, 24/7/10, 15:20). The Tablet PC has proven extremely valuable for catering for these students. Whereas it can be extremely difficult explaining concepts and solutions to students over the phone, the Tablet PC allows MLC staff members to prepare hand-written solutions or to develop quick videos for students in need. These are of a small file size and can be e-mailed directly to the student. For video solutions, students are able to see and hear the solution, thus enhancing their understanding of the problem. One significant advantage of this method of assistance is that students are able to contact the MLC at any time (24/7), and when the video is e-mailed to them, they are able to view it at their convenience. Therefore, not only does the technology allow the MLC to help CQUniversity students across Australia and the world, it also provides assistance to the increasing numbers of university students who are working full-time and unable to access the MLC on campus. Additionally, if it is discovered that a student lacks an understanding of some basic components of mathematics that are covered in one of the suite of bridging programs, MLC staff are also able to provide modules to assist them. These modules are also provided on the MLC website¹.

MLC staff have also discussed the advantages of using Tablet PCs to provide assistance to internal students. Using the Tablet PC to provide worked solutions to students using the MLC on-campus could prevent having to repeat the same solution numerous times. Once the solution has been worked it is only a matter of saving the file then printing and explaining it when the next student has the same query. The use of a wireless network and remote connection to a printer means that the Tablet PC is as portable as any pencil and notepad.

Beyond the MLC

Although this paper's key focus has been on using the Tablet PC to assist bridging mathematics, the technology is in no way limited in its application to this discipline. The college of Science, Engineering and Technology at Murray State University have been using a "single Tablet lecture model" to provide chemistry instruction since 2005 (Rogers & Cox, 2008, p. 34). Within our own institution the Tablet PC has been used in, but not limited to, Statistics, Surveying, Structures and other engineering applications. As indicated by the following comments, Antony Dekkers has assisted lecturers in the Engineering Department in the use of the Tablet PC and demonstrated success in the integration of the technology into his own classes:

Over the last couple of years Antony has greatly helped the engineering college and myself to adopt tablet technology and integrate this technology into the engineering curriculum. His research activities have lead to a number of engineering lecturers now producing video for distance students and integrating this into the learning management system. Antony has not only been a driver for new technologies in the curriculum but is also an

¹ Mathematics Learning Centre website: <http://mlc.cqu.edu.au/FCWViewer/view.do?site=20>

excellent mentor (Adam Thomson, Associate Director Electrical Engineering, Faculty of Science, Engineering and Health, CQUniversity, 2008).

It was an excellent way of teaching, step by step example worked through, more than enough examples. I'd definitely love to see it next year!!!
(Engineering Mathematics internal student, 2004).

In an attempt to share our knowledge within Academic Learning Services, Sherie Elliott demonstrated the use of the Tablet PC to our Communication Learning Centre (CLC) colleagues. This demonstration has resulted in a rollout of Tablet PCs across all campuses for use by these staff members. MLC staff members on each campus will provide CLC staff with advice on using this equipment and how to apply best practice to their teaching.

Conclusion

The Standards of Excellence in Teaching Mathematics in Australian Schools states that excellent teachers of mathematics need to "establish an environment that maximises students' learning opportunities", empowering them "to become independent learners" by modelling "mathematical thinking and reasoning" and providing "purposeful and timely feedback" (The Australian Association of Mathematics Teachers Inc., 2006, Sec 3). The Tablet PC has enabled the MLC to fulfil these requirements at a tertiary level, providing an invaluable resource and subsequent opportunity to enhance the learning experience of CQUniversity students. Since its adoption in 2003, Tablet PC technology has greatly enhanced the services offered by the MLC. The capability of video creation has enabled the MLC staff to actively engage external students, providing them with the opportunity to see and hear the logical progression of mathematical solutions. Undergraduate students have also benefited as they are able to seek help irrespective of their location and work commitments. Additionally, being able to mark electronically has significantly reduced the turnaround time of assessment, providing informative feedback to students, thus supporting their learning. As a full set of videos are developed for the suite of bridging mathematics programs, the success of students can only be enhanced.

Research investigating the effectiveness of Tablet PC technology is almost non-existent. Although the MLC has a collection of student comments praising the use of the Tablet PC by the MLC, these responses do not represent conclusive evidence that the technology is effective. A more detailed study is required to hopefully correlate the utilisation of Tablet PC resources with student success. In particular, as CQUniversity is a leader in using the Tablet PC to develop videos to support course content, it is imperative that research is conducted to evaluate its effectiveness.

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“Noticing the unnoticed”: Empowering enabling students through sociological theory

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In these changing times in education, enabling programs are beginning to be recognized as important areas within university strategic plans. Consequently, strategies to increase retention rates are being canvassed and, following the Bradley review of tertiary education in Australia, an appeal to wider socio-economic participation in education is being sought. This twofold challenge of keeping students in courses and appealing to an increasingly diverse student population poses certain risks when considering curriculum design, content and topics for broader discussion. Maintaining interest in subject matter as well as motivating students who may have had damaging prior experiences of education is a tricky business. This paper addresses the use of sociological theory where it encourages reflective learning and critical thinking as one way in which students report meaningful engagement in their studies. When invited to engage in consideration of topics that are directly connected to their own lives, sociological theories, perspectives and concepts act as a catalyst to knowledge production for students, not only as content but also as a journey of self and social discovery. When students report being empowered by learning to notice the previously ‘unnoticed’ in their everyday lives then assessment tasks that are both relevant to their future studies and meaningful for them personally, serve the dual purpose of broadening their general knowledge and honing their analytic skills. Examination of (unidentified) unsolicited comments made in student workbooks reveals that personal experience serves as a critical basis for knowledge building and skill acquisition. Sociological theory provides a validating framework for those experiences. Opening up possibilities within classroom discussion and assessments that allow students to apply the sociological imaginations they have acquired is a valuable tool in knowledge acquisition. In addition, enabling students to express themselves in their own words, rather than through genres such as academic essays, validates the importance of students’ life experiences and also enriches their learning by positioning them within it.

Introduction

The Open Foundation Program (OFP) has been running at the University of Newcastle since 1974. It is currently the largest enabling program in Australia and now has over 2,000 students enrolled in part time, intensive and distance programs each year. My PhD research on the history and impacts of this program on the Hunter and Central Coast regions will test the hypothesis that OFP develops significant cultural capital (Bourdieu & Passeron 1990) to students who undertake it. I argue that this form of capital is gained through learning to reflexively engage with the world in more critical and analytical ways. In the subject I teach, Social Enquiry (introductory sociology), development of a sociological imagination provides a ‘set of tools’ that enables students, in their words, to notice the ‘unnoticed’, in turn empowering them to interpret the social world in ways they previously had not seen. This paper addresses the impact sociological theories have on the lives of students who study them and how it encourages their reflective learning and critical thinking skills by enabling them to see beyond ‘commonsense’ knowledge and to think and act differently. Students report that sociology opens up other ways of knowing, allows them to question what they see and read, and sometimes allows them to construct themselves differently.

Social Enquiry and the Sociological Tool Bag

For students who are new to the university experience and enrol in Social Enquiry, contemplating learning about sociological theory can be a daunting experience. Not only are these students unfamiliar with their new surroundings but they must begin to assimilate a new language, that of sociology, which can be quite different from dictionary meanings they may be familiar with. One of the first things I tell new enabling students about the study of sociological theory is that, contrary to what they may have previously heard about theory in general, sociological theory is not boring. I use the metaphor of a tool bag to explain that theories, like tools, serve many different purposes. I also talk about the fact that, initially, the theories (such as Functionalism; Conflict; Social Action; Symbolic Interaction and Poststructuralism) may appear to students as parts of a jigsaw puzzle that in isolation do not appear to connect together. However, by the end of the semester they can see that social life is multifaceted, for instance, that 'norms' may be differently perceived, that power might be both productive and repressive, or that people use their human agency to resist dominant discourses. Understanding how theories provide various explanations for social phenomena can be an enlightening experience.

The course begins with an overview of foundational theorists in sociology and then takes theories forward into more contemporary applications so students can appreciate seminal works as well as adaptations and developments within selected theoretical fields. It is impressed upon students that concepts are the building blocks of theory. Once they learn the concepts and vocabulary that accompanies particular theories they are able to take comparative approaches and position themselves within or outside debates on social issues. An understanding of theory also alerts them to the fact that research findings will take vastly different approaches depending upon the theory and methodology selected for particular studies. For example, Symbolic Interaction may focus on construction of self identity and interaction at the micro level of society; while Functionalism or Conflict theory will focus on macro sociology and social structural concerns.

To illustrate the power of these theories in a more concrete manner, past students of the course (now volunteer mentors) are invited to address the newcomers at both their Orientation session and during the first lecture to highlight how and why learning theories was useful for them. They affirm that most undergraduate degrees make use of sociological theories. The relevance and extensive use of sociological theory is therefore confirmed by fellow (and more experienced) students before we begin the deeper journey into their applications.

Workbooks as Vehicles for Self expression

In order to develop students' expertise in synthesizing material, reflecting on what they are learning, and developing their capacity to think critically, students write workbooks as one of the assessment tasks that draws out these skills. Workbooks are developed by students over the semester and comprise sets of answers to questions and summaries of readings that accompany lecture and tutorial content as well as longer answers to reflective questions or analysis of media articles that draw out students' sociological skills. They are required to respond in their "own words" rather than in formal academic style to allow relative freedom of expression. I have

come to realise that workbooks serve not only pedagogical purposes, but also heighten student engagement with the substance of the course and provide insights into how social structures impact on their own agency. Interestingly, agency is defined by Kincheloe (2004:2) as “a person’s ability to shape and control their own lives, freeing self from the oppression of power”. As later excerpts from student workbooks demonstrate, the capacity to ‘take the position of the other’ (Mead 1934) thus learning to appreciate other perspectives as well as motivations for their own actions allows them to “understand the larger historical scene in terms of its meaning for the inner life” (Mills 1959:5) is quite powerfully felt by students whose minds are opened to a new way of thinking.

The workbook operates alongside tutorial readings from a core text (Germov and Poole eds 2007) on foundational and contemporary sociological theorists and selected topic areas such as education, health, gender, race and ethnicity or media. Such writing has the capacity to be cathartic and requires students to commit abstract thoughts to concrete propositions, often those relating to their own lives on issues such as socialisation, workplace relations or construction of self identity.

Killen (2007:292) states:

If you want students to learn through writing, you have to make the writing tasks relevant and meaningful to them; the tasks have to require some sustained effort.

Killen also argues that students must see their task as ‘worthwhile’ and tasks that require revision to hone their expression skills, facilitate them to construct convincing arguments, and develop their reasoning skills (2007:293). Aligning each workbook assessment task with tutorial readings and discussion allows students to consider their answers in the group setting, listen and learn from their peers and then modify or add to their own answers if desired.

Killen (2007) outlines the type of learning to be developed or consolidated from such a task: understanding of concepts or principles; ability to describe; ability to inform; ability to predict or hypothesize; ability to make comparisons; ability to persuade. A workbook is a learning tool upon which to reflect and there is evidence students are conscious of how well the workbooks achieved their purpose. Former Social Enquiry students often comment that they continue to refer to their workbooks during their undergraduate studies to refresh their memory on basic understanding of sociological theories covered in the course, as well as relevant detail on basic areas of social inequality they may have recorded when summarising set chapters of their core text. I take from this confirmation that they achieved a pedagogical outcome far beyond the purpose of an introduction to sociological thought. They became valued learning tools that had broader applications than gaining marks for one assessment, they are a resource that can be used for further applications.

Words as empowerment

As Paulo Freire (1990) so prophetically points out, words are not abstractions, but a means by which people can discover themselves. He says “each man [sic] wins back his right to say his own word, to name the world” (1990:12). Just as in the context of

Freire's work with previously illiterate workers in Brazil, words take on new power for the cohort of enabling students when they can relate them to their own lives and embed them with meaning. Workbooks therefore become one way to communicate strengths, weaknesses, fears and beliefs that may not be possible to communicate in classroom discussions or formal academic essays. The writing of the workbook allows students to express thoughts and feelings about how they see theory relating to their own lives and how they position themselves within discourses, and enable them to identify gaps in their understanding. For example, they might respond to questions such as how a hidden curriculum operated within their own school experiences; or what observations they could make about anomie or alienation within their own social circumstances. Encouraging students to explore sociological concepts beyond abstract applications allows them to see their relevance for analytic purposes.

Valuing prior knowledge and developing learning confidence

It is important to recognise that the enabling students in the OFP bring with them considerable knowledge and competency of practice in how the social world works. OFP has a high proportion of students from low SES (socio economic status) backgrounds, single mothers, full time or part time workers who are striving to improve their life chances, students with disabilities – either physical, mental or learning problems, all of which amount to a wealth of life experiences. Not having entered university by conventional middle class trajectories from success at secondary school, their observations, informed by a different set of experiences, are rich sources for critical and analytic discussion within tutorial, workbook and lecturing contexts. Students use their experiences and place them into a theoretical context.

Countryman (1992) states that learning journals or workbooks increase students' confidence. His research indicates that workbooks increase participation in learning and encourage students to be independent learners. In Open Foundation the workbook tasks coincide with tutorial discussion and students are able to modify responses and test them among their peers prior to submission for marks. This further reassures them that their views can be sustained and are valued. Likewise, Killen (2007:293) argues that workbooks promote student confidence in their capacity to write well and provide insights into their learning process. Students can enquire into learning processes by searching for definitions, articulating ideas and can identify factors that facilitate or inhibit their learning (Killen 2007:295). Acknowledgment from their lecturer of competence and understanding of their work is important as it builds self esteem but it is also important to remember that if students can appreciate constructive criticism and identify impediments then learning outcomes are enhanced.

Writing is descriptive and introspective. Where students analyse and question (reflect) and make meaningful connections to concepts and ideas, such as relating 'social facts' to their own lives, it helps them understand themselves as both social participants and learners. As students may find probing answers to reflective workbook questions puzzling, troubling or uncertain where they have not grasped the significance of taking on a sociological imagination, they are directed to explore four elements: historical, cultural, structural and critical aspects of the topics they

are studying (See Willis 2004). Killen (2007:295) suggests students select aspects of what they are reading to which they pay attention and impose a frame of reference upon it based on their values, beliefs and experiences. In the workbook they have the opportunity to apply their new knowledge in ways they feel comfortable with because only the lecturer will view their final comments, or sometimes quite personal admissions about experiences they have had. It is a non-threatening environment in which to explore their ideas because the trust they develop within the teacher-student relationship assures them that any editorial comment will be constructive rather than disapproving.

For lecturers, workbooks provide a way of monitoring student progress. They are collected roughly half-way through the course to ensure they constitute formative assessment to check they are on track or alert the student to any problems such as misinterpretation of set readings, failing to fulfil the word limit, failing to explain answers in sufficient detail, copying responses directly from their text or not employing a sociological approach including use of relevant theory and concepts. In the early part of the course they are given extensive advice on how to do this. The workbooks are marked again at the end of the course as summative assessment where they complete the remainder of tasks they have been studying throughout the semester and have the opportunity to improve their work, if necessary, based on earlier assessment. Workbooks also enhance communication between teacher and student because a dialogue ensues between student and lecturer based on editorial comments. Workbooks document student growth as it is easy to see how their 'sociological imagination' has developed by the end of the course.

Looking Inside: What the Workbooks Revealed

It is one of the great joys of teaching to see the creative output that is produced from student learning. Close examination of the workbook responses reveal a variety of reactions to questions asking them to comment on useful ideas they had discovered in their core text and which theories they preferred and why. Some students indicated that the use of sociological theory allowed them to see the social world in a completely different way; others saw the new knowledge as constructive (and reconstructive) where they found theoretical explanations that allowed them, for example, to free themselves from labels or challenge notions of normality and advocate the freedom to be different. By enabling them to make connections to their own lives insights were gained which highlighted the capacity to think in a critical and analytical way about the social world. In the students' own words:

Table 1

Reflective learning: "Opening up" ways of seeing

Workbook comments
"From our very first interactions we are learning about the world and who we are and how we fit into that world".
"Every interaction we ever have is telling us something about ourselves and the society in which we live".
"Most of us think we are making our own choices when we make decisions".
"Sociology is about looking outside your small world and examining how and why".
"Sociology exposes an underlayer (sic) of society that isn't able to be seen at first glance".
"Sociology tries to make sense of the puzzle of life".
"Sociology makes you realize that in some way everyone is connected".
"It made me stop and think about the bigger picture that goes on around me".
"Sociology is [about] noticing the unnoticed".
"Sociology is to be taken out of your comfort zone".
"It makes you realize there is more to society than what you see".
"Before undertaking this subject I was unaware of the extent to which I had been conditioned to blindly accept set patterns of behaviour".

In these responses some students marvelled at what they were now able to identify which had previously been hidden. Others convey a sense of discomfort at what was now revealed to them. Bridging the gap between commonsense, opinions, stereotypes and sociological perspectives sometimes requires moving students into a zone of uncertainty from which new perspectives can emerge.

Table 2

Self development: "Enabling/constructive uses"

Workbook comments
"Theories attempt to provide the answers you are seeking".
"A sociological imagination has prompted me to be less judgmental, it has also encouraged me to examine where my pre-judgments and prejudices have been derived from".
"Sociology helped me to learn to feel acceptance of having anxiety, feeling that I will succeed given the right pathway".
"Sociological imagination would be a pleasant concept if everyone had it".
"I liked the ideas and awareness of outside influences affecting my personal choices and the way I live my life".

These responses indicate the introspective nature of their learning by making connections to their own lives. As students embrace their journey of self discovery they position self as a social, cultural and historical phenomenon. In the case of one mature age male student, pondering what he had read and learned in class resulted in a sense of freedom and relief at being able to apply theories to some of his own experiences:

The extent to which belief systems formed in my childhood years have controlled me is jaw dropping; cultural influences bound my behaviour to the extent that I found I was always in a state of conflict with myself in my youth. I wanted to be and act in a way that was contrary to my experiences and therefore I felt at odds. I am [now] enjoying creating my own agency... I no longer feel any guilt or burden to choose what I want and have a feeling of freedom like that of a child going into the world with a freshness that has not been felt in a long time.

I can now view back at myself from outside and understand that this perspective is sociological theory at work and it can be broken down into words. The actions that people exhibit are merely scripts that have been demonstrated by those before us for us to continue to practice. The unity I feel is merely the common action and belief I hold in common.

From Marx I take freedom to break from the belief system thrust upon me by society and to question the motives of those above me. The emergence of my understanding of the structure of capitalism even at this genesis point has provided great joy from discussion with my closest friends. Having a background (Russian) that was affected by the writings of Marx and being indoctrinated through my childhood to severely oppose anything Marxist or communist, I am now pleased that I am able to determine for myself my own considered opinion that will of course evolve as does my knowledge. (Male student aged in his 40s).

Learning to understand the extent to which norms control behaviour and the way agents of social control such as families or schools are forms of social control; or how governmentality (Foucault 1991) becomes part of practice in disciplinary institutions which might inhibit free thought and action, is revelatory. Learning that burdens of guilt, articulated by poststructuralist Michel Foucault (1975) are exercises of power that can be resisted once the knowledge of how they impact people's lives is understood. The dramaturgical aspects of everyday life (Goffman 1959), playing roles with scripts and other forms of impression management are also obvious in this account. Marxist theory had a particular impact on this student. He can now use that theoretical framework to look at hegemony, class consciousness and false consciousness, and at the impact of capitalism on everyday life. His joy at being able to think about these issues is obvious. From his engagement with theory comes a freedom to shape his own destiny. "Liberation is thus a childbirth, and a painful one. The man (sic) who emerges is a new man..." (Freire 1990:25).

Table 3

Critical thinking: "Questioning/enlightening"

Workbook comments
"I now find myself asking, well why is it like that and who is benefitting from this situation? I used to take things at face value".
"Influences are subtle and unnoticeable, you aren't even aware of how you are being influenced".
"As a person who is quite self opinionated, studying sociology has left lots of reflective questions... My views on topics have been largely influenced by the opinions of others".
"It raised my awareness that I may not be as freely individual as I think I am".
"Before undertaking this subject I was unaware of the extent to which I had been conditioned to blindly accept set patterns of behaviour".

These comments demonstrate a capacity to question how knowledge is constructed. This reflects Berger and Luckmann's (1966) work on discussion of the process by which people creatively shape reality through their social interactions. Making 'social facts' obvious and learning to challenge ideas are at the heart of sociological thinking:

Society has always appealed to me as something mysterious and to be observed... I was diagnosed with ADHD, but why? I asked myself why I was considered to be different from the 'norm' and so easily influenced by negative feedback? Why did people (especially adults) act in ways where I could see obvious contradictions. My teachers would say how important it was to help and encourage students to do their best. And despite learning difficulties, I expected these values to be passed on to me. They were not. Instead I was excluded and taught that my behaviour and my creative flair were not acceptable. School damaged my self esteem.

As an adult I have come to the conclusion that this was simply because the Government curriculum did not support alternative and more flexible methods of teaching. Teaching methods had to conform to these ideals which limited their resources. The structure of the institution only allowed a one size fits all education system for students... mundane attitudes of the role of teacher become dominant.

These social problems always generated an interest in me and I have been the subject of my own issues regarding many different social contexts,

especially social exclusion and not belonging. I am now an adult and far from the powerless child, introspective and intelligent. I now realize that sociology holds a very valuable key for me in observing problems in the workforce, educational institutions, family and most of all, society (Female student aged in late 20s)

This student's dilemma relates to the unfairness of structural arrangements and the impact this had on her educational endeavours as well as her self esteem. The interplay between structure and agency is drawn out in observations of the teacher's compliance with dominant structures. The exercise of poststructural micro practices of power (Foucault 1975) such as hierarchical surveillance, social exclusion and normalisation; symbolic interactionist accounts of the workings of stigma and outsider status are also present in this account; as is a Marxist account of universal educational curriculum that produces generations of compliant workers. Exploring a sociology of deviant behaviour and the notion that sometimes it is the rule makers and not the rule breakers who constitute the true deviants is alluded to. The metaphor of sociology as "key" is central to this student unlocking explanations for the way she had been treated in her early education. Having courage to exercise power through her own agency is evident in her determination to resist dominant structures. Learning to question and think critically is exemplified in this excerpt.

Re-making the self through sociological awareness

A new awareness of self is often gained through engaging with the workbook tasks and with the broader project of inculcating a sociological imagination. Like the Brazilian peasants under Freire's tutelage, a new sense of dignity emerges for enabling students once they reach deep and achieved learning levels (Biggs & Moore 1993). Moving beyond a surface level of learning exposes a richness and depth that produces new hope in these students' lives. Like Freire's awakening of the illiterate population: "We were blind, now our eyes have been opened... Before this, words meant nothing to me; now they speak to me and I can make them speak" (in Freire 1990:13). In this way, the cohort of enabling students' senses is awakened to new learning possibilities in reflective tasks. In Corrigan's (1991) classic account of the impact of secondary schooling on his construction of self, becoming a sociology lecturer allowed him the opportunity for the "unmaking of the making of the boy". Overcoming the impact of prior negative learning experiences is something that requires reflective engagement. Corrigan highlights the fact that sometimes people "need *differently* to define themselves" (1991:215).

Empowerment

It is timely to revisit Freire's (1990) work on the pedagogy of the oppressed, as there are many observations he made that can be generalised to this population of enabling students. Freire teaches the students in his adult literacy program that they already have knowledge, and can use their "own words" to express themselves. He says little by little they will try out forms of action that may question the status quo. He advises one must not overlook the moment of awakening because it can be quite revelatory. However, he warns that liberation cannot just involve intellectual

aspects, it must involve action, it must include serious reflection; only then will it be a praxis (Freire 1990:41). Freire (1985:16) notes that correcting earlier perceptions is not always easy and the 'consciousness awakening' of an objective reality can be a shock and a painful experience for students as we saw in the students' quotes earlier.

Fleisher (1990: 73) notes we must look at Freire's work and how it assists students in defining and redefining their oppressive realities. He wants an education system which operates on democratic and emancipator principles where issues of social justice, equity and collective forms of organisation are key concerns (Fleisher 2009:25). He argues that teachers and students are "cartographers" who make maps and images as starting points in their methods of learning (Fleisher 2009:32). In the case of Social Enquiry students, the workbook served as the starting point for mapping new social realities, and sociology provided the tools to create a new learning experience.

Cultural capital

One of the problems for many enabling students is that they lack certain types of capital. Bourdieu & Passeron (1990) made the distinction between social, economic, symbolic and capital cultural (Jenkins 2002:85). Open Foundation students often enter the university as first in their family to experience tertiary education, and lack the social capital (relations with significant others who can assist in teaching them how to learn at university); they come looking for better life chances because they lack economic capital; their learning confidence has often been damaged by prior educational misfortunes or family/life circumstances – hence their delayed start to tertiary education, so they lack symbolic capital (including social status or prestige); and they lack cultural capital (knowledge attained from their cultural group including linguistic competence and educational qualifications).

Bourdieu & Passeron (1990) see capital as a resource that yields power as dominance or subservience. They argue that with varying levels of difficulty one form of capital can be converted into another. The notion that it is convertible is worth exploring further. Capital can confer strength, power and profit to the holder (Calhoun 1993:69). Educational credentials are cultural capital that involves the pursuit of distinction. However, as Jenkins (2002:112) points out excellence and cultural achievement will be defined by the dominant social cohort. To quote:

Pupils whose familial socialization bestows upon them the appropriate level of cultural capital – both more of it and of the 'right' kind – will necessarily achieve more academically than those whose relationship to the cultural arbitrary is more distant (Jenkins 2002:113).

Such arguments follow that people who lack cultural capital are disadvantaged in the way their demands for access to higher education are inhibited by defining it as 'not for the likes of us'. Within this process cultural reproduction occurs.

Halsey et al (1980:115), following Bourdieu, agree that schools reproduce cultural capital but note they are, at the same time, "creating it too". They are providing academic and technical learning and training opportunities to substantial numbers of students from disadvantaged backgrounds. Halsey et al (1980:77) argue

cultural capital may be disseminated rather than hierarchically reproduced which means that there are spaces that disrupt this trajectory. Benmayor (1991:161) suggests this can be done by teaching critical literacy, organising classes around socially relevant themes such as gender relations, work, education which encourage high participation and collective modes of interaction. She states personal experiences form a critical basis for knowledge and skill acquisition and positions participants as experts in this area (Benmayor 1991:161). Likewise, Freire (1985:xxiii) argues all people are intellectuals. They constantly interpret and give meaning to the world. Encouraging Open Foundation students to see this and to recognise their own potential is one way cultural capital can be appropriated and developed.

Conclusion

Enabling programs across Australia are beginning to be recognised as important areas within university strategic plans. The recent Bradley Review of higher education has proposed a significant increase in the number of students from low SES (socio economic status), so increasing emphasis is being placed on attracting and retaining students in programs such as Newcastle's Open Foundation. My argument is that it is not just a matter of making more university places available, but of rethinking the way universities construct their offerings and teaching methods. Learning to understand the social world is a necessary first step to being able to benefit from tertiary education, it is also building their store of cultural capital which is necessary for tertiary success. Bourdieu and Passeron (1990:105) remark that the 'revolutionary' dispositions of sociology students can often be attributed to the power of sociology teaching. Sociology does empower, but it also grows on you. By providing the tools to analyse, critique, reflect, give voice to dimensions of structure and agency, students are well prepared to engage in undergraduate studies.

Freire (1985) argues that educators must work with the experiences that students bring to educational sites. It means legitimating those experiences in order to give students a sense of affirmation and to provide the conditions for them to display an active voice and presence (Giroux in Freire 1985: vii). Students must always be prepared to question and to doubt what they have read or heard. As seen in the student comments cited earlier, Sociology provides a vehicle that gives voice to hidden or unnoticed explanations of students' own lives and about the social world. Some learning tasks miss the relevance of the subjective to everyday life. In Social Enquiry it is central and part of a productive pedagogy. As one student stated in her workbook "Ideas presented are useful and wonderful". Another stated "Now I can write my own future". These students have developed what Bourdieu & Passeron (1990) theorised as cultural capital and what Freire (1990) theorised as a banking system of knowledge. Either way, they are empowered and the transformative potential of learning is realised.

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Views from ‘Last Resort’: Experiences of Māori undergraduate students who transitioned from tertiary bridging programmes

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The New Zealand Tertiary Education Strategy 2010-2015 advocates the provision of access and support for Māori students ‘to improve progression to, and achievement at, higher levels’ of tertiary study (Tertiary Education Strategy, 2010, 12). Many practitioners and researchers involved with Māori students in tertiary education agree that there is a dire need to support the transition of Māori students into degree level study in ways that improve their likelihood of success (Bishop, Berryman, Cavanagh, & Teddy, 2007; Klinger & Wache, 2009; Loader & Dalgety, 2008; Madjar, McKinley, Deynzer, & van der Merwe, 2010; May, 2009).

This paper is about the experiences of recent Māori graduates from two of Victoria University of Wellington’s bridging programmes, the Certificate of University Preparation (CUP) and the Tohu Māoritanga (Tohu). Firstly, it presents findings around academic challenge, active learning, student and staff interactions and supportive learning environments. It also shares the students’ perceptions of their academic behaviour and skills preparedness and development and general feedback about their experiences on the programmes.

Secondly, it considers how closely the students’ feedback aligns with current literature about effective bridging and tertiary learning environments. Ultimately, the paper suggests that despite sometimes viewing programmes such as the CUP and Tohu as a ‘last resort’, Māori students do recognise, appreciate and thrive within *whānau* learning environments that are underpinned by academic support and culturally responsive teaching practices provided by staff.

Introduction

The New Zealand Tertiary Education Strategy 2010-2015 emphasises the need to encourage access and participation of Māori students in tertiary level study, ‘to improve progression to, and achievement at, higher levels’ (Tertiary Education Strategy, 2010, 12). While the participation rate for Māori students in tertiary education climbed to 19.1% in 2008 (compared with 10.6% for Pākehā), 90% of the enrolments were clustered at pre-Bachelors degree level (Levels 1-4), compared with 66% for Pākehā (Ministry of Education, 2010). Although degree level enrolments are increasing, retention and completion by Māori learners at degree level are significantly less than at pre-degree level (Ministry of Education, 2004). They also more often undertake an indirect study route rather than progressing directly to university from secondary school (Loader & Dalgety, 2008). Thus, there remains a dire need to support the transition of Māori students into university study in ways that improves their likelihood of success (Bishop, Berryman, Cavanagh, & Teddy, 2007; Klinger & Wache, 2009; Loader & Dalgety, 2008; Madjar, McKinley, Deynzer, & van der Merwe, 2010; May, 2009).

This paper is about a research project undertaken at Victoria University of Wellington that set out to collect information about the experiences of Māori students who had recently completed two of the University’s bridging programmes, the Certificate of University Preparation (CUP) and the Tohu Māoritanga (Tohu). The purpose of this study was to determine the progression, experience and achievement of Māori undergraduate students from the Tohu and CUP bridging programmes, with a view to improving their retention and completion rates and

supporting their transition into degree level study. The students were surveyed and the results were then analysed to evaluate how these bridging programmes are addressing the needs of Māori students at Victoria University and to inform further course development.

The key focus of this paper is an analysis of a set of survey responses from Māori students who had recently completed one of these two programmes. The CUP is a 12-week taught programme that requires students to complete two core courses; one focused on academic writing and research and the other on university study skills, in addition to two elective courses. Approximately 16% of all CUP students are Māori, a higher percentage than the 9% in the overall population at the University. CUP has accepted an average of 342 students in the last five years (low=272, high=409) and the majority of its student cohort has been school leavers. CUP graduates have been able to progress directly to degree level study.

The Tohu Māoritanga is a two-trimester programme that has been offered at Victoria University since 1986. Much smaller than the CUP, over the last five years it has enrolled predominantly Māori students in cohorts of 14 to 26 per year. The primary focus of study for the students on this programme is the Māori culture and language but students are also required to complete a generic academic skills course. One key difference between the Tohu and CUP programmes is that as part of the Tohu students are required to complete four degree-level courses, alongside three pre-degree level courses. Completion of the programme provides graduates with entry into a degree programme at Victoria University and up to 80 points (equivalent to four courses) from the Tohu can be credited towards a degree.

