

Good Practice Report:

Innovative Indigenous Teaching and Learning

Final Report 2013

Nereda White

Jack Frawley

Dang Thi Kim Anh

Support for the production of this report has been provided by the Australian Government Office for Learning and Teaching. The views expressed in this report do not necessarily reflect the views of the Australian Government Office for Learning and Teaching.



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Office for Learning and Teaching
Department of Industry, Innovation, Science, Research, Climate Change and Tertiary Education

GPO Box 9880,
Location code N255EL10
Sydney NSW 2001

<learningandteaching@deewr.gov.au>

2013

ISBN 978-1-922218-83-4 BOOK
ISBN 978-1-922218-82-7 PDF

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Overview

Indigenous participation in higher education, both in teaching and in learning, is generally very low. Numerous programs and initiatives have been implemented to facilitate Indigenous student recruitment, participation, retention and completion in higher education in Australia and elsewhere. This review was established to report on good practices in innovative Indigenous learning and teaching in higher education, focusing on 'what works' in Indigenous higher education.

The review consists of three major sections. First, it provides a summative evaluation of the good practices and key outcomes for teaching and learning from completed ALTC projects and fellowships (as at February 2013) relating to the topic of *Innovative Indigenous learning and teaching in higher education*. Second, it presents a review of relevant Australian and international scholarly research and publications on the topic. Drawing on the observations from the review of ALTC projects and relevant literature, the final section, Recommendations, identifies areas in which further work or development is needed.

The completed ALTC projects map an overall picture of innovative Indigenous teaching and learning practices in Australia. They adopt different approaches and address specific needs of different groups of stakeholders, both Indigenous and non-Indigenous. They are forging new and meaningful structures and understanding for promoting Indigenous learning and teaching. The outcomes of these projects and fellowships are multiple. These outcomes range from: strengthening the capacity of Indigenous and non-Indigenous stakeholders involved both directly and indirectly in Indigenous education, to advocating new paradigms of Indigenous learning and teaching and developing relevant Indigenous pedagogy. These projects act as a blueprint for further work in the field.

The literature review presents a snapshot of good practices in the broad Australian context and in two other world zones where Indigenous peoples share similar historical experiences of British colonisation: North America and New Zealand. Despite similar problems facing Indigenous higher education, different nations and institutions adopt varied approaches. The literature highlights the importance of involving Indigenous people and communities, the benefits to be gained from the recognition and promotion of Indigenous knowledge systems, the need for holistic support for students, and the role of transformation of stakeholders - and persistent effort in all areas - in improving the quality of Indigenous education.

There are many challenges and perils but the many success stories, both within Australia and elsewhere, show that improvements in Indigenous higher education are possible and rewarding for all involved. The recommendation section highlights five key areas that need further development, as well as strategies as to how this could be accomplished.

Completed OLT projects and fellowships

Key outcomes for teaching and learning of the ALTC completed projects on the topic of *Innovative Indigenous learning and teaching*

This report has reviewed sixteen ALTC funded and completed projects and fellowships as at March 2013 that are relevant to the topic of *Innovative Indigenous learning and teaching*. These projects and fellowships have mapped an overall picture of innovative Indigenous teaching and learning practices in Australia. These practices were implemented in different educational settings and were examined from different angles. They took on different forms and addressed specific needs of different groups of stakeholders, both Indigenous and non-Indigenous. They are forging new and meaningful structures and understanding for promoting Indigenous learning and teaching. The key outcomes of these projects and fellowships can be summarised as follows:

1) Identifying and addressing different distinct and specific areas in Australian Indigenous education that need attention

Indigenous participation in higher education, both in teaching and in learning, is generally very low. The completed ATLC projects have started to address, though differently, the questions of how to foster, retain, support and draw strengths from this group, along with how to directly increase Indigenous participation in higher education. Examples of projects to support and retain current Indigenous students and staff include: 'Transforming practices, structures and conditions in Indigenous higher education' (LE6-2); 'Indigenous women and educational leadership' (LE6-17), 'A longitudinal study of how student diversity relates to resilience and successful progression in a new generation university' (CG6-38), and 'Indigenous teaching and learning at Australian universities' (2008 ATLC Teaching Fellow). Examples of projects focusing on the issue of growth of Indigenous participation at different levels include: 'Teaching From Country' (2008 ATLC National Teaching Fellow); and 'Curriculum specification and support systems for engineering education' (PP8-844).

2) Strengthening capacity of Indigenous and non-Indigenous stakeholders involved both directly and indirectly in Indigenous education

The completed ATLC work done on the topic of *Innovative Indigenous learning and teaching* has strengthened the capacity of stakeholders involved in Indigenous education at individual, institutional and inter-institutional levels. At the individual level, it has helped to build the professional and leadership capacity of Indigenous academic teachers, such as in 'Indigenous women and educational leadership' (LE6-17), the 'Indigenous teaching and learning at Australian universities' project, and 'Teaching from country' program. The completed work also targeted non-Indigenous teachers involved in Indigenous education, such as in the projects on 'Disseminating strategies for incorporating Australian Indigenous content into psychology undergraduate programs throughout Australia' (CG6-50) and 'Developing primary teacher education students' professional capacities for children's diverse mathematics achievement and learning needs' (CG8-737). At the institutional level, several projects aimed to support individual universities in policy, structural, and pedagogical change: 'Teaching from country' for Charles Darwin University (CDU), and 'Disseminating strategies for incorporating Australian Indigenous content into psychology undergraduate programs throughout Australia' with the story of success from the University of South Australia (UniSA). Examples of projects to support inter-institutional engagement include: 'Transforming practices, structures and conditions in Indigenous higher education' (LE6-2).

3) Forging and advocating new paradigms of Indigenous learning and teaching

New paradigms for Indigenous teaching and learning promoted by the projects include the recognition of new ways of learning, thinking, teaching, conceptualising and presenting knowledge. The new paradigms thus call for educational approaches that are culturally appropriate for Indigenous people and pedagogically aligned with Indigenous knowledge practice. Specifically, project entitled 'Teaching from country' promoted Yolju pedagogy and knowledge and how this informed the project's innovative practice. Another example is the fellowship on 'Promoting strategies and creating opportunities for inter/multimedia practice as culturally appropriate dissemination tool for Indigenous postgraduate research training'. Projects entitled 'Developing primary teacher education students' professional capacities for children's diverse mathematics achievement and learning needs' (CG8-737), 'Curriculum specification and support systems for engineering education' (PP8-844) and 'Keeping on Track. Teacher leaders for Indigenous postgraduate coursework students' (LE10-1608) all highlight the need for specially attuned approaches in working with Indigenous learners on the basis of acknowledging diverse ways of learning and knowing.

4) Creating multiple networks for promoting new understanding of Indigenous education and Indigenous knowledge and for supporting all involved in the process

The networks established by different projects include: an Indigenous women's leadership network, from 'Indigenous women and educational leadership' project (LE6-17); 'Tiddas Writin' Up: Indigenous Women and Educational Leadership' (LE10-1602) workshop to further develop the leadership capacity, especially in the area of enhancing academic publication output, of Indigenous academic women working in Australian universities; a network of Australian and international higher education institutions to provide new insights into the ways the sector can support indigenous students and staff in tertiary education, as in 'Transforming practices, structures and conditions in Indigenous higher education' project (LE6-2); or a network of academics and practitioners working in the same pedagogical area of incorporating indigenous cultural content into current disciplinary study, as in 'Disseminating strategies for incorporating Australian Indigenous content into psychology undergraduate programs throughout Australia' (CG6-50) project.

5) Developing practical learning and teaching resources either ready for use or adaptable for different contexts

The learning and teaching resources developed by the projects are very diverse. One of the most common resources is project websites with materials developed by projects for educators, students and others involved in Indigenous education. The materials can include factsheets, newsletters, tutorials, learning and assessment tasks, writings, guidelines, references, and reports. Other common resources include publications, such as texts, book chapters, books, journal articles, pamphlets and CD resources. Further details of the resources generated by each project are found in the section on findings and resources of each project, which follows in the second section. For example, the 'Byalawa' project is a web based resource for health professionals and health professions' students to develop culturally safe interviewing practices.

6) Developing theoretical and philosophical tools/frameworks relevant to indigenous education

Theoretical and philosophical frameworks created by the projects are invaluable tools that guide the practice. An example of these frameworks is the Institutional Leadership Paradigm (ILP) developed by 'Transforming practices, structures and conditions in Indigenous higher education' project (LE6-2). Another is the cultural-competence model developed by 'Disseminating strategies for incorporating Australian Indigenous content into psychology

undergraduate programs throughout Australia' project (CG6-50), as a theoretical framework for teaching, learning, and integrating cultural content in the current curricula.