The key research question of this paper is the consideration of how closely the survey responses collected from the Māori students in both the CUP and Tohu programmes align with current literature about effective bridging and tertiary learning environments for Māori students. In sharing the survey feedback, this paper considers the major findings from the data against the key directives in the New Zealand Tertiary Education Strategy 2010-2015. It also highlights the importance of learning environments, academic support provided by staff and families, and the use of culturally responsive teaching practices, and suggests topics for future research in this area.

Literature Review

There is a growing body of literature about institutional or pedagogical techniques that facilitate Māori learning and engagement, particularly in higher education, as well as the experience of Māori undergraduate learners. A discussion of some of these suggested methods and theories follows.

Role of Relationships

Recent research overwhelmingly suggests that good quality relationships are the key to effective pedagogy and improving Māori achievement (Bishop et al, 2007; Klinger & Wache, 2009; May, 2009; White, Oxenham, Tahana, Williams, & Matthews, 2009). Evidently, the relationships have a positive effect on motivation (Hawk, Cowley, Hill, & Sutherland, 2001; McMurchy-Pilkington, 2009; Rugutt & Chemosit, 2009) and engagement (Earle, 2008; Martin & Dowson, 2009).

Engaging and caring relationships are also related to an increase in confidence and self efficacy in Māori learners (Hawk, Cowley, Hill, & Sutherland, 2001; McMurchy-Pilkington, 2009). Based on this literature, it seems appropriate to consider the feedback from CUP and Tohu students about the relationships that they had with their tutors, lecturers and/or other programme staff and participants.

Culturally Responsive Teaching Practices

According to the research literature, educators are to be encouraged to embrace diversity, acknowledge the various layers and dimensions of cultural identity and practise holistic and flexible pedagogy (Bishop et al., 2007). The importance of acknowledging cultural identity for Māori has been stressed in the literature (May, 2009; McMurchy-Pilkington, 2009) and Gavala & Flett (2008) found that Māori perceived cultural autonomy as paired with a higher sense of well being while engaging in university study.

Culturally responsive teachers reject deficit theories and are committed to facilitating Māori students' educational achievement (Bishop et al., 2007; Earle, 2008). Educators who care about their students' success and create a culturally responsive environment are thought to be preferable for Māori adult learners (McMurchy-Pilkington, 2009). Additionally, research has suggested that the preferred learning approaches for Māori are often the positive interdependence and collaborative styles evident in cooperative learning, which allow for family involvement and emphasise oral communication. These culturally relevant approaches were found to be linked to increased positive self-esteem (Rubie, Townsend, & Moore, 2004).

In light of this body of research, it was important to consider the CUP and Tohu respondents' comments as they relate to the provision of culturally responsive teaching pedagogy.

Whānau Environment

The practice of *ako*, or reciprocal learning, encourages the use of discourse to construct knowledge by actively encouraging student perspectives while facilitating learner potential. Traditionally, *whānau* (extended family) played an important role in this educational exchange by observing aptitude and encouraging the most appropriate type of learning (Mead, 2003). In the contemporary context, educational environments can develop into a type of "metaphoric *whānau*" (Bishop et al., 2007) of participatory shared responsibility, commitment, positive interaction, connectedness and solidarity (Bishop et al., 2007). This idea of creating a *whānau* feel and incorporating *whānau* in Māori educational institutions is echoed in other literature (Earle, 2008; May, 2009; White, Oxenham, Tahana, Williams, & Matthews, 2009). The notion of *whānau* and the importance of a collaborative learning environment for Māori students participating in bridging education was a further area of feedback analysis in this study.

Method

Participants

For the survey that is the subject of this paper, the research population included students who successfully completed the CUP or Tohu programmes at Victoria University of Wellington between Trimester 3, 2007 and Trimester 2, 2009.

The survey was sent to 365 CUP graduates and 28 Tohu graduates (N=393). The 10 graduates who were not contactable were omitted. The adjusted response rate was 45% for the CUP programme ($n=163$) and 43% for the Tohu programme ($n=11$).

Seventy three males and 83 females identified their gender in the survey; however, 20 did not. The total sample included 27 Māori (15.4%), eight Pasifika (4.6%), 93 NZ/European/Pākehā (53.1%), 10 Asian (5.7%), four Middle Eastern/Latin American/African (2.3%), 15 Other (14%) and 18 who did not disclose their ethnicity (10.3%). The majority of students were between the ages of 18 to 19 ($n=116$, 66.3%) when they completed the preparation programme, although six students were under 18 (3.4%) and 13 students were between 20 and 21 (7.4%). The rest of the participants were over 21 ($n=19$, 10.9%), although 21 did not disclose their age (12%).

This particular analysis will focus on the Māori respondents, which included 13 males and 12 females, and two who did not disclose their gender. A total of 27 self-identified Māori students responded to the survey (15.4% of the sample). Eleven completed the Tohu Māoritanga programme and 16 completed the CUP programme. The distribution of Māori respondents was primarily between the ages of 18 to 19 ($n=13$, 48.1%), although 29.6% of respondents were aged over 21 ($n=8$), three were between the ages of 20 to 21 (11.1%) and three did not disclose their age (11.1%).

Of the entire research population, 18% were Māori; thus, the sample of Māori learners is comparable to the general population that it references (16% respectively).

Materials

An online survey was created using Qualtrics Survey software. The survey questions were drawn from Australasian Survey of Student Engagement (AUSSE, 2008) and Beginning College Survey of Student Engagement (BCSSE, 2009). Prompts and additional questions were developed in collaboration with Māori and Pākehā faculty from across the University. Utilising existing measures assured the researchers of the validity and reliability of the survey prompts, as well as their suitability in a New Zealand context (Coates, 2010).

The survey asked participants to retrospectively consider their experience of their bridging programme. Specifically, the survey measured respondents' perceptions pertaining to academic challenge, active learning, student and staff interactions and learning environments. The 'importance of' questions were ranked with a 4-point Likert scale (1=*not important* and 4=*very important*), and the 'extent included' questions utilised a 5-point Likert scale (ranging from 1=*not at all* to 5=*very much*). This variation in scales was due to combining both AUSSE and BCSSE measures.

Additional open-ended questions were included to elicit perceived importance and inclusion of prioritized academic behaviours, opportunities and

skills. An application to conduct the survey was then considered by the Victoria University of Wellington Human Ethics Committee and approval was granted.

Survey Procedure

The survey was piloted with two current students and eight staff members to gather feedback and test the timing of the survey. Amendments were based on the collective comments of the pilot group. Students from the target group were then sent an email invitation with a link to the survey. A week before the survey closed, those who had not responded were sent a follow-up email invitation to participate.

Participants were asked to reflect on their experiences in the Tohu or CUP preparation programme when answering each of the questions. Participants were informed that the survey should take approximately 10 minutes to complete, that their feedback and information was very important, and that their individual responses would be kept confidential. Participants were also advised that they could choose to withdraw their responses at any time up until a specified date. An instant scratchcard was offered as an incentive to all those that participated in the survey.

Data Analysis

The quantitative analyses were performed with Predictive Analysis Software (PASW) statistics data editor. A codebook was prepared using Microsoft Excel and variables were labelled in PASW. Preliminary analyses assessed normalcy, outliers, and analysed missing data. Missing data was accounted for in the quantitative analysis by using the *Exclude cases pairwise* option, therefore including all cases that had enough data for the analyses. Frequencies of the perceptions of the engagement measures were analysed for all participants using a Chi-Square test ($df=15$). For Māori participants, relationships between perceived importance of an item and inclusion in the programme were investigated using Pearson product-moment correlation coefficient. All statistical tests utilised 95% confidence intervals. Lastly, Pearson correlation matrixes were generated for the importance and inclusion variables.

The qualitative responses collected from the students were filtered to identify all of the Māori student answers, which were then exported from the Qualtrics survey report and converted into Microsoft Word documents in preparation for thematic analysis. The two researchers then coded the responses using the NVivo software tool, independently identifying and later reconciling and agreeing to a set of themes that were perceived to have emerged from the responses.

Results

The quantitative analysis considered all of the Māori student responses and sought to identify key trends or findings from the data.

Whānau learning environment

Māori students rated '*opportunities to interact with students from different economic, social, and racial or ethnic backgrounds*' as more important than the Pākehā participants. Specifically, 74% of Māori participants ($n=20$) deemed this as *important* or *very important*, versus only 43.4% of Pākehā participants ($n=40$). The

importance of this variable (diverse interaction) strongly correlated with the *importance* of ‘social support’ [$r=.63, n=27, p<.00$] and moderately correlated with the *importance* of ‘family/whānau inclusion’ [$r=.43, n=27, p<.05$]. A strong correlation was also revealed between the *inclusion* of ‘diverse interaction’ and *inclusion* of ‘campus events’ [$r=.52, n=23, p<.05$], suggesting a significant relationship between these variables. These correlations are presented in Table 1.

Table 1
Correlations between importance of diverse interaction

Importance of:	<i>r</i>
Social support	.63**
Family/whānau inclusion’	.43*

Note. $n = 27$. * $p < .05$. ** $p < .01$.

There was some variation in importance ratings between Māori and Pākehā participants as presented in Figure One. Specifically, it should be noted that 42.4% of Pākehā respondents rated ‘*opportunities to include family/whānau in your studies*’ as *not important* compared with 14.8% of Māori. Furthermore, 33.3% of Māori participants rated *whānau* inclusion as *important* or *very important*; however, 20.6% of Pākehā rated it equivalently. Notably, Māori participants deemed *whānau* inclusion as more important than the Pākehā participants.

The following items were correlated with both *importance* to the participant and perceived *inclusion* on the programme: *support to help you thrive socially* [$r=.57, n=25, p=.002$]; *opportunities to attend campus events and activities* [$r=.49, n=23, p<.05$]; and *opportunities to include family/whānau in your studies* [$r=.497, n=25, p<.05$].

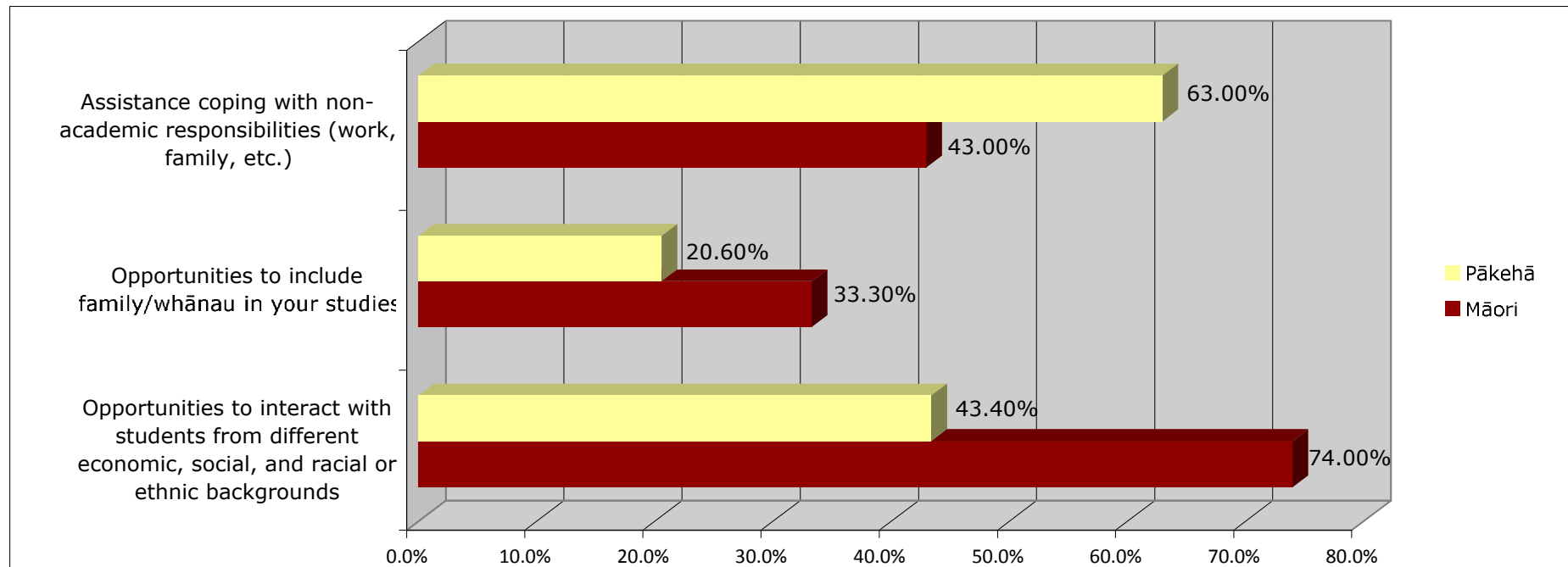


Figure 1: Percentage of Māori and Pākehā participants who rated item Important/Very Important.

All the correlations between importance and inclusion items are presented in Table 2.

Table 2
Correlations between importance and inclusion

Items	<i>r</i>
Social support	.57** _a
Campus Events	.49* _b
Non-academic help	.795* _a
Family/whānau inclusion'	.497* _a

Note. ^a*n* = 25. ^b*n* = 23. **p* < .05. ***p* < .01.

Staff support

Māori participants rated the importance of '*assistance coping with non-academic responsibilities (work, family, etc.)*' high, with 63% (*n*=17) rating it *important* or *very important*, whereas 43% of Pākehā participants (*n*=40) had the same rating. Furthermore, the *importance* of '*non-academic help*' was strongly correlated with *inclusion* of '*non-academic help*' [*r*=.795, *n*=25, *p*=0], as well as the *importance* [*r*=.55, *n*=27, *p*=.003] and *inclusion* of '*support to help you thrive socially*' [*r*=.59, *n*=25, *p*=.002].

Culturally responsive teaching

The *importance* of a '*challenging academic experience*' was correlated with both *importance* [*r*=.48, *n*=27, *p*<.05] and *inclusion* of '*non-academic assistance*' [*r*=.53, *n*=25, *p*=.006], with high levels of importance of '*academic challenge*' associated with high levels of perceived inclusion and importance of '*non-academic help*'. Additionally, *importance* of '*academic challenge*' was correlated with *inclusion* of social support [*r*=.47, *n*=25, *p*<.05] and *importance* of '*opportunities to include family/ whānau in your studies*' [*r*=.395, *n*=27, *p*<.05].

The *inclusion* of '*feedback*' was highly correlated with the *importance* [*r*=.64, *n*=26, *p*=.0] and *inclusion* of '*support to help you succeed academically*' [*r*=.64, *n*=23, *p*=.001], a finding that brings to question the collinearity of these two variables. Consequently, the *inclusion* of '*feedback*' was also strongly correlated with the *importance* of '*academic challenge*' [*r*=.64, *n*=25, *p*=.001] and moderately correlated with the *importance* of '*family/whānau inclusion*' [*r*=.48, *n*=25, *p*<.05]. See Table 3 for these correlations.

Table 3

Intercorrelations between a selection of items related to culturally responsive teaching

	Importance			Inclusion		
Importance	1	2	3	4	5	6
1. Challenging academic experience	-	.40* ^a	.48* ^a	.64** ^c	.53** ^a	.47* ^c
2. Include family/whānau		-	.37 ^a	.48* ^c	.46* ^c	.11 ^e
3. Non-academic help			-	.27 ^c	.80** ^c	.11 ^e
Inclusion						
4. Feedback				-	.33 ^d	.64** ^e
5. Non-academic help					-	.13 ^e
6. Social support						-

Note. ^a*n* = 27. ^b*n* = 26. ^c*n* = 25. ^d*n* = 24. ^e*n* = 23. **p* < .05. ***p* < .01.

Advice to prospective students

There were three open-ended questions in the student survey. The first one asked the students to consider what advice they would give to another student who was about to start the same programme that they had just completed. The responses from both the Tohu and CUP students fell into six themes: attitude, study skills, benefits and support.

Almost half of the respondents chose to give advice about the frame of mind with which new students should approach their chosen programme. These included the perceived importance of being 'open-minded' and 'positive', to 'try hard' and 'stick with it' but to also 'relax' because 'it's not as hard as you think'. There were also references to the need to get used to and 'acclimatise' to the programme of study, both in terms of it being intellectually challenging ('you must give your brain a chance to adjust') but also because, for some of the students at least, it was not their preferred study option ("You may be gutted at missing out on University Entrance for whatever reason and the CUP programme may feel like a last resort...").

Respondents also gave advice that related to the study skills they thought were necessary to be successful in the programme. They ranged in type from specific advice about learning 'how to write an essay', being 'good with time management' and starting 'assignments straight away', to more general advice about asking 'lots of

questions', the importance of regular attendance and the need to persevere even when 'you feel like giving up'.

Another significant theme in the responses was the role that the programme staff, particularly the tutors and lecturers, played in the student experience. The respondents advised any new students to 'take advantage' of the teachers in the programmes, to 'learn as much as [they] can' from them, and reassured them that the staff were supportive, 'willing to help' and 'want you to pass'.

A number of respondents chose to highlight the benefits of completing the programme, from the 'understanding of what's out there for Māori' and the 'great knowledge' that can be gained and applied to 'future studies' to the friendships formed and the 'sense of pride' achieved, the respondents were able to highlight a considerable number of outcomes from completing the programme.

Best aspects

The second qualitative question asked the students to identify what the best aspects of the programme were. The responses spanned four main areas; content, environment, peers, and staff.

Many of the respondents made some reference to the kinds of knowledge and skills that they had acquired from completing their programme of study. Some referred to specific elements, such as learning 'the history of different songs', 'research skills', 'online databases', and how 'to write essays', while others spoke in more general terms about gaining 'a better understanding' and 'changing the way we learn'.

A number of the respondents identified elements relating to the learning environment as some of the best aspects of their programme. These included comments about the physical location of their lessons ('having lectures in the *whare (meeting house)*'), class sizes ('the smaller tutorial groups') and the culture of the programme (the 'marae community and spirit', 'it was very *whānau* orientated', and 'being able to learn and study with others in a familial setting').

Others chose their peers as the best aspect of the programme, both in terms of the friendships that they established ('I made friends that I still have today', 'getting to know people that are doing the same programme as you' and 'the concept of *whanaungatanga* comes into mind for me') and the benefits that the interaction with their peers provided for their learning ('Often the students would work together and I liked that', 'Group discussions gave a broader view on issues', and 'I think giving us the opportunity to work with others who are experiencing a lot of the same things was really helpful').

The most commonly expressed 'best' aspect, however, related to the programme staff, specifically the tutors or lecturers who taught on the programmes. Respondents commented on their 'positive attitudes', how passionate the staff were about their teaching, and the 'great support' they offered their students. They also noted how 'accessible' they thought the staff were, with their willingness to provide 'one on one help' where necessary. In addition, they noted the 'quality' of the teaching staff, acknowledging their ranges of experience and depth of content 'knowledge'.

Areas for improvement

The third and final qualitative question asked the respondents to consider the areas where their programme could be improved. There were fewer responses to this question but they still ranged in coverage from course design and session planning to teacher and student practice.

Some of the responses gave specific feedback about the way courses could be restructured, merged or pitched to better ensure that graduates are ready for university study. However, the responses conflicted: in some instances respondents encouraged the programmes to increase the intellectual challenge ('make it harder as to not leave anyone with a false sense of security') while others advocated a lessening of the academic rigour ('take out critical thinking and not freak everyone out').

Other responses focussed on things that the teaching staff or students could do differently. These included recommending that some teaching staff be more 'prepared and organised', place more emphasis on 'reading in preparation for lectures', ask 'more questions' as a means to increase the levels of student engagement and motivation and require less 'mindless note taking'. They also reiterated earlier points about students needing to 'ask other people' for help and be proactive about managing their workload.

Discussion

Limitations

The researchers do not intend to claim that the views presented in this sample are entirely representative of a Māori bridging education viewpoint. In fact, the researchers are aware of the limitations of the findings due to the small sample sizes, especially from the Tohu students. This reduces the potential to consider smaller cohorts within the data set and the researchers are conscious that the diversity of Māori tribal backgrounds, gender-specific experiences and worldviews is not explicitly acknowledged in this research. In addition, the survey sample was made up of only those who had successfully completed the programmes, not those who had failed, so it privileges the views of the students who experienced success in their studies. Also, this survey was conducted primarily in order to inform course redevelopment and did not solely focus on Māori-related pedagogies or practices.

The researchers are aware of the power dynamic that can exist between the 'researcher' and the 'researched' – in this case both of the researchers had formerly taught on the CUP or Tohu programmes and some of the respondents may have been previously taught by them. However, this potential tension was mitigated by the fact that the majority of the sample group had not been taught by the researchers, the survey responses were entirely voluntary, the survey was conducted online thereby avoiding personal contact, and the survey was undertaken at least three months (and in some cases up to three years) after final grades had been entered.

Key conclusions

Overall, the student responses generally align with the key areas identified in the literature. The quantitative data, with its correlations between diverse interaction, family inclusion, campus events and social support, demonstrate that students who

valued extended social networks and supportive *whānau*-type environments, also saw opportunities for that within their chosen programmes. Similarly, the qualitative data also included a clear thread of responses around the learning environment, noting the importance of the programme culture being *whānau*-orientated, collegial and supportive, and highlighting the value of the cohort effect and its engendering of *whanaungatanga* or the building of close relationships.

The qualitative and quantitative data also supported the notion of the importance of staff support that was identified in the literature. It may be that the 'non-academic help' and the 'social support' questions may be collinear, but despite that, the student responses point towards the importance and inclusion of quality academic support and pastoral care in bridging programmes. This came through clearly in the qualitative responses as well, with respondents noting how integral they found the support and encouragement from staff to be.

Finally, the data suggests that culturally responsive teaching is an important factor in the experience of bridging students. While the survey did not specifically ask for comment about 'Māori' pedagogies or practices, the qualitative and quantitative responses highlighted a number of experiences and views that relate to responsive teaching. For example, the correlations between the importance and inclusion of feedback with other factors like support and academic challenge point to a valuing of pedagogies that are responsive, personal and embedded with the notion of higher expectations and care for student success. This is reinforced by the qualitative responses which acknowledged that staff provided individualised assistance and encouraged the students to be successful. Accordingly, despite sometimes viewing programmes such as the CUP and Tohu as a 'last resort', Māori bridging students do recognise, appreciate and thrive within *whānau* learning environments that are underpinned by academic support and culturally responsive teaching practices provided by staff.

Future research

As a result of this survey, the study skills courses in both the CUP and Tohu programmes were reviewed. Both reviews were informed by the feedback gathered from the students about the structure and content of the courses, but they also sought to retain the elements of both courses that had been identified as supporting the students' success. At the time of writing this paper, both of these revised courses have been offered to the next cohort of students and this will be the subject of future analysis.

In addition to continuing with the next phase of this project, other suggested research areas include broadening the sample of bridging student feedback to include those who were not successful. An analysis of their feedback, combined with achievement data from these courses may shed further light on the key factors that differentiate academically successful Māori bridging students from those who are not.

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High Educational Aspirations as a Barrier to Successful University Participation: Learning from the Sudanese Student Experience

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The Australian government has introduced a range of reforms to the university sector that includes ambitious targets to increase university participation and graduation attainment rates as a basis for ensuring the pool of graduates required to support Australia remaining globally competitive into the future. Achieving these targets will require a significant change in the life aspirations of Australians from low socioeconomic status (LSES) backgrounds who are seen as representing the major source of sector growth. As a result, plans are underway for interventions in late primary and early secondary school in Queensland to change the educational aspirations of children in LSES schools towards tertiary education study. However, a question remains as to whether changing educational aspirations alone will be sufficient to achieve the tertiary attainment targets desired.

A study based on in-depth interviews of Sudanese students from the University of Southern Queensland (USQ) was undertaken, as this group of students typically exhibit high educational aspirations but continue to experience challenges in achieving their educational goals. The purpose of this study was to investigate the reasons underlying the disconnect between high educational aspirations and successful study outcomes for many individuals in this group. The study suggests that high educational aspirations in themselves can come to represent a barrier to successful engagement with the higher education system.

This paper describes the study and its implications for the development of improved learning, teaching and support strategies for Sudanese students from refugee-backgrounds in the higher education setting.

Introduction: The Higher Education Experience of Sudanese Students from Refugee Backgrounds

In 2009 the Australian government announced ambitious targets to significantly increase tertiary participation and attainment over the next decade which are predicated on bringing cohorts of new students from disadvantaged backgrounds into higher education (C. of A., 2009). This has served to re-energise discussion on social inclusion in Australian tertiary education.

Australia accepts refugees¹ through its offshore Refugee and Special Humanitarian Program (SHP) or as onshore asylum seekers. The Department of Immigration and Citizenship (DIAC) reported 1,760 refugee clients (representing 15% of Australia's overseas Refugee and SHP intake) settling in Queensland in 2009-10. This was reported as the highest refugee resettlement intake on record in Queensland, and the current financial year is expected to be of the same order. Refugees from Africa made up 46% of this cohort and over one-in-six of these African refugees, predominantly from southern Sudan, settled in the regional City of

¹ *The 1951 Convention relating to the Status of Refugees states "Under international law, refugees are persons who 'owing to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his (sic) nationality and is unable or, owing to such fear, is unwilling to avail himself of the protection of that country ... " (SAIL 2007).*

Toowoomba, located 120km west of Brisbane in the State of Queensland (Mercy Family Services, personal communication).

The number of refugees from Sudan has grown significantly in many Australian regions over the past decade, including in Toowoomba (Centacare/Lifeline, 2005). There is a focus on increasing the resettlement of refugees in regional areas; due largely to the idea: *“that regional areas need population and workers and that refugees need jobs and therefore the refugees should go to regional areas”* (Taylor & Stanovic, 2005, p. v). McDonald et al. (2008) reported that there is also an increasing trend for secondary migration of refugees to rural areas after initial resettlement in capital cities as many Sudanese refugees themselves are attracted to the relative safety of large, stable regional cities and the draw of the significant local Sudanese communities now in place there (Jensen & Westoby, 2008).

The local Sudanese population in Toowoomba, however, faces many challenges relating to employment, housing, transport, chronic health issues, pockets of racism and harassment, the impact of a history of trauma and social dislocation, and the risk factors associated with the inordinately large proportion of (often unemployed) single young men in the population (Centacare/Lifeline, 2005; Cottone, 2005; Jensen & Westoby, 2008). Members of this group typically come from backgrounds of significant disadvantage and trauma centring on the wide-ranging impact of Sudan’s protracted civil war and their subsequent refugee experience.

Sudanese students from refugee backgrounds create significant challenges for education systems at all levels and these students can find university study extremely difficult. A growing literature is developing around the experience in Australian higher education of this student group (Foundation House, 2005; C. of A., 2006; Clarke 2007, 2009; SORA, 2007; Victorian Foundation for the Survival from Torture, 2007).

Clarke (2007, p. 1) based the development of support strategies for this group on a student profile characterised as:

... a student who presents with multiple disadvantage; tends to take on too much; can make poor choices that can have significant negative consequences; is burdened by competing responsibilities and conflicting expectations; and is not being helped sufficiently by the services that are available.

Despite the challenges confronting them, Sudanese students from refugee backgrounds exhibit a high participation rate in education, value education highly and have high educational aspirations – seeing education as a basis for regaining control, bringing their community forward and replacing the severe loss that they have experienced. However, optimism and determination cannot always overcome the hurdles that these students have to face and hence their expectations may often be unrealistic and, ultimately, create problems.

A study was undertaken to identify the factors associated with the high educational aspirations of Sudanese students from refugee backgrounds in the context of the students’ overall education experiences.

Methodology

Information was collected through in-depth interviews (Boyce & Neale 2006; Hesse-Biber & Leavy, 2006). This qualitative technique involving intensive individual interviews with a relatively small number of participants was selected to gain detailed information on the experiences, perceptions, values and behaviors of the interviewees. It is appreciated that the most significant limitation of this technique is that the results obtained can be difficult to generalise owing to the relatively small sample size involved. Nine adult students from refugee backgrounds currently in study at USQ were interviewed – five studying in the Tertiary Preparation Program (TPP) and the remainder who were ex-TPP students studying in first year of an undergraduate award. Eight males and one female were interviewed, with ages ranging from 22 to 47 years old. Eight were born in rural southern Sudan and one in Darfur. They had been in Australia for between two and five years. All reported that English was not their first language.

All interviews were conducted according to a common interview protocol by an experienced interviewer, and a set list of questions was checked off during the course of each interview. The following questions were explored: When did you first consider going to university and why? What benefits do you see in a university education? What aspirations do you have? What alternatives have you considered to university study and what factors have influenced you in your choices? What are the major challenges and surprises encountered in your interactions with university in Australia? What services do you use at university and why? What can be done better to assist Sudanese students at university?

Results of student interviews

Each of the nine students interviewed had spent extended periods in other countries in Africa after leaving Sudan and before arriving in Australia – all but one in refugee camps in Uganda or Kenya, or both, for periods of up to 12 years. All had experienced some schooling during this interim period, ranging from the first three years of primary school to schooling up to Year 10 (as a scholarship holder) – but with schooling always disrupted.

As all students interviewed arrived in Australia at post-compulsory school age, they were all approaching tertiary study in Australia with the education qualifications they had on arrival – although two of the students had been given opportunities to study in Australian high schools, but had quickly opted out stating that they felt uncomfortable in that environment as older learners. All had undertaken the 510 hours of government-funded Adult Migrant English Program (AMEP) English language training available to them (DIAC, 2010) - typically through TAFE² - and so had some experience of study in Australia prior to considering entering USQ. Two reported having received access to career services during this period; while four others had received some career advice from community

² TAFE refers to Technical and Further Education – the publicly (State) funded network of vocational education and training (VET) providers in Australia. TAFE Queensland is involved in “... *delivering to around 250 000 students each year in over 800 skill areas from more than 100 locations across the state ... via traditional (classroom), distance, online, in the workplace or a combination of these (... blended learning) modes of delivery*” (Webb 2008).

employment services staff. Four of the students interviewed cited friends or relatives currently in study as role models.

Students generally had little understanding of career pathways in Australia and often made decisions based on vague perceptions. One student indicated that he had sought to go on to university in Africa but had been prevented by the unstable social situation in Sudan from doing so. For the others, university study was a possibility that opened up only when they had arrived in Australia. The students had come to higher education by various routes – with university interestingly often being the last resort after other options (such as employment or traineeships) had not borne fruit. A decision pathway such as, *“I wanted to do concreting but could not get a traineeship and so I decided to do Engineering; and if that doesn’t work I will do Accounting”* (Interview Data) is not atypical.

Benefits of education cited by participants included improved employment opportunities and the development of skills that they could use if or when they returned to Sudan - to both assist the southern Sudanese and to compete more effectively with the northern Sudanese. (Many Sudanese students return to Sudan for short or long stays; plans to return to Sudan to get married represented a common aspiration for single men; and students interviewed tended to refer to Sudan as “home”.) A good job was seen as providing a good wage and prestige. It also provided a basis for learning skills – one student stated that he did not want a labourer’s job because he would not learn anything; while in an office job he would develop language skills. The desire also to communicate effectively with the broader Australian community was strong with many of the students interviewed.

Perceptions of study styles in Australia were frequently framed through a comparison with the students’ own experiences with pre-tertiary education in Africa, which was characterised by very formal structures, strict (often corporal) discipline, rote learning and an emphasis on examinations. A common perception was that entry into the next level of education was automatic for Australians, whereas in Africa “we had to pass the exams” in order to progress to the next level. Students stated that they were surprised by the degree to which students were expected to work independently in Australia, and at the amount of (summative) assignment work in Australian study. They felt uncomfortable in group discussions and being required to do oral presentations.