7) Providing exemplars of good Indigenous learning and teaching practices

Several projects identified and examined aspects of current Indigenous learning and teaching practices that are considered to be exemplars of good practices. An example of good Indigenous teaching and learning practices can be found in the 'Disseminating strategies for incorporating Australian Indigenous content into psychology undergraduate programs throughout Australia' project. In particular, it is the story of how UniSA was able to incorporate Indigenous content successfully into its psychology undergraduate program. Another example is from the 'Teaching from country' project. Within this project and in the Yolŋu environment Indigenous knowledge authorities equipped with ICT taught lessons about Yolŋu knowledge to students in Australia and overseas, who were enrolled in the subject of Yolŋu studies at CDU.

8) Drawing attention to the need for concerted effort by different sectors and agencies involved in Indigenous education

Whilst recognising the magnitude and complexity of the issues concerning Indigenous education, all the reviewed projects highlighted the requirement for the collaboration of relevant sectors, institutions, community, and external organisations in innovating Indigenous teaching and learning. Recognising individual Indigenous teachers or students also means recognising and involving their communities and the Indigenous values, culture and knowledge, within broader Australian society. Several projects have called for a unified national strategy to address the issues. For instance, the 'Transforming practices, structures and conditions in Indigenous higher education' project (LE6-2) emphasised the need to develop an ILP Resource Package to be used throughout the Australian Higher Education Sector. In a similar vein, 'Curriculum specification and support systems for engineering education' project (PP8-844) suggested that the Australian Council of Engineering Deans initiate a national dialogue with key stakeholders, such as the Indigenous Higher Education Advisory Council and other related bodies, to scope a national strategy for growth in participation by Indigenous Australians in engineering education.

9) Promoting and recognising the importance of Indigenous knowledge practice

Whilst recognising Indigenous ways of learning and knowing as a means to devise effective pedagogies that are culturally appropriate to Indigenous Australians, certain projects also emphasised the significant contribution of Indigenous knowledge in the advancement of human beings' knowledge as a whole. 'Teaching from country' is one clear example of a project that helped to promote Indigenous knowledge authorities and Indigenous knowledge to the world. Indigenous participants here were not positioned as having deficit roles. Instead, they were seen as active agencies in contributing to knowledge creation.

10) Acting as a blueprint for further work/research to be done in the field, in terms of epistemology and methodology

Given the dearth of materials in the area of innovative Indigenous teaching and learning, certain projects and fellowships also pointed out methodological and epistemological considerations for future projects. In particular, several projects emphasised the need to involve relevant Indigenous authorities as a first point of reference. Others suggested the necessary involvement of Indigenous community in any educational initiative. Still others raised the issue of the local nature of Indigenous knowledge and its epistemological and pedagogical implications.

The above key outcomes are not hierarchical or listed in any particular order of importance. They represent summarised findings and highlight observations distilled during the analysis of project and fellowship reports.

Project 1: An institutional leadership paradigm: Transforming practices, structures and conditions in Indigenous higher education (LE6-2)

Findings

The project identified common values, philosophy and principles that participants, who came from five Australian and three international universities, believed could support institutional change in the best interest of indigenous students and staff. These values and principles were developed into a document referred to as the Institutional Leadership Paradigm – the ILP. The project revealed that according to the participants, their current university practice was not consistent with the values of ILP. The ILP was then used to guide and support them to undertake specific activities within their institutions in order to modify some aspects of their institution's practices, policy and/or conditions. Activities supported by the project and undertaken within participating institutions resulted in a range of transformation to policies, practices and conditions. The findings indicated that the ILP was a means for transforming and improving the situation of indigenous students and staff and strengthening the capacity of participating institutions to provide more culturally relevant teaching and learning programs. The project emphasised the need to develop an ILP Resource Package to be used throughout the Australian Higher Education Sector.

Resources

The key resource emanating from this project is the values-based Institutional Leadership Paradigm (ILP). The project identified and endorsed key Indigenous values that should be present within an institution in order to facilitate transformative institutional leadership for Indigenous outcomes. The values identified were:

- *openness*, through a demonstrated belief that Indigenous education is everybody's business, not just Indigenous student services;
- *enduring leadership*, through a long-term commitment to an Indigenous employment strategy;
- *transformation*, by extending the learning of the individual into their respective communities;
- *cultural integrity*, through approaches to learning and teaching imbued with Indigenous traditions;
- *empowerment*, including and involving the students' families, as well as the students themselves;
- *partnerships*, bringing communities into the university; and,
- *inclusion*, providing higher education in communities.

The framework, as a set of common values linked to institutional practices that embody and reflect them, means it could be accessed as a kind of rallying point for guiding action to instigate change across a range of different contexts and situations. It could also be deployed in support of existing activities and change processes taking place within participating institutions.

Project 2: Assessing professional teaching standards in practicum using digital technologies with Indigenous and non-Indigenous pre-service teachers (PP10-1817)

Findings

The overall aim of the project was to develop Aboriginal and non-Indigenous pre-service teachers' (PST) capacity to assess, document and share practices and pedagogies that facilitate teaching in schools with a high Indigenous student population. The participating PST were able to demonstrate achievement of professional teaching standards, used digital technologies in constructing an ePortfolio, became competent in using a range of pedagogies including digital pedagogies in their professional practice and participated in a professional learning community for sharing teaching ideas and experiences that cater for all primary school students but specifically Indigenous ones.

Other findings included that:

- PST, both Aboriginal and non-Indigenous, were able to develop the capacity to self-assess their practicum teaching and to participate in mentoring conversations about their teaching, using professional teaching standards as both a benchmark and a common language with which to articulate understanding;
- using reflective tools and protocols was an effective means to support PST to focus their reflection on teaching and, when combined with an understanding of professional teaching standards, such reflection was a source of teacher learning and teacher growth in understanding;
- assessment by PST of teaching artefacts for suitability as evidence of the achievement of standards was a valuable skill in encapsulating reflection in visible form;
- the incorporation of evidence into an ePortfolio enhanced the process of consolidating PST learning in and from the practicum experience;
- inter-university cooperation, based in robust relationships and common goals, was a valuable means by which PST in remote areas were supported on practicum; and
- the discriminating use of synchronous and asynchronous technologies for inter-university communication, and of ePortfolios for consolidating learning were valuable adjuncts to face-to-face teaching and communication, broadening the avenues available for supporting PST on practicum.

Resources

The resources created from the project included:

- a suite of assessment procedures (including ePortfolio use) for teaching practicum and course modules for addressing professional teaching standards;
- a website for developing a learning community of teachers working in communities with high Indigenous populations in the public domain, with secure access for pre-service teachers and lecturers from UWS, ACU and CSU to support learning within the practicum, together with sample materials and a discussion group;
- assessing professional teaching standards in practicum using digital technologies with Indigenous and non-Indigenous pre-service teachers
- a fully resourced learning module on how to use digital technologies to provide evidence of Professional Teaching Standards through ePortfolio construction and incorporating Indigenous perspectives;
- guidelines for approaching inter-university practicum assessment practices that address professional teaching standards, and inter-university support of Indigenous and non-Indigenous pre-service teachers in a range of practicum settings – remote/rural and regional/urban; and,
- recommendations for improved assessment practices for pre-service teachers via ePortfolio Conference papers and journal articles in Australian journals (e.g. *The Australian Journal of*

Education and The Australian Educational Researcher), and international journals (e.g. *Teachers and Teacher Education*, *Asia Pacific Journal of Teacher Education*).

Project 3: Communicating effectively with Indigenous people: a resource for health science students to learn culturally safe interviewing practices (CG8-708)

Findings

This project provided the evidence that the effectiveness of the communication between a health professional and a patient often determined the quality of service delivery. Socio-cultural differences between health professionals and their patients in education, family structures, language skills, socioeconomic status and perceptions of health and illness were barriers to effective communication. Health professionals needed to be able to interview patients in a culturally appropriate way as a vital component of the safe practice of patient care. In light of this, it was a priority for Faculties of Health around Australia to provide pre-clinical and clinical learning experiences which facilitated health students' development of these communication skills in a manner which is safe and effective for both students and patients (McCabe et al., 2010). It brought together academics from a wide range of disciplines across two participating universities: The University of Sydney and James Cook University. The materials developed will be used by academics and clinical teachers in a broad range of health professions either in single-profession or inter-professional learning contexts.

Resources

The development of the Byalawa Project was guided by the following principles:

- to use an action research approach to develop the Byalawa resource;
- to be culturally appropriate through consultation with Indigenous people and communities;
- to be developed with stakeholders including Indigenous people, health professionals, university lecturers and students;
- to be academically rigorous, adaptable for different curricula pedagogies, with novice to advanced students, in interdisciplinary or single-discipline contexts;
- to present a range of stories which represent real and common encounters between Indigenous people and health professionals; and,
- to use real health professionals in the learning materials to give authenticity.

Byalawa means "speaking" in Dharug, the language of the Wangal people who are the traditional custodians of Western Sydney and of the land that the Faculty of Health Sciences of The University of Sydney at Lidcombe sits. The Byalawa project is a web based resource for health professionals and health professions' students to develop culturally safe interviewing practices. The multimedia resources are research based and include six video case studies, learning outcomes and themes, sample lesson plans, learning and teaching resources and links to other relevant materials. The website is www.byalawa.com

Scenarios and resources were developed from qualitative research with Indigenous people about their experiences of health interviews with a range of health professionals. The Indigenous people who told us their stories wanted health professionals to know a number of things about how to improve communication generally and interviews specifically. These were arranged into themes, the themes have been turned into the Byalawa resources including the video case studies and lesson plans. The resources were then trialed with five cohorts of students at two universities, revised within the action research framework and are presented on the website following these revisions. The resources have been widely disseminated and have received media coverage in both the health media and a range of Indigenous media.

Project 4: Creating cultural empathy and challenging attitudes through Indigenous narratives (CG10-1545)

Findings

This report documented the implementation and outcomes of the *Creating cultural empathy and challenging attitudes through Indigenous narratives* project, which was conducted over a two-and-a-half year period. The project was led by Edith Cowan University and brought together non-health-service sectors, educators and health professionals to collaborate as a reflective, multidisciplinary team, with shared visions and goals. The collaborators included The Combined Universities Centre for Rural Health, University of Notre Dame University, Curtin University and Health Consumers' Council, WA.

The aims of the project were:

- to positively influence the health and wellbeing of Australian Indigenous people by improving the education of health professionals; and,
- to engage students with authentic stories of Indigenous people's experience of healthcare, both positive and negative, in order to enhance the development of deep and lasting empathy.

From the evaluation it was clear that the narrative resources provide a unique opportunity to give Indigenous people a voice in WA and national health curricula. However, more information is now needed about how the resources are being used by the educators and clinicians who have registered on the website.

Resources

A website <http://altc-betterhealth.ecu.edu.au> was established. Forty-one (41) narratives are available on the website as videos (embedded in YouTube) and/or transcripts, comprising stories collected from Aboriginal Australians in Western Australia (WA) about their experiences with health services. Three scenarios - on the key themes of communication, passing on and drunken stereotypes - are also located on the website. There are facilitation guides to the narratives and scenarios, as well as a search function based on the narrative themes.

Educators from all of the states and territories in Australia except Tasmania, have registered on the website and are potentially using the narrative resources in teaching and learning. A cohort of eight educators from the collaborative universities in WA, representing a diverse range of disciplines, has used the resources as part of the pilot project. The educators in the pilot identified an immediate impact on students from the narrative resources, and confirmed that they provided students with learning opportunities to challenge preconceived stereotypes. The range of resources catered for different learning and teaching styles and addressed curriculum outcomes for a number of health disciplines.

An extensive follow-up with these participants is recommended to provide:

- information on how the narratives resources are being integrated into the curricula;
- information on the impact of the narratives on students and how transformational learning strategies are being implemented to challenge attitudes;

- practical advice on overcoming student resistance and reinforcing reflective learning; and,
- information on how the resources are used to teach skills for cultural competent care, for example, communication and negotiation with family regarding end-of-life preferences.

This information can be incorporated into the website and disseminated more widely.

Project 5: Curriculum specification and support systems for engineering education: understanding attrition, academic support, revised competencies, pathways and access (PP8-844)

Findings

The project aimed to underpin and strengthen engineering education through informed and systematic curriculum renewal and delivery support. One of the four key themes of the project was to examine pathways and access into engineering degrees, with a focus on Indigenous Australians, given the obviously very low participation of Indigenous people in engineering studies and in the engineering workforce, and at the professional engineering degree level at any institution. The specific question the study aimed to address was: 'What strategies can engineering schools adopt, in conjunction with Indigenous educators and representatives of Indigenous communities and organisations to increase the participation of Indigenous Australians in engineering education and into the engineering workforce?'

The project identified two major barriers to the growth of Indigenous participation in engineering: the lack of engagement and sense of connection to engineering with little awareness of the relevance of engineering to the individual and community; and, the lack of a pool of suitably qualified Year 12 students.

The project examined opportunities and current best practice initiatives for engineering faculties to consider. These include:

- inclusive curricula to target marginalised students;
- project based learning to incorporate topics relevant to Indigenous knowledge, practices, current and future needs into project based learning across the curriculum;
- bridging and transition programs organised by engineering faculties in conjunction with Indigenous support units to ensure that the courses offered are appropriate and encouraged to be seen as pathways with clearly defined criteria to engineering degrees;
- mentoring programs for Indigenous students; and,
- outreach opportunities for engineering faculties abound, directly to communities and through their relationships with secondary schools.

From discussions with a range of stakeholders as key informants, the project proposed eleven recommendations for engineering faculties to consider, individually and in partnership. These recommendations focused on the benefits of linkages within the universities, schools and relevant communities. As an overarching strategy, Australian Council of Engineering Deans was advised to initiate a national dialogue between the Indigenous Higher Education Advisory Council, the five engineering related Industry Skills Councils and Skills Australia, VET/TAFE sector and Engineers Australia, to scope a national strategy for growth in participation by Indigenous Australians in engineering education.

[Resources](#)

The final report and brochure of the theme 'Opportunities to aid recruitment and retention of Indigenous students' constitute the project's key resources in relation to Indigenous education. It provides an insight into the low participation of Indigenous students in engineering and current best practice initiatives to boost Indigenous participation in this field. Specific recommendations are also given to engineering schools and faculties. These resources can act as guidelines for engineering schools and faculties (and other bodies involved) to help increase

the participation of Indigenous people in engineering. Most of these generic guidelines can also be transferable beyond engineering to other disciplines where Indigenous participation is low.

Project 6: Developing primary teacher education students' professional capacities for children's diverse mathematics achievement and learning needs (CG8-737)

Findings

The overall aim of the project was to develop teacher education students' professional capacities to cater for diverse mathematics achievement and learning needs. The project examined innovative learning and assessment practices within the Bachelor of Education (Primary and Early Childhood) courses at Curtin University of Technology. Specifically, it investigated the use of authentic learning/assessment tasks and new technologies for learning and communication. One sub-focus of the project was Indigenous mathematics learning. In particular, the project aimed to develop primary teacher education students' capacities to design mathematics curricula that incorporate mathematics content and pedagogy appropriate for Indigenous children.

To address this sub-focus, aspects of teaching mathematics to Indigenous children were included in the three mathematics education units of the project through the examination of how Indigenous children might bring to their mathematics different ways of learning, interests, and goals that differ to non-Indigenous children. Specifically, the fourth year teacher education students were asked to revise their teaching portfolio to include an item specifically focused on catering for the mathematics learning of Indigenous children. The students were also asked to demonstrate how they were able to use technology to meet such needs. The items developed by the students provided evidence that they had researched within the professional literature and developed a range of ideas and principles to consider when teaching mathematics to Indigenous children. The findings of the project reveal that as stated in their portfolio self-assessment, many students involved in the project also were now aware that they had much more to learn about teaching mathematics to Indigenous children. This outcome shows that the students' professional awareness of Indigenous educational issues had increased. It was not an area they had identified prior to developing their portfolio as prominent in the context of 'catering for diversity'.

Resources

This project has created a number of resources to develop primary teacher education students' capacities to design mathematics curricula that incorporate mathematics content and pedagogy appropriate for Indigenous children. These resources include a [CD](#) and the authentic learning and assessment tasks developed for the project and can be relevant for the Bachelor of Education programs elsewhere in Australia. The 'diversity-focused' authentic activities and assessment used in the project to develop students' professional capacities for children's diverse mathematics achievement and learning needs can also be the basis for the design of similar 'diversity-focused' activities and assessment for use within other components of a bachelor of education degree. Furthermore, they also have potential for use in disciplines other than education.