Challenges to study that were reported included language (cited by all students interviewed), studying as a mature aged person, needing to use computers, and the cost of books. In response to the question of what is needed to better support Sudanese students, responses given included: more understanding by teachers, more direction provided by teachers, teachers to push students more, more information provided on services available, more language, study skills and computer classes, advice on the culture of Australian society and the education system, tutorials in academic skills such as critical writing, group work and “thinking skills”, more opportunities to mix with Australian students, and greater access to traineeships. Oral and written communication was a major barrier for this group in terms of general English skills, discipline-specific and technical language, communications styles and structures, with strong cultural influences. Students indicated that they found it extremely difficult to undertake basic study practices such as taking effective lecture notes or taking notes from or summarising readings.

Students were asked about their use of the range of services available to students. Refugee-background students are potentially heavy users of these services – particularly services addressing financial matters, health, housing, careers, counselling, study skills and time management, life skills and advocacy. However, the use of these services by refugee background students has been found to be erratic in practice. Students indicated that they were readily put off if they encounter negative experiences, such as appointments needing to be rescheduled, or instances where information has not been communicated effectively, occasions where students have been referred to automated digital information sources, or examples where the amount of time needed to address an issue comprehensively has not been able to be given by busy services staff.

Students tended to underestimate or understate the challenges that they faced. All but one student said that they expected to finish their undergraduate course in the minimum time of three years. Students typically had a poor idea of how their own knowledge and skills sets fitted with the expectations on them and little understanding of the commitment required to be successful in study. The common perception was that persistence and determination would be sufficient to ensure success. While students did not hesitate to state the services they felt were needed to support refugee-background students in their study, it was not uncommon for students to state that they did not have the time to access the services available – the nature of the commitment required was not generally appreciated. Statements were made relating to a perception that individuals needed to take responsibility for themselves and that solving one's own problems was paramount. This bravado appeared to be the principal basis for the overriding self-confidence displayed by the male students interviewed.

Knowledge of the TAFE system as an alternative to higher education varied among the students concerned. Three students associated TAFE study exclusively with language study, based on their AMEP experience, and so saw university as the only logical step for further study after their AMEP course at TAFE. For others, TAFE had been their first choice - three of the students had sought entry into university only after failing to find or failing traineeship placements; with university therefore their second preference for tertiary study. One student reported the need to pay up-front fees as a major barrier to TAFE study, unaware that the local TAFE has now been offering payment plan options for students for some time. Anecdotal evidence suggests that while TAFE study has not been highly valued by the Sudanese in the past, this attitude is changing.

All of the students interviewed were trying to balance family and/or work with study. Most of the students were employed as labourers, meat workers and in similar positions, often full-time while studying part-time through distance study, and many were supporting family both in Australia and in Africa. Not surprisingly, students supporting family tended to view their family as their first priority, with their own education coming second.

Despite the burdens they faced, students were typically unconcerned about building up a HECS³ debt. A common perception is that the debt could and would be

³ Higher Education Contribution Scheme (HECS) is Australia's student loans scheme.

readily paid off. Many students also appeared unaware of the negative implications of building up a significant failure record.

Discussion

The extraordinary life journeys of Sudanese students from refugee backgrounds studying at USQ have been described previously (Clarke, 2009). While not discussing these life journeys in detail here, it is impossible to understand their current circumstances without understanding where they have come from and what they have had to endure - victims of a long protracted war; witnesses to the break-down of civil society; suffering loss of family members, social dislocation and loss of life opportunities; subject to discrimination and, in many cases, torture; and spending extended periods moving about or living in refugee camps outside of Sudan.

The results from the student interviews will be discussed in the context of the following theme: Are high educational aspirations sufficient to ensure success for 'first in family' students?

A great deal is known about the range of factors that contribute to under-representation by certain disadvantaged groups (Clarke et al., 1997; James et al. 2010; Taylor & Gee 2010). For LSES and people living in regional areas these include:

- Individual factors – including low educational aspirations, low confidence in academic abilities, and poor career focus and aspirations.
- Financial factors – including desire to enter work early, inability to meet the direct and indirect costs of study, debt aversion, disincentives from income support, and the strain of part-time employment while studying.
- Social factors – including low family and/or peer support, lack of strong role models, low perception of the value of education, and lack of insider knowledge of how to navigate the system or cope with the culture.
- Location factors - including proximity to campus, poor schooling quality and outcomes in LSES and regional areas leading to relative under-preparedness, lack of prerequisites (formal and informal – computing, Science, Maths), and poor career advice.

Many of these factors are related to the students being the 'first in their family to attend university'. This has long been recognised as a major 'at-risk' group in US higher education (where the group is referred to as "first generation students") and the basis for significant studies into strategies for improving college retention (Tinto, 1990; Choy, 2001). Choy (2001) reported that first generation college students feel less supported in attending college, receive less assistance in preparing for it, and lack a sense of belonging to the college, which puts them at risk of withdrawing. James et al. (2010, p. 3) found that for LSES university students in Australia:

The factors associated with low achievement and risk of failure include pressure from financial commitments, perceived lack of parental understanding and social support, lack of preparation for university study, and excessive hours of paid work.

The results of the student interviews supported the more general observation that students from refugee backgrounds present several commonalities with 'first in family' students and share the same 'at risk' profile identified for LSES students in Australia by James et al. (2010). Characteristics exhibited included:

- educational disadvantage – which for this group is generally significant and coupled with English language as a barrier to study;
- lack of effective role models or close well-informed advisers;
- limited understanding of and experience with senior school/tertiary education and poor knowledge of alternatives to university study;
- limited careers education and understanding of the employment market;
- financial disadvantage;
- heavy work (\pm family) commitments while studying; and
- under-developed independent learning skills, and inexperience with particular elements of university study such as critical thinking, group work and oral presentations.

However, Sudanese students from refugee backgrounds also present with a further range of issues associated with their refugee experience – relating to trauma, physical and social dislocation, culture shock, the impact of chronic health problems, and discrimination and harassment (Clarke, 2007, 2009; Ben-Moshe, 2009). In addition, the Refugee Council of Australia (2010, p. 83) lists the “*pressures, demands and stresses*” experienced by refugee people of post-compulsory school age compared with refugees who enter Australia at school age, as follows:

.... more significant pressure to succeed educationally, comparatively less previous experience of education, higher levels of family responsibilities, delayed or suspended personal development as a result of the refugee experience, and limited access to needed services due to the inflexibility of many youth and education systems based on chronological age.

Despite these immense challenges, Sudanese students interviewed tended to not to display the 'individual factors' generally associated with 'first in family' students of low educational aspirations, low confidence in academic abilities and frequently even poor career focus and aspirations; although for the latter characteristics the career decisions made may not necessarily be well informed or focused. Students interviewed tended to understate or underestimate the challenges that they faced in study, reflecting in part a poor understanding of the expectations of study and how well they were positioned to engage effectively with higher education. This is consistent with the results of earlier studies of refugee-background students at USQ (Clarke, 2007, 2009).

The results of the interviews indicated that, for this group, high educational aspirations can actually serve as a barrier to successful study. As students tended to underestimate or understate the challenges that they faced, they tended to fail to engage with their studies in effective ways. For example, it is commonly observed that Sudanese students genuinely believe they are working hard and effectively

while never having opened their study books. Based on a poor understanding of the university system and culture, high confidence and high aspirations comes across as simply bravado, further contributing to a dynamic that interferes with the student effectively engaging. Of particular concern is that these students were typically unconcerned about building up a HECS debt and were not aware of the implications of building up a significant failure record. As a result they can tend to act recklessly in the system – building up a pattern of enrolments, failures and burgeoning debt if not detected.

The high educational aspirations observed in Sudanese students often being associated with limited success in study, in practice is of particular interest to the current higher education policy debate in Australia. C. of A. (2008) identified the need for raising the educational aspirations of LSES children as a necessary prerequisite for converting the tertiary under-representation that currently characterises LSES areas into the increased tertiary demand that will be necessary to achieve the Commonwealth's targets for improved LSES participation. At present, significant attention in this area is being directed towards the conduct of early (pre-Year 11) intervention programs in schools as a basis for increasing future high school completion rates and influencing higher education aspirations for this group (OHE, 2009; Gale et al., 2010).

That Sudanese students from refugee backgrounds possess high educational aspirations but find their experiences with tertiary education filled with challenges, provides a valuable insight. Clearly, raising educational aspirations will not be sufficient without additional strategies to support retention and success for the new groups of students entering higher education. There is a need to ensure that the sector does not become complacent on this point. It would be a mistake to assume that the university services currently in place are sufficient to meet the needs of all students, including new cohorts of students that will enter higher education as part of the proposed expansion of the sector over the next decade, invariably being over-represented by students at risk (Gale, 2009). Equity advocates have tended to highlight the observation that LSES students tend to do as well in study as the student cohort overall once they have accessed higher education, without reference to the cost of this achievement in terms of the high support costs, the high staff teaching workloads (at the expense of research time) and the increased attrition that characterises universities with high proportions of LSES students.

The need for high levels of support is particularly clear for refugee-background students. The Refugee Council of Australia (2010, p. 83) states:

Within this context of disadvantage and high aspirations, many service providers and community representatives participating in this year's consultations stressed that there are a significant number of young people whose learning needs remain unmet within education and training systems. The failure to meet the educational needs of refugee entrant students at high school, and the lack of alternative post-compulsory education and training pathways, can have a devastating impact on young people and lead to their disengagement from education, employment and other services, and ultimately to social exclusion.

As for all disadvantaged groups, multiple strategies with multiple intervention points are required to address the needs of refugee-background students. Meeting these needs is therefore inherently resource intensive. Educational strategies that cover the range of needs identified in the student interviews and that have been found to be of particular benefit to Sudanese students from refugee backgrounds include the following:

- Social inclusion policy framework – supporting an institutional culture that is supportive of students and values diversity.
- Collaborative programs with schools. Increasingly, universities are becoming involved in strategies involving collaborations with schools to improve senior school outcomes for Sudanese students. Strategies employed include: the provision of information and careers advice, Out of School Hours Learning Support Programs (OSHLSPs) (Refugee Council of Australia, 2010; UWS, 2010), targeting teacher student practicums in schools with high refugee-background students (ACU, 2010) and early intervention programs to influence educational aspirations (OHE, 2009).
- Strategies to engage the Sudanese community. Strategies targeting Sudanese students alone will ultimately have limited impact if steps are not taken to also engage and work with the broader Sudanese community (Bereded-Samual & Broadbent, 1997; Australian Human Rights Commission, 2010).
- Access pathways and enabling programs.
- Targeted scholarships.
- Enrolment / Commencer interviews and compacts (Pascoe et al., 1997).
- Learning Centre, special tutorials and staff with a dedicated support role for this group.
- Student Services. It is important for the services to be appropriately resourced, for Student Services staff to be trained in the special needs of this group and for special programs and specialist services to be in place for students to be referred to when needed.

In addition, Ben-Moshe et al. (2009) recommend a best practice model for improving access and participation for refugee-background students that includes the following strategies:

- fee relief and waiver of materials costs;
- the use of mentor programs;
- employing 'taster unit', work-integrated learning and intensive learning strategies;
- providing extended English language tuition;

- familiarisation programs on aspects of the tertiary education system and culture; and
- the provision of programs to provide assistance with such issues as transport and child care.

However, the need for multiple strategies and multiple intervention points can put severe strain on institutional services, particularly for refugee-background students who often require intensive face-to-face and individualised attention. This is particularly the case for regional universities and TAFEs which have relatively high student support costs owing to a high proportion of students with special needs, but which tend to be relatively poorly resourced (C. of A., 2009; Long, 2010). This concern is not restricted to educational services in regional Australia. The strain put on government and community services in regional areas and the need for specialist services by refugee-background clients is a common discussion point concerning the policy for regional resettlement of this group (Centacare/Lifeline, 2005; Taylor & Stanovic, 2005; McDonald et al., 2008; Taylor-Neumann & Balasingam, 2009).

The Refugee Council of Australia (2010) points to the absence of a national refugee education policy that results in significant variations in targeted support for students, despite efforts by the Council of Australian Government's (COAG) in signing a national Education Agreement in 2008. Government reforms in Australia have seen the introduction of a so-called "LSES Loading" which by 2012 will see four per cent of teaching and learning funding distributed according to a formula based on each university's relative proportion of LSES load (C. of A., 2009). This provides both an incentive for universities to support the broadening of educational participation and a recognition of the increased costs involved in bringing more 'at risk' students into the system. A targeted loading to provide extra funding for refugee-background students would both help to ensure that the services required are provided, particularly in regional universities, but would also form the basis for improved monitoring and reporting systems to ensure improved outcomes.

Improved educational delivery model strategies are also needed for this group. Closer collaboration between universities and TAFE provides significant potential in this area. The Refugee Council of Australia (2010, p. 84) notes that:

VET [vocational educational and training] courses, particularly when coupled with English language training and pastoral care for students unfamiliar with Australian education systems, can prove excellent pathways for refugee entrants to train or re-train in pursuit of meaningful careers in Australia.

Ross (2010) identifies the formal structures, smaller class sizes, greater number of contact hours and shorter time to qualifications as aspects of TAFE study that suit the needs of many students from non-traditional backgrounds to ease into tertiary study. It is also a less expensive option⁴ that offers flexibility, more personal contact with teachers, a good range of services, scaffolded qualifications and the development of skills that are directly relevant to the workplace and aimed at

⁴ While up-front payments used to create barriers for many students, TAFE Institutes now provide a range of payment options, including payment on installments on a by-course or per month basis.

improving employability. These aspects of TAFE study serve to address many of the issues identified in student interviews; and reflect the degree to which TAFE study provides a very sound option for study for many refugee-background students which needs to be encouraged. As noted earlier, the local Sudanese community has been slow to accept TAFE as a desirable educational option, but these views are changing.

Of course, some issues still need to be addressed in terms of refugee-background students successfully undertaking TAFE study. Factors in TAFE study associated with a lack of success by refugee students include poor matching of students to programs in some instances, insufficient work experience opportunities, a lack of accessibility to apprenticeship and traineeship opportunities (in part associated with a lack of assistance in completing the process and establishing the networks necessary), a poor transfer rate into employment from Certificate qualifications, and issues with TAFE Institutes recognising and accommodating the special needs of these students (Onsando & Billett, 2009; Refugee Council of Australia, 2010). Problems with accessing traineeships certainly emerged as an issue from student interviews. Local experience also indicates that some TAFE teachers require more training to deal with the issues that these students bring to the classroom.

The outcomes of the student interviews suggest that for some refugee background students, university study is selected as a last resort in the absence of securing employment or traineeship/apprenticeship places. It can also be selected by students who are poorly positioned for success, or who even have a superficial perception of university study as an easier, less confronting option than TAFE – a perception arising because students can find it easier to remain “invisible” outside of formal classroom settings. However, there are great risks for refugee-background students slipping through the cracks and being allowed to drift in the system; accumulating course failures and a growing HECS debt. A pathway that secures a TAFE qualification for these students which can enhance employment opportunities in a shorter timeframe than can university study represents a major advantage. It is also the case that with the formal articulation arrangements now in place between TAFE and university – which typically guarantee students with Diploma qualifications entry into an undergraduate program with generous credit – TAFE study represents a valuable pathway into university study when the student requires it.

Such moves are in line with a major thrust of the Review of Higher Education in Australia that reported in 2008, that called for “*a broader tertiary education and training system*” (C. of A., 2008, p. 179) with stronger connections between the educational sectors and greater flexibility and responsiveness in terms of how these sectors operate in the best interests of the students, industry and the nation. The movement to more integrated post-secondary education is strongly supported by the Queensland government (Webb, 2008; OHE, 2010; Baker & Clarke, 2010).

As well as providing access pathways, universities and TAFEs are well placed to collaborate in the co-development of programs, and in providing support for at risk groups such as students from refugee backgrounds. Sharing resources and ideas provides a basis for overcoming the financial limitations of individual institutions and it also provides the basis for a broader based community response to the needs of refugees. Also, as regional universities and TAFEs are well placed to engage with their communities they can assist in anchoring the Sudanese community into the

wider community, of informing and positively influencing community attitudes and perceptions to the refugee experience, and to promote traineeship and employment opportunities for this group (Mestan, 2008).

An important element of the partnerships between universities and TAFE is the arrangement to respect the individual missions, identities and operational practices of each partner organisation and to operate as partnerships of equals. A recognition that both sectors have something valuable to offer the student from refugee backgrounds is essential to fostering connected and truly collaborative tertiary systems.

Conclusion

Regional re-settlement provides significant advantages for refugees from Sudan. However, there is a need for government policy to ensure generous service provision in the regions to meet the high demands of this group and for regional education institutions to be provided with targeted funding to ensure that their educational needs are met.

While the group has high support needs in education, Sudanese students value education highly, have high aspirations and a determination to succeed. This provides significant incentives to study, but many individuals require assistance to ensure they engage with their education effectively and are not allowed to drift in the system.

The attitude of the Sudanese community to TAFE study is changing towards a greater acceptance and understanding of the benefits for study that TAFE provides and that meet the particular needs of this group. There is significant potential for universities and TAFE Institutes, in collaboration with schools, local government, community groups and industry, to work more closely in supporting improved resettlement and post-compulsory educational outcomes for this group in their communities.

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Aligning the Activities in the Literacy-Embedding Value Chain at the Waikato Institute of Technology (Wintec)

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We argue that one of our purposes in literacy and numeracy (LN) embedding¹ is to align the activities of this particular value chain so that we may benefit optimally from the New Zealand Tertiary Education Commission's (TEC) investment and achieve a sector-wide objective of equipping foundation-level learners with the skills, knowledge, attitudes and values needed to manage the complex demands of their future worlds of work. More specifically, we look at the primary tasks of the LN-embedding project as clusters of activities which are not independent; rather, they have to be purposely aligned, if not integrated, on both the horizontal and the vertical planes.

To illustrate horizontal alignment, we mapped the steps and activities for one of our primary tasks, namely, to devise programme-specific literacy and numeracy surveys at Wintec to meet TEC funding requirements. To illustrate the internal consistency of the steps and activities within a primary task, we outline how we selected constructs from the TEC's Learning Progressions as a basis for formulating test specifications, selecting item types, devising the surveys, gathering and processing trial data, as well as collecting and processing beginning- and end-of-course results to show progress. We also include item facility values and Cronbach alpha coefficients as measures of how reliable the surveys were and how these findings prompted us to reflect on how we could develop and use them in future. We argue that the internal collaborative survey design process within the institute paved the way for the mandatory use of the TEC's assessment tool in 2011. To illustrate vertical alignment (between activity sets across primary tasks), we show that higher-order linkages between these activities allow us to extract additional value from the LN-embedding value chain.

We conclude that these two forms of alignment are important in extracting optimal value from government investments and achieving more with less in tertiary education provision.

Introduction

In this paper, we argue that the literacy-embedding value chain² consists of individually identifiable and clustered sequences of activities which derive from the primary tasks we defined in the institute's literacy- and numeracy-embedding action plan. Management experts such as Fleisher and Bensoussan (2003: p. 107) state that "[w]hile most of the individual types of activities in the value chain are discrete, they

¹. When, in 1996, the IALS (International Adult Literacy Survey) and in 2006 the ALL (Adult Literacy and Life Skills Survey) showed that a significant proportion of New Zealanders had level 1 and level 2 literacy, the Ministry of Education initiated systemic interventions to reverse the trend. The New Zealand Tertiary Education Commission supported literacy- and numeracy-embedding projects across New Zealand, with the project at Waikato Institute of Technology an example (NZ Ministry of Education website): <http://www.educationcounts.govt.nz/themes/research/all>.

². Looking at value chains and competitiveness in business (Fleisher and Bensoussan, 2003: pp. 104-107), we reflected on the meaningfulness of the metaphor for education processes. We did not want to reduce the education process to the economic and the financial; rather, we adopted the view that education processes were clusters of value-adding activities. Our purpose in pursuing these interactions was to extract additional education-related value such as increased research outputs.

are not independent - in fact, most of the activities are interlinked with other types of activities.”

We reasoned that if we mapped these sets of activities alongside each other, we would be in a position to identify and pursue consciously what Fleisher and Bensoussan (2003: p. 107) refer to as “higher-order linkages in and among [the activities in] the value chain”.

It is not always obvious where these linkages exist in a literacy-embedding value chain. Hence, we illustrate how, once we had these individually identifiable clusters and sequences of activities mapped, we were in a position to explore these linkages on both the horizontal and the vertical planes. Although our use of the term alignment is similar to Biggs’s influential concept, constructive alignment (Biggs, 1999, 2002), our perspective is wider, encompassing the linkages and interactions among the **full range of project activities** within – and outside – the literacy-embedding value chain. Management theorists argue that we have to reflect critically on all the activities in a value chain, mindful of interactions among the totality of activities as we pursue quality in all of them to gain optimal benefit and improve performance (Mintzberg, Ahlstrand and Lampel, 1998: p. 108; Fleisher and Bensoussan, 2003: p. 106).

Mapping the Activities of a Primary Task: Horizontal Alignment

In this section we focus on a primary task and its identifiable sequence of activities. We selected the following primary task³ taken from the Wintec literacy-embedding action plan as our starting point:

Primary task 2: Develop and implement programme-specific literacy and numeracy surveys to meet funding requirements⁴

When it became apparent in July 2009 that the TEC’s assessment tool would not be available at the start of the academic year in 2010, we argued that reliable and valid LN surveys⁵ would be required to meet funding requirements. Furthermore, we argued that a survey design cycle could raise vocational tutors’

³. We identified 8 primary tasks in the Wintec LN-embedding action plan: **Primary tasks 1:** Identify current LN practices and enhancing these as stepping stones into the Progressions. **2:** Develop and implement programme-specific literacy and numeracy surveys to meet funding requirements **3:** Make resources available across Wintec. **4:** Develop and implement a self-assessment tool for tutors. **5:** Support increased participation in LN training. **6:** Acquire educational technology to promote autonomy. **7:** Amend academic documents. **8:** Pursue research opportunities (Waikato Institute of Technology, 2009c).

⁴. The TEC’s funding requirements for literacy and numeracy embedding are clear. Specifically, in any course that complies, one would “have explicit learning outcomes for literacy and numeracy; a literacy and numeracy diagnostic assessment for all students; and deliberate teaching of literacy and numeracy that is contextualised to the relevant curriculum and in response to the diagnosed learner needs; and assessment of learners’ progress in literacy and numeracy” (New Zealand Tertiary Education Commission, 2009: p. 9).

⁵. We avoided the terms “diagnostic” and “test” because they have negative connotations, the first linking the process to disease imagery and the second to high-stakes, anxiety-provoking experiences. Following the TEC’s recommendations, we too were focused on selling LN surveying as a low-stakes, developmental activity, aimed at obtaining reliable and valid information about the LN skills of various vocation-specific cohorts of students.

awareness of some of the issues behind designing reliable and valid LN assessment tools. If tutors were co-designers, they would also be co-owners of the tools. This learning cycle, we reasoned, would allow us to ease vocational tutors into using the TEC's assessment tool in 2011. Moreover, if we were able to develop reliable and valid programme-specific tools, synchronized with the TEC's learning progressions, we would be in a position to link learners' needs and explicit LN outcomes, aligning all of these with deliberate acts of teaching. If we used these surveys in beginning-of-course and end-of-course assessments, we would also be able to report on learner progress.⁶

Another factor was that in our initial discussions with the TEC-targeted schools, heads of school, programme managers and vocational tutors signalled that they were interested in developing programme-specific surveys. The literacy-embedding team saw this as an opportunity not only to obtain tutor buy-in for the survey development process, but also to establish co-operative relationships, build trust and support bottom-up change in the organization (Moon, 2008).

Below, in Figure 1, we outline the steps and activities for primary task 2:

⁶ Pretest/posttest designs are contestable. Even if we obtain a significant difference in means between two sets of so-collected scores, we have no certainty that such a difference can be attributed unequivocally to our intervention. Factors such as test effect or natural growth could have precipitated learner progress (Hatch & Lazaraton, 1991: pp. 40, 87). To counter test effect, we allowed for an optimal intervening period of not less than two months. We concede that results obtained from such a design should be interpreted with caution.

Primary task 2: Develop & implement programme-specific literacy and numeracy surveys to meet funding requirements

Step 1: Raise the team's awareness of LN-embedding praxis	Step 2: Build relationships of trust & respond to a need	Step 3: Select constructs for survey design	Step 4: Formulate test specifications & select item types	Step 5: Design prototypes
Activities <input checked="" type="checkbox"/> Defining our roles as a team <input checked="" type="checkbox"/> Raise team awareness of LN-embedding requirements <input checked="" type="checkbox"/> Communicating the notion of a developmental alliance <input checked="" type="checkbox"/> Keep journals as evidence of engagement	Activities <input checked="" type="checkbox"/> Collaborating with Schools to establish roles <input checked="" type="checkbox"/> Allocating team members to TEC-targeted Schools <input checked="" type="checkbox"/> Building relationships and trust <input checked="" type="checkbox"/> Responding to school requests for programme-specific surveys	Activities <input checked="" type="checkbox"/> Select LN constructs from TEC Progressions <input checked="" type="checkbox"/> Consult tutors on LN demands of courses <input checked="" type="checkbox"/> Collate findings for use in design <input checked="" type="checkbox"/> Consider the constructs tested by the TEC's Assessment Tool	Activities <input checked="" type="checkbox"/> Formulate test specifications <input checked="" type="checkbox"/> Selecting item types <input checked="" type="checkbox"/> Anticipating learner reasoning in responding to an item	Activities <input checked="" type="checkbox"/> Collaborating with schools to design prototypes <input checked="" type="checkbox"/> Taking decisions about length and anticipated interest in content

Primary task 2 (continued): Develop and implement programme-specific literacy and numeracy surveys to meet funding requirements

Step 6: Trial, analyse and tweak the surveys	Step 7: Administer and process surveys	Step 8: Design and implement PLPs; feedback to tutors and learners & referral system	Step 9: Deliberate acts of teaching	Step 10: Review and amend approach
Activities <input checked="" type="checkbox"/> Trial the surveys <input checked="" type="checkbox"/> Analyse results <input checked="" type="checkbox"/> Tweak the surveys	Activities <input checked="" type="checkbox"/> Administer the surveys <input checked="" type="checkbox"/> Process surveys in pre-designed templates	Activities <input checked="" type="checkbox"/> Design PLPs <input checked="" type="checkbox"/> Implement PLPs in a Mail Merge <input checked="" type="checkbox"/> Feedback via PLPs <input checked="" type="checkbox"/> Referral options if required	Activities <input checked="" type="checkbox"/> Listed in the PLPs possible strategies for self-directed learning <input checked="" type="checkbox"/> Team-based raising of tutor awareness of DAT <input checked="" type="checkbox"/> Experimenting with practices	Activities <input checked="" type="checkbox"/> Review processes and improve

Figure 1. Steps and activities for primary task 2.

We outline these steps very briefly. In Step 1, we defined our roles as members of the literacy-embedding team. This meant that we defined our philosophy of practice which, in short, meant that we would play a subordinate and supportive role, primarily advising vocational tutors on LN embedding. The vocational tutors, we reasoned, were experts in their fields, and their current praxis would be the starting point for our collaborative and supportive engagement. We argued that we had to acknowledge them as experts in their fields; once they accepted our presence and we had established relationships of trust, we would be in a position to take the project forward. Thus, we started with consciousness-raising to ensure that members of the literacy-embedding team had conscious awareness of their personal work-related constructs.⁷

In Step 2, the literacy-embedding team had critical conversations with the managers and vocational tutors in the TEC-targeted programmes. These conversations,⁸ we reasoned, were the currency for establishing relationships and building trust. For example, several Wintec tutors offered to make their diagnostic assessment tools available as a starting point for designing tools that would yield reliable and valid information about their cohorts of students, notably Hairdressing, Catering, Hospitality, Tourism and Floristry. This was evidence, we argued, of stakeholder buy-in and co-ownership of the survey-development process.

In Step 3, we looked at the basic design framework for the TEC's assessment tool to see how we could develop an equivalent. We also consulted the TEC's Reading and Numeracy Progressions (2008a and b) as sources of the constructs we wanted to survey. From this background, we defined the following literacy construct to guide us in formulating test specifications that would be consistent with the TEC's Learning Progressions: Vocation-related text-processing ability. We argued that we needed a single hierarchical construct we could relate to at least three recent positions in language development theory,⁹ as well as the TEC's Reading Progressions. For the numeracy survey we selected another hierarchical construct: Vocation-specific numeracy reasoning ability (See the TEC website for the national assessment tool: <http://www.tec.govt.nz/Resource-Centre/Software-tools/Literacy-and-Numeracy-for-Adults-Assessment-Tool/> and the Learning Progressions, specifically: Learning Progressions for Adults, pp. 8-13; and pp. 18-20; as well as Teaching Adults to Read with Understanding).

Step 4, closely related to Step 3, involved our defining test specifications and selecting item types. These are captured in Figure 2 below. In addition, we list the item types we selected for the design. Our example applies specifically to Hairdressing:

⁷ . As a team, we engaged in a month-long project to raise our awareness of our constructions of the literacy-embedding task. Using Hinkle's laddering technique to elicit hierarchical constructs (Hinkle, 1965), we developed personalized repertory grids for four of the five team members. These findings are reported in Greyling, Boal, McKnight and Tappenden (2009).

⁸ . We deemed these conversations to be key events in the literacy-embedding process. We reasoned that they had an awareness-raising function, allowing the participants to story and re-story their LN-embedding activities within their organisational narrative (see Brown, Denning, Groh and Prusak, 2005).

⁹ . The three positions we selected were the input hypothesis (Krashen and Terrell, 1986), the input-processing approach (VanPatten, 2002) and the holistic input-processing-output model (Block, 2003).

Hierarchical literacy construct: Vocation-related text-processing ability

Test specification 1: Understanding the meaning and appropriateness of words that serve as essential clause elements [i.e. verbs and nouns] in extended texts on topics that are relevant to the vocational fields of training [Vocabulary in context]. **Item**

types: Cloze procedure & fill-in-the-gap-mind-map

Test specification 2: Understanding inter-sentence links [sentence order in a paragraph]. **Item type:** Sentence sequencing tasks

Test specification 3: Comprehending and interpreting texts on vocationally relevant topics. **Item type:** Multiple-choice questions

Hierarchical numeracy construct: Vocation-specific numeracy reasoning ability

Test specification 1: Adding and subtracting in hairdressing contexts and scenarios.

Item types: Word sums & scenarios.

Test specification 2: Multiplying and dividing in hairdressing contexts and scenarios.

Item type: Word sums & scenarios

Test specification 3: Proportions, ratios and percentages in hairdressing contexts.

Item types: Word sums

Figure 2. Vocation-specific test specifications and item types for Hairdressing.

In this step, we decided on four item types: multiple choice, cloze procedure, sentence sequencing and fill-in-the-gap-in-a-mind-map. In formulating these items, we put ourselves in the role of the learner, attempting to specify the process of reasoning and text processing the learner would have to follow to select an answer.¹⁰ To illustrate our process, we outline two items: a typical multiple-choice item and a scenario-based word sum from the Hairdressing surveys. For the literacy surveys, we selected a range of short texts that would activate schemata in the Hairdressing field.¹¹ Figure 3 illustrates a typical item:

¹⁰ . These item types were used to achieve a specific purpose: engage the learner in text-based reasoning and text processing. However, to conclude that learners have indeed followed any process of reasoning, we would have to research the reasoning process. In a qualitative research design, we would have to ask learners to describe their reasoning in deciding on a specific option as the appropriate answer. This is a limitation of multiple-choice surveying: we do not really have reliable and valid information about their reasoning processes. A related issue is whether they would have conscious awareness of all aspects of their reasoning if asked to give an account. We argued that if we included a minimum of 5 options, we would minimize the risk of their guessing the correct answer, reducing the risk to 20%. We attempted to anticipate their step-by-step reasoning to make sense of the text, both in terms of language structure and its related meanings. Phakiti (2008) argues that the cognitive and meta-cognitive strategies learners use when they respond to test items should be a focal point of language testing research.