Project 7: Disseminating strategies for incorporating Australian Indigenous content into psychology undergraduate programs throughout Australia (CG6-50)

Findings

The project revealed, firstly, the story of how UniSA developed the policy and process of integrating Indigenous content and cultural competence successfully into psychology undergraduate programs. Their strategies were developed on the basis of a theoretically sound pedagogical model of cultural-competence developed by the project team. This model was refined as a guide to teaching at both undergraduate and professional development levels.

The dissemination of UniSA successful story and the cultural-competence model to universities around Australia helped to raise awareness of the need to include Indigenous-related content in psychology education. It has also made a substantial contribution to changing the paradigm of psychology undergraduate training so that Indigenous content will increasingly be fundamental to the core business of psychology programs. Nevertheless, the project report also pointed out that the paradigm shift has not yet been made and that sustained effort will be needed for some years before it becomes accepted as a sustainable core business. It was also difficult for the project team to obtain accurate information about the extent to which programs across Australia are moving in this direction.

The project findings also suggested that the strategies based on the above mentioned model seem to be transferrable and applicable to other academic/ professional areas and that there was an upsurge of interest from disciplines other than psychology in working towards indigenising their own curricula as well.

Resources

The resources developed by the project include a cultural competence theoretical model and the project website. Although the cultural competence model was mainly used to incorporate Indigenous content into undergraduate programs in psychology, it could be generalised beyond psychology and beyond undergraduate programs. In other words, this model could also be a theoretical framework to guide the integration of Indigenous content into the current curricula of other disciplines, and for other levels of study. Along with the cultural competence model, the project website could be employed as a resource to assist psychology academics with incorporating Australian Indigenous content into university degree courses. The website contains detailed suggestions regarding content and teaching strategies. It may also be useful to psychology practitioners and other health or human services professionals working with Indigenous Australians.

Project 8: Diversity: A longitudinal study of how student diversity relates to resilience and successful progression in a new generation university (CG6-38)

Findings

This large-scale longitudinal study aimed to identify the extent to which diverse student cohorts demonstrate commonalities and differences with regard to resilience and successful progression as they progressed through the later years of their degree and into the workforce. One of the cohorts was Indigenous students, which accounted for a very small number in the sample (17,1 per cent of the sample population).

The findings indicate that there was a clear distinction between the Indigenous cohort and the non-Indigenous ones. The study revealed that Indigenous students had response patterns that suggest relatively less reliance on support networks for successful progression and more on self-reliance. These students cited support factors and course-related factors less frequently than non-Indigenous students for assisting their progression. Instead, these students relied more on their own personal characteristics, goals/career aspirations, and scholarships in order to progress academically. They did not appear to acknowledge support within the university as important to their success as non-Indigenous students. Alternatively, they may not have been accessing the support or resource framework as effectively. This is worth further investigation given that the University has been said to have dedicated physical space with staff resources for this student cohort.

The report emphasises that these Indigenous students, who relied less on support networks, have characterising features which can marginalise them and greatly reduce the chances of progressing. Their reduced reliance on support networks for successful progression may reflect reduced opportunities to develop and maintain such networks. Special institutional efforts may be needed to ensure that all students have the same opportunities for social involvement and development of these networks from first year.

The research pointed out the need for different methodological approaches with different student cohorts. In particular, with Indigenous students as participants, due to poor response rate at the start of the project, the project decided to involve Indigenous staff in the project, who were culturally attuned and well known by the Indigenous students. Hence, the Indigenous students were more likely to respond to these staff member's requests. This proved helpful in getting more Indigenous students to participate in the study.

Resources

The outcomes of the project were expected to help develop better institutional policies and practices which could positively support students with different backgrounds, including Indigenous students. Identifying Indigenous students' patterns of use of support networks can inform and improve relevant policies and practices for their benefits. Specifically, this could help them secure successful progression through their years at the university. However, it is important to note that the number of Indigenous student participants in this project was quite small. Another important resource developed by the project is a network of teachers and researchers that form a mailing list for the project for regular updates with newsletters, website additions and strategy pamphlets. The network allowed the project team to perceive some degree of resonance of this project's findings at ECU with other institutions, and receive feedback from researchers involved in similar or related projects.

Project 9: Exploring Problem-Based Learning Pedagogy as Transformative Education in Indigenous Australian Studies (PP9-1317)

Findings

This report documented the outcomes of the project 'Exploring Problem-Based Learning pedagogy as transformative education in Indigenous Australian Studies' funded under the OTL priority area of curriculum renewal. The project was carried out over a two-year period and sought to understand the ways in which teaching and learning in Indigenous Australian studies can transform tertiary education as a pathway to social justice and empowerment for Indigenous peoples. The study took place in five key centres: The University of Queensland, Monash University, University of Technology, Sydney, Charles Darwin University, and The University of Newcastle. The original aim of the project was to evaluate the effectiveness of 'Problem-Based Learning' (PBL) as transformative education in Indigenous Australian studies at tertiary level. This study focused on PBL because this method is used in many Indigenous Australian studies classrooms in preference to other approaches. However, despite its possibilities for transformative teaching and learning, there has been little research on the application of PBL in the Arts and Humanities. Few researchers had previously explored PBL as transformative education and there has been very little study of the effectiveness of this approach in relation to Indigenous education globally.

The project findings highlight that there are diverse ways that the PBL approach is adapted in Indigenous Australian studies and a more inclusive term for the approach was needed to engage multiple perspectives and make space for the dynamic nature of this curriculum area. The term 'PEARL' was developed as a way of encompassing the political, embodied, active, and reflective aspects of this teaching and learning approach.

Resources

A website <www.teaching4change.edu.au> was developed with practical resources for educators in Indigenous Australian studies. The name of the website 'Teaching4Change' represents four levels of education – early childhood, primary, secondary and tertiary. Future follow-on projects will explore how the approach could be used in Indigenous Australian studies at other levels of education. The website includes the following practical resources for educators in Indigenous Australian studies:

- teaching and learning exemplars and resources for tertiary educators in Indigenous Australian studies;
- a facility for submitting example teaching and learning scenarios and uploading video examples of Indigenous Australian studies classrooms using PEARL;
- a guide to successful PEARL delivery in Indigenous Australian studies;
- project publications, bibliography and useful links on teaching and learning Indigenous Australian studies;
- information about PEARL as a teaching and learning approach; and,
- information about the project, the project team and transformative education.

A Special Issue of *AJIE* explores issues surrounding teaching and learning in Indigenous studies at tertiary level. Guest edited by Elizabeth Mackinlay and Katelyn Barney, it will include an introduction by Mackinlay and Barney, an article by Mackinlay and Barney theorising PEARL as a teaching and learning approach, articles by project team members and reference group members from the project, along with a reflection by the external evaluator on the links between teaching and learning Indigenous studies in Australia and Canada.

Project 10: Indigenous teaching and learning at Australian universities: developing research-based exemplars for good practice, Dr Christine Asmar (2008 ATLC Teaching Fellow)

Findings

Drawing from 26 face-to-face interviews with Indigenous and non-Indigenous academic teachers in various Australian universities, the project identified 15 suggested “Approaches to Indigenous Teaching”. These approaches were exemplified by verbatim interview extracts relating to diverse disciplines and teaching contexts. The project, however, commented that other key findings related to the fact that most teachers had much to say about ‘what they *do*’; somewhat less to say about the *outcomes* for the students; and even less to say about the *evidence* they had, of whether those outcomes had been achieved’ (p. 16).

The project revealed other key findings, which include:

- while learning outcomes for Indigenous students are crucial, non-Indigenous students will also play a vital role for the future of Indigenous Australia;
- most ‘Indigenous teaching’ actually involves non-Indigenous students;
- Indigenous teaching is often done by non-Indigenous teaching staff;
- in this field, simple ‘good teaching’ will go a long way towards facilitating learning, but the best Indigenous teaching goes further in anticipating and working with students’ attitudes and emotions;
- non-Indigenous teachers will often need to engage in collaborations with Indigenous colleagues and communities; and,
- willingness to learn from students, to reflect on and change one’s own practice, is essential in Indigenous teaching.

[Resources](#)

Fifteen research-based, exemplary approaches to Indigenous teaching available online are useful resources for both Indigenous and non-Indigenous teachers for teaching Indigenous students and Indigenous curricula effectively. They can give some first point of reference for these teachers. The fifteen approaches available on the project website and a national Forum on Indigenous Learning and Teaching organised by the project help to foreground Indigenous voices and perspectives within the area of Indigenous teaching and learning at Australian universities.