¹¹ . We argued from the assumption that if we activated these schemata we would at least be attempting to ensure learners engage in reading texts of interest to them. Moreover, they would experience the surveying process as related to the vocational context in which they were required to work. We consulted a range of texts before writing our own for the surveys. We then conducted a readability analysis at the following URL: http://www.online-utility.org/english/readability_test_and_improve.jsp . Our benchmark was a reading age associated with 10-12 years of schooling.

Read the paragraph below before you answer the question that follows after it:

Hair Replacement

1. In the not too recent past, men had to live with baldness, unlike women, who would use wigs. These men, worried by their receding hairlines, then discovered that they too could wear hairpieces and toupees. The artificial nature of these items made them the target of most comedians.

Question 1: Based on the paragraph, which one of the following sentences is correct?

- A. At some time in the past all men were extremely concerned about baldness;
- B. At some time in the past men had no choice but to accept their hair loss;
- C. At some time in the past men were the first to wear hairpieces and toupees;
- D. At some time in the past men wore wigs that seemed very real;
- E. At some time in the past men poked fun at the wigs women used.

Figure 3. A typical multiple-choice item.

We argued that learners attempting to make sense of the paragraph would have to be able to derive a set of meanings from the text. The statements below are by no means exhaustive:

- (1.1) The phrase “not too recent past” means “at some time in the past”.
- (1.2) At a time in the past, men could not do much about their bald heads, yet women could.
- (1.3) Women used wigs, but men did not.
- (1.4) Men were concerned about their balding heads; so, they too discovered wigs.
- (1.5) Wigs would include hairpieces and toupees; either way, they looked unnatural.
- (1.6) Comedians poked fun at men who wore hairpieces and toupees.

Once the basic meanings of the text have been decoded, they have to be compared with the propositions that are captured in the question and its options:

- (2.1) Option A implies that some time in the past all men were deeply concerned about the threat of baldness.
- (2.2) Option B implies that some time in the past whether men were concerned about their hairlines or not, they had to accept that they could not do much about the problem.
- (2.3) Option C implies that men were first to wear hairpieces and toupees.
- (2.4) Option D implies that the wigs men wore were very natural and looked real.
- (2.5) Option E implies that men poked fun at women’s wigs.

Next, the meanings in (1.1 to 1.6) and those in (2.1 to 2.5) have to be compared for similarities and differences to arrive at the answer. This reasoning could evolve as follows:

- (3.1) Some men were probably concerned about their hairlines, not all; thus, A would be too strong a statement. Discard A.
- (3.2) Option B is probably correct as it says the same as option A, without the strong generalized claim. What are my reasons for rejecting the rest of the options?

- (3.3) Option C is incorrect because the word “too” in the text suggests that women were first to wear wigs. Discard option C.
- (3.4) Option D is incorrect because the first wigs were artificial; indeed they did not look natural; hence the statement in (1.6). Discard Option D.
- (3.5) Option E is incorrect because it does not say that men poked fun at women; rather, comedians poked fun at men who wore hairpieces and toupees. Discard option E.

Conclusion: The answer has to be option B.

Similarly, we used the following Hairdressing scenario¹² to devise contextualized numeracy questions (See Figure 4 below):

Scenario 1: 03 July 2009: It is 10.00am and a customer and her friend have walked into your salon. They both would like to make appointments. One customer would like an appointment for a shampoo and blow wave with Carlos. The other customer would like to make an appointment for a shampoo, conditioning treatment and blow wave with Sam. They would both like to have their hair done at the same time. Sam charges the standard rate. Carlos charges twice Sam’s standard rate. The standard rates are quoted below:
Shampoo and blow wave \$55
Conditioning treatment \$30

Question 1: The full cost for both customers will be as follows:
A. \$180.00 B. \$190.00 C. \$195.00 D. \$200.00 E. \$205.00

Question 2: Half the cost paid by Carlos’s client is the following:
A. \$45.25 B. \$55.00 C. \$60.00 D. \$48.50 E. \$56.10

Question 3: Half the cost paid by Sam’s client is the following:
A. \$36.50 B. \$38.20 C. \$41.25 D. \$42.50 E. \$44.50

Figure 4. A typical hairdressing-scenario numeracy item.

We worked from the premise that numeracy problems occur in real-world contexts; for this reason, we consistently used word sums. The scenario, we argued, was simply a more complex level of word sum which required the learner to be able to manage combinations of numeracy operations to solve a real-life-like problem.

In Step 5 we followed an iterative process. Using the item types outlined earlier in Step 4, we devised initial surveys of 25 items each. Survey development became an iterative process of consulting Hairdressing tutors for their input. We trialled 25-item versions of the surveys. We reworked all items outside the 30-70 parameters. In other words, where fewer than 30 % of trial subjects selected the correct answer (i.e. where the item was too difficult) and where 70% or more of the cohort selected the correct answer), we reviewed these items. We also reviewed survey length on the basis of both tutors’ and learners’ qualitative informal comments. The final literacy survey had 15 items and the numeracy survey 16 items. We also learnt that we needed a standard procedure for administering the surveys to ensure

¹². This item is based on a scenario-based approach used by two Hairdressing tutors who generously contributed to the survey design process. See the references to Belcher (Waikato Institute of Technology, 2009a) and Warner (Waikato Institute of Technology, 2009b) who contributed cloze exercises and numeracy scenarios.

consistency. Part of this procedure was to explain the low-stakes developmental purpose behind obtaining the information.

In February 2010, we were ready to embark upon Step 7. We administered 15 literacy and 15 numeracy surveys across Wintec. In our example, we administered the Hairdressing surveys to 19 students. We scored all learner responses, entering the responses per question against each learner's details in an Excel file. Find below, the group means, standard deviations (Tables 1 and 2), item facility values, the Cronbach alpha coefficients for the cohort (Tables 3 and 4) and the paired t-tests to record learner progress (Tables 5 and 6)¹³.

Table 1

Literacy scores for Hairdressing cohort

[Surn_init = Surname and initials; Initial scores for Vocab1 = Vocabulary; Structure = Paragraph structure; Compreh = Comprehension; TotalLit1 = Total literacy score & Steps]

	A	B	C	D	E	F	G	H	I
1	Surn_init	Vocab1	StepV1	Structure1	StepS1	Compreh1	StepC1	TotalLit1	StepTL1
2	1	100.0	6	60.0	4	57.1	4	73.3	6
3	2	100.0	6	60.0	4	57.1	4	73.3	6
4	3	40.0	2	40.0	2	0.0	1	26.7	1
5	4	60.0	4	80.0	6	28.6	1	53.3	4
6	5	60.0	4	40.0	2	42.9	3	46.7	3
7	6	100.0	6	60.0	4	71.4	6	80.0	6
8	7	100.0	6	40.0	2	57.1	4	66.7	5
9	8	100.0	6	60.0	4	57.1	4	73.3	6
10	9	100.0	6	20.0	1	42.9	3	53.3	4
11	10	100.0	6	60.0	4	85.7	6	86.7	6
12	11	100.0	6	60.0	4	57.1	4	73.3	6
13	12	100.0	6	80.0	6	71.4	6	86.7	6
14	13	40.0	2	60.0	4	42.9	3	40.0	2
15	14	60.0	4	60.0	4	28.6	1	46.7	3
16	15	100.0	6	80.0	6	85.7	6	93.3	6
17	16	80.0	6	60.0	4	57.1	4	66.7	5
18	17	100.0	6	80.0	6	100.0	6	93.3	6
19	18	80.0	6	100.0	6	42.9	3	66.7	5
20	19	100.0	6	40.0	2	71.4	6	73.3	6
21	Means	85.3		60.0		55.6		67.0	
22	Std dev	22.0		18.9		23.3		18.4	

¹³ . Using the SPSS statistical analysis package, we imported binary data per question (0 = incorrect; and 1 = correct), recorded in Excel files, into the programme. This allowed us to compute Cronbach Alpha coefficients for the surveys. See the SPSS statistical package and background information in Tredoux and Durrheim (2002).

Table 2

Numeracy scores for Hairdressing cohort

[Surn_init = Surname and initials; Sub-totals for Add_Sub1 = Add Subtract; Mul_Div1 = Multiply/Divide; Prop_Rat1 = Proportions, Fractions and ratios; TotalNum = Total score for numeracy in initial survey & Steps per variable]

	A	B	C	D	E	F	G	H	I
1	Surn_init	Add_Sub1	StepA1	Mul_Div1	StepM1	Prop_Rat1	StepP1	TotalNum	StepTN1
2	1	100.0	6	100.0	6	100.0	6	100.0	6
3	2	100.0	6	83.3	6	80.0	6	93.8	6
4	3	71.4	6	0.0	1	20.0	1	37.5	2
5	4	85.7	6	66.7	5	100.0	6	81.3	6
6	5	85.7	6	83.3	6	80.0	6	87.5	6
7	6	100.0	6	100.0	6	100.0	6	100.0	6
8	7	100.0	6	83.3	6	60.0	4	87.5	6
9	8	85.7	6	66.7	5	100.0	6	81.3	6
10	9	100.0	6	100.0	6	100.0	6	100.0	6
11	10	100.0	6	100.0	6	60.0	4	87.5	6
12	11	57.1	4	66.7	5	100.0	6	68.8	5
13	12	100.0	6	83.3	6	80.0	6	87.5	6
14	13	85.7	6	50.0	3	20.0	1	62.5	5
15	14	100.0	6	66.7	5	100.0	6	87.5	6
16	15	85.7	6	83.3	6	40.0	2	81.3	6
17	16	100.0	6	100.0	6	100.0	6	100.0	6
18	17	100.0	6	100.0	6	80.0	6	93.8	6
19	18	85.7	6	100.0	6	80.0	6	87.5	6
20	19	100.0	6	100.0	6	100.0	6	100.0	6
21	Means	91.7		80.7		78.9		85.5	
22	Std dev	12.0		25.0		27.1		15.6	

Table 3

Reliability and item statistics for Hairdressing literacy survey

Reliability analysis (Cronbach's Alpha Coefficient) and item statistics for the Hairdressing Literacy Survey

Warnings

Each of the following component variables has zero variance and is removed from the scale: Q5

Scale: ALL VARIABLES

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.720	.725	14

Item Statistics

	Mean	Std. Deviation	N
Q1	.89	.315	19
Q2	.84	.375	19
Q3	.89	.315	19
Q4	.63	.496	19
Q6	.58	.507	19
Q7	.37	.496	19
Q8	.95	.229	19
Q9	.47	.513	19
Q10	.95	.229	19
Q11	.84	.375	19
Q12	.53	.513	19
Q13	.16	.375	19
Q14	.53	.513	19
Q15	.42	.507	19

Table 4
Reliability and item statistics for Hairdressing numeracy survey

Reliability analysis (Cronbach Alpha Coefficient) and item statistics for the Hairdressing numeracy survey

Warnings

Each of the following component variables has zero variance and is removed from the scale: Q3

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.753	.764	15

Item Statistics

	Mean	Std. Deviation	N
Q1	.95	.229	19
Q2	.95	.229	19
Q4	.84	.375	19
Q5	.95	.229	19
Q6	.95	.229	19
Q7	.95	.229	19
Q8	.89	.315	19
Q9	.68	.478	19
Q10	.84	.375	19
Q11	.68	.478	19
Q12	.79	.419	19
Q13	.68	.478	19
Q14	.63	.496	19
Q15	.95	.229	19
Q16	.95	.229	19

In Tables 5 and 6 below, we report on the t-test results which show that although all the means for the variables surveyed had improved, we had not registered statistically significant progress for the cohort. Moreover, the item statistics, quoted directly above in Tables 3 and 4, show that the test results were significantly skewed to the right of the distribution. The implication was that the surveys were still too easy, and for future use, we would have to review the surveys, taking the following actions: lift the difficulty level, add more difficult items to improve reliability (Hatch & Lazaraton, 1991: p. 539), and work with larger cohorts of students to capture a wider range of skills levels (Foxcroft & Roodt, 2005: pp. 30-31). It is worth noting Hatch and Lazaraton (1991: p. 529) who remind us that reliability coefficients have to be calculated for each application of a measuring instrument.

Table 5

*Paired t-test results for literacy variables***Paired T-Test Results for Literacy Variables**

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Vocab1	75.862	29	25.8453	4.7994
	Vocab2	80.000	29	23.2993	4.3266
Pair 2	Structure1	55.172	29	21.1492	3.9273
	Structure2	62.759	29	17.5044	3.2505
Pair 3	Compreh1`	58.12807893	29	22.88615369	4.249852051
	Compreh2	66.00985276	29	21.73716440	4.036490096
Pair 4	TotalLit1	60.98715328	29	19.87731395	3.691124536
	TotalLit2	67.64029679	29	19.98231253	3.710622283

Paired Samples Correlations				
		N	Correlation	Sig.
Pair 1	Vocab1 & Vocab2	29	.498	.006
Pair 2	Structure1 & Structure2	29	.037	.848
Pair 3	Compreh1` & Compreh2	29	.524	.004
Pair 4	TotalLit1 & TotalLit2	29	.529	.003

Paired Samples Test									
		Paired Differences					t	df	Sig. (2-tailed)
					95% Confidence Interval of the Difference				
					Mean	Std. Deviation			
Pair 1	Vocab1 - Vocab2	-4.1379	24.7151	4.5895	-13.5391	5.2632	-.902	28	.375
Pair 2	Structure1 - Structure2	-7.5862	26.9464	5.0038	-17.8361	2.6637	-1.516	28	.141
Pair 3	Compreh1` - Compreh2	-7.881773828	21.79489929	4.047211194	-16.17211014	.408562487	-1.947	28	.062
Pair 4	TotalLit1 - TotalLit2	-6.653143517	19.33947488	3.591250330	-14.00948634	.703199306	-1.853	28	.075

Table 6
Paired t-test results for numeracy variables

Paired T-Tests for Numeracy Variables

[DataSet1]

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Add_Sub1	93.5960597	29	19.31260649	3.58626099
	Add_Sub2	97.5369462	29	6.68857971	1.24203807
Pair 2	Mul_Div1	85.05747172	29	20.57932210	3.821484177
	Mul_Div2	85.63218428	29	17.09226739	3.173954375
Pair 3	Prop_Rat1	73.793	29	24.5552	4.5598
	Prop_Rat2	71.034	29	16.5497	3.0732
Pair 4	TotalNum1	86.4224	29	18.53063	3.44105
	TotalNum2	87.5000	29	9.59562	1.78186

Paired Samples Correlations				
		N	Correlation	Sig.
Pair 1	Add_Sub1 & Add_Sub2	29	-.014	.944
Pair 2	Mul_Div1 & Mul_Div2	29	.496	.006
Pair 3	Prop_Rat1 & Prop_Rat2	29	.421	.023
Pair 4	TotalNum1 & TotalNum2	29	.502	.006

Paired Samples Test									
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Add_Sub1 - Add_Sub2	-3.94088655	20.52394982	3.81120180	-11.74777954	3.86600644	-1.034	28	.310
Pair 2	Mul_Div1 - Mul_Div2	-.574712552	19.14997073	3.556060291	-7.858971849	6.709546746	-.162	28	.873
Pair 3	Prop_Rat1 - Prop_Rat2	2.7586	23.1295	4.2950	-6.0394	11.5566	.642	28	.526
Pair 4	TotalNum1 - TotalNum2	-1.07759	16.02775	2.97628	-7.17422	5.01904	-.362	28	.720

In Step 8, we designed a personal learning plan which allowed us to Mail Merge results from the Excel file into the plan. The results per construct tested were also placed on the following six-step continuum as our equivalent to the six steps in the TEC's matrix.

Scores for steps:

Step 6: 71% or higher; Step 5: 61-70%; Step 4: 51-60%; Step 3: 41-50%; Step 2: 31-40%; Step 1: 0-30%

In the PLP we defined a statistically based outcome. We identified all students who were at-risk, immediately warning vocational tutors that they were at risk. For students who were on Step 1 of our scale, we requested referral to Student Learning

Services and Te Kete Kōhanga (Step 10).¹⁴ In Step 9, we provided feedback to the cohort of learners and the tutor responsible for the group, recommending what learners could do on their own, and what vocational tutors could do to build in deliberate acts of teaching that focused on specific learner needs. In Step 10, we reviewed some of our processes.

In these steps, we pursued horizontal alignment. For example, as we engaged in the process our discussions were framed, among others, by the TEC's Learning Progressions. When the Schools articulated the need for programme-specific surveys (Step 2), we agreed to use the progressions as our point of departure. In the next step, we considered the Reading and the Numeracy Progressions as the primary sources of constructs we would survey (Step 3). The variables measured in the surveys (Step 5) were consistent with these constructs, and these not only became the elements of the personal learning plans (Step 8), but also prompted us to select deliberate acts of teaching to address these learner needs (Step 9). The survey results too were synchronized with deliberate acts of teaching in the personal learning plan. We were also mindful of the reductionist nature of surveying; in fact, learner performance encompasses much more than the limited view of the learner through the lens of 30 questions; at best, surveys provide a partial and reductionist view of learner skills.

Mapping these steps and the related clusters of activities also reminded us that project activities require project teams to make conscious and informed choices when they pursue internal consistency among them.

Mapping the Activities of Several Primary Tasks: Vertical Alignment

With vertical alignment, our purpose is to unlock value by purposely establishing higher-order links among the activity sets associated with different primary tasks. We may plot these primary tasks and their sets of activities alongside each other on a horizontal plane, and then look for interactions on the vertical axis. To illustrate our reasoning, we outline the sets of activities for two primary tasks in Figures 5 and 6, and then outline how vertical linkages may be interpreted. These vertical linkages are then summarised in Figures 7 and 8:

¹⁴ . One of the outcomes of our review was that the embedding philosophy had to be extended to learning support. We argued that if learning support was given within classroom context, we would be de-stigmatizing and normalizing the support process.

V E R T I C A L	Primary task 1: Identify current LN practices & enhancing these to promote the Progressions				
	Step 1: Raise team members' awareness of their role	Step 2: Build relationships of trust & framework of action	Step 3: Literacy demands analyses of programmes and feedback	Step 4: Text-mapping analyses for modules in programmes and feedback	Step 5: Classroom observations and deliberate acts of teaching
A	Activities	Activities	Activities	Activities	Activities
L	<input checked="" type="checkbox"/> Define our roles as a team	<input checked="" type="checkbox"/> Establish a framework for awareness-raising as LN-embedding	<input checked="" type="checkbox"/> Complete LDA templates	<input checked="" type="checkbox"/> Complete text-mapping templates	<input checked="" type="checkbox"/> Use LDA, and TMT results as input for selecting DAT
G	<input checked="" type="checkbox"/> Raise team awareness of LN embedding	<input checked="" type="checkbox"/> Pursue a bottom-up agenda	<input checked="" type="checkbox"/> LDA as an agenda for awareness-raising discussions	<input checked="" type="checkbox"/> TMT as an agenda for awareness-raising discussions	<input checked="" type="checkbox"/> Match these with the survey results
N	<input checked="" type="checkbox"/> Promote developmental alliance				
M	<input checked="" type="checkbox"/> Keep journals as evidence of engagement				
E					
N					
T					
HORIZONTAL ALIGNMENT					→

Figure 5. Activity mapping for two primary tasks – vertical alignment.

VERTICAL	Primary task 2: Develop and implement programme-specific literacy and numeracy surveys to meet funding requirements					
	Step 1	Raise team members' awareness of their role	Step 2: Build relationships of trust & respond to a need	Step 3: Select constructs for survey design	Step 4: Formulate test specifications and select item types	Step 5: Design prototypes
	Activities		Activities	Activities	Activities	Activities
	<input checked="" type="checkbox"/> Define our roles as a team		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Select LN constructs from TEC Progressions	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/> Raise team awareness of LN embedding		Collaborating with Schools to establish roles	<input checked="" type="checkbox"/> Consult tutors on LN demands	Formulate test specifications	Collaborate with schools in designing prototypes
	<input checked="" type="checkbox"/> Promote a developmental alliance		<input checked="" type="checkbox"/> Build relationships/trust	<input checked="" type="checkbox"/> Consider the constructs tested by the TEC's assessment tool	<input checked="" type="checkbox"/> Select item types	<input checked="" type="checkbox"/> Decide on length and anticipated interest in content
	<input checked="" type="checkbox"/> Keep journals as evidence of engagement		<input checked="" type="checkbox"/> Respond to requests for programme-specific surveys		<input checked="" type="checkbox"/> Anticipate learner reasoning in responding to an item	
	HORIZONTAL INTEGRATION					
	<div></div>					
	<div></div>					

Figure 6. Vertical alignment between primary tasks 1 and 2.

As stated above, let us consider two examples of vertical alignment which we have summarized in Figures 7 and 8 below. In Figure 7, we look at how activities from Step 1 of both primary tasks are related to the specific activity sets for the two tasks. We select this as the **vertical linkage** across primary tasks. We couch the vertical linkage in the if-then format. Using these as prompts, we pose **critical-reflective questions** about the two activity sets, followed by **methods** and **outputs**. The vertical linkage explored here is also related to **primary task 8**, the research focus (See footnote 3).

<p>Role definitions and team's philosophy of practice (Step 1 for both primary tasks)</p>	<p>LN-embedding activities: Literacy demands analyses, text mapping and classroom observations (Steps 3, 4 and 5 of Primary task 1)</p> <p>Vertical linkage: If our purpose is to engage in critical conversations with vocational tutors about LN-embedding activities related to their courses, we need to be certain that the meanings we assign to our roles will allow us to achieve this objective.</p> <p>If our philosophy of practice is based on the idea of a supportive and reciprocal developmental alliance, these premises will prompt us to define our approach to literacy demands analyses, text mapping and classroom observations in specific ways.</p> <p>Critical-reflective questions: How can we raise the team's awareness of their meaning-making in the LN-embedding process in general?</p> <p>If our role is defined as developmental and supportive, do we achieve consistency between our thinking and our actions?</p> <p>Possible actions: Establish a philosophy of practice. In the initial stages of the project, embark upon a brief research project on raising the team's awareness of their meaning making.</p> <p>Methods: Use a session or two to discuss the roles. Elicit team members' constructs. Use laddering up and laddering down to capture individual meaning-making. Use grid methods to gain depth. Line up follow-up discussions to explore grid results (Fransella, Bell and Bannister, 2004).</p> <p>Outputs: Research outputs. A summary of the principles we would apply (i.e. a supportive, non-threatening developmental alliance). We opted to research a constructivist approach to raising a team's awareness on LN-embedding processes (Greyling, Boal, McKnight and Tappenden, 2009)</p>
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Figure 7. Exploring vertical linkages across primary tasks

The second example, summarized in Figure 8 below, relates to journal keeping, referred to as an activity in Step 1 of primary task 1, and how this activity relates to the remaining primary tasks:

Interaction between Step 1 of primary task 1 and other primary tasks	Primary tasks 2 to 8
Primary task 1 Step 1: Keeping a journal record	<p>Vertical linkage: If our purpose is to promote literacy-embedding practices in schools at Wintec, we need evidence of engagement.</p> <p>If team members keep journals, we have a record of their personal narrative accounts of the process.</p> <p>If narrative accounts are produced, they can be used as part of a critical-reflective process to motivate team members, especially as they deconstruct and re-story their accounts for improved meaning-making and insight.</p> <p>Team members use their journals to capture School-specific solutions to LN challenges.</p> <p>Critical-reflective questions: How can we story and re-story these narrative accounts?</p> <p>How can we explore the motivational effect of journaling?</p> <p>How can we share our meaning making about LN embedding within the team?</p> <p>How can we, as a team, create shared meanings related to LN embedding?</p> <p>Possible actions: Start a project with one or more members of the team to capture a School-specific narrative.</p> <p>Re-story the narrative to deconstruct the meanings.</p> <p>Methods: Keep a journal. Analyse the constructs in a narrative. Ladder these constructs. Perform a narrative analysis (White, 1995; Anderson; 2004; Mair, 2003; Fransella, Bell and Bannister, 2004).</p> <p>Outputs: We are working on a project with Geoffrey Tappenden on analyzing his narrative.</p>

Figure 8. Exploring vertical linkages across primary tasks.

The purpose of this section has been to show that once we consciously pursue the linkages between activities in different primary tasks (vertical alignment), we can begin to define very specific additional outputs. For example, primary task 8 relates to a research agenda. One of the primary positives of an activity map is that one is in a position to look at any of the activities in the composite set of activities through the lens of a specific primary task. For example, if we look at these activity sets from the point of view of primary task 8, they all become potential research sites.

What other higher-order linkages have become relevant to the project? One of the debates in the tertiary sector is student success. The questions we may ask are the following: How can survey results or the TEC's assessment tool scores be used to develop statistical models for predicting learner success? Would it not be ethical of the tertiary sector to make reliable and valid assessment scores available to potential students prior to registering for courses? Should the sector not communicate the literacy demands of their programmes in their advertising materials? Would this kind of information not allow learners to make informed decisions about their studies? How do these questions relate to optimal student placement in the range of programmes available in the sector?

Conclusion

In conclusion, we have argued a case for:

- ♦ horizontal alignment within the sets of activities that emanate from each of the primary tasks we define for projects. Aligning these steps and activities allows us not only to promote consistency and coherence within these activities, but also to foreground our reasoning in clustering them the way we have.
- ♦ vertical alignment among the sets of activities of the composite set of primary tasks in our project plans. We have shown that we may interrogate these interactions by specifying vertical linkages, asking critical-reflective questions, as well as stipulating possible actions, methods and outputs. Often these higher-order linkages allow us to see new possibilities, especially for teaching and research, hidden within these interactions.

We excluded from view the vertical linkages outside the literacy- and numeracy-embedding project: these too, we reasoned, could promote higher levels of efficiency and effectiveness. Links with other projects in the institute such as the Teaching Quality Framework and management processes such as the Capability Development Cycle are obvious examples. Adapting to a changing tertiary sector driven by funding realities, educators are required to extract optimal value from the value chains they erect.

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Team-Based Creative Learning and Social Science

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Frustrated by high student attrition and failure rates – both course-specific and overall within Victoria University of Wellington's (VUW) Level 4 bridging programme – I introduced team-based, creative learning exercises and assessments into the social science elective (UP016) within VUW's University Preparation programme. The introduction of team-based, creative learning (TBCL) has resulted in improved student retention and course pass rates for UP016 and has had positive socio-educational outcomes for both students and teachers. This paper discusses the rationales behind the introduction of TBCL; the operational mechanics (e.g. group formation) of TBCL; problems encountered and consequent refinements made; and the comparative success of TBCL within UP016.

Rationales for Introduction of Team-Based, Creative Learning

In Trimester 1, 2009 I created and introduced team-based, creative learning (TBCL) exercises into the Level 4, Social Science paper (UP016) taught within the University Preparation (UP) programme at Victoria University of Wellington. This initiative was pursued in an attempt to reverse what I considered unacceptably high rates of attrition (approximately 30-40%) and course failure (approximately 50-55%) over the previous years I had taught this course. Moreover, similar and in many cases higher levels of attrition and course failure were reflected throughout the University Preparation programme, in which fulltime students engage via two compulsory courses – Academic Writing and Skills for University Study - and two of the optional courses – Commerce, Humanities, Mathematics and Statistics, Science or Social Sciences. The programme runs for 12 weeks or 480 hours, and consists of 240 contact study and 240 hours of self-directed study.

UP016 focuses on introductory anthropology and sociology, and is designed to assist students to successfully transition into Level 5, degree-based university study in these and cognate social science disciplines (e.g. geography). My tutors and I had put enormous amounts of energy and enthusiasm into teaching UP016. This effort was reflected in that UP016 had evolved into the most popular optional course offered by University Preparation and moreover constantly attracted exemplary student evaluations, both formal and anecdotal. Students responded particularly positively to a teaching strategy that consistently linked the conceptual and theoretical components of UP016 to often routine aspects of the students' everyday lives. This strategy not only acknowledged and utilised students' existent socio-cultural competencies, but provided a basis from which they could understand and develop proficiency with the types of critical analysis that underpin the social sciences within degree-based study. Nevertheless, despite the 'success' of UP016 the course was marred by high attrition and course failure rates – accordingly I adopted a team-based, creative learning approach with an increasing sense of desperation.

I first learnt of team-based learning from a UP colleague who had attended a seminar run by Professor L. Dee Fink, one of the founding doyens of team-based learning, at the 2008 New Zealand Association of Bridging Educators Conference held in Rotorua. I was, however, initially sceptical about the merit of team-based learning and especially whether this was an appropriate regime to encourage and assess

individual learning within a university environment. I believe my scepticism was based primarily on my own individualistic experience of university study, both as a student and as a tutor and lecturer. However, research on team-based learning has concluded that student engagement with, and comprehension of, curriculum is appreciably improved by team-based learning and that this approach had long been successfully deployed in law and medical studies (Dana 2007), which are often highly complex and high-workload learning environments. Furthermore a number of capabilities – including independent learning, interpersonal or social skills, collaborative learning and cohort cohesiveness – are likewise enhanced by team-based learning approaches. Research also suggested that team-based learning is particularly effective for small-groups working independently in class time and within high student-faculty ratios (e.g. up to 200:1) – a situation historically encountered in UP016 in the first trimester on any year (Birmingham & McCord 2002; Lyons 2007; Michaelsen, Fink, & Knight 2002).

In fact I was already aware that an ‘informal’ socio-educational dynamic often functioned among many UP016 students and that this was typically based on pre-existent social groupings such as flatmates, ethnic cohorts or pre-established friendships from secondary school. Moreover, I knew from experience that this ‘informal’ socio-educational dynamic could be either educationally positive or negative depending on the proclivities and aspirations of the ‘leaders’ within such groupings. I was also aware that University Preparation students – like most direct-entry Level 5 university students – do not receive any dedicated anthropology or sociology education in New Zealand secondary schools. I decided therefore that the UP016 team-based learning exercises would also be creative (Jackson 2003) to encourage students to gain an understanding of fundamental anthropological and sociological concepts such as ‘culture’, ‘ritual’ etc through deploying these notions in imaginative and playful exercises. For example, one TBCL assignment asks students to create an ‘alien culture’ and to holistically outline its social organisation, socialisation, economic and other processes (see below). In other words, students were encouraged to ‘play’ with core anthropological and sociological concepts and through this TBCL ‘play’ to demonstrate their comprehension.

In addition I decided that the TBCL exercises would be directly linked to weekly course readings that, together with lectures, formed the basis of tutorial discussions and the content of UP016’s in-term tests. I hoped that as students were effectively being offered several ways to ‘profit’ from engaging with the course readings they would be encouraged to complete the required course readings in a timely fashion and thus ensure successful participation in tutorials, in TBCL exercises and in UP016 tests. In addition I had also noted that student attrition appeared to spike immediately following the mid-trimester study break, so I scheduled one TBCL exercise to be due the week students returned from study break. I then ensured that tutors emphasised to students that they were expected to meet during the study break to work on and complete this TBCL exercise to enable its presentation in the dedicated TBCL tutorials held during the week of their return to university. It was hoped that the social dynamic of the TBCL teams would thus support and encourage individual students who were wavering in their commitment to complete University Preparation at a time when they were most isolated from each other.

Group Formation

During the first week of UP016 tutorials students are assigned to Tutorial Assignment Groups (TAG) ideally with four to six individuals per group. Tutorials typically consist of 15 to 18 students, thus each TBCL tutorial will have three TAGs. Once assigned to their group, the students are given an opportunity to 'totemically' name their groups to help foster social cohesion and commitment to the TAGs.

Membership in each group is determined by the tutor using the criteria outlined below, which are designed to transcend pre-existing social groupings to promote broader, consensual socio-educational dynamics: as a potential foil to any extant negative socio-educational dynamics, and to ensure a diversity of social and cultural perspectives (e.g. age, ethnicity, cultural/ educational capital etc) are encompassed within each TAG so that students may learn of, draw upon, and counter-balance the various strengths and weaknesses of their peers within the tertiary, bridging educational environment of University Preparation. Students are required to remain and work within their assigned groups throughout the trimester unless exceptional circumstances (e.g. students withdraw from University Preparation leaving their TAG unviable etc) are identified by the tutor, who will in consultation with the Course Coordinator generate new groups.

Students are assigned to a TAG using criteria listed below. Attempts are made to ensure that one student per criteria is assigned to each TAG. The criteria are as follows:

- (a) three eldest students;
- (b) three youngest students;
- (c) three students whose 'home' or residence before commencing university study is the farthest away;
- (d) who speak more than one language;
- (e) who speak only one language;
- (f) first in their family to attend university;
- (g) have parents, siblings and/or cousins who have already been to university;
- (h) who plan to major in anthropology and/or sociology;
- (i) who plan to major in other subjects;
- (j) who have blue eyes;
- (k) who have green eyes.....and so on.

From this point onwards arbitrary criteria are deployed by tutors to ensure all students are assigned a group.

In the first tutorial the TAGs appoint different students to act as 'Facilitator' and 'Minute Keeper' for each of the TBCL assignments. Facilitators and Minute Keepers are responsible for overseeing specific TAG responses to the TBCL assignments and ideally work closely to ensure their TAG completes in a timely and successful fashion. Specifically the Facilitator leads group discussions and task allocation, and is responsible for ensuring assignments are completed and presented on time. The Minute Keeper records assigned tasks and achievements of individual TAG members. This record is submitted to their tutor for their information only, as evaluation and grading of individual contributions to the TAGs is not a component of

TBCL assessment and accordingly all students share equally the marks awarded to their TAG. However, the assignments are structured in such a way that individual students are expected to critically consider at least one concept from the assigned readings and to contribute (i.e. assignment development/ research, production and presentation) to their TAG on this basis.

One of the additional benefits of assigning students to TAGs is that these groups are readily and constructively deployed in facilitating student-student and student-tutor discussions within 'mainstream' tutorials (i.e. those which directly consider material from course readings and lectures). Moreover, students are encouraged to, and in many cases, use their TAGs as 'study groups' outside of the TBCL tutorials to brainstorm ideas, research, edit etc their individual essays and to revise for class tests. Further, it is evident from student focus groups and via informal feedback that the TAGs also often provide a valuable resource for the collective discussion and consideration of other University Preparation courses and in developing supportive social networks within the university environment.

TAG Assignments: Concepts and Creativity

The TAG groups are required to work on and then to present their TBCL assignments within one-hour weekly tutorials especially dedicated to this purpose. UP016 students are also required to attend two-hour weekly 'mainstream' tutorials to discuss readings, lectures and other assignments such as essays and tests. There is also a stated expectation that the TAGs will meet outside of dedicated tutorial times on an 'as needs' basis and especially so during the two-week, mid-trimester study break as the second TBCL assignment is due the week the students are expected to return to class.

The TAG assignments are designed to ensure that students directly engage with core social science concepts that inform their course readings and which are addressed in lectures, but that this is done in a way that is creative and fun (Jackson 2002, 2003; La Porte 2008). In other words, students are encouraged to 'play' with core anthropological and sociological concepts by applying these to projects or considerations that arise from their own creativity and for which accordingly there is no 'right' or 'wrong' application. Through such TBCL play it is hoped that students gain confidence in intellectually approaching and comprehending these concepts and in associated critical/ analytical ways of thinking, which until their participation in UP016 may have been quite unfamiliar to them. TAG responses to the TBCL exercises are thus assessed firstly on their meaningful comprehension of the social science concepts under consideration and secondly on the creative manner in which their TAG deployed these concepts.

The following is an example of the type of TBCL exercises deployed in UP016. This exercise is the first TBCL assignment that students are required to complete.

Assignment One: An alien toilet culture

Course Readings:

- Kottak, C. 1991 Culture. In *Anthropology: The Exploration of Human Destiny*.
Howland, P. 2004 Life's a dunny... Anthropologically speaking.
Miner, H. 1956 Body Ritual Among the Nacirema.

Your TAG will:

- (I) Appoint a **Facilitator** who is responsible for keeping the group on track and ensuring the assignment is completed/ presented on time, and a **Minute Keeper** who is responsible for recording the individual team members' contributions. This record is to be handed-in with the completed assignment; and
- (II) Imagine you are anthropologists conducting 'inter-galactic' fieldwork on an imaginary alien culture/ society in a galaxy far, far away. Write a brief (500-800 words) anthropological-style ethnographic analysis that:
 - (a) Names the alien culture/ society;
 - (b) Uses specific concepts/ideas – including the appropriate terminology (highlight in bold) - from the assigned course readings to discuss and analyse the aliens' physical, social, and cultural existence. In this respect you need to think about the holistic connections between age structure; gender(s) – if any or many; cultural learning, ideals, norms etc; production of food sources; 'sexual' reproduction; social organisation (e.g. community structures; social hierarchies etc) and so on;
 - (c) Also discusses the alien's culture of toileting or bodily waste disposal – identifying how this is also holistically related to aspects of their physical, social and cultural existence reproduction previously identified.

NOTE: EACH GROUP MEMBER IS TO PROVIDE ONE CONCEPT AND TO LINK THIS TO THE OVERALL DISCUSSION/ ANALYSIS OF ALIEN CULTURE

The reading – "Life's a dunny... Anthropologically speaking" (as does Horace Miner's 'Nacirema' in the ritual readings) – provides examples of this type of analysis/ discussion. Remember to avoid negative ethnocentric judgements and evaluations (although clearly what you find interesting will reflect your own 'toilet culture', norms, beliefs etc). Your analysis/ discussion should therefore be culturally relative and attempt to explain the aliens' 'toilet culture' in terms of their own cultural/ social logics. You are encouraged to illustrate your analysis with appropriate images. As you will read your analysis to your tutorial, have some fun producing it!

Students share in the mark that their TAG receives for the TBCL assignments, however the final TBCL mark assigned to them individually is allocated on a pro-rata basis linked to the number of TAG tutorials they have attended. This is done in attempt to ensure individual accountability and direct recognition/ reward of input to the TAGs and to dissuade 'free-loading' by individual students (Bastick 1999; Michaelsen & Knight 2002). This is calculated in the following manner:

Table 1
Calculation of individual TBCL mark

TAG attendance/ mark retention	
Attendance	% of TAG mark retained
8-9 tutorials	100%
6-7 tutorials	75%
4-5 tutorials	50%
2-3 tutorials	25%
0-1 tutorials	0%

Moreover students are required to sit 'Individual Tutorial Tests' (ITT), which assess their individual knowledge of the material in the course readings that is used as the bases of the TBCL assignments. It is assumed that students who have individually developed a significant understanding of this course material will also be able to make an equally significant contribution to their TAG and visa-versa. While this assumption appears to generally hold true, anecdotal evidence suggests that in some instances very capable students who perform well in the ITTs do not necessarily fully participate in TAG discussions or assignment exercises. Nevertheless the relative weighting of marks allocated to TBCL assignments (6% each/ 18% total of the final UP016 mark) and ITTs (9% each/ 27% total of the final UP016 mark) is such that capable students could easily refrain from participation in their TAG and still easily pass UP016 with a 50% final mark mined from the remaining 82% of non-TBCL marks (re: essay and tests) on offer. This situation will alter however to some extent in Trimester One, 2011 when University-imposed changes to entry criteria will mean that University Preparation students will require a B or 65% average across their four courses to gain entry into degree-based study. Modelling is being currently undertaken to ascertain the impact that such a change could have on students undertaking TBCL assessment within the UP016 context.

Problems and refinements

Student feedback on the TBCL exercises – collected via an evaluation survey conducted after the introduction of TBCL exercises in Trimester 1, 2009, focus group discussions, and informal student/ tutor discussions – has been mostly positive and especially so in respect to social learning dynamics, constructive peer support, creative 'play' with and consequential learning of anthropological/ sociological concepts, developing critical/ analytical thinking capabilities, and assignment presentation experience of the TBCL exercises. Indeed 79.1% of surveyed students (n = 69) rated the effectiveness of the TBCL exercises as *Very Good* to *Excellent* and only 9% as either *Partly Effective* or *Not Effective*. On a sliding differential scale (1 = Excellent to 5 = Ineffective) the students rated the effectiveness of the TBCL exercises at 1.9 (See Table 2).

The major concerns expressed by students were that TBCL exercises require dedicated time and ideally tutor support to enable successful completion, and that some students 'free-load' or 'wave ride' on the efforts of their team mates yet still receive the same collective 'team mark'. However it should be noted that students in the focus-group discussions stated that while 'free-loading' was an initial concern for

them, such incidences had prompted them to adopt a 'leadership' role and to pursue more 'pragmatic' and 'strategic' approaches to ensure firstly that their TAG's assignment work was completed and presented successfully; that as many students as possible participated in TAG work – which included them developing an understanding of and allowance for different learning and contribution styles; and to gain the realisation that irrespective of the contributions of other students, they as individuals still benefited from the TBCL exercises. In this regard these students believed they had positively 'matured' in both their approach to assignments/ assessments and in their social engagements with other students both within the TAG dynamics and within the university's socio-educational environment.

In response to the students' concerns I firstly negotiated additional tutorial time and tutor coverage dedicated to TBCL exercises - indeed I was also concerned that TBCL work was negatively 'cutting in' on other necessary UP016 tutorial learning. Secondly, I introduced the pro-rata individual TBCL mark regime that is based on individual attendance at the dedicated TBCL tutorials. I also ensured that greater specificity in expectations of individual contributions to TBCL assignments were outlined in the assignment instructions – though this is a formative expectation and is not assessed. I believe these refinements, in conjunction with the ITTs that focus on the same course readings on which TBCL exercises are based, ensure that individual contributions to TBCL exercises are now clearly outlined and assessed - indeed this is evidenced in that the course pass rates either including or excluding TBCL marks have begun to mirror each other from Trimester 3, 2009 onwards.

The only other concern that I have, and which has also been independently confirmed by my tutors, is that students tend to get excited by the creative aspects of the TBCL exercises and consequently devote less energy and time to competently linking their creative responses to the anthropological/ sociological concepts covered in the course readings and as required by the TBCL assignments. This issue is being addressed by clearly outlining this expectation in the instructions and assessment guidelines for TBCL assignments and by tutors repeatedly emphasising this expectation in TBCL tutorials and assessments.

Table 2

*Student evaluation of TBCL Exercises (n = 69)**

(Note: 1 = Always; 2 = Usually; 3= Sometimes; 4 = Rarely; 5 = Never; 0 = No Opinion)

Survey Question	Student rating
Important information about Group Tutorial Assignments - such as learning objectives, deadlines, assessments and grading criteria - was communicated clearly.	1.7
Preparing for the Group Tutorial Assignments has helped me to learn.	2.2
The creative or imaginary aspects of the Group Tutorial Assignments helped me understand relevant anthropological/sociological concepts.	1.9
Comments and feedback I received during the Group Tutorial Assignments have helped me learn more effectively.	2.2
The Group Tutorial Assignments have helped me to develop my COMMUNICATION SKILLS.	2.2
Group Tutorial Assignments have helped me to develop my SOCIAL/ GROUP SKILLS.	2.2
Participating in Group Tutorial Assignments encouraged me to think CRITICALLY.	2.2
The links between the Group Tutorial Assignments and associated themes/concepts covered in the course readings were adequately explained.	1.6
The Group Tutorial Assignments assisted my learning of concepts/themes covered in the course.	1.9
The marks assigned to the Group Tutorial assignments were fair to me as an individual student.	1.7
Group Tutorial Assignments stimulated my interest in learning more about this subject.	2.0

TBCL Success

The introduction of TBCL exercises and assignments into UP016 have had a positive influence in significantly improving student retention and course pass rates. Course pass rates have improved most dramatically in Trimester 1 when UP016 classes have been historically around 100 students (as compared to approximately 50 for Trimester 2 and approximately 25 for Trimester 3), although the level of improvement was most significant in Trimester 1, 2010 when enrolments were only 66 students. There is also evidence of positive flow-on effects as measured by pass rates in the final exam, although these results are variable possibly due to staffing issues and an increase in the difficulty/sophistication of this exam since Trimester 3, 2009. Once again, however, the improvement is most marked for Trimester 1, 2010.

(i) Course Completion

Student retention has been measured by the number of students who complete the UP016 course and specifically by those who sit the final exam. The average number of students who completed UP016 in the six trimesters from 2007 to 2008 inclusive

was 72.3%. Since the introduction of the TBCL exercises in 2009 the student retention rate over the four trimesters from 2009 to Trimester 1, 2010 has increased to 84.1% - an overall increase of +11.8% (see Table 3).

Table 3
Student retention, 2007-2010

	Trimesters		Students Retained	
	Number	Students Enrolled	Total Students	% Students Retained
2007-2008	6	387	280	72.3%
2009-2010	4	271	228	84.1%

Increased student retention has been similar on a trimester basis since the introduction of TBCL exercise in Trimester 1, 2009 – ranging from +15.3% in Trimester 1, 2009 and 2010 combined through to +17.9% for Trimester 2, 2009 and +16.6% for Trimester 3, 2009. This indicates that the effectiveness of TBCL in terms of encouraging student retention is constant despite variations in the number of students enrolled.

(ii) Course Pass Rates

Overall student success has markedly improved with course pass rate improving +23.1% for the four TBCL trimesters (2009-2010) when compared to the combined course pass rate for the six non-TBCL trimesters (2007-2008) (see Table 4a). This result may be anticipated however as more students were retained under the TBCL regime - although retention and course completion do not necessarily correlate with pass rates. Nevertheless a similar improvement is still evident if pass rates are measured by the numbers of students passing as a percentage of the numbers retained. In this analysis the combined course pass rate of students retained for the six non-TBCL trimesters (2007-2008) was 71.1%, whereas for the four TBCL trimesters (2009-2010) it was 88.6% - an absolute increase of +17.5% (see Table 4b). Moreover, even when the potential inflationary influence of the TBCL marks are factored-out the improvement in overall course pass rates is +16.5% or +9.6% of students retained (see Table 4a & b).

The possible inflationary influence of the TBCL exercises is something I have been mindful of and have monitored from the onset. It is notable that as the TBCL operational processes and assessment regimes have been refined, partially due to this monitoring, but also in response to student/ tutor suggestions and concerns, the inflationary effect of TBCL marks has been nullified especially in the most recent trimesters analysed (i.e. T3, 2009 and T1, 2010).

Although the overall student success has improved, there is significant variation in course pass rates by trimester. Trimester 1, 2009 and 2010 combined recorded the greatest comparative increase in student success, with course pass rates improving +31.4% (including TBCL marks) and +23.8% (excluding TBCL marks) compared to the combined course pass rates for Trimester 1 2007 and 2008. Trimester 2, 2009 recorded improvements of +7.5% (including TBCL marks) and +1.2% (excluding TBCL marks) compared to the combined course pass rates for Trimester 2 2007 and 2008, with Trimester 3, 2009 recording improvements of +8%

(including and excluding TBCL marks) compared to the combined course pass rates for Trimester 3 2007 and 2008. The lower improvements in student success recorded for Trimester 2 and Trimester 3, 2009 when TBCL exercises were operational could be due to the small sample size, although it may also indicate that TBCL is most effective in improving student pass rates in larger size classes – a finding that has been supported by other research into team-based learning (Michaelsen et al., 1997).

Table 4

Total course pass rates – overall & students retained

	Trimesters		Students Passed Course	
(a)	Number	Students Enrolled	Numbers Total	% Total
2007-2008 (No TBCL)	6	387	199	51.4%
2009-2010 (Including TBCL marks)	4	271	202	74.5%
2009-2010 (Excluding TBCL marks)	4	271	184	67.9%
(b)	Number	Students Retained	Numbers Total	% Total
2007-2008 (No TBCL)	6	280	199	70.1%
2009-2010 (Including TBCL marks)	4	202	202	88.6%
2009-2010 (Excluding TBCL marks)	4	184	184	80.7%

(iii) Flow-on Effects in Final Test Pass Rates

Evidence that the TBCL exercises have had a positive flow-on effect for student learning in other UP016 course assignments has been assessed by evaluating the pass rates for students who have been successfully retained and who have consequently sat the final exam (see Table 5). The final exam assesses students' understanding of the range of material taught in UP016 and as the TBCL exercises likewise encourage students to constructively engage and comprehend this material as presented in course readings, it was also hoped that the TBCL exercises would positively contribute to this learner benefit.

Evidence of learner benefit in terms of positive flow-on effects from the introduction of TBCL exercises is not as strong with an overall increase of +4.3% in the pass rates of the final exam over the four TBCL trimesters from 2009 to 2010. Again this increase is most marked in Trimester 1 (+18.4% for Trimester 1 2009 and 2010 combined) and least in Trimester 3 (+5.3%). However, Trimester 2, 2009 recorded a significant decrease (-28.4%) of students passing the final exam. This decrease appears anomalous when compared to other results and may be explained by a change in personnel coordinating/ lecturing for the last eight weeks of this

trimester, which included designing, administering and assessing the final exam. It may also be explained by the particular cohort of students in this trimester or simply by the very small sample size (i.e. one trimester) used for comparative purposes.

Nevertheless the marked improvement in students passing the final exam in Trimester 1, 2010 is especially pleasing (73.2% compared to 53.4% in Trimester 1, 2009; and 42% for Trimester 1, 2007 and 2008 combined) – although this improvement was likely due to both the cumulative refinements in the TBCL exercises (operational and assessment) and in the University Preparation programme restricting entry to more capable students in response to capped-enrolment regimes from the University.

Table 5
Flow-on effects/ Final exam

Final Test – Student Pass Rates				
	Number of Trimesters	Total Students Sat Final Test	Total Students Passed Final Test	% Passed Final Test
2007-2008	6	261	139	53.3%
2009-2010	4	227	131	57.7%

Conclusion

To conclude, the introduction and refinement of TBCL exercises into UP016 over four consecutive trimesters from Trimester 1, 2009 to Trimester 1, 2010 has had positive learner benefits as evidenced by marked improvements in student retention and course pass rates (even when the potential inflationary effects of TBCL marks are excluded from this consideration). The improvement in student retention has been constant over this period although the improvement in course pass rates has been most significant in the Trimester 1 classes, which have historically been the largest that UP016 administers. Evidence of learner benefits in terms of positive flow-on effects is mixed, although a small overall improvement has been recorded in the final exam. However, most recently in Trimester 1, 2010 a dramatic improvement in final exam pass rates was recorded. Nevertheless additional monitoring and review is required to ensure that potential learning/educational benefits flow-on to other aspects of UP016 learning and assessment, in particular into improving pass rates in the final exam. Lastly, students have for the most part responded positively to the TBCL initiative and have benefitted from both the social and socio-educational networks they developed as a consequence.

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“Hungry for it”: Mature, second chance students in a “do more with less” tertiary funding environment

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Do universities value mature students? Should they? These questions have particular salience in the current economic climate where, despite a surge in demand for university places, the government is exhorting the tertiary sector to ‘live within its means and do more with less’ (Tertiary Education Strategy, 2010). Government decisions to prioritise the enrolment of under-25s and focus on funding degree-level programmes have increased competition for university places and fuelled public debate about the value of open entry for over-20s. Since the majority of students in the domestic Certificate in University Preparation (CUP) programme within Bridging Programmes at the University of Canterbury are over 20, and the department is currently facing job losses and a programme review, public debate about entry standards and open entry has particular significance for its staff and students. Questions are raised about how much the university values the roles of preparatory programmes like CUP and the prospects of its largely mature-age students. This paper, which draws upon the early findings of a qualitative longitudinal study into the experience of CUP students, explores the challenges mature students face and the strengths and strategies they bring to their tertiary studies. It highlights student perceptions of the value of CUP as a step into degree study and their concerns at negative media commentary about mature students. Finally, it argues that well-prepared mature students with life and work experiences bring more value than problems to the university within which they study.

Introduction

Do universities value mature students? Should they? These questions have exercised the minds of some of the most academically successful students in a recent intake of the University of Canterbury’s preparatory programme for domestic students, the Certificate in University Preparation (CUP). The students ask the questions in response to public and media discussion about university entry standards and suggestions that open entry for over-20s is outdated, too expensive and should be removed. At the University of Canterbury (UC), this debate is happening concurrently with a far-reaching review and restructuring of all service units, including Bridging Programmes (BP) of which CUP is a part.¹ Since the majority of students in the CUP programme are over 20, debate about entry standards and open entry has particular significance. It raises questions about how much the university values the roles of preparatory programmes like CUP and the prospects of its mature-age students.

Whilst university spokespeople frame the entry discussion as a response to the government’s funding cap and the Tertiary Education Commission’s priority for funding under-25s (Tertiary Education Strategy, 2010), our research into the student experience within CUP indicates that at least some mature adult students are

¹ This review, called Project STAR (Supporting Teaching and Research), has led to the formation of a new Learning Preparation and Support team through the merging of Bridging Programmes with the Learning Skills Centre. This has resulted in the loss of the roles of the Bridging Programmes manager, student advisor and its entire dedicated administration staff. An additional review into the quality of the teaching and student experience in the Learning Preparation and Support programmes is expected to commence in September 2010.

reading the debate as a message that they are not considered capable or desirable students. This paper draws upon initial analysis of focus group and interview data to examine the experiences and potential value of mature students to universities, the perceived value of CUP to mature students, and some of the (perhaps unintended?) negative ramifications of the current government identification of younger students as the preferred target for tertiary funding.

Context: The Certificate in University Preparation and the Student Experience Project

The Certificate in University Preparation (or CUP) was established in 2004 to provide a university entrance (UE) qualification for those domestic students (including permanent residents) who had been unsuccessful in obtaining UE from their secondary studies. As well as providing for school leavers, CUP facilitates tertiary entry for more mature students. Since 2004 the proportion of mature (over 20) students has gradually risen, until they now constitute between 50% and 90% of the programme cohort depending on the intake². CUP students also encompass many ethnic, cultural, religious and language backgrounds and special educational needs or mental health issues. Some students are enrolled in CUP via the Pathways Programme, a Work and Income New Zealand (WINZ) funded initiative that provides eligible students on welfare benefits with full fees and mentoring to complete CUP over two semesters.

The Student Experience Project arose from staff observation of CUP students' challenges and struggles as they adapted to academic learning. The qualitative approach offered the potential for greater understanding of the CUP experience from the students' perspectives and why some CUP students succeed and others stop attending. Initial research questions centred on: how students develop student identities; changes they make to become a student; practical and personal challenges they confront; and their responses to those challenges. The first stage of the research aimed to establish similarities and disparities to existing literature for our particular students with a view to utilising the findings in a second stage involving the implementation and evaluation of interventions to enhance student experiences and outcomes.

Literature Review

A review of literature in the areas of retention and attrition, persistence and success, transition to tertiary study, first-year experience and 'traditional'/'non-traditional' students or adult/mature aged students demonstrated that our initial research questions were covered extensively in existing literature, albeit with reference to other contexts. According to the literature, establishing a sense of belonging at university is a key factor in developing a student identity. In addition, individuals needed to make changes such as setting themselves clear goals for study, dealing

² 2010 saw a dramatic rise in the percentage of mature students as a result of a directive from UC senior management to cap CUP enrolments. For the first time BP had to select students for entry to CUP and mature students were given precedence, largely because they already have UE and they tend to demonstrate high levels of motivation in pre-entry interviews.

with past educational and emotional 'baggage', integrating into the university, and developing an understanding of what is required of them as students. Practical challenges include dealing with life, academic, support and economic issues involved with study; while personal challenges include coping with identity and role changes, changes in power relations and relationships, past negative experiences of education and other emotional issues, as well as acquiring effective study and time management skills.

The first phase of our study included an anonymous online questionnaire to collect demographic and study-related information about the particular cohort of students, followed by focus groups and semi-structured interviews. The questionnaire questions, derived from key themes in literature, asked about age, ethnicity, study type, prior and current employment, qualifications, study intentions, nationality, first language, first in family, parental responsibilities, disabilities and whether students would be willing to participate in future research activities. While only 20 percent of CUP students (25 students) completed the questionnaire, two thirds of those (16 students) volunteered to continue with the research³ and nine students participated in focus group discussions in week seven of their 12 week programme⁴. While the disappointing response to the questionnaire led to a small participant pool, if funding permits, we intend to re-run the questionnaire and focus groups in semester three of 2010. Semi-structured interviews are also being conducted with students after the release of their results. These are still in process because some participants are studying over two semesters.

Interestingly, while school leavers comprised 46% of the first semester cohort, only one school leaver participated in a focus group. All eight other participants are in the 30-55 age range. Three, enrolled in the Pathways Programme, are completing CUP over two semesters⁵. The eight mature students mentioned in this paper are Sue (50s), seeking education for empowerment and job advancement; Delia (30s), recently returned from overseas; Ngaire (40s), a Maori grandmother with numerous family commitments; Jeanette (50s), who was discouraged from tertiary study as a teenager; Reuben (30s), tired of his building job and fulfilling a childhood desire for tertiary study; Jack (40s), ready for a change from his manual job; Simon (30s), recovering from addiction and seeking to improve his skills; and Bob (50s), with years of blue collar work experience. The school leaver was 18 year old Oliver, recently moved to Christchurch from a rural town to attend UC.

Focus groups consisted of two groups of three-four participants and also two individual interviews **using the same questions** for those unable to attend these other groups. Group discussions centred on why students decided to enter CUP, their expectations and experiences of university, and the challenges and opportunities CUP was providing. To avoid ethical conflict no researchers interviewed their own students. Discussions were transcribed and analysed using a 'pragmatic version of grounded theory' (Melia cited in Barbour, 2007, p. 120). While grounded theory endeavours to examine empirical research without preconceived

³ While the questionnaire was anonymous, those willing to continue with the research were asked to give contact details.

⁴ By week seven at least three of the 16 who had agreed to participate had stopped attending classes and did not respond to communication; another two cited workload reasons for withdrawal.

⁵ Student names have been changed to preserve confidentiality. The stated study motivations came from students' focus group comments.

ideas or expectations, and relies on 'categories generated by participants' (p.119), this belies the fact that researchers often have some prior knowledge of their area of study. In a 'pragmatic version' of grounded theory Barbour suggests that literature reviews, necessary for some background understanding, may inform researchers' early thinking. Reading of the literature creates expectations of the possible themes that might emerge, or '*a priori*' codes (Ritchie & Spencer cited in Barbour, 2007), in this case student identity, belonging, practical and personal challenges for students. However, researchers are most interested in unknown aspects of participants' experiences so are also alert to possible themes arising from their interpretations, or, as Kelle (cited in Barbour, 2007, p. 120) says, 'theories of members of the investigated culture' or '*in-vivo*' codes. In this research '*in-vivo*' codes were developed from participants' comments in focus groups and particularly related to the strengths they brought to study and the value they found in CUP. This paper reports on early focus group and interview analysis, relates it to key themes from the literature review and discusses its significance in the current tertiary educational context.

Research Findings

Based on the literature on mature students and observations of CUP students, we expected to hear about significant challenges these participants were facing. These struggles were mentioned, but not to the extent anticipated, mainly because for each challenge mentioned participants also identified strategies from previous life experience to overcome it. Thus their narratives demonstrated a high level of personal resilience.

Literature suggests that developing a student identity and thus a sense of belonging is important for mature students (Christie, Munro & Fisher, 2004; Coutts, 2006; DiGregorio, Farrington & Page, 2000; Gorard et al., 2006; Lear, 2007; Marks, 2007; O'Donnell & Tobbell, 2007; Tinto, 2008; Zepke & Leach, 2006a). This proved a challenge for some participants, having not studied for years or having no record of successful study: 'I didn't think I had that much intelligence' (Delia). For others, becoming a student was a change of identity: 'I've been someone's daughter, then I was someone's wife, then someone's mother, now someone's nana... I had to wait all this time... and it's just absolutely awesome' (Ngairé). Bob expected the 'knockback' of being told he was too old for study and intimated that family members were still waiting for him to fail.

Some students gained a sense of belonging through the Pathways programme orientation, which occurs two weeks prior to the beginning of the CUP semester. The Pathways coordinator establishes a group dynamic and, through the provision of a dedicated room on campus and ongoing mentoring by the coordinator, students can remain connected throughout their two semester programme. As one student put it: 'we're like a little family... we'll always know each other'.

However, feeling a sense of belonging was more of a struggle for others. Sue commented: '...you see all the groups together and you think, 'Where's mine? ...What is there for me to do here?' Others felt because they were CUP students they were still on the way to belonging: 'I'm at university but I'm not' (Jeanette). These

students later established their own study groups for academic and social support, demonstrating initiative in developing their own support mechanisms.

Mature students need to develop understanding of study requirements and the skills and discourse of academia (McInnis, James & Hartley, 2000; Schmidt, Mabbett & Houston, 2006; Silburn, 2006). With significant time away from study, some struggled to understand contemporary study requirements, including the pervasiveness of information technology (IT) use. As Jack explained 'It didn't even cross my mind that everything would be on computer'; and Jeanette said: 'It wasn't long after I started that I thought, 'oh, I think that IT course would be a good thing to do... us older adult students don't use our computers a lot, just the basics'.

While some struggled with IT skills, all found academic writing skills challenging, as their comments illustrate: 'Academic writing is really hard...' (Ngaire); 'by far the hardest' (Delia); '[its] hugely challenging' (Bob). For Jeanette, 'research and putting the argument together' was the problem, while Simon added:

... I actually thought English is something I've already learnt and so this is kind of a new way ... instead of learning something completely new you're learning something you already learnt, but a different way to do it ... I know how to write but I don't know how to write.

While challenged, students discussed strategies from past experience they were applying to study. Difficult learning is amenable to practice, according to Jack, 'it's like anything in life, if you practice, practice, practice, you'll get it right. Give up, you won't.' Ex-builder Reuben agreed, adding his insights into essay writing: '...once you know the structure of an essay... you can always put everything into its wee categories and see how it's going to form itself'.

Other academic issues for mature students include inadequate academic background (Benseman, Coxon, Anderson & Anae, 2006; McKenzie, 2005; Schmidt et al., 2006), and transition problems due to lower 'cultural capital' (Benseman et al., 2006; Debenham & May, 2005; Leder & Forgasz, 2004; McKenzie, 2005). Some participants questioned whether they were intelligent enough for tertiary study, as most were the first in their family to attend university and uncertain of the requirements. Simon wondered whether he would be 'out of [his] league', having watched cousins going to university. By week seven it was 'a lot easier' than expected and he realised strong study skills and commitment were more important than being 'the brightest spark on the block.'

Life issues for mature students can include juggling responsibilities, transport and heavy workloads which may lead to exhaustion (Briguglio & Howe, 2006; Dewart & Rowan, 2006; Leder & Forgasz, 2004; Maori, 2007; Zepke et al., 2006b). Ngaire commented: 'Add in your own personal life, you know, families, jobs, other things like that, it's kinda like woh woh woh woh woh!' She identified the demands of her children's activities and concluded:

It's not easy, but I knew it wasn't going to be easy. There's not much "me"

time at the moment. ...it has been challenging, but never have I said to myself once "I can't do it", because... I've been waiting for this opportunity and I've been in the shower crying and errgh! ...but you come out and you go back and attack this paper...

Being aware of the difficulties she would face in choosing tertiary study, and persisting despite difficult days, are skills from her life as a mother and grandmother now applied to study.

Economic issues and the need for income are also common challenges for mature students (Benseman et al, 2006; Debenham & May, 2005; Dewart & Rowan, 2006; Maori, 2007; Willems, 2007). Several students mentioned strategies for dealing with work while studying. Jeanette explained: 'I structured my life so I could come here. My work life does not involve the first three months... for this time I said I'm not going to do anything else, I'm just going to do CUP, I'm going to university.' Sue had saved annual leave to create some time for study, and both Jack and Reuben had working partners and ensured that all debts were cleared before study began. The extent of planning that many of these students engaged in prior to their CUP programme suggests an understanding of some of the practical challenges study would involve and a commitment to making their time as a student as successful as possible.