Project 11: Keeping on track: teacher leaders for Indigenous postgraduate coursework students (LE10-1608)

Findings

The overall purpose of *Keeping on Track* was to clearly delineate and to improve teacher leadership practices across higher education institutions in Australia serving Indigenous postgraduate coursework students, as differentiated from practices in supervision of postgraduate research students. Studies that focus on the 'how' of development of leadership capability in learning and teaching are limited (Gibbs et al 2009). It is the 'how' of teacher leadership which this project addressed. Initially the project focus was on the design and development of a Framework of Teacher Capabilities. However, the data gathered through University Communities of Practice (UCOP), interviews and surveys demonstrated that what was needed was a *Blueprint for Intercultural Capabilities* informed by the experiences of both Indigenous postgraduate coursework students and their teachers. This Blueprint was for both students and lecturers. This finding was more inclusive and responsive to the needs this cohort of students. The Blueprint will have to be trialled.

Also, the four findings below became clear towards the end of the project:

1. the value of UCOP in forming an intercultural space in which the process of teaching and learning is the focus;
2. that intercultural capabilities are required by both teachers and students to engage fully with the cultural interface of teaching and learning;
3. that this requires intercultural sensitivity (Bennett, 2004); and,
4. that relationships are key to intercultural exchanges and building intercultural sensitivity.

Resources

The proposed key resource of the project was to have been a teacher leadership framework consisting of a series of leadership capability statements informed by the data. This framework would help guide the postgraduate coursework teachers in designing and delivering courses that address specific needs of Indigenous postgraduate coursework students. Findings from the investigation of the postgraduate teaching and learning experiences of Indigenous students and their teachers could also inform other works in the area of Indigenous postgraduate education. However, because the value of UCOP in forming an intercultural space in which the process of teaching and learning was the focus, that intercultural capabilities are required by both teachers and students to engage fully with the cultural interface of teaching and learning. This requires intercultural sensitivity (Bennett, 2004); and relationships are key to intercultural exchanges and building intercultural sensitivity.

As such, there was no recommendation for a teacher leadership framework, but rather recommendations for encouraging intercultural development through student/teacher encounters facilitated through the establishment of UCOP and that the *Blueprint for Intercultural Capabilities* that was developed forms the basis for the functioning of UCOP. It is hoped that through an Extension Grant Application in 2013 that the participating universities would be able to develop and trial the Blueprint.

Project 12: Leadership in Indigenous research capacity building: Implementing and embedding an Indigenous Research Methodologies Masterclass Module (LE8-780)

Findings

The aim of this project was to build institutional leadership capacity in Indigenous research methodologies through developing, trialing and embedding an Indigenous Research Methodologies Masterclass that could be incorporated within the research capacity building programs of four universities.

Within the Masterclass the researchers illustrated through their teaching that Indigenous methodologies is a vigorous field of knowledge production, with new knowledge emerging and developing constantly. They demonstrated how Indigenous methodologies locate knowledge as socially situated, partial and grounded in Indigenous subjectivities and experiences of everyday life and are informed by Indigenous epistemologies (way of knowing), axiologies (way of doing) and ontologies (way of being) [Porsanger 2004; Martin 2008]. The Masterclass provided theoretical and practical skills across a range of currently used qualitative and quantitative Indigenous methodologies. It represented a paradigm shift in Indigenous teaching and research that was generated locally but is impacting nationally and internationally.

The approach's effectiveness was demonstrated by the fact that all the students, despite the often stated confusion at the start, attained a clearly defined outline of their methodology at the end. In keeping with the standard Masterclass format used in Australian universities, assessment was achieved by the participants themselves in the collegial sharing of their postgraduate project and their articulation of the development of their own methodology and the less formal but equally encouraged in-class discussions. The project encouraged institutions to develop Indigenous research capabilities by facilitating a workshop for key institutional stakeholders on using the Masterclass as an important component of research capacity building for Indigenous and non-Indigenous postgraduate students. The Masterclass was taught by implementing *Yurriala* as pedagogy through an intensive interactive approach with small groups of Indigenous and non-Indigenous postgraduate students. *Yurriala* encompasses respect, responsibility, obligation, generosity, reciprocity and interdependence. In three of the four universities, the Indigenous student support units, agreed to include an Indigenous research methodologies Masterclass in their curriculum. The project addressed the Australian Learning and Teaching Council's (ALTC) priority one criterion by providing a structure and approach to build HDR leadership capacity at the institutional level.

[Resources](#)

The project provided a national accessible resource to Indigenous and non-Indigenous postgraduate students who wish to use Indigenous Research Methodologies to frame their research. A Masterclass module was developed, trialed and evaluated for teaching Indigenous research methodologies. The module included a Masterclass reader, structured activities, learning sets and practical exercises focusing on developing a broad range of qualitative and quantitative Indigenous interpretive frameworks. The Masterclass has also contributed to completions and educational outcomes by:

- capacity building of Indigenous academics through skills and knowledge transfer;
- capacity building of Indigenous and non-Indigenous postgraduate students with a theoretical knowledge base and practical research skills framed around Indigenous research methodologies; and,
- developing an Indigenous research methodological framework.

Project 13: Promoting strategies and creating opportunities for inter/multimedia practice as a culturally appropriate dissemination tool for Indigenous postgraduate research training, Dr Sandy O’Sullivan (2008 ALTC Teaching Fellow)

Findings

The fellowship was an effort to examine strategies in research training that are pedagogically aligned with Indigenous Knowledge practice. In particular, it explored issues around employing new media dissemination strategies within Indigenous research and Indigenous research methodologies. The primary goal of the fellowship was to support better outcomes for Indigenous research students and to encourage new ways of thinking about dissemination that might allow Indigenous research students to contribute their unique epistemologies to their learning process. This is important given that the number of Indigenous research students has significantly reduced compared to their non-Indigenous counterparts.

Drawing on the Batchelor Institute both-ways philosophy, this program has reviewed and articulated current knowledge practice, and promoted models of practice that support multi-disciplinary Indigenous Knowledge outcomes across the higher education sector. The fellowship encouraged Indigenous research students and their supervisors to consider how new media forms of producing theses and dissertations, such as the use of image/sound, film, exhibition and digital media, may form culturally appropriate alternatives or adjuncts to the linear, written thesis form.

Resources

A significant outcome of this program is a framework of research development and dissemination that may be used by a supervisory team to assist Indigenous research students in developing their own candidature experience. The key resources developed by the project comprise a series of tutorials, factsheets and other relevant materials for educators and students involved in Indigenous research training. These materials are available for download from the website <www.indigenousesearchers.org>. For Indigenous research students, the materials provide some ways of thinking about the key issues associated with alternative dissemination of a body of work developed within a research degree of either a standard thesis outcome or a negotiated form. Resources, processes, exemplars, and ideas around the use of new media in alternative dissemination of Indigenous research students’ outcomes are also provided. The website both advocates and promotes potential use of alternative dissemination forms of Indigenous researcher outcomes, and can help to increase Indigenous student engagement, meaningful contribution and completion in research training.

Project 14: Teaching from country: increasing the participation of Indigenous knowledge holders in tertiary teaching through the use of emerging digital technologies, Professor Michael Christie (2008 ALTC National Teaching Fellow)

Findings

The project demonstrated a successful ICT-based program in which Yolŋu and academic knowledge authorities could come together to develop, foster and engage in an emergent remote Indigenous pedagogy: Teaching from country (TFC). Specifically, Yolŋu elders, as Australian Aboriginal knowledge authorities, from very remote places, were invited to take an active part in teaching Indigenous studies at Charles Darwin University through the use of emerging digital technologies. This is distance education in reverse: the lecturers were in remote places and the students were (mostly) on campus at Charles Darwin University in Darwin.

This innovative teaching practice allowed the project team to explore various issues, from epistemological to practical, around the engagement of Indigenous knowledge authorities in university teaching and research. Firstly, the TFC only succeeded because of the complex philosophical work which preceded and underpinned the collaborative work. The findings indicated that the Yolŋu talked about knowledge as distributed in the Yolŋu environment. This is in a similar vein to the view of knowledge as having local nature. Secondly, the project found that the Yolŋu teachers from the country must have a range of socio-technical options (hardware, software, connectivity, spaces, images, voices and organisations) for the TFC practice to work. Yolŋu participants preferred to have ownership of laptops for the flexibility and freedom. The lessons came from their home or out 'on the country', rather than from a classroom. Thirdly, the project team was able to understand Yolŋu pedagogy from three different perspectives: the Yolŋu teachers, the international colleagues involved in the project and the TFC students. Lastly, the engagement of Indigenous knowledge authorities in university teaching and research also involved other issues: the mechanism for recognition of the work by Yolŋu consultants and teachers through proper and appropriate remuneration scheme; and the safeguard of Yolŋu intellectual property through both the traditional and the Australian legal systems.