The value of the CUP programme

Students identified three main aspects of the CUP programme that facilitated their study: the opportunity for a safe staged entry to university, the development of key academic skills and the supportive teaching staff. Jeanette comments on staged entry:

It was the little step... I'll do the CUP course and if I can do that, then I'll carry on... I wasn't going to take the big step and fail... now I'm going to take the big step and I won't fail.

Simon, recovering from drug dependency, noted:

... [Liaison] recommended that I do the CUP programme because... it kind of grad[ually] eases you into it rather than throws you in the deep end which sounded like me, because I didn't want to sort of upset the delicate balance.

The importance of a safe entry to university was also emphasised by others like Jack who described his first campus experiences as 'daunting.'

Developing key skills for university study, especially in the areas of IT and academic writing skills, was another valued outcome of CUP. Delia chose to do CUP 'because I didn't know anything about referencing, and paraphrasing and all that jargon.' Jack celebrated having learnt how to use a word-processor. Sue, who struggled to complete a distance degree paper previously, explained:

I got my first paper and it was as hard as hell! Oh, God! But I passed it, but I realised that I couldn't do it on my own. I couldn't do a whole degree like that... the CUP course... has really made a difference, because if I'd gone the other way, I'd be like "Where do I go now? What do I do now?"

When interviewed after successfully completing CUP, Sue was anticipating her degree study with confidence and enthusiasm.

Students particularly valued the support and encouragement of CUP teachers. Simon 'expected... to just be a number, but... I know all of my lecturers. It's quite one-on-one because they know your names.' Others found teachers very helpful in times of stress:

I've had trouble with anxiety in tests and just issues with writing, writer's block... and I've found the lecturers to be real approachable... you can e-mail them or talk to them and they'll make time to help you understand (Reuben).

Jeanette noted that the lecturers 'want us to pass, they want us to do it, they want to see us at university, so they're very willing and if you give to them... you have a reciprocal arrangement.' Thus, while perhaps not mirroring the wider university experience, the CUP programme appears to be providing the 'high-touch' personal and academic support that Mabbett et al. (2006) suggest 'non-traditional' students may need to adapt to university culture.

Discussion: What Makes a Successful Student?

Our early study findings reinforce previous research highlighting challenges for adults re-entering education, but also shed light on strengths and strategies that enable many mature CUP students to exceed their initial academic expectations. However, the mature students in this study cannot be seen as representative of the broader CUP cohort as all passed their courses and those who completed the CUP certificate achieved consistently high final grades. Each CUP student's challenges will be different since those with more preparation, such as previous university entrance, or fewer personal challenges to deal with have less distance to travel to develop a student identity and belonging, while others with less academic preparation and more life challenges have a greater educational gap to bridge.

While initially disappointed by the small study sample, the academic success of completing students led to a realisation that these participants offered valuable insights into attributes of successful CUP (and perhaps degree) students. Tracking of ex-CUP students demonstrated that those 25 and over 'do better than their peers who have not participated in this programme' and better than CUP students in younger age groups (Hemmingsen & Marsden, 2010). Analysis of participants' comments offers possible reasons why this may be so. Firstly, most participants mentioned a successful work history that provided significant skills to transfer to study. Their narratives suggest that other key factors in their success were a strong desire to study, belief in the value of education, investment in their own success and

their readiness to study.

A common theme was participants' desire for study. Several described university study as a long-held dream that had been denied or discouraged when they were younger. Having waited so long for the opportunity to study, these students were highly motivated and willing to make sacrifices to achieve their academic and personal goals. Ngaire explained: 'It's the best thing I've ever done for myself... I'm hungry for it and I want it so much.' Despite living on drastically reduced incomes, Reuben, Jack, Sue and Jeanette were relishing immersion in 'the buzz' of student life: 'It's fulfilling all the needs, it's ticking all the boxes. It's just awesome, I love it!' (Jeanette). The potential for study to open new life opportunities is captured in their analogies. For Jeanette, beginning study was 'coming out of the fog' and for Jack, 'it's like an awakening, you know, it's learning...' Ngaire talked of finally 'becoming a dreamweaver for myself after doing my children and my six grandchildren'. Focus group discussions were enlivened by these students' excitement and enthusiasm for learning.

Although unsure where study would lead, participants were united in their strong belief in the personal and societal value of education. For Sue, an educational qualification will add academic credibility to her extensive work experience in various roles within the public service, where she found her initiatives blocked because she 'didn't have an education'. With degree in hand she looks forward to the day she can 'go back and make them listen'. All participants saw education as an investment in their future and were committed to making the most of their second chance, as Bob noted: 'I'm pretty focused on what I'm doing... I don't want to squander the opportunity.' Simon, who was 'aware of every single cent' he was spending and borrowing for his education, saw the need to 'make the most of' the money and effort he was investing in study.

Their own commitment to study led several to comment on the attitudes of many younger students in their CUP courses, who seemed to be 'wasting' their opportunities. As Jack put it:

...you can see the ones that... aren't taking it seriously... sometimes I just wish you could grab them and say 'hey, look man! You know, Do it! Don't muck around, you're young, you know, make the most of it'.

Others agreed, mentioning the 'lack of respect' shown through texting and talking in classes, or not attending or submitting assignments. However, they understood that younger students may not be ready to commit to study: 'they'll probably be like us and get to our age and realize, you know... Everybody's got their own timetable' (Jack). This issue of timing, or readiness to study, was a common theme, with several students talking about their lack of readiness for study when young and others talking about 'my time' for university study. Several participants suggested there is a right time for each person to study and students are more likely to be successful when studying at the right time in their lives.

The value of mature students

While the students in our sample performed successfully, media items published during their programme raised concerns about how welcome and valued adult

students are at university. Several students commented on an anti-adult-student letter in student magazine *Canta* (“Brownie”, 2010) and a Facebook page deriding adult students (Dear adult college student, n.d.)⁶. Sue and Delia interpreted these as ‘proof’ that mature students are not ‘liked’ by some other students. Students also commented on a perspective piece in *The Press* by UC Vice Chancellor Rod Carr (2010), in which he stated that ‘the failure rate of first-year mature and part-time students is twice the failure rate of full-time younger first-years’ and that ‘remedial programmes’ are an ‘expensive and distracting activity’ for universities. While in a later feature article (Matthews, 2010) Carr qualified his statements about mature students by identifying the 20-24 age group as the most problematic, these students had already concluded that mature students were ‘unwanted’ at UC and that the CUP Programme that scaffolds mature students’ entry to degree study was under threat.

That some of CUP’s most successful adult students feel unwanted by the university is unfortunate given that tracking of previous CUP students’ progression through degree study suggests their results bode well for undergraduate success (Hemmingsen & Marsden, 2010). All going well, these students can expect to add the academic knowledge of a degree to their previous work experience, offering the potential for improved employability and job satisfaction. That this kind of outcome can be achieved with the relatively small investment of thirteen weeks pre-entry scaffolding adds weight to arguments for the significance and worth of second-chance education.

The perception that mature students are unwanted also conflicts with CUP teachers’ talk in meetings and programme review sessions about how much they value the work habits and high levels of motivation of mature students, a perspective supported by research on teacher attitudes towards mature adults in mixed age tertiary classes (Bishop-Clark & Lynch, 1998). Mature students also tend to interact with lecturers more than many younger students (Bishop-Clark & Lynch, 1998), something Sue and Delia note: ‘in three out of my four classes if the mature students didn’t talk...(Sue), ‘...nobody would ...[the lecturer] would be talking to himself’ (Delia). Successful study strategies employed by mature students in our sample included efficient work habits, organisational and time management skills, participation in discussions and willingness to interact with and question the lecturer. It is feasible that through modelling such strategies mature students have the potential to impact positively upon the teaching and learning context of younger students in their courses, despite some young students complaining about what they consider over-zealous participation. This is an area we will consider further in future research.

Comments by the school leaver in our study supported the view that mature students influence the learning context. Oliver, who initially ‘got a shock’ on seeing the number of mature students in his classes, learned to appreciate their presence:

It’s good, having that mix because I guess, it helps you mature as well, if you’re younger... because you can’t go round talking to those more older, senior students about what you did in the weekend and you trashed

⁶ While this page appears to be US-based, it clearly upset some participants who saw it as evidence of negative feeling towards mature students.

something... because they're just going to 'ummh'! ...they're easy to talk to as well so if you've got a question you can just go up to them, and you know some of them register things more... better than the younger ones.

While noting that some mature students did 'tend to look down on the younger ones' and occasionally ask them to be quiet in classes, he described the negative interactions between younger and older students as just 'titchy little things.' Although only one student's perspective, Oliver's comments support previous research identifying positive outcomes for younger students from age-diverse classrooms (Bishop-Clark & Lynch, 1998). They also suggest a valuable contribution adult students offer to the university context.

Conclusion

Our study suggests that mature students bring strengths to their study that enhance their ability to succeed academically, and that the life experience and study habits they bring may also have the potential to enrich and diversify the university environment and the learning experience of younger students. While mature students encounter challenges as they begin their long-awaited tertiary studies, a period of transition is to be expected after a 15, 20 or 30 year gap from education. Bridging programmes like CUP provide these students with scaffolding in study skills and academic knowledge that allows them to sample the university environment and their own academic capability without risking everything. Those successful in CUP are well prepared for undergraduate study, and in fact, given their high level of motivation and ability to combine work experience with academic learning, mature students like our participants demonstrate many desirable student qualities that offer value to the university.

Unfortunately, mature students are at risk of becoming unintended casualties of the current 'tight fiscal environment', where the government is exhorting the tertiary sector to 'live within its means and do more with less' (Tertiary Education Strategy, 2010). Universities are already capping enrolments, closing enrolments early, adopting preferential entry standards, tightening performance and exclusion policies and questioning the value of over-20s open entry. With under-25s identified as the preferred government target for university enrolment and funding, and pressure to fund only degree-level programmes, universities face difficult decisions. Bridging programmes⁷, and the many mature students they teach, are likely to be in the cost-cutting firing line. However, inability to, or lack of readiness for, study as a school leaver should not prevent able learners from participating in university study later in life. Not investing in second chance education for mature students like those in our study would be a waste of valuable human potential and a loss to both university culture and society.

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⁷ In this context we are referring to bridging programmes generally, rather than Bridging Programmes at UC.

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Appendix

Focus Group Questions:

What were your reasons for coming to university?

Did you have expectations of what it would be like?

Was university different to what you expected? How?

What have been some of the personal and practical issues for you in coming to university?

What do you think is expected of you as a student at university?

How do you feel now about your decision to study at university?

Prompts if required:

Paid Employment?

First in family?

Childcare?

Bridging the divide: Scaffolding the learning experiences of the mature age student

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Over the coming decade, increasing numbers of mature age learners are likely to be enrolling in higher education programs in Australia. To meet imminent higher education reform targets, the Australian federal government proposes “that by 2020, 40 per cent of 25 to 34 year-olds will have attained at least a bachelor-level qualification” (Gillard, 2009, p. 3). Mature age learners will inevitably constitute a significant portion of the anticipated enrolments, and for many, the decision to undertake formal study may be somewhat of a paradox as they come to terms with the tensions that arise when they straddle the ‘divide’ between old and new ways of knowing about themselves as learners. This ‘divide’ can be conceptualised as “living at the intersection of multiple worlds and multiple ways of knowing” (Alsup, 2006, p. 15), or similarly, as existing within a “liminal space” (Meyer & Land, 2005), a “not-so-sure” (p. 5) place of meaning-making in which personal transformation can occur. The borderland (Alsup, 2006; Gee, 2005) is an apt description for this territory in which the conceptualisation of new knowledge and subsequent new personal status can problematise the learning journey for the mature age learner. This can be particularly manifest in the learning experiences of the mature age learner who accesses university via an enabling program. For some, this decision marks the end of a long hiatus from formal study, and encountering the protocols, assessment regimes and other discourses of the university context can give rise to significant personal tension. However, as this paper will demonstrate, when enabling programs adopt particular pedagogical strategies that philosophically and theoretically link learning, teaching and high quality student outcomes, the learning experiences of the mature age learner can be enriching. One pedagogical approach that has demonstrated significant effect in supporting the educational journey of mature age learners is the Vygotskian (1978) concept of scaffolding, whereby learners are provided with support structures that fade away as the learner becomes more independent and self-directed (Dabbagh, 2003). This extends to encompassing emotional scaffolding (Rosiek, 2003). When scaffolding techniques underpin the pedagogical practices of educators in enabling programs, and the prior learning experiences of mature age learners are acknowledged and built upon, there is real potential for high quality learning and teaching outcomes.

Introduction

This paper begins by profiling the mature age learner in the higher education context and highlights some of the characteristics that define them as a group served well in the realm of Enabling education. A brief discussion of enabling education in Australia then follows, with specific focus on the enabling program known as Skills for Tertiary Education Preparatory Studies (STEPS), a pre-university preparatory program on offer at CQUniversity Australia. The theoretical framework for this paper is then established, with a description of transformative learning theory, social constructivism and the Vygotskian term of scaffolding. This discussion extends to include Rosiek’s (2003) conceptualisation of emotional scaffolding. The paper continues with the description of some pedagogical strategies that are implemented in the STEPS curriculum and explores the notion of the scaffolding ‘tool-kit’ as a means to assist the mature age learners in negotiating some of the tensions associated with being a student in a pre-university enabling program. As testimony to the positive impact that some of the scaffolding strategies can have upon learning outcomes, data findings from a doctoral thesis that researched the perceptions of self as learner of a small group of mature age learners who engaged in STEPS, are

interspersed throughout this section of the paper. The paper concludes with the suggestion that scaffolding provides a valid emotional and theoretical framework through which educators can bridge the divide and ensure high quality learning and outcomes for mature age learners.

Mature age learners

The Australian Bureau of Statistics (ABS) (2010) indicates that during 2008, approximately 1 064 050 citizens in Australia were enrolled in either bachelor programs, associate degree programs, other undergraduate programs or enabling programs. Of this figure, those students aged 19 years and under totalled 204 000, while students 20 years and over accounted for 860 050. These figures indicate that within university settings, mature age learners represent a significant sub-set of learners. For the purposes of this paper, mature age learners refer to the latter cohort of learners, namely those aged 20 years or older. As a cohort, mature age learners bring to the formal learning context many idiosyncratic learning requirements. These are impacted by a broad array of skills, knowledge and life experiences, and a diversity of preferred learning approaches, strategies and styles. These mature age learner characteristics have clear implications for teaching and learning in higher education. Knowles, Holton and Swanson (1998), whose seminal work on andragogy is well respected in the field of adult learning, inform that “adults are most ready to learn when the learning meets an immediate life need, and most motivated when it fills an internal need” (p. 172). They further note that adult learning principles are best encapsulated through a holistic model of the mature age learner as one who has the potential to learn, needs learning experiences of relevance and meaning to their past and present lives, and whose learning experience is optimised in a non-threatening, challenging, yet supportive environment.

A common characteristic of many contemporary mature age learners is that they fulfil multiple roles outside the formal learning context. Many juggle the demands of paid employment, family commitments, civil and social responsibilities and other commitments. For some, the tensions related to these multiple roles, combined with the age and life cycle stage and family relationships can have significant bearing on the adjustment to and success in university life, particularly for the female mature age learner (Willans, 2010; Darab, 2003; 2004; Debbenham & May, 2004; Stone, 2008). Family beliefs and implicit expectations, alongside the risk of being ostracised by family and friends, can also be significant deterrents for some mature age learners (Cullity, 2006; Reay, 2002). The impetus to persist with study, however, can also be motivated by the desire to act as a role model for other family members (Kasworm, 2003).

Many psychological characteristics are embroiled in the process of mature age learning. These characteristics can relate to issues of self esteem, often made manifest through a broad range of emotions. To list but a few, such manifestations can include anxiety, stress, disorientation, fear, stimulation, excitement and empowerment. For some mature age learners, re-engagement with a formal learning environment can represent somewhat of a paradoxical experience in that while they may understand the need for both change and stability in their personal growth, to achieve and maintain this stability, they must undergo change of some

nature. Personal change generally entails degrees of uncertainty and exposure of self to possible threats of failure and fear of the unknown (Cantwell, 2004; Cullity, 2006). Such notions have obvious implications for educators of mature age learners who must ensure that anxiety-provoking and fear-inducing learning environments are avoided, and opportunities for meaningful learning are sustained (Caine & Caine, 2006, p. 60). To help allay these tensions, pre-university enabling programs represent one possible way of bridging the divide for mature age learners who wish to undertake higher education studies but lack the appropriate skills, knowledge and confidence to do so.

Enabling education in Australia and the STEPS program

In 2008, approximately 6784 persons over the age of 19 were enrolled in pre-university enabling programs (ABS, 2010). Enabling programs are designed to provide students with the appropriate skills, knowledge and confidence to embark on higher education programs. The majority of Australia higher education providers offer enabling type programs, some free of charge, whilst others incur financial costs for the student. Enabling programs have been on offer in Australia for more than three decades and have served as a bridge into higher education for those persons who may not have traditionally gained access to university.

An enabling program that has exhibited many successes over its 24 year history is the Skills for Tertiary Education Preparatory Studies (STEPS) program at CQUniversity Australia. Offered as a 26 week external or 13 or 26 week internal program, STEPS provides access to tertiary study for those who may not have completed secondary schooling or who may not have studied for some time. Comprising four compulsory courses, STEPS is a Centrelink approved program, offered free of charge to those students 18 years and older who satisfy the entry requirements. In 2009, the articulation rate of STEPS students into undergraduate study at CQUniversity was 61.2% (personal communication, STEPS administration, July 19th, 2010). Anecdotal evidence shows that many STEPS students go on to complete their degrees at CQUniversity and move on to satisfying careers. Additionally, many attest to the life-changing experience STEPS was for them as their worldviews were transformed and their perception of themselves as learners changed for the better. The STEPS program is underpinned by the tenets of transformative learning theory (Mezirow, 2003) and espouses the philosophies of social constructivism and adult learning principles.

STEPS and Transformative Learning Theory

Transformative learning occurs when, through a multidimensional cognitive and emotional process, an individual's long held perspectives about various aspects of their world are challenged, critiqued and transformed. According to Mezirow (2003, pp. 58), transformative learning is initiated by a disorienting event that causes one to question some of their "fixed assumptions and expectations (habits of mind, meaning perspectives, mindsets)". A degree of emotional tension accompanies this borderland space (Alsup, 2006), where in time, one comes to critique a long held perspective and the implications of holding such. Facilitated through discourse and dialogue with others, one can come to revise their previous perspective to make it

“more inclusive, discriminating, open, reflective, and emotionally able to change” (Mezirow, 2003, p. 59). Transformative learning theory underpins the STEPS program and represents a valid way to elucidate the personal transformations that many mature age learners in the program can experience. The theory also adds a further layer to the conceptual framework for this paper.

Social constructivism

A social constructivist orientation represents another important part of the theoretical framework for this paper. Social constructivism, with its roots in the work of Russian psychologist Lev Vygotsky (1896-1934), is premised on the continuing interactions between the learner and their environment. Social constructivism seeks to focus on the *process* of learning rather than the *product* of learning, for teaching creates learning experiences that lead to development (McInerney & McInerney, 1994). Thus, learning can be viewed as a social construct, one that is “mediated by language via social discourse” (McMahon, 1997, p. 5). The social networks of the individual inevitably impact on the construction of knowledge as do the interpersonal and intrapersonal experiences of the individual. However, Caine and Caine (2006, p. 53-54) draw attention to the epistemological tension associated with constructivism and its description of how humans learn, stating that “constructivists themselves disagree about whether the construction of meaning is essentially an individual or a social process”. Nevertheless, McMahon (1997) considers culture and context to be important elements in forming and understanding knowledge, and in a social constructivist paradigm, the context in which the learning occurs is central to the learning itself. McMahon contends that “learning is not a purely internal process, nor is it a passive shaping of behaviours” (1997, p. 5). Rather it occurs in collaboration within the various social worlds of which the learner is part. In the educational context, this includes teachers, peers, friends, family and other participants across a range of activities. The role these social groups can play in guiding the learner can be often referred to as scaffolding.

Scaffolding

The social constructivist approach to learning known as scaffolding is a term commonly associated with the work of Vygotsky. However, it was first conceptualised by Wood, Bruner and Ross (1976, p. 9) as “an adult controlling those elements of [a] task that are essentially beyond the learner’s capacity, thus permitting him (sic) to concentrate upon and complete only those elements that are within his range of competence”. Thus, theoretically, a mature age learner new to a formal learning context is a novice, who in a shared understanding of the goal, will learn from a more capable expert. The expert’s intent is to help the learner “bridge the gap between the actual and the potential” (Puntambekar & Hubshcher, 2005, p. 2) by applying knowledge about the perceptual, cognitive and affective components of learning (Stone, 1998). Through the sequencing of teaching activities, in combination with support and guidance, teachers are able to “challenge and extend what students are able to do” (Hammond, 2001, p. 3), pushing them beyond their current cognitive ability levels to “internalise new undertandings” (Hammond, 2001, p. 3). An analogy provided by Lepper, Drake and O’Donnell-Johnson (1997) demonstrates an interesting way to conceptualise the notion of scaffolding. They

suggest that one needs to visualise the support structures that are put in place during the construction of a tunnel. Upon each section of the tunnel being able to structurally support itself, the edifices supporting the construction are gradually removed, and eventually the tunnel is able to stand unsupported. In a similar way, the adult or expert who supports and guides the mature age learner, gradually removes support structures, the ultimate goal being that the learner is able to demonstrate independent mastery.

The pedagogical underpinning of scaffolding is that through a sequencing of personalised learning activities, teachers support, guide and challenge their learners through the complexities of various tasks. Thus the critical role of the educator cannot be underestimated in facilitating this process (Puntambekar & Hubscher, 2005). Given the various tensions that can surround new learning, scaffolding can represent a means of facilitating the mature age learner in their preparation for learning in higher education. Caine and Caine (2006, p.60) suggest that teachers need to take the specific interests of the mature age learner into account and gauge the difficulty and complexity of teaching and learning experiences accordingly. Caine and Caine thus argue that pedagogical practices entail teachers having to “model and demonstrate and question” processes as needed, and allow the scaffolding or support to “fade away as a learner becomes competent” (2006, p. 60).

In contemporary higher education contexts, a variety of tools and learning resources can be utilised to enhance learning opportunities for mature age learners. In fact, Puntambekar and Hubscher (2005, p. 1) cite “artifacts (sic), resources, and environments... technology tools, per interactions, and discussions aimed at the whole class” as legitimate scaffolds. Likewise, interaction with peers through group work and collaborative activities, alongside the establishment of a supportive learning environment can be instrumental in providing scaffolded learning (Puntambekar & Hubscher (2005). In terms of tailoring the learning environment to the needs of the learner, McLoughlin and Marshall (2000, p. 5) suggest that knowledge of the “unique interests, styles and motivations and capabilities” of the learners is required. McLoughlin and Marshall (2000, p. 5) also cite the need for pre-tertiary learners to “develop independent study habits and develop self responsibility” in order to optimise future study successes.

Emotional scaffolding represents another form of support for the mature age learner. Based on a decade of research on pedagogical representations that influence student’s emotional responses to learning, Rosiek (2003) defines emotional scaffolding as “a teacher’s pedagogical use of analogies, metaphors, and narratives to influence student’s emotional response to specific aspects of the subject matter in a way that promotes student learning” (p. 406). He acknowledges the limitations of emotional scaffolding in terms of contemporary conceptions of knowledge and what it is that enables good teaching, but argues the benefits of this technique. These benefits include the allowance for an emotional connection in learning, a heightening of the student’s emotional engagement in learning, and the reduction in anxiety, fear of failure, frustration and confusion that can arise when students are confronted with new knowledge. Caine and Caine (2006) note that pivotal to nurturing an appropriate state of learning in learners is the generation by teachers of a sense of safety and community. Within such a context, emotional scaffolding is an acknowledgement that pedagogical content knowledge has an all

important emotional dimension that facilitates the building of emotional as well as cognitive relations to what students are learning (Rosiek, 2003). As Rosiek (2003) concludes, “teachers deal with students as whole human beings and need to respond to them as emotional, moral, social and cultural as well as cognitive beings” (p. 411). Emotional scaffolding thus represents a means by which mature age learners can be further supported upon their re-engagement with formal learning.

Certain frameworks and pedagogical practices can be employed by educators to scaffold the learning of their mature age learners. Based on doctoral research findings with mature age learners engaged in the STEPS program, the following section includes illustrations of how some strategies and frameworks were particularly useful in helping the mature age learners conceptualise and demonstrate new knowledge and skills. Beginning the section is a brief discussion of the STEPS curriculum as a ‘tool kit’ that STEPS teachers co-construct with and for their mature age learners. Following on from this is an explanation of some specific scaffolding techniques and frameworks adopted in STEPS.

STEPS Curriculum - The Scaffolding ‘Tool kit’

A variety of tools and learning resources can be utilised to enhance learning opportunities for mature age learners who engage in enabling programs. The purpose of this is to take them to a deeper engagement in order to solve or independently complete learning tasks. In order to successfully engage in what can often be a transitional landscape, STEPS learners are provided the opportunity to develop their personalised ‘toolkit’ in a supported learning environment that employs scaffolded learning experiences through an integrated and holistic curriculum. Through a staged sequencing of learning activities within component courses, learners are guided, supported and challenged to expand their academic and personal competencies and to develop their personalised ‘toolkit’. Teachers ensure support is timely and provided at the “point of need” (Hammond, 2001, p. 5) and progressively adjusted to cater for the different learning needs of their learners. In combination, the four core STEPS courses provide scaffolded activities that optimise opportunities for mature age learners to acquire the generic skills essential for success in undergraduate study. Firstly, *Language and Learning* focuses on the mature age learner’s acquisition of the reading, thinking and writing skills necessary for academic purposes. Secondly, *Transition Mathematics 1* builds both competence and confidence in using basic mathematics. Thirdly, *Computing for Academic Assignment Writing* develops skills necessary for word-processing assignments, creating spreadsheets, using the Internet and producing PowerPoint presentations. Finally, *Tertiary Preparation Skills* familiarises students with university programs and procedures as well as develops personal and organisational strategies, and oral presentation and research/information literacy skills necessary for academic studies.

All four courses offer models as a means of scaffolding and embrace a course design based on the notion of staged sequencing. *Transition Mathematics 1* and *Computing for Academic Assignment Writing* concentrate on the acquisition of mathematical and computing skills and knowledge essential to first year undergraduate programs. Course design shows an appreciation of the diversity of knowledge and skills within the student cohort by providing the opportunity for ‘fast-

tracking' in accordance with ability, thus paying respect to the principles of adult learning and scaffolding. Mathematical and computing concepts are introduced progressively and learners are encouraged to work at their own pace, in accordance with their grasp of concepts at each stage. Lecturers demonstrate, question and encourage collaborative activities via whole class discussions and peer tutoring.

Language and Learning and *Tertiary Preparation Skills* embrace an holistic curriculum and complement each other with regards to their learning outcomes. Common frameworks and strategies are evident within the curriculum design and course delivery of each. These two courses assist students in crystallising their worldviews prior to being challenged by the worldviews of others, especially those encountered via the world of research. The *Language and Learning* course, which begins by having students write from a personal perspective, is much more than an academic writing course. It admirably achieves the goals of instilling writing skills but also guides STEPS students in the investigation of their lives at a personal, intrapersonal and interpersonal level. Holistic strategies such as mind-mapping, clustering, graphic organisers, fast writing, the Hero's Journey, identification of learning styles and temperament types, and de Bono's parallel thinking via the six coloured hats, are strategies employed to scaffold the learning of mature age learners in both *Language and Learning* and *Tertiary Preparation Skills*. These provide conceptual frameworks to help the mature age learners capture and organise their thoughts as they seek to gain competence and confidence in their written and oral academic communication skills. Through reflective writing practices, the learners come to gain a deeper understanding of their own worlds, and as such are in a better position to relate these to a broader social context. Reflections by the mature age students attest to how scaffolded writing strategies and frameworks employed in STEPS facilitated their understanding:

I am learning a lot and it's probably changing the way I approach a problem. It's making it a lot easier for me to write whereas before I couldn't write a letter! Let alone do a constructive paragraph or even construct a decent sentence. (Male STEPS student)

I found the connecting of my paragraphs hard but I can see it now. I have been using some of the parallel thinking strategies with the year 6 and 7 kids I work with. I want to take some of these ideas that I've learnt, mainly the terminology and use of clusters and fast writes back to the year 2 and 3 children I work with at school. (Female STEPS student)

L&L has given me an understanding of the academic essay – how to lay one out and do one; what sort of quality is acceptable and the idea of what to expect. Referencing, researching things at the library has been a part of it. It's all been really, really good. (Male STEPS student)

Learning styles and temperament types – scaffolding to discover/manage/value 'self'

Other techniques and frameworks adopted in STEPS aim to build skill and confidence in mature age learners. By being taken on a journey of self discovery and

consciousness-raising, many develop their confidence, self belief and self management. When mature age learners are given the chance to understand their individual learning style preferences and temperament types, their perspectives of self as learners can change significantly. Personal anecdotes abound as learners relate stories of how an understanding of their preferred learning style and/or temperament type has elicited a new way of thinking about themselves and others as learners. Newly equipped, they can successfully analyse and revise rather negative perspectives they previously held about themselves as learners. In turn, a greater understanding of self releases many mature age learners from past perceptions of themselves and assists in a smoother negotiation of the world around them. It helps with a self discovery of personal management skills and the potential for review and revision in quest of greater efficiencies:

It has been a learning thing and made me have a better understanding of people and how they work. The brain and temperaments... it has been so interesting. When I had a fall out years ago I can now see that they were a different temperament, I can see that we are all different. I can sit back and say “yeah you’re this type of temperament” and I think about when I had my businesses and I saw people and I didn’t stop to think of their temperaments and stuff and if I’d know that before it could have made a difference. (Female STEPS student)

I now think more about what I read and what information to believe. I know a lot more about myself now and how I learn. Um a couple of years ago I wouldn’t have even thought about going to uni and doing this course. (Female STEPS student)

I’m picking up on a lot of things about myself. My time management skills have improved so much so that’s not really a problem. I get things done now not leaving things to the last minute. Now I get things done weeks before-hand if I can, and not leave it until the last moment. My husband has noticed the confidence in myself and my writing and speaking and talking now. (Female STEPS student)

I just wanted you to know that my time in the STEPS program was without a doubt the best time in my life with relation to my own personal growth and self esteem ... I will carry your teachings (personal and professional) with me in all that I pursue. (Female STEPS student)

I have watched people change from the beginning of the course. I see people in week 12 and 13 are more confident, just so confident within themselves... a belief that I can achieve something special. (Male STEPS student)

The Six Thinking Hats – scaffolding for ‘better thinking’

Other frameworks for learning are employed in STEPS to scaffold new knowledge and skills. One example is de Bono’s (1990) Six Hats model of parallel thinking. This conceptual framework is enacted effectively in both the personal and academic

development of the STEPS learner. The idea behind using the six coloured hats is akin to putting on one's thinking cap. Wearing a specific coloured hat at one time helps to consolidate thinking and avoid muddled thinking. In summary, Blue hat thinking aids the analysis of question as it guides the learner to think about the thinking they will need to bring to a task, while Red hat thinking asks the learner to consider how they feel about a topic. White hat thinking asks the learner to solely consider the facts of the matter while Green hat thinking encourages the search for alternatives and possibilities. Yellow hat thinking guides the objective view expected at the tertiary level and in combination with Black hat thinking, guides the learner to consider the issue from both a positive and negative viewpoint. In combination, the Six Hat thinking asks the learner to critically analyse rather than blindly accept everything they read or hear:

Oh I see not the black hat negatives any more. I do when I look at something, try to look at it from all sides and everything, whereas before I used to have just my view and my view was right! Before I had my set ways and this was right. But now I take off that red hat and look at it both ways. I have broadened my perspectives so much. (Female STEPS student)

I don't think I've changed any of my points of view but I think they've been extended a bit. You also realise a lot of the things that you do and what the reasons were. Like... that came from that part of the brain; or that's because I'm one of these, or I had my black hat on that day; it's showing you that a lot of things you do are quite natural and how to use them rather than shying away from them. (Female STEPS student)

I think the six hat thinking is fantastic. I have thoroughly enjoyed it. It has opened up a whole new world thinking of yourself more and how other people think. (Female STEPS student)

The Hero's Journey – emotional scaffolding to embrace change

Emotional scaffolding can provide a sound structure for mature age learners who are transitioning from one learning journey to another. The concept of the Hero's Journey is used in STEPS as a metaphor for the personal change that learning will bring about as the mature age learners leave their ordinary worlds and take up their quests to travel into the unknown. Based on the work of psychologist Joseph Campbell (1993) and Hollywood screen writer Christopher Vogler (1996), the twelve stages of the Hero's Journey, although not always manifested in a lineal manner, represent events in one's life that are harbingers of personal change. STEPS ensures these twelve stages are transparent to the mature age learners so that when they encounter difficulties along the way, they are reassured that this is a normal occurrence in the process of personal change. Undertaking STEPS is however not without its difficulties, as in many ways it is responsible for the mature age learners' experiences of confusion, concern and chaos. However in successfully completing STEPS and understanding the depth of their personal transformations, many mature age learners can perceive that the trials and tribulations they are called upon to endure are a natural part of the learning journey.

On working through the twelve stages of the Hero's Journey, most mature age learners are able to see how well the stages fit their experiences during STEPS. By taking what appears to be a simple, natural progression on a learning journey, the transparency of the Hero's Journey empowers them to visualise themselves beyond the 'here and now' and envisage future successes. Having glimpsed 'upfront' that the journey will be a challenging one and that all new learning is accompanied by a degree of turmoil, over the duration of the STEPS program many mature age learners develop a sense of their own power to make things happen. The concept of the Hero's Journey lessens the culture shock and reduces the anxiety, fear, frustration and confusion that can arise when mature age learners are confronted with new knowledge that encourages a 'rethink' of long-held views. Although pedagogically embedded in the *Language and Learning* curriculum, the Hero's Journey underpins all four STEPS courses and can be applied to lives lived prior to STEPS:

The hero's journey is just so true, like how you develop. And it's not just coming to STEPS. It's part of life. I know when I had my businesses what I went through from the beginning to the end. It's all so real and I see a lot in other people as well now. (Female STEPS student)

I think I have changed in that when I started STEPS, that was my goal, that I would just do STEPS and I would struggle with STEPS and I would get there. I'm not struggling as much as I thought. I am finding that I am doing better than I thought I was capable of and STEPS isn't my goal any longer. Doing a degree and being positive – that's my goal now. I now know what to expect. (Female STEPS student)

Actually I was a bit frightened of Language & Learning when I first came to STEPS. I didn't know what to expect. I was fearing it because I thought I'd be entering areas of my mind that I had blocked off... But I've enjoyed it. I've felt actually nurtured all along. As I reflect on my learning journey, I see I've opened up a lot. (Male STEPS student)

Doing STEPS has opened up a whole new world thinking of yourself more and how other people think. It just changed and I felt better with myself. It felt good. It was a nice feeling. (Female STEPS student).

Conclusion

Scaffolding can provide the theoretical and emotional structure to ensure mature age learners receive far more than just academic credentials. Pedagogical strategies adopted in the STEPS program illustrate that an holistic and transformative learning journey can afford its participants more knowledge of and control over their own lives, thus making it a personally, socially and academically fulfilling experience. Scaffolding instantiates how learning can support both an inner and an outer journey. Through various frameworks for thinking, mature age learners can be guided through the 'outer' journey of the first stage of their academic learning

journey. This enables the 'stocking' up of their 'toolkit' with the skills and knowledge necessary for undergraduate study. As an 'inner' journey, programs such as STEPS can take mature age learners on a journey of self discovery, providing them with the emotional scaffolding that assists them in becoming more self aware and self confident in themselves as human beings and as learners. On completion of a program such as STEPS, most mature age learners can celebrate the journey of finding and expressing their true self in a way that will potentially allow them to make a genuine contribution to the world. In the words of one such learner:

I felt different this morning when I woke up. I am relieved, at peace, but my journey is not over, with my new found experiences and knowledge, I must continue on...I want to help... I want to be one of those people because if I can help only one other person feel how I feel, it was utterly and completely worth it. (Female STEPS student)

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Towards establishing a benchmark for vocabulary difficulty level

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In course design, the choice of materials to maximise teaching and learning opportunities in the classroom is no easy task. Selecting reading or listening texts appropriate to the level of our students (enabling comprehension whilst also challenging learners) can prove difficult, particularly if they are to be used as assessments. This article describes action research conducted to examine how vocabulary profiling may be employed as a means of facilitating the choice of texts used for course assessments, study guide texts or other course readings in specific programmes, with the aim of establishing a 'Vocabulary Index Benchmark'.

Introduction

This study aims to establish a benchmark or guideline for setting a vocabulary difficulty level in ESOL and university bridging programme reading texts. The idea arose because there has been a pattern of differing viewpoints about what is considered an appropriate difficulty level in readings for study guides and for assessments in various programmes at Massey University.

As Laufer highlights, "the nature of the language threshold for reading purposes is largely lexical" (1992, p.126). To determine the difficulty of a text, some researchers (for example, Perera, 1980; Wallace, 1992; Sigurd, Eeg-Olofsson & Van Weijer, 2004) study word and sentence length "on the premise that texts with longer sentences and longer words will be more difficult to understand than those with shorter ones" (Harmer, 2001, p.203). The alternative approach is to examine the number and frequency of unfamiliar words in a text. As Kirton points out, "Frequency of use [of word forms] is generally accepted as a way of assessing difficulty levels of text" (2007, p.10). As a result, and given that there are various computer-based text analysis tools freely available, it was considered useful to seek some sort of standardisation or 'Vocabulary Index Benchmark' in vocabulary frequency, to assist in the selection of texts in the future.

In selecting reading texts for assessments and study guide readings, other factors - as well as vocabulary difficulty level - must be taken into account. Nation (1990, p.116) cites Nation and Coady (1988) when he says, "Vocabulary is clearly an important factor in reading, as readability studies show, but it is only one of a range of factors". The topic should, for example, suit the unit of teaching and the interests and background of the students. A more difficult vocabulary level may be appropriate at times for an 'easier' activity. If comprehension questions are directed towards scanning for details, for example, the text vocabulary could be significantly more advanced than in a text which the students are asked to paraphrase or to summarise.

Selecting the category or criteria for judging the relative difficulty of a text also depends on the purpose for which the reading is used. In other words, if you are choosing a reading for a study guide in, for example, an introductory nursing course,

the crucial breakdown category would probably be the academic content. Technical vocabulary does not pose as many problems for students because it is learned as part of the course over a period of time, explained by the teacher during lectures, clarified by a glossary, and so on. Laufer goes so far as to say, "...while it is true that the knowledge of technical vocabulary is helpful, its value should not be overestimated" (1992, p.130). Several researchers have argued that it is, in fact, the 'in-between' words (variously called academic words, semi-technical or sub-technical words) which are widely unknown to students and which result in a text being less comprehensible. This position is supported by Kam-meï (2001, p.XX), Chen and Ge (2007, p.504) and Curado Fuentes (2003, p.199). Indeed, Kam-meï devotes a long chapter to citing numerous references to support the viewpoint that "it is not specialised or technical vocabulary that necessarily creates obstacles for students in understanding ST [Science and Technology] texts, but... the semi-technical vocabulary" (2001, p.27). Consequently, for our 'Introduction to Nursing' study guide, the category to focus on would be frequency of academic lexis. As Kinsella of San Francisco State University points out, "Knowledge of the most high-incidence academic words in English can significantly boost a student's comprehension level of school-based reading material" (2003, para.1).

Having said this, if the text is selected for an assessment, students do not have the time or opportunity to decipher the meaning of a large number of unknown vocabulary items. In this case, academic vocabulary, technical words and off-list words could all cause problems for the student reader. It would seem logical, then, to focus on the combined frequency of the most frequent words, as the figure for comparing relative difficulty of vocabulary in reading texts.

An experienced teacher's subjective judgement (or 'feeling') about the difficulty and suitability of a certain text for a certain task also has validity. As Nation (2001a, p.121) asserts, "...research is a very useful guide in shaping our teaching activities but our intuitions and feelings as experienced teachers must also be recognised".

Rationale

In linguistic circles, it is widely accepted that approximately 80% of individual words or 'tokens' in spoken and written English texts are included in the 2000 most common word families of English (West, 1953; Carroll, Davies & Richman, 1971, cited in Nation, 2001a, p.15; Francis & Kucera, 1982, cited in Nation & Waring, 1997, p.9; Meara, 1995; Schmitt, 2000; O'Keeffe, McCarthy & Carter, 2007; Cobb, n.d.). This means that even armed with the first 2000 word list, a learner could still find around 20% of the content of a general text potentially problematic. Clearly, this coverage changes according to the type of text we are considering. In her research, for example, Averil Coxhead found that these first 2000 words covered about 75% of an academic text, whilst in a fictional story, they may represent up to 90% (2006, p.2).

Asking learners to read 'incomprehensible' texts is likely to lead to failure and subsequently a drop in motivation. Stephen Krashen asserts that success in second language acquisition depends upon the students feeling relaxed and positive; success is hindered by negative attitudes, including a lack of motivation or self-confidence and anxiety (Krashen, 1985, p. 3).

Paralleling the idea of what the developmental psychologist Vygotsky (1978, p. 84) referred to as the 'zone of proximal development', Mesmer discusses the importance of a process called *scaffolding*:

Teaching within a zone of proximal development... the learning space between that which a learner can do completely independently and that which she cannot do even with assistance. By teaching in this zone, teachers enable students to attain higher levels of functioning... [and] continue to challenge learners so that they gradually are able to perform tasks that were previously beyond their range. (2008, p.6).

Mesmer (2008, p.7) illustrates this idea further as shown in Figure 1:

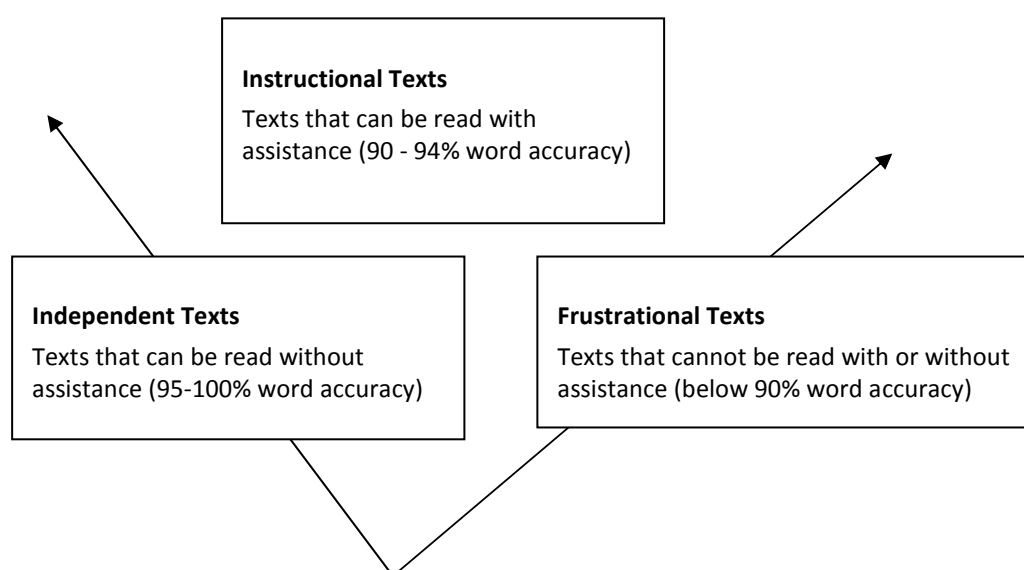


Figure 1. Text choices in the zone of proximal development.

Hu and Nation (2000, p.423) would go even further than this; they assert that most learners are not able to understand a written text adequately even at 95% coverage, and that, in fact, 98% coverage is needed for unassisted comprehension.

In 1998, Coxhead published her Academic Word List (AWL). For her, such a list “should play a crucial role in setting vocabulary goals for language courses, guiding learners in their independent study, and informing course and material designers in selecting texts and developing learning activities” (Coxhead, 2000, p.214). The AWL is made up of 570 word families, not included in the first 2000 words of English, but which occur relatively frequently over a range of academic texts. The word families are divided into ten sublists; sublist 1 containing the most frequent academic lexical items and sublist 10 containing the least frequent (amongst these 570 families).

In order to produce this list, Coxhead analysed a corpus of 3.5 million words from written academic texts across four broad disciplines (arts, commerce, law and science) and 28 subject areas (Coxhead, 2000, p.219; O’Keeffe et al., 2007, p.198). This is particularly relevant in university bridging programmes, in which students

interested in a wide spectrum of academic fields are grouped together for lessons in, for example, academic English and study skills.

Within different disciplines and genres we can expect a wide variation in conventions and individual uses, especially of lexis, but teachers are often tasked with teaching English for Academic Purposes (EAP) classes to mixed groups of students from different disciplines, and it does help to look at the somewhat broad brush picture of academic discourse which an initially quantitative study of a large corpus can provide. (O’Keeffe et al., 2007, p.200).

The coverage figures for the academic corpus used by Coxhead can be seen in Figure 2 (adapted from Nation, 2001a, p.13):

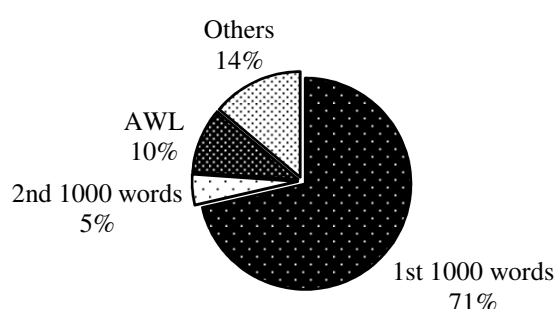


Figure 2. The coverage by the different kinds of vocabulary in an academic corpus.

Given that the academic corpus analysed by Coxhead consisted of texts from first year undergraduate courses and above, it could be assumed that texts used in an academic bridging programme should be easier to understand and therefore contain a higher proportion of the first 2000 words than the 76% given in Figure 2.

In the rationale behind his ‘Vocabulary Profiler’ website, Cobb states that, “...the 2000 list and the AWL together, a combined list of 2570 words, can bring the coverage of an academic text up to approximately 90%” (n.d., para. 16). Similarly, Sutarsyah, Nation and Kennedy (1994, cited in Nation, 2001b, p.171) found that the 2000-word list along with an academic vocabulary list covers 87% of general academic text and 91% of an economics text. If students on academic bridging programmes, then, are comfortable with the first 2000 words and if the AWL is incorporated into the course, academic texts should be much more accessible. For this to be true, however, texts used in study guides, academic assessments and other learning material need to reflect this vocabulary profile.

Methodology

For the purposes of this research, we began to use the Vocabulary Profiler developed by Tom Cobb at the University of Quebec at Montreal, based on Heatley and Nation’s Lexical Frequency Profiler (now called *Range*) (Cobb, 2003; Heatley & Nation, 1994), to get some idea of whether the vocabulary in a text was too complex, too simple, or at about the right level. The programme can analyse any lexical text and divide words into five categories by frequency:

1. the most frequent 1000 words of English (K1)
2. the second most frequent thousand words (K2)

3. the academic words (belonging to the Academic Word List (AWL) compiled by Coxhead (1998))
4. technical words
5. the remainder; 'off-list' words

However, results from a vocabulary profiling programme must still be interpreted and, given that they may be interpreted differently by different individuals, this would not resolve the differences in viewpoints. Individual teachers may apply their own standards for what they personally consider to be a 'suitable' text for their students. As Coxhead highlights:

...It is difficult to measure word knowledge and successful reading without taking other factors into account, such as the readers' individual characteristics, time allowed and available resources. (2006, p.73)

Next, we considered using texts from the *International English Language Testing System* (IELTS) reading tests to try to establish a benchmark or standard of comparison to indicate whether the vocabulary in a text was at an appropriate level, in terms of receptive knowledge; would students recognise enough of the lexis to be independent in their reading? Designers of IELTS tests seek to make each test a similar level of difficulty to every other test. While this is not humanly possible to fully achieve, it could be assumed that the IELTS reading texts are more consistently similar to one another than are other groups of texts, and could perhaps be used as the benchmark being sought.

Given that access to authentic IELTS test materials is prohibited because of test security regulations, practice test readings from a number of published IELTS test preparation books were used. Although these are not put through the more rigorous trialling procedure that the official IELTS tests are, and are not written or selected by professional test writers, who are more thoroughly trained and employed solely for that task, we hypothesised that these materials would be more consistently similar than other texts available (for example, the ever-increasing though not necessarily consistent range of English language materials available at any given level such as 'Upper-intermediate' or 'Advanced'). All of the IELTS preparation course books analysed in this study are publicly available and widely used.

A related issue involved establishing the relative level of difficulty appropriate to various courses and programmes offered at our centre (the *Centre for University Preparation and English Language Studies* (CUPELS) at Massey University's Auckland campus). In order to attempt to do this, the graph shown in Figure 3 was mapped out.

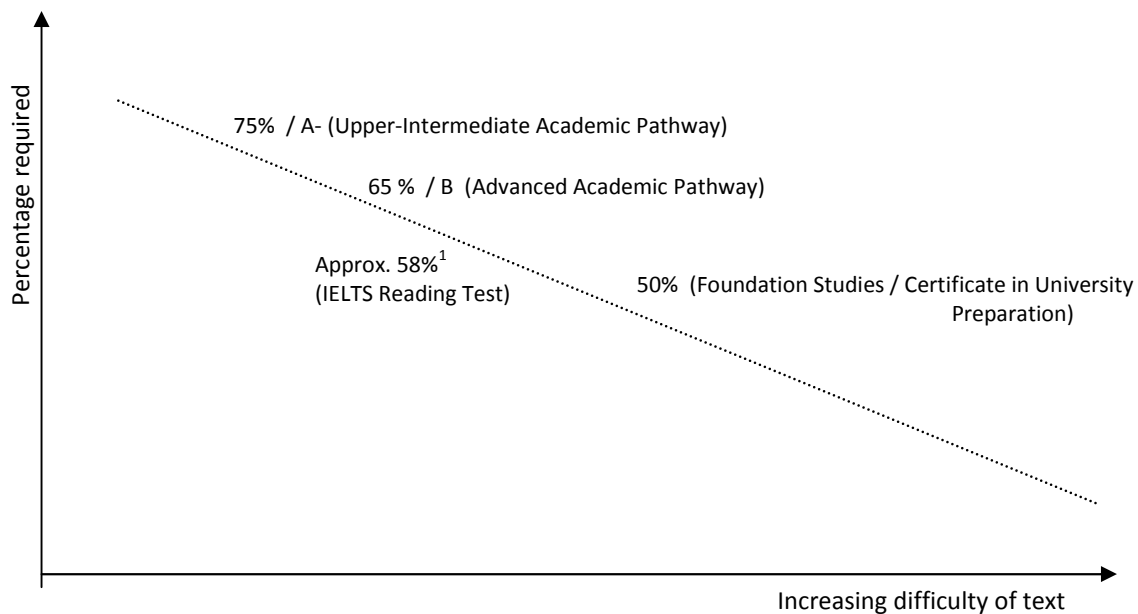


Figure 3. Minimum percentage required to gain entry to a Bachelor programme at Massey University.

Enrolment onto the four CUPELS programmes (Certificate in Foundation Studies, Certificate in University Preparation, Advanced Academic Pathway and Upper-Intermediate Academic Pathway) is dependent upon slightly different criteria. A student enrolling in the Foundation Studies programme, for example, has to provide evidence of previous academic credits and of his/her English ability. A learner wishing to follow the Upper-Intermediate Academic Pathway, on the other hand, is likely to have a lower level of English when beginning the course.

As a result, for the purposes of CUPELS' programmes, the readings for the Advanced Academic Pathway course should be harder than those for the Upper-Intermediate course; the IELTS readings should be harder still, and the readings in the Foundation Studies and Certificate in University Preparation courses should be the most difficult.

If a reliable breakdown of the vocabulary profile for IELTS practice reading tests could be found, this could serve as a benchmark for selecting reading texts for inclusion in student study guides and assessments.

Procedure

IELTS practice tests were randomly selected from the books listed in Appendix 1. Each text, including one each of passages one, two and three, was then scanned and converted from the resulting '.pdf' file to a Microsoft Word file, using the *ABBYY FineReader* programme. Next, the document was edited to remove photographs, instructions, questions and so on, leaving only the reading text. We recognise that it

¹This figure is approximate and represents the mean percentage necessary to achieve a Band 6.0 in Academic Reading in IELTS in 2006. The IELTS organisation provides this figure on their website

http://www.ielts.org/teachers_and_researchers/score_processing_and_reporting.aspx (Used with permission).

is common practice in vocabulary studies to remove proper nouns, given that they are likely to artificially raise the percentage of off-list words. However, we did not do so, on the basis that students will have to encounter proper nouns in authentic texts.

These IELTS practice readings were entered one by one into Cobb's Vocabulary Profiler and the resulting breakdowns recorded (see Appendix 2). The average breakdown was then calculated for all passage ones, passage twos and passage threes. Lastly, the overall average for all thirty passages was calculated. This is shown in the table in Figure 4:

	K1 words	K2 words	K1 + K2 words	AWL words	Technical and Off-List
Average Passage 1	74.44%	6.82%	81.26%	5.64%	13.09%
Average Passage 2	74.73%	8.36%	83.09%	7.99%	8.93%
Average Passage 3	73.92%	5.74%	79.66%	8.54%	11.81%
Average of 30 IELTS passages	74.36%	6.97%	81.33%	7.39%	11.28%

Figure 4. Average vocabulary breakdown of IELTS practice reading texts.

Discussion

The results in Figure 4 are somewhat surprising. Whilst remembering that we are not analysing genuine test materials, all descriptions of IELTS Reading tests state that Passage 2 is more difficult than Passage 1, and that Passage 3 is the hardest. However, these figures do not completely support this. According to our results, in Passage 1 texts 81.26% of the lexical items were in the 2000 most common word families of English, but Passage 2 texts had a slightly higher percentage, standing at 83.09%, suggesting that, on average, passage 2 is easier than passage 1. Similarly, if we look at the consistency of all the passages profiled, there is considerable variation in terms of Technical and 'Off-List' content. This ranges from 8.93% to 13.09%, with the average Passage 1 figure being the highest; again suggesting that the average Passage 1 contains more complex vocabulary than Passages 2 or 3.

On the other hand, these figures are relatively comparable. The average percentages of K1 and K2 words for passages 1, 2 and 3 are 81.26%, 83.09% and 79.66% respectively, giving a difference of only 3.43% between the highest and lowest figures. If we look at the percentage of K1 words across the three texts, there is a variation of only 0.81% between the two 'extremes'.

Moving on to the percentage of AWL words in the texts, we can see that all of the figures are lower than the 10% AWL coverage figure in Coxhead's academic corpus from first year undergraduate course and above (as shown in Figure 2 on page 6), as we would expect. There is a good correlation between the passage number and the AWL breakdown, reflecting the increasing level of difficulty. This poses the question as to whether a 'double benchmark' should be considered when measuring linguistic difficulty of written texts, looking at the AWL content, as well as K1 and K2.

It must be remembered that Vocabulary Profiling programmes (such as Cobb's *Web Vocabprofile* used in this research) do not analyse word length or sentence length. This will clearly have some impact on comprehension. The somewhat unanticipated results might also be explained by the type of questions attached to the text. If a more difficult type of question task (for example, completing a summary or matching headings to paragraphs) followed or preceded a text, we could more easily understand why a passage with a relatively high percentage of K1 and K2 words was selected. In this study, however, the level of difficulty of the questions was not the focus and has not been considered.

Summary and Conclusion

This study sought to establish a benchmark to use to determine appropriate difficulty level when selecting a reading text for a course assessment, study guide text or other course reading. As Coady and Nation point out:

...There are a number of factors in a text which contribute to its ease or difficulty for a given reader, but we can most accurately predict that fact by measuring one variable, vocabulary, and extrapolating from it to the overall case. (1988, pp. 97-98).

It goes without saying that the students' vocabulary learning experience and academic background have to be taken into account when making judgements regarding relative difficulty levels and when selecting texts. At the end of a course in which learning the Academic Word List has been part of the curriculum, for example, a teacher could presume that most of the AWL, as well as the K1 and K2 words, were known to the students. In an intermediate-level course, on the other hand, it is likely that a proportion of the K2 words is unknown.

With an understanding of the difficulty level of the IELTS reading test, and with the knowledge of the mean percentage required to achieve a Band 6, the standard ordinarily required for university admission, a selection of thirty practice IELTS reading texts were used from a range of widely-available IELTS preparation books, assuming that they would be relatively similar to each other. This standard was compared with other courses, based on the minimum percentage required to gain entry to a Bachelor's degree programme.

While the results of the vocabulary profiler breakdowns were not as consistent as one might have hoped, and acknowledging that this benchmark can only be an approximation, albeit the best approximation we can find, the average figure of 81.33% of K1 and K2 words in IELTS practice reading texts could serve as a

useful guideline. In simple terms, if a text contains a higher K1 + K2 percentage, it is likely to be more easily comprehensible, while if the K1 + K2 percentage is lower, the text will be more difficult for learners to understand. For academic bridging programmes, then, we would expect the proportion of K1 and K2 words to lie between the 76% coverage in Coxhead's research and this new vocabulary index benchmark of 81.33%. This idea provides a useful standard for lexical content, whilst keeping in mind that difficulty of vocabulary is only one of a number of factors to consider when selecting a reading text.

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Note:

The PowerPoint presentation accompanying this paper is available at <http://www.bridgingeducators.org.nz/conference2011.html> in the downloadable zip file of PowerPoint presentations given at the Conference

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Appendices

Appendix 1

Vocabulary Profiling: IELTS Course books used:

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Appendix 2

Vocabulary profiler breakdowns: IELTS reading passages

Table 1

IELTS Reading Passage 1

	K1 words	K2 words	K1 + K2 words	AWL	Tech & Off-List
Prep & Practice, Test 1, Passage 1 ~ religious dentistry	74.30%	8.66%	82.96%	3.35%	13.69%
Cambridge 2, Test 1, Passage 1 ~ Airports on water	70.94%	9.62%	80.56%	4.38%	15.06%
Cambridge 3, Test 1, Passage 1 ~ Rockets	72.27%	7.59%	79.86%	6.07%	14.07%
Insight into IELTS, Academic Reading Practice Test, Passage 1 ~ Artificial Reefs	70.67%	7.60%	78.27%	7.60%	14.13%
Focus on IELTS, Academic Reading Test, Passage 1 ~ Birth of Blue	71.46%	7.19%	78.65%	3.84%	17.51%
101 Helpful Hints for IELTS, Test 4, Passage 1 ~ Beam-operated Traffic System	74.91%	7.08%	81.99%	7.70%	10.31%
Focusing on IELTS: Reading & Writing Skills, Practice Test (General Training), Passage 1 ~ Education Programmes	74.75%	6.50%	81.25%	8.00%	10.75%
IELTS Practice Tests Plus, Test 5, Passage 1 ~ Twist in the Tale	80.60%	2.99%	83.59%	6.95%	9.46%
IELTS to Success, Paper 3, Passage 1 ~ Building Houses	79.66%	5.52%	85.18%	5.34%	9.48%
Prepare for IELTS: Academic Modules, Test 1, Passage 1 ~ Air-Conditioning the Earth	74.86%	5.49%	80.35%	3.18%	16.48%
Average	74.44%	6.82%	81.26%	5.64%	13.09%

Table 2
IELTS Reading Passage 2

	K1 words	K2 words	K1 + K2 words	AWL	Tech & Off-List
Prep & Practice, Test 1, Passage 2 ~ domestic pets	74.85%	9.39%	84.24%	6.50%	9.26%
Cambridge 2, Test 1, Passage 2 ~ Understanding of health	68.59%	11.80%	80.39%	14.13%	5.48%
Cambridge 3, Test 1, Passage 2 ~ Cigarette Smoke	71.76%	11.53%	83.29%	7.77%	8.93%
Insight into IELTS, Academic Reading Practice Test, Passage 2 ~ Market among adolescents	70.88%	8.95%	79.83%	9.67%	10.50%
Focus on IELTS, Academic Reading Test, Passage 2 ~ Ordinary Miracle	69.14%	8.19%	77.33%	5.50%	17.17%
101 Helpful Hints for IELTS, Test 4, Passage 2 ~ Microcredit	76.28%	6.07%	82.35%	8.28%	9.38%
Focusing on IELTS: Reading & Writing Skills, Practice Test (General Training), Passage 2 ~ Good Student	78.41%	10.63%	89.04%	4.65%	6.31%
IELTS Practice Tests Plus, Test 5, Passage 2 ~ Fun for the Masses	78.22%	5.42%	83.64%	7.91%	8.45%
IELTS to Success, Paper 3, Passage 2 ~ Book Carrying Behaviour	78.13%	6.20%	84.33%	8.34%	7.33%
Prepare for IELTS: Academic Modules, Test 1, Passage 2 ~ Money as Unit of Account	81.02%	5.42%	86.44%	7.12%	6.44%
Average	74.73%	8.36%	83.09%	7.99%	8.93%

Table 3
IELTS Reading Passage 3

	K1 words	K2 words	K1 + K2 words	AWL	Tech & Off-List
Prep & Practice, Test 1, Passage 3 ~ Australian Mining	77.93%	4.11%	82.04%	8.45%	9.51%
Cambridge 2, Test 1, Passage 3 ~ Children's thinking	79.33%	6.38%	85.71%	6.10%	8.19%
Cambridge 3, Test 1, Passage 3 ~ Scientific Method	76.72%	4.39%	81.11%	11.71%	7.18%
Insight into IELTS, Academic Reading Practice Test, Passage 3 ~ Pursuit of Happiness	78.35%	4.18%	82.53%	9.10%	8.37%
Focus on IELTS, Academic Reading Test, Passage 3 ~ Global Warming	67.23%	9.27%	76.50%	8.02%	15.48%
101 Helpful Hints for IELTS, Test 4, Passage 3 ~ Attention Deficit Disorder	73.60%	4.68%	78.28%	8.84%	12.87%
Focusing on IELTS: Reading & Writing Skills, Practice Test (General Training), Passage 3 ~ The United Nations	72.71%	5.30%	78.01%	11.41%	10.59%
IELTS Practice Tests Plus, Test 5, Passage 3 ~ The Art of Healing	67.64%	7.01%	74.65%	8.85%	16.51%
IELTS to Success, Paper 3, Passage 3 ~ Television News	79.42%	4.80%	84.22%	6.17%	9.61%
Prepare for IELTS: Academic Modules, Test 1, Passage 3 ~ Refining Petroleum	66.30%	7.24%	73.54%	6.70%	19.76%
Average	73.92%	5.74%	79.66%	8.54%	11.81%

Appendix 3

Summary of IELTS vocabulary breakdowns

Average Passage 1 texts

K1 words	74.44%
K2 words	6.82%
K1 + K2 words	81.26%
AWL words	5.64%
Technical & Off-List	13.09%

Average Passage 2 texts

K1 words	74.73%
K2 words	8.36%
K1 + K2 words	83.09%
AWL words	7.99%
Technical & Off-List	8.93%

Average Passage 3 texts

K1 words	73.92%
K2 words	5.74%
K1 + K2 words	79.66%
AWL words	8.54%
Technical & Off-List	11.81%

Average of 30 IELTS reading passages

K1 words	74.36%
K2 words	6.97%
K1 + K2 words	81.33%
AWL words	7.39%
Technical & Off-List	11.28%

Enhancing the distance student learning experience, by encouraging engagement through the on-line Study Desk

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Students who study enabling courses through distance education are often disadvantaged. The disadvantages of distance education for these students are perceived lack of feedback, the loss of contact with the lecturer and other students, lack of student support and services and feelings of isolation and alienation (Galusha, 1997). Distance educators have recognized for some time the importance of forming a two way connection with each student to provide feedback, critical analysis, support and access to other resources. Educators must do more than just provide access to information. They must truly understand the distance learner and consequently design learning environments that enrich and enhance access to and success in higher education (Gibson, 2001). Many students do not take advantage of this opportunity to forge a relationship with the lecturer or their fellow students. The students in the USQ Tertiary Preparation Program (TPP) may have less developed academic skills than their undergraduate colleagues and will often struggle to successfully complete their course of study. The demographics of distance education students provide challenges for educators to construct course content that is not only interesting but relevant to this group. The recognition of the diversity of learning styles within any group of students underscores the importance of not only having the study materials in hard copy but also available in different formats online. The Study Desk is an online resource that allows the student access to lecturers, colleagues, related websites, quizzes, and many other useful resources. This paper will research why the TPP students choose not to use the Study Desk as well as describe various strategies to promote better use of this resource so as to enhance the educational experience of the distance learner. Examples will be given in two distinct areas: Mathematics (TPP7181) and Studying to Succeed (TPP7120)

Introduction

Most universities have strategies in place to attract new students by offering alternative pathways to students who would not normally be able to attend university. The University of Southern Queensland offers the Tertiary Preparation Program (TPP) to prospective students over the age of 18 who are unable to enrol at university using the traditional pathways. The TPP is offered externally (EXT) or on campus (ONC). If the TPP students successfully complete the program they are given automatic enrolment into selected programs at USQ. The government also supports the students and the program by funding student tuition fees. This environment of a fee free course and the option of automatic university enrolment motivate many students to enrol in the TPP. The major challenge for enabling educators is to engage this new group of students effectively in order to optimize their prospects of success (Klinger & Wache, 2009). The opportunity to succeed for many students may be reduced if they choose not to engage with the lecturers or each other. The Study Desk is an online resource that allows student access to lecturers, colleagues, related websites, quizzes, and many other useful resources. USQ uses the "Moodle" Course Management System to provide a Study Desk for each course. It is a vehicle through which lecturers can assist to keep students motivated as well as provide support and enrichment throughout the course. The Study Desk is available to both on campus and external students.