[Resources](#)

One of the most important resources developed by the project is the project website, which includes detailed reports of TFC trials and accompanied resources generated by the Yolŋu teachers. These reports act as a running record of the process of teaching from country, outlining its specific developments, challenges and lessons. Together with the Yolŋu resources and important writings by Yolŋu theorists about Yolŋu understandings of place, knowledge, pedagogy, identity, and technology, the website could provide resources for future Yolŋu teachers and Yolŋu study programs in other institutions. They could also give ideas for other programs adopting the TFC approach to involve other Indigenous communities in their university teaching and research.

Project 15: Tiddas showin' up, talkin' up and puttin' up: Indigenous women and educational leadership (LE6-17)

Findings

The project promoted and supported strategic change in higher education by strengthening the participation and leadership capacity of Indigenous women academics. It allowed the sharing of Indigenous women's knowledge, learning and networking experiences to support their professional development.

The project comprised a series of four workshops for Indigenous women coming from many universities throughout Australia. Through the workshops, the Indigenous women participants received collegial support from other Indigenous women, the Senior Circle of Indigenous Women, and from non-Indigenous women academics who have successfully negotiated the hierarchical structures and patriarchal cultures of the university environment. Each of the four workshops addressed a specific theme: learning and teaching; scholarship; university administration and management; and community engagement. The workshops created culturally safe sites for a critical analysis of the university and discourse that shapes the meaning of Indigenous women's leadership in the university. The approach to the project also included the development of a website profiling the women engaged in the project.

The project has begun to encourage long-term systemic change and strengthened and contributed to leadership capacity of Indigenous women within Indigenous communities, and also within broader Australian society.

Resources

The key resources emanating from this project comprise a model for the leadership training and capacity building of Indigenous women and a set of key concepts of Indigenous women's leadership developed through the workshop series. The model for the leadership training and capacity building of Indigenous women, which involves the participation of Indigenous women, the Senior Circle of Indigenous Women, and successful non-Indigenous women academics, in a series of relevant workshops, proved effective and could be drawn upon nationally by the higher education sector. The key concepts of Indigenous women's leadership generated in this project could further support the application of the model by providing an emergent understanding of Indigenous women's leadership in the university context.

Project 16: Writin' Up: Indigenous women and educational leadership

Findings

Within the Australian higher education sector publication rates are increasingly becoming a vital measure of individual and institutional performance and additionally impact on promotion and financial aspirations. Yet, many Indigenous women academics rarely publish or do not publish at all despite undertaking work activities and research which could be turned into publications. It is important that Indigenous academic women contribute to the dialogue in relation to Indigenous issues in a range of ways, including via publications that can inform current debate. This project aimed to support Indigenous academic women to write through the Workshop *Tiddas Writin' Up*. The major outcome included the capacity building for Indigenous academic women who were equipped with effective academic writing strategies and who were confident and motivated to write and publish their works, as a result of the workshop. The contents and framework of the specially designed writing workshop for Indigenous academic women was another outcome of the project.

As part of the ALTC funded project *Tiddas Showin' Up, Talkin' Up and Puttin' Up: Indigenous Women and Educational Leadership* project (Bunda and White 2009), Indigenous academic women from each of the 41 Australian universities were invited to attend four 3 day workshops conducted throughout 2007 and 2008. The workshops focused on the following themes: Teaching & Learning; Scholarship; University Administration and Management; and Community Engagement. Other outcomes of the project were the establishment of a Tiddas website under Flinders University (one of the partner institutes) and a Tiddas Academic network. Through participation in the workshops, the women received skills and knowledge to assist them in their personal and career development, encouragement and assistance to complete their postgraduate study and to engage in scholarly and leadership activities. The original Tiddas project (Bunda and White 2009) revealed one aspect of leadership in particular that needed to be strengthened, namely the participation and profile of Indigenous women in academic publication. The extension project was developed by Professor Nereda White at the Australian Catholic University and Dr Bronwyn Fredericks at the Queensland University of Technology. This report detailed the Tiddas Writin' up project undertaken in 2010.

Resources

The resource developed by the project was a specially designed writing workshop for Indigenous academic women within the Australian higher education sector. The workshop content and framework had direct implications for other activities to build academic writing capacity for Indigenous academic women. These Indigenous academic women themselves in turn were equipped with the resources to share their experiences with other Indigenous academic women in future workshops. At the time of writing, there has been one publication resulting from a workshop (Fredericks, White, Bunda & Baker, 2011).

Ongoing OLT projects and fellowships

There are 13 ongoing projects funded by the OLT. The abstracts and information about the project team can be found at each link on the OLT website.

1. [Creating a collaborative learning community for Aboriginal and Torres Strait Islander health promotion students - enhancing access, progression and learning in higher education \(SD12-2188\)](#)
2. [Discipline Network: Australian Indigenous Studies Learning and Teaching Network \(SI11-2123\)](#)
3. [Enhancing Indigenous content in performing arts curricula through service learning with Indigenous communities \(ID11-2081\)](#)
4. [Facilitating a whole-of-university approach to Indigenous curriculum development: Leadership frameworks for cultural partnerships \(LE9-1219\)](#)
5. [Impact of accessible eBooks on learning outcomes for Indigenous students \(ID12-2206\)](#)
6. [Indigenising Australian social work education \(ID11-2003\)](#)
7. [Indigenous online cultural teaching and sharing \(ID11-1940\)](#)
8. [Pathways to tertiary education for Indigenous students from regional communities using study block readiness programs \(SD12-2533\)](#)
9. [Re-casting terra nullius blindness: empowering Indigenous protocols and knowledge in Australian university built environment education \(ID12-2418\)](#)
10. [Supporting future curriculum leaders with embedding Indigenous knowledge on teaching practicum \(CG10-1718\)](#)
11. [The transition of Aboriginal and Torres Strait Islander students into higher education \(SI11-2137\)](#)
12. [The transition of Aboriginal and Torres Strait Islander students into higher education \(SI11-2138\)](#)
13. [Working together: intercultural academic leadership for teaching and learning in Indigenous culture and health \(LE11-2082\)](#)

Literature review of Australian and international scholarly research and publications

Introduction

In discussing the government's response to Bradley's recommendations regarding Indigenous higher education equity (Bradley et al., 2008), Devlin states that:

Indigenous higher education equity is high on the government's agenda. A focus on what has worked to date in terms of Indigenous student participation, retention and completion, is likely to be helpful to furthering this agenda... A paradigm that is primarily focused on documenting failure is limited in scope and one that is focused on success has potential to uncover and highlight useful strategies, initiatives and knowledge that might otherwise remain under-utilised (2009, p. 3).

This review of good practices in innovative Indigenous learning and teaching in higher education adopts Devlin's suggested approach, focusing on 'what works' in Indigenous higher education. There are numerous programs, initiatives and other activities designed to facilitate Indigenous student recruitment, participation, retention and completion in higher education in Australia and elsewhere. Despite similar problems facing Indigenous education, different nations and institutions adopt varied approaches. Within the scope of this report, this section reviews innovative Indigenous learning and teaching practices in higher education first in the Australian context, and second in North America and New Zealand. The purpose is not a comparative analysis but to identify good practices in context and draw out useful strategies and other lessons.

The review covers practices implemented by institutions, schools/ units, and individuals. It also includes nation-wide government initiatives such as the Away-From-Base (AFB) program and the Indigenous Tutorial Assistance Scheme (ITAS) for Indigenous university students in Australia and the access programs in Canada. Themes of the review include innovative practices in increasing Indigenous students' participation; capacity building for Indigenous and non-Indigenous stakeholders; and transforming curriculum and other contributing factors. The themes are not mutually exclusive. They are inter-related and ultimately all contribute to improving Indigenous higher education. Increasing Indigenous participation is a complex issue. Many aspects contribute to the achievement of sustainable improvement.

Australia

It is widely acknowledged that the rates of participation, retention and completion of Indigenous students in higher education are much lower than those of non-Indigenous students in Australia (James et al., 2008). Multiple efforts have been made to raise Indigenous participation, either directly by increasing recruitment rates, or other indirect ways, for example, providing support to people involved in Indigenous education, or devising more effective and appropriate curricula. Practical strategies have included promotion of university courses to high school Indigenous students (Howlett et al., 2008; Kelly et al., 2009; Wollin et al., 2006); and support of non-Indigenous educators involved in Indigenous education (Gair, 2007; Higgins-Desbiolles, 2007). Indigenising the curriculum is designed to boost participation by utilising culturally appropriate teaching and learning. Each of these areas of initiative is now considered.

1) Participation

Many Australian institutions have taken initiatives to boost participation through recruitment, retention and completion. Achievements are often modest but progress has been made.

Promotion and recruitment

The widely recognized reasons for low rates of Indigenous access and participation in higher education include non-completion of high school, low achievement in high school, and low aspirations for higher education (James et al., 2008). Research indicates underlying reasons for low rates of access. For Indigenous people, education, including higher education, is not necessarily linked to success (Kelly et al., 2009). Some Indigenous students have limited access to information and knowledge relating to careers, such as Information Technology (IT)-related jobs (Dyson & Robertson, 2006), and even health professionals, directly needed in communities, (Kelly et al., 2009). There are also very few existing Indigenous professionals to act as role models for young Indigenous people (Dyson & Robertson, 2006; Kelly et al. 2009; Wollin et al., 2006). For all students, not just Indigenous students, “life experiences, community background and prior knowledge influence the meaning they make of the world around them” (Mills, 2006, cited in Kelly et al., 2009, p. 24). Promotional activities are designed to help Indigenous students gain more understanding of university and help them plan their careers, including tertiary level courses.

Promotional activities are carried out by different universities to attract more Indigenous students to their courses. Within the health sector, culturally relevant health career promotion activities are important to increase the recruitment and retention of Indigenous students into health science career. Kelly et al. (2009) report on one successful culturally appropriate health career promotion activity run by Monash University School of Rural Health. This was a forum based on successful non-Indigenous health career events, run by both Indigenous and non-Indigenous educators. The study suggests that this pedagogical approach to career promotion may have implications for disciplines other than the health sector. It recommends that career educators should partner with “Indigenous educators and role models in career development programs so that career education for Indigenous students can be effective in increasing the numbers of Indigenous health professionals in the Australian workforce” (Kelly et al., 2009, p. 25). It notes that the use of more culturally inclusive language, and relating the importance of health careers to the needs of Indigenous communities, helped in engaging Indigenous students. Within 12 months the number of students interested in a health career doubled, and an increased number of students attended another career promotion session that was offered to prospective students.

Griffith University Logan campus piloted a program encouraging Indigenous High School students from its immediate community to enrol at university (Wollin et al., 2006). A range of strategies was adopted, including bus transport and food provided by the university, promotion of the benefits of university education by Indigenous academics, and examples of Indigenous people’s success. The event involved a local Aboriginal elder, Indigenous academics, local nurses and community members. Outcomes showed in the level of enquiries following the promotional event and the enrolment of two students in the School of Nursing that year. This result was modest, showing how hard it is to increase the recruitment of Indigenous students. The pilot program highlighted the need to provide Indigenous high school students with familiarity with the campus earlier during high school and for them to be academically prepared as appropriate for the required courses. It also emphasised the need for the university to consider long-term strategies to build more effective relations across the university with local schools (Wollin et al., 2006, p. 4).

Other initiatives have focused on preparation of Indigenous students for university courses. One example is the pre-tertiary course on writing fictional texts delivered by the School of Indigenous Australian Studies at Edith Cowan University (ECU) (Stratton et al., 2001). This online fictional writing course uses content relevant to Indigenous learners. It was developed by a team of Indigenous and non-Indigenous staff. By engaging two Aboriginal authors in the unit learning activities and structuring the unit around the content provided in interview transcripts with these Indigenous authors, the school ended up with a unit not just about the process of writing, but a unit about history, social justice, identity and contemporary Aboriginal and Australian culture.

Very few Indigenous students undertake IT at university and are employed as IT professionals (Dyson & Robertson, 2006). In 2002 the Faculty of Information Technology at the University of Technology, Sydney (UTS) began a three-year pilot project to increase the participation of Indigenous Australians in the IT sector (Dyson & Robertson, 2006). The Indigenous Participation in Information Technology (IPIT) project includes promotional activities and a Pre-IT course for Indigenous students to raise awareness and enrolments. Dyson and Robertson (2006) comment: "The success of our first Indigenous-specific course, the Pre-IT, the flow-on of students from the Pre-IT into the undergraduate program, and small increases in Indigenous enrolments elsewhere lead us to believe that gradually the project is achieving some of its aims and that the goal of providing a path for IT for Indigenous Australians is realisable" (p. 19).

Although differing by discipline and approach, these promotional activities share certain features. They all stress the value of involving Indigenous role models, Indigenous communities, and Indigenous organisations such as career educators. Some stress the importance of the timing of promotional activities, such as familiarising Indigenous high school students with university settings early in high school, and preparing them academically for university courses in advance. A few also highlight the need for Indigenous students to be able to link university courses to their community needs, and the use of inclusive language (Stratton et al., 2001; Kelly et al., 2009).

Other initiatives to increase Indigenous enrolments include the nation-wide government initiative, the Indigenous Education Strategic Initiatives Program: Away-From-Base for 'Mixed-Mode' Delivery (IESIP-AFB), to provide block funding to tertiary institutions to cover the travel and accommodation costs of Indigenous students participating in the 'Mixed-Mode' courses (Department of Finance and Administration, 2006). The 'Mixed-Mode' courses are designed for Indigenous people living in the regional and remote areas. These courses are delivered through a combination of residential blocks on campus, reverse blocks where teachers conduct lectures and tutorials in regional centres or in students' home communities, and vocational placements. Evaluation of the initiative indicates that student enrolments in 'Mixed-Mode' courses grew by an average of approximately six per cent each year from 2001 to 2004. The program plays a central role in promoting access to tertiary education for Indigenous Australians living in regional and remote areas.

Retention and completion

While there has been a slight increase in recruitment of Indigenous Australians there has been a decrease in completion rates compared to those of non-Indigenous students (Sharrock & Lockyer, 2008). Recruitment is difficult but retention is harder. Numerous efforts are made to support Indigenous students once enrolled. Different support strategies are designed either to impact positively on risk factors contributing to Indigenous student withdrawal or failing or to improve curricula, course design and delivery. This section reviews current practices falling into the first category: reducing risk factors to improve Indigenous student retention rates. The second category is reviewed in the later section on curriculum, below.

One of the success stories is an innovative strategy adopted by Curtin University of Technology (CUT) to retain Indigenous Australian students (Sharrock & Lockyer, 2008). The initiative featured an innovative mode of course delivery called *reverse block visit* or field support visit, entailing three hour visits by university staff to individual Indigenous students off campus. These visits, acting as a community-based support strategy, are an essential feature of culturally appropriate higher education delivered from the Centre for Aboriginal Studies at CUT. Established "in response to Aboriginal attitudes and understanding of the close relationships between student, kin, country and community" (p. 29), they provide direct support. The face-to-face and one-to-one characteristic of this mode of delivery positively addresses known risk factors present in student withdrawal, such as isolation, rurality, lack of social support, organisational skills, family and financial issues (p. 29). One student said: "the support is very comprehensive and has often been the difference between finishing and not finishing the course" (p. 34).

Other strategies to reduce risk factors include creating an environment where Indigenous students receive support from Indigenous staff and other institutional personnel to build a sense of belonging. Indigenous support units often have key roles in retention (Dyson & Robertson, 2006; Howlett et al., 2008; Wollin et al., 2006). The IPIT Project at UTS also provided academic, cultural and financial support to Indigenous students to help them complete successfully (Dyson & Robertson, 2006). The project established a small Indigenous resource centre within their IT faculty to provide proper support for the students within an IT context. Other forms of student support include academic support, such as mentoring, assignment planning, proof reading, exam preparation, planning strategies to manage workload, and so on (Wollin et al., 2006).