This paper will research why many TPP students both off and on campus choose not to take advantage of the many resources available on the Study Desk as well as describe several strategies that can be used to promote better student use and therefore enhance the educational experience of the learner.

Background, Theory and Literature Review

The students who study the Tertiary Preparation Program (TPP) often have less developed academic skills than their undergraduate colleagues (Bedford, 2007) and require generous support to complete their enabling courses successfully (Mehrotra, Hollister, & MCGahey, 2001). The lack of academic skills together with the constraints of distance education can be major impediments for students to enjoy their learning experience as well as achieve success (Gibson, 2001). Distance educators have recognized the importance of connecting with their students, so as to enrich the learning experience as well as maintain student motivation to complete the course (Williams, 2002).

Educators must do more than just provide access to information. They must truly understand the distance learner and consequently design learning environments that enrich and enhance access to and success in higher education (Gibson, 2001). The TPP distance learner often has low self esteem and lacks confidence to succeed. The student's low self-efficacy influences their choice of activities, the effort that needs to be expended and how determined the student is to complete the course successfully (Schunk & Zimmerman, 1994). Engagement is a choice. Even when participation is assessed and marks allocated, some students decide their priorities lie elsewhere. When opportunities are given to students to engage with each other or the course lecturers, many will not participate (Murphy, Walker, & Webb, 2001). This decision not to participate can deny the student the opportunity to grow and flourish into an enthusiastic and confident learner.

Many TPP students are from low socio-economic backgrounds (SES) and may have experienced educational disadvantage. These students typically lack the social and cultural capital to engage in educational activities that may leave them exposed or overwhelmed (Klinger & Wache, 2009). If given the option to be involved they may choose not to. Lecturers may find it easy to ignore these unresponsive students in favour of those students who do respond and who openly participate in the learning activities (Skinner, 2007).

Retention rates are usually significantly lower for distance education students compared to students studying on campus (Mehrotra, et al., 2001). If educators attempt to better engage their students as well as connect with them, the outcomes will not only be an enriched educational experience but also increased student retention rates (Skinner, 2007). This paper will not review how to increase retention rates directly, but rather analyse the reasons why the TPP students choose not to engage with their lecturers and colleagues on the Study Desk. When these reasons are analysed, program co-ordinators may know how to vary their programs to better engage their students. Retention rates may improve as well, as a result of better engagement with the students.

There are many reasons why distance education students should engage and participate in an online learning environment. Easy access to complementary resources, recognition of general student concerns, course hints and suggestions,

personal conversations with fellow students and lecturers, are some of the extra resources available. Many students who are frustrated in traditional educational environments will flourish when the same material is presented using an alternative approach. A new cohort of students is encouraged and enthused when different learning environments and activities are designed to respond to individual needs and skills (Kuh, Kinzie, Schuh, & Whitt, 2005). Students, who remain outside the participatory process because they feel incapable of joining in, are excluded from various activities that may boost their self-confidence and academic skills. If these students can be reached and engaged, there is a greater opportunity for them to grow and succeed with their educational investment (Skinner, 2007).

The TPP students have varying technological skills that may determine their willingness to engage online with their lecturers or colleagues. It was anticipated that many younger TPP students would have sound computer skills and would willingly embrace the learning technologies. The more mature students who were not from the net generation might be expected to struggle with the learning technology and therefore avoid engagement (Willans & Seary, 2009). If the more mature students were obliged to use the Study Desk, would they feel more frustrated and overwhelmed with the challenge of returning to education? Analysis of student engagement on the Study Desks in the two core courses of the TPP for Semester 1 of 2009 is shown in Table 1 below. Although approximately 60% of students did access the Study Desk on a few occasions, less than 30% of these students visited regularly.

Table 1
Student access of the Study Desk in Semester 1 2009

	TPP7120	TPP7181
Students enrolled	429	330
Students accessing the Study Desk	260 (60%)	204 (62%)
Regular access	96 (22%)	93 (28%)

The 22-28% of students enrolled who did access the Study Desk regularly, visited Forums, reviewed Wimba online classes, researched selected web sites and previewed assignment advice. These students were engaged on the Study Desk. The remaining 34-38% of students that did access the Study Desk only visited once or twice and did not engage on the Study Desk. The strategies that encourage students to access the Study Desk must also encourage them to continue to access it regularly throughout the semester.

Most students who enter the TPP indicate that their intention is to become an undergraduate student in the near future. External courses at USQ generally have a large online component. On-campus courses are usually taught in a blended mode where lectures and resources are also placed online. If the TPP is to prepare students for university studies that incorporate the use of the Study Desk then developing these skills should be an integral part of the course. Williams (2002) challenged course planners to review whether participation in the electronic learning environment was an essential part of the course and if so the application of these skills should be reflected in the assessment and marks structure.

In a recent conference address in Washington, Tinto also challenged university administrators and academics when he said:

It is simply not enough to provide....access to our universities and claim that we are providing opportunity if we do not construct environments that support their efforts to learn and succeed beyond access. Simply put, access without support is not opportunity (2008, pp. 9, 10)

The TPP is a popular alternative pathway to enter USQ and other universities. These academically fragile, prospective undergraduate students must be nurtured and groomed by promoting an open learning and supportive environment that will not only engage them but also encourage them to form a supportive network of colleagues, friends and academic personnel. A key part of this network is the online Study Desk.

Methodology

This project was split into 2 phases. The first phase was to find out what issues the TPP staff members thought were inhibiting student interaction with the Study Desk. The information gained from the TPP staff would be useful in constructing a suitable student questionnaire to be sent to the students in the second phase. Analysis of the different expectations of the two groups would be constructive to help understand and possibly rectify the lack of engagement by students on the Study Desk.

A short 10 minute questionnaire was sent to the TPP staff. Staff members emailed their responses to an independent third party who summarized the data. The staff members were asked to quantify their responses using a 5 point Likert scale. The comment code was:

1. Strongly Disagree
2. Disagree
3. Neutral
4. Agree
5. Strongly Agree

There was also space for the staff members to record some qualitative data. The response rate was high (61%) for a voluntary exercise. (Some 17 staff members out of a possible 28 responded).

A short 15 minute questionnaire was constructed and trialled with a class of on-campus students. Minor changes were made to the student questionnaire as a result of this trial. It was then posted to every TPP student (excluding students in Correctional Centres) still enrolled after the census date in Semester 1 2010. The student questionnaire was sent during the last 3 weeks of the semester. At this time, students would still be involved in their TPP studies and it was hoped that a significant number of students would therefore be keen to respond as well as be in a position to make informed comments. Students were asked to quantify their responses using a 5 point Likert scale. The comment code was:

1. Strongly Disagree
2. Disagree
3. Neutral
4. Agree
5. Strongly Agree

There was also space for students to record some qualitative data. The response rate was reasonable strong (21%) for a voluntary student survey. (Some 82 students out of a possible 392 responded).

The student survey was divided into two main categories. The questions focused on what students felt the Study Desk should provide and on their own use of their Study Desks during their enrolment in the TPP in semester 2 of 2010.

Results

The following tables compare the results of the staff survey and the student survey. Only data that made a significant statement have been included for consideration. The 5 point Likert scale was reduced to a 3 point scale. The strongly disagree and disagree comments were grouped together as the comment disagree. Similarly, the comments agree and strongly agree were grouped together as agree. Tables 2-9 indicate a difference between the staff members' expectation of the students and student attitudes and abilities.

Table 2

Students do not have easy access to a computer and the internet

	Disagree %	Neutral%	Agree %
Staff survey	38	31	31

Only 38% of the staff indicated that students had easy access to the internet whereas in fact, 79% of students in the survey indicated they had broadband access, and only 3% had no access at all.

Table 3

Students are too busy to use the Study Desk

	Disagree %	Neutral %	Agree %
Staff survey	35	6	59
Student survey	56	19	24

The majority of the staff indicated that students were too busy to use the Study Desk. The student survey indicated that this was not the case. Fifty six percent of students indicated that they were not too busy to use the Study Desk.

Table 4

Students find it difficult to navigate around the Study Desk

	Disagree %	Neutral %	Agree %
Staff survey	0	24	76
Student survey	51	19	30

A majority of the staff felt that the Study Desk would be difficult for students to navigate. Only 30% of the students did find it difficult to navigate and more than 50% of the students found it easy to navigate. Students often confused the boundaries of the Study Desk and the USQ platform. It was evident from their written comments that in fact they struggled to navigate around the USQ Home page on their journey to the Study Desk. When they entered the Study Desk, they had no concerns. If students had fully understood the difference between the Study Desk and the USQ platform, the 30% that agreed the Study Desk was difficult to navigate may have been reduced.

Table 5

Students find the material on the Study Desk interesting and useful

	Disagree %	Neutral %	Agree %
Staff survey	19	66	25
Student survey	14	28	58

The members of the staff were undecided as to how students would view the material. Some 58% of the students felt the Study Desk was interesting and useful. Only 14% indicated the Study Desk material was not interesting or useful.

Table 6

Students find the paper based study materials are sufficient to succeed

	Disagree %	Neutral %	Agree %
Staff survey	12	6	82
Student survey	33	30	37

Whilst the majority of the staff felt that the students only required the paper based study materials to succeed, this viewpoint was not strongly supported by the student survey. The distribution was relatively even where 33% of students indicated the need for other resources to complement the paper based study materials. It was also evident that a significant group, some 37% of students indicated that the paper materials were sufficient to succeed. This group may have been part of the group that chose not to engage on the Study Desk.

Table 7

The Study Desk does encourage students to engage with lecturers and others

	Disagree %	Neutral %	Agree %
Staff survey	12	50	38
Student survey	3	15	82

The majority of students felt that the forums encouraged engagement with lecturers and colleagues. The staff members were not as convinced as the students. Half of the staff could not agree or disagree that the Study Desk did encourage student engagement with their lecturers and colleagues.

Table 8

Students are not comfortable using the forum to talk to lecturers or colleagues

	Disagree %	Neutral %	Agree %
Staff survey	13	6	81
Student survey	42	24	33

The staff members felt strongly (81%) that students would not be comfortable using the social forum to talk to colleagues and lecturers. The student response contradicted this by indicating that only 33% would not be comfortable communicating on the Study Desk social forums.

Table 9

Students are not confident with computer skills

	Disagree %	Neutral/Average %	Agree %
Staff survey	13	12	76
Student survey	66	26	8

The majority of staff (76%) indicated that the students would lack confidence in their computer skills. An overwhelming 92% of the students indicated they possessed average to good computing skills. This 92% was a strong measure of their confidence in their own computer skills which contrasted with staff expectations.

Table 10

Comparison of Computer skills rating across age groups

		Rate Computer Skills							
		Weak		Average		Good		Subtotal	
		Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %
Age	18-25	0	0%	6	18%	27	82%	33	100%
	25-35	0	0%	5	30%	12	70%	17	100%
	35 and over	6	20%	10	35%	13	45%	29	100%
	Subtotal	6	8%	21	26%	52	66%	79	100%

Chi-square significant level = 0.004

The student rating of computer skills was not independent of age. Older students were generally less confident than younger students. However, there was no significant connection with age when similar tests across age groups were performed on all other questions, including ease of navigation of the Study Desk, paper materials being sufficient, confidence to discuss issues on the forum and whether the TPP was challenging enough without extra computer technology requirements. This suggests that the inclination to utilize or not utilize the Study Desk was not age related.

There were several issues where the staff and the student attitudes were similar. This data has been included in Tables 11-14.

Table 11

Students should learn how to use the Study Desk

	Disagree %	Neutral %	Agree %
Staff survey	0	6	94
Student survey	13	21	66

There was strong agreement between the staff members and the students, that the ability to use the Study Desk was important and relevant to successful learning at USQ. A small group (13%) of students disagreed.

Table 12

The forums on the Study Desk are useful

	Disagree %	Neutral %	Agree %
Staff survey	18	58	24
Student survey	10	46	44

The response to this question was more neutral than other issues however 44% of students did find them useful. These data suggest that the forums have the potential to be more useful but the usefulness is not evident in the current format.

Table 13

Students are more inclined to use Study Desk if marks are awarded

	Disagree %	Neutral %	Agree %
Staff survey	12	29	59
Student survey	17	28	55

This favourable response to the question was expected from both members of the staff and the students. Some 17% of the students did however disagree with the proposal.

Table 14

Students must have access to technology as a condition of enrolment

	Disagree %	Neutral %	Agree %
Staff survey	41	29	30
Student survey	40	16	44

The staff and the students had a similar attitude towards the students having access to the internet and computer technology as a mandatory condition of enrolment. This attitude was interesting as the USQ system assumes that the undergraduate students have access to this technology.

Table 15

Students more inclined to use Study Desk if linked to a social site

	Disagree %	Neutral %	Agree %
Student survey	63	23	14

Although the students indicated strong disagreement to the concept of linking the Study Desk to a social network as being an incentive to use the Study Desk, a small group of students (20) did in fact form a Study Group on Facebook in Semester 1 2010. They discussed problems, shared assignments results, helped each other with problems and shared thoughts about the course as well as networked socially. These students felt that the social forum on Study Desk was not the correct platform for these less formal discussions and wanted the more informal aspect of instant messaging to communicate.

Discussion of Results

The initial aim of this research was to determine why the TPP students choose not to use the Study Desk. Results from the questionnaire sent out to all enrolled students at the end of Semester 1 2010 suggest that students are not averse to using this resource. In fact 89% of respondents had accessed the Study Desks. However, of the 81 respondents, only 42% stated that they used the Study Desks regularly, despite having average to strong confidence in their computer skills (92%).

Tables 2 to 9 indicate where the staff members' perceptions and the results of the student survey are contradictory. Reticence to encourage the use of computers in the TPP due to a large cohort of the students not having access and/or not being computer literate is not justified according to the survey results. The fact that most undergraduate programs at USQ rely heavily on their Study Desks to communicate with enrolled students indicates that the TPP should ensure that the students develop the habit of not relying on paper-based resources only. However, whilst the expectation should be that those that have access must use the Study Desk, consideration for incarcerated students must still be taken into account.

The staff members' concern that the students would find it difficult to navigate around the Study Desk was not supported by the students. This contrasting response by the staff may indicate that they do not perceive the Study Desk is useful as a teaching tool to enhance student engagement in the TPP.

Students did find the material on the Study Desk interesting and useful in contrast with the staff being somewhat neutral about the interest and usefulness of the Study Desk materials. This finding should encourage more members of staff to reach out to more students with extra resources via the Study Desk.

Students found the forums on the Study Desk were useful and did encourage students to engage with their colleagues and lecturers. The staff members were not as convinced. For distance education students, this is the only way they can communicate with their colleagues as well as find out what they are thinking (Gatrell, 2006). The staff also felt that students were not comfortable talking to lecturers or colleagues on the Study Desk. The student response did not support this. If the staff contributed more in the forums or promoted and managed various topics for discussions, their perceptions of the forums may change. Time restrictions and teaching philosophies may prohibit the staff members from greater participation in

these forums (Gibson, 2001). A review of these time constraints and teaching attitudes of the staff may vastly improve student engagement.

Both groups expressed the view that if marks were allocated for the use of the Study Desk then many more students would use it. If both groups agree and the Study Desk material is supported by sound educational philosophy, marks should be allocated. Universities that do not allocate assessment marks for the use of this electronic educational tool have found that a significant number of the students will not use it (Murphy, et al., 2001).

Although there was a good range of responses from the student survey, only 21% of the total TPP Semester 1 2010 student population (excluding students in the Correctional Centres) responded. This group that did respond may have greater motivation and may also have used the Study Desk regularly throughout the semester. The non responsive group may not have recognised the importance of the Study Desk and may not be motivated.

Some strategies presently used to promote better student usage of the Study Desk

In Semester 1 2010, both Study Desks in TPP7120 and TPP7181 were enhanced in terms of resources, quizzes and weekly advice to students. Discussions on the forums were initiated by members of the teaching staff with prompt response to student queries. From the survey, 69% of students indicated that they were aware of this alternative resource for their studies early on in the semester. Although the study material sent to students does outline access to this resource, this percentage could be increased in future semesters by an early mail-out reminder at the start of each semester.

Table 16

Student access of the Study Desk in Semester 1 2010

	TPP7120	TPP7181
Students enrolled	435	370
Students accessing Study Desk	366(84%)	305 (82%)
Regular access	122(28%)	198 (54%)

When compared to access figures from the same semester in 2009 (Table 1), the figures in Table 16 not only show an increase in percentage access, but more importantly, there was an increase in regular access. This further emphasises the results obtained from the student survey; the TPP students are able to and are prepared to access this resource provided they can perceive that it is a useful and integral part of their learning.

The mathematics course TPP7181 already has optional access to the Study Desk as part of the first assignment. To encourage further, regular usage of the Study Desk for TPP7181 in future semesters, a series of online quizzes have been introduced that are worth 3% of the course mark. By releasing these quizzes in stages over the semester, it is hoped that students will be encouraged to do them in conjunction with their current studies, thereby revisiting the Study Desk at regular intervals and making better use of its resources. Continued development of small

mathematical tutorials will also provide an alternative resource to the hardcopy material provided.

Conclusions and Recommendations

Results of the student survey suggest that the students are prepared to utilise the Study Desk and are confident enough in their computer skills to make use of this resource. This contradicts the perception that members of staff have of these students. Despite the fact that many of these students may have experienced educational disadvantage, they are reasonably computer literate.

Continued monitoring of the student access to the Study Desks in conjunction with an analysis as to whether increased access results in improved retention rates is required. Members of the teaching staff should consider innovative methods to engage students that will be perceived by the students as an integral part of completing the course. Professional development for the staff in electronic course design is pivotal for greater success. Although instruction on how to use “Moodle” sites is provided by USQ, the sharing of ideas could promote better utilisation of the Study Desks by the lecturers.

As the survey conducted was voluntary, the cohort of respondents may have been from the group of more computer literate students. Information on computer usage needs to be collected from all enrolled students in a future study before decisions on using the Study Desk other than as an alternative resource can be made. More research needs to be done to help understand why some students only access the Study Desk a few times initially then discontinue regular engagement. Conversely there is a group of students who access their Study Desk several times each day. Is this enthusiasm misplaced and precious time wasted?

Overall, this research indicates that students are prepared to utilise an online resource as an aid to their studies but that more developmental work is required by teaching staff in order to encourage regular access.

As a result of the research the following recommendations are made.

- Better use of the social forums is required to increase student engagement. For example, these forums could attempt to involve more students in academic discussions about extra resources they would like to be use or where they might need support. Better structured opening posts by the lecturer could be used to generate academic discussion. Specific forums could bring together groups from a particular region or groups who want to discuss a relevant issue. Better use of the forums may increase retention rates through increased self-confidence and improved academic skills.
- Promote the use of the Study Desk early in the semester. This should be via a mail out as student email addresses are often not accessed by the students early in the semester. The information in the mail out could provide a direct link to the Study Desks so that students are not overwhelmed by the complexity of finding their way around the USQ website.
- Promote and provide professional development for the TPP staff on how to use the Study Desk as well as prepare useful on-line learning resources. Recognise that on-line teaching and learning especially in

the Distance Learning environment does require extra resources of time and infrastructure.

- Encourage students to use the Study Desk by insisting that appropriate assignments be submitted on-line.
- Include using the Study Desk as part of the assessment criteria. Marks should be allocated for the appropriate use of this educational tool.
- Continue to upgrade the Study Desk with resources that will engage the students. These resources could include quizzes, surveys, discussions and access to interesting websites.

This research does highlight the ever changing landscape of the educational environment. Paper based materials are no longer the sole method of learning. Most students have greater access to technology and are often more computer literate than the teaching staff. Educators must continually seek innovative ways to enhance the learning environment in order to engage students in non traditional ways. Many more students will enter the TPP as a result of government responses to the Bradley Review of the Australian Higher Education sector (Willans & Seary, 2009). The TPP students have special needs and require greater personal attention in order for the gap to be successfully bridged between secondary, post secondary and tertiary education.

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Appendix 1

List of Conference links and PowerPoint presentations accessible on the NZABE website

The NZ Association of Bridging Educators website

<http://www.bridgingeducators.org.nz/conference2011.html> contains:

1. A link to material underpinning Ray Land's pre-conference workshop and keynote address:

**An Introduction to Threshold Concepts and Troublesome Knowledge
(Pre-conference workshop)**

**Preparing graduates for the 21st Century: Venturing into strange places
(Keynote address)**

Professor Ray Land

University of Strathclyde, Glasgow, Scotland

A link to material by Ray Land and Erik Meyer on Threshold Concepts is

<http://www.ee.ucl.ac.uk/~mflanaga/thresholds.html>

2. A downloadable zip file of PowerPoint presentations given at the Conference.
These are:

**Bridging the gap: Students' experience of transition from low-mid decile
schools to university (Keynote address)**

Associate Professor Liz McKinley and Dr. Irena Madjar

University of Auckland

Percentages - Blowing the cobwebs away

Glen Bryant and Doreen Smith

Unitec Institute of Technology

**When will I ever use this? Decompartmentalising skills with an integrated
assessment**

Elizabeth Chinlund, Yvette Erasmus and Kate Messent

*Victoria University of Wellington, Whitireia Community Polytechnic, and
Wellington Institute of Technology*

What more can I do? Linking student learning to proactive lecturer practices

Joyleen Christensen

University of Newcastle

Writing the way to better teaching and learning in Foundation Nursing

Sue Crossan and Susie Jacka

Unitec Institute of Technology

Achieving success for indigenous and ethnic minority students - Teaching and learning lessons for foundation/bridging Health Science programmes

*Elana Curtis, Sonia Townsend and Dr. Airini
University of Auckland*

Towards establishing a benchmark for vocabulary difficulty level

*Claire Goode and Linus Treefoot
Massey University*

Tertiary Educational Research: An Evidence-Based Future?

*Dr Kirsty Weir
Ako Aotearoa Research Manager*

Appendix 2

Conference Programme Details

Day 1: Wednesday 29 September 2010		
1.00– 5.00pm	<u>Pre-conference workshop</u> : 'An Introduction to Threshold Concepts and Troublesome Knowledge' led by Professor Land	Quality Hotel
5.30– 7.30pm	Welcome to Wellington social event (registration open)	

Day 2: Thursday 30 September 2010		
8.00am	Registration open	Quality Hotel
9.00am	Mihi Whakatau	
9.30am	Keynote address: <u>Professor Ray Land</u>	
10.30am	Morning tea	

Day 2: Thursday 30 September 2010 (continued)

11.00am	<ol style="list-style-type: none"> 1. Nina Nola & Stephanie Wyatt: University of Auckland. <i>As easy as 1, 2, 3, 4: Establishing sound essay-writing practice in the foundation year.</i> 2. David Bull: University of Southern Queensland. <i>Open Education Resources (OERS): What could be their contribution to bridging education?</i> 3. Rangi Nathan, Carol Wills, Tia Roos, Shona Trass, & Maree Gibson: Manukau Institute of Technology. <i>Changing the 'course' of Te Tiriti: Stories from Manukau.</i> 4. Trisha Hanifin & Nick Marsden: Unitec Institute of Technology. <i>Sustainable development through enquiry work.</i>
11.45am	<ol style="list-style-type: none"> 1. Joyleen Christensen: University of Newcastle. <i>What more can I do? Linking student learning to proactive lecturer practices.</i> 2. Sheena Parnell & Moira Statham: University of Auckland. <i>Collaborative group tutorials as presented in the mathematics courses for the Tertiary Foundation Certificate at the University of Auckland.</i> 3. Elana Curtis, Sonia Townsend, & Dr. Airini: University of Auckland. <i>Achieving success for indigenous and ethnic minority students - Teaching and learning lessons for foundation/bridging Health Science programmes.</i> 4. NA 5. Evonne Irwin & Annette Morante: University of Newcastle. <i>Assessing success: Linking student success to writing assessment and student uptake of academic skills support.</i>
12.30pm	Lunch
1.15pm	<ol style="list-style-type: none"> 1. Panel Discussion 1. David Nicholson, Leanne Smith, Kirsty Weir, & Linda Sissons: Tertiary Education Commission, Tertiary Education Commission, Ako Aotearoa, & Wellington Institute of Technology. <i>The Tertiary Education Strategy 2011-2015 and the roles of different providers in preparing students for degree level study.</i> 2. NA 3. Panel Discussion 2. Cheryl Wilson & Judy Paterson: Tertiary Education Commission. <i>Getting on with embedded literacy and numeracy: Turning LLN into business as usual.</i>
2.15pm	Afternoon tea

Day 2: Thursday 30 September 2010 (continued)		
2.45pm	<ol style="list-style-type: none"> 1. Willfred Greyling & Evelyn McKnight: Waikato Institute of Technology & University of the Free State, & Waikato Institute of Technology. <i>Aligning the activities in the literacy-embedding value chain at the Waikato Institute of Technology (Wintec).</i> 2. Rosalie Bunn: University of Newcastle. <i>'Noticing the unnoticed': Empowering enabling students through sociological theory.</i> 3. Elizabeth Chinlund & Meegan Hall: Victoria University of Wellington. <i>Views from 'Last Resort': Experiences of Māori undergraduate students who transitioned from tertiary bridging programmes.</i> 4. Alison Simmonds, Helen van Toor, & Warwick Hill: Waiariki Institute of Technology. <i>Kinaesthetic Mathematics.</i> 5. Matthew Steele: Victoria University of Wellington. <i>'Know thyself and understand others': Cross-cultural understanding and communication within an enabling/bridging education programme.</i> 	
3.30pm	<ol style="list-style-type: none"> 1. Claire Goode & Linus Treefoot: Massey University. <i>Towards establishing a benchmark for vocabulary difficulty level.</i> 2. Alistair Shaw: Victoria University of Wellington. <i>University Bridging without EFTS funding; second best options?</i> 3. Gary Orth & Clare Robinson: University of Southern Queensland. <i>Enhancing the distance student learning experience, by encouraging engagement through the on-line Study Desk.</i> 4. Jessamyn Clarke & John Clarke: University of Southern Queensland. <i>High educational aspirations as a barrier to successful university participation: Learning from the Sudanese student experience.</i> 5. Francesca Costa: Victoria University of Wellington. <i>Empowering students through 'reflective' learning.</i> 	
5.00pm	NZ Association of Bridging Educators AGM (drinks provided)	
7.30pm	Conference dinner	<u>Portofino</u> Italian Restaurant

Day 3: Friday 1 October 2010		
9.00am	Keynote address: <u>Associate Professor Liz McKinley & Dr. Irena Madjar</u>	Quality Hotel
10.00am	Morning tea	
10.30am	<ol style="list-style-type: none"> 1. Rowan Jeffrey & Julie Hardie: University of Canterbury. <i>'Hungry for it': Mature, second chance students in a 'do more with less' tertiary funding environment</i> 2. Shondell Williams: University of Newcastle. <i>Images of enabling education in a technological age.</i> 3. Anne-Marie Tokley: Victoria University of Wellington. <i>'I hated that at school': Teaching humanities to reluctant students.</i> 4. NA 5. Glen Bryant & Doreen Smith: Unitec Institute of Technology. <i>Percentages - Blowing the cobwebs away.</i> 	
11.15am	<ol style="list-style-type: none"> 1. Sue Crossan & Susie Jacka: Unitec Institute of Technology. <i>Writing the way to better teaching and learning in Foundation Nursing.</i> 2. Nadine Adams, Sherie Elliott, & Antony Dekkers: Central Queensland University. <i>Making videos that click: Helping bridging mathematics make the connection.</i> 3. Kevin Walliss: University of Newcastle. <i>Using Youtube as a teaching tool.</i> 4. NA 5. Alexandra McKegg: New Zealand Qualifications Authority. <i>External evaluation and review - Collecting and using evidence of achievements and valued outcomes.</i> 	
12.00pm	<ol style="list-style-type: none"> 1. Teresa Fernandez & Stephen Gardyne: University of Waikato. <i>The development and implementation of a bridging general science paper: Through a sociocultural lens.</i> 2. NA 3. Carine Stewart: University of Ottawa. <i>A humanitarian approach to tertiary education: Facilitating the transition from high school to university.</i> 4. Peter Howland & Dylan Taylor: Open Polytechnic & Victoria University of Wellington. <i>Team-based creative learning, social science and bridging education.</i> 5. Judy Paterson: University of Waikato. <i>The life of an idea: The growth and development of a numeracy resource.</i> 	
12.45pm	Lunch	
1.30pm	Structured Korero Time. TBA.	

Day 3: Friday 1 October 2010 (continued)	
2.15pm	Afternoon tea
2.45pm	<ol style="list-style-type: none"> 1. NA 2. Barbara Miller-Reilly: University of Auckland. <i>Mathematics is a 'frypan, I use it often': Utilising metaphors in research.</i> 3. Frances Rewharewha: Victoria University of Wellington. <i>Recruiting Māori - Why move mountains when you can go to university, stand at the top and enjoy the view.</i> 4. Karen Seary & Julie Willans: Central Queensland University. <i>Bridging the divide: Scaffolding the learning experiences of the mature age student.</i> 5. Moiria-Clare Donavon: Victoria University of Wellington. <i>Teaching critical thinking.</i>
3.30pm	<ol style="list-style-type: none"> 1. Elizabeth Chinlund, Yvette Erasmus, & Kate Messent: Victoria University of Wellington, Whitireia Community Polytechnic, & Wellington Institute of Technology. <i>When will I ever use this? Decompartmentalising skills with an integrated assessment.</i> 2. Heather Martin: Eastern Institute of Technology. <i>A hands-on resource for rearranging equations.</i> 3. Briar Hamilton: Massey University. <i>Putting the 'how to' into 'study'.</i> 4. NA 5. Robyn Gandell: Unitec Institute of Technology. <i>Origami and group work in mathematics.</i>
4.15pm	Conference close

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