These initiatives are designed to transform Indigenous students and protect them from risk factors that contribute to withdrawal. Other initiatives include using student voices to improve Indigenous student satisfaction and retention (Shah & Widin, 2010). In particular, to listen to Indigenous students' voices and in showing its commitment to improving provision of education to Indigenous students, a large Australian university organised an Indigenous Student Satisfaction Survey. The survey gave "an authentic voice to the concerns and opinions of Indigenous students" (Shah & Widin, 2010, p. 36) currently enrolled at the university. The survey data contributed to the development of strategies to further enhance Indigenous student satisfaction and retention. Other innovations build the capacity of Indigenous educators and units, or non-Indigenous educators and students, or foster broader institutional transformation.

2) Indigenous and non-Indigenous stakeholders

Indigenous educators and units/centres

Indigenous educators and units/centres play major roles in supporting Indigenous Australian students and in improving Indigenous higher education (Howlett et al., 2008, Kinnear et al., 2008; Page & Asmar, 2008). The study by Page and Asmar (2008) reveals a largely "unrecognised and unrewarded" support role Indigenous Australian academics take on. Top of their list of support are Indigenous students, "inevitably the first category of concern for Indigenous staff" (Page & Asmar, 2008, p. 112) due to their own community responsibilities. While carrying this hidden role, Indigenous academics are also expected to provide pedagogical support for non-Indigenous colleagues, especially when a curriculum is being Indigenised. They are also expected to provide support to non-Indigenous students, both local and international students enrolled in Indigenous-specific subjects, and interested students who just drop in with Indigenous-related enquiries. The tension between the expectations of academics and Indigenous communities "both informs and constrains the development of an Indigenous intellectual community" (Nakata, 2004, cited in Page and Asmar, 2008, p. 116). In agreement with Page and Asmar (2008), Vaughan (2005) notes the dilemmas of Indigenous academics working within higher education, including juggling the expectations of academia with the expectations of and commitment to Indigenous communities.

The above-mentioned IPIT project at UTS has taken this into account. According to Dyson & Robertson, "[to] provide support for the Indigenous staff, a structure was put in place consisting of a patrons committee of eminent Australians, a steering committee of senior Faculty and Jumbunna academics and a working group of volunteers from the Faculty" (2006, p. 15). Along the same lines, recognising Indigenous and especially postgraduate Indigenous student reliance on Indigenous units for support, Trudgett (2009) argues for the need to build the capacity of Indigenous units. In an innovative elective course on Indigenous tourism run by the School of Management at the University of South Australia, paid Indigenous experts, academics and community members provided guest lectures and tutorials (Higgins-Desbiolles, 2007).

Non-Indigenous educators and students

In 2005 there were approximately 245 Indigenous academics employed in teaching and

research positions across all Australian institutions (DEST, 2005, cited in Page & Asmar, 2008). Thus Indigenous education is mostly delivered by non-Indigenous academics. Non-Indigenous educators involved in Indigenous higher education are also subjects of scrutiny. It is necessary “to create ‘safe’ positions from which Indigenous Australians and non-Indigenous Australians can participate respectfully [in Indigenous Australian studies] ... to further advance the pathways into quality education created by those who have gone before us” (Vaughan, 2005, p. 112).

Some individual non-Indigenous academics work on developing culturally appropriate university courses for both Indigenous and non-Indigenous students. Most academics highlight the involvement of, collaboration with and learning from Indigenous stakeholders. Higgins-Desbiolles (2007) describes how a course on Indigenous Tourism was developed based on an ethos of respect for Indigenous rights. The initiative demonstrated how a non-Indigenous academic could engage with Indigenous communities and academics to provide students, mostly non-Indigenous, with a learning experience that fosters transformation in consciousness. Gair (2007), a non-Indigenous educator, took the initiative to learn and respect Aboriginal knowledge and culture, aiming to develop a more Indigenous-inclusive curriculum and thus increase the retention of Indigenous students in social welfare courses. She learned from an Indigenous teacher through a mentoring/ supervision relationship, and from an Aboriginal community by spending time in it. She also solicited suggestions from elders and community members about increasing Indigenous students. These individually led experiences could have implications for future initiatives.

Collaborative practices between Indigenous and non-Indigenous educators can pay dividends (Kelly et al., 2009; Morgan & Golding, 2010). Kelly et al. (2009) report on health career promotion among Indigenous high school students. This showed the importance of culturally relevant health career promotion and how working with Indigenous educators and observing Indigenous ways of interacting with students can inform non-Indigenous educator understanding. Morgan and Golding (2010) report on a collaborative, cross-cultural approach to teaching an Indigenous education elective unit to non-Indigenous pre-service teachers enrolled in a Bachelor of Education (Primary) undergraduate degree at University of Ballarat in 2009. Non-Aboriginal and Aboriginal educators worked together to change the way the pre-service teachers thought about Indigenous education subject matter. Most of the pre-service teachers were found to have limited and often stereotyped knowledge and experience of Indigenous education, students or perspectives. Having first-hand contact with Indigenous people, and using a combined Indigenous and non-Indigenous lecturer team, resulted in a benefit to students, especially when the interactions between lecturers augmented their understanding. Participation of the pre-service teachers in the Indigenous education unit was expected to foster culturally aware teachers of both Indigenous and non-Indigenous students.

Institutional transformation

Various strategies are implemented at the institutional and inter-institutional levels to improve Indigenous higher education in Australia. York and Henderson (2003) report a successful off-campus Bachelor of Education for Aboriginal and Torres Strait Islander people in their home communities, produced and delivered by James Cook University (JCU) through the Remote Area Teacher Education Program (RATEP), titled ‘A community-based teacher education program for Indigenous peoples’. The program has run successfully since 1990 with a retention rate of 82 per cent in its first nine years, falling to nearly 50 per cent since then due to changes in related policies and some changes in program delivery. RATEP has been an acclaimed model of inter-institutional and community collaboration. Five areas have been pivotal in its success. The management structure has majority representation from Indigenous communities and other stakeholders, including: Education Queensland, the School of Education at James Cook University and the Tropical North Queensland Institute of TAFE. Indigenous communities have partnership functions and can apply to be a site of the program, enable them to provide practical as well as moral support. Their roles are more than ‘symbolic’. “Shared inter-systemic responsibilities are one of the reasons for the program’s success, and signal a lesson for the future of Indigenous education” (York & Henderson, 2003, p. 79). Other reasons for success

include a dynamic program structure, innovative use of ICT, the application of critical insights from ongoing research on the program, and the retention and graduation rates of students in the program and in their chosen professions.

The University of Western Sydney (UWS) has embedded a holistic individual Indigenous graduate attribute into courses (Anning, 2010), through “consultation across the Schools at UWS; developing and establishing relationships through the respect of disciplinary culture and tradition; the UWS-wide reform of the traditional discipline approach and the first step towards recognition of the domain of Indigenous knowledge in teaching and research; establishing a team of Indigenous academics; developing a learning and teaching framework for Indigenous knowledge and Indigenous studies; and integrating Indigenous content into curricula at UWS” (p. 40).

The nationally funded Indigenous Tutorial Assistance Scheme (ITAS) includes institutional level reforms to improve existing practice. Whatman et al. (2008) report on an ITAS program at the Queensland University of Technology (QUT). First, it interrogated the conceptions of “deficit” and “success” inherent in the original ITAS. The authors argue: “QUT students enjoy high participation and completion rates against the national average, yet only 25 per cent use ITAS. Our students are clearly not deficient, so exposing current expectations and operations of ITAS and thus rethinking the ways in which ITAS could appeal to already competent learners, producing even better outcomes, would contribute to better understanding of “success”” (p. 128). Second, the delivery of ITAS to Indigenous students was found to require enormous administration and commitment by the staff of the Indigenous education support centre. A new ITAS management system operating in a virtual environment was developed, to help with administration and quality assurance, and ultimately to improve the quality of learning and teaching in the QUT programs.

3) Curriculum and other factors

Other initiatives include improvements in curricula and course delivery, and innovative research, focused on raising the participation and completion rates of Indigenous Australians.

Indigenising the curriculum

The great majority of innovative practices in Australian higher education use, refer to or advocate the Indigenisation of the curriculum, at least in part. Scholarly research and publications refer to this in terms of “culturally appropriate ways” to engage with Indigenous students (Kelly et al., 2009; Stratton et al., 2001); “Indigenous pedagogy” (Brown, 2010); “embedding Indigenous perspectives and pedagogy” (Williamson & Dalal, 2007); “Indigenous-inclusive curriculum” (Gair, 2007); “Indigenised curriculum” (Howlett et al., 2008); “common ground between the beliefs and practices of Indigenous Australians and the pedagogies and curricula available to mainstream higher education” (Vaughan, 2005, p. 109); or “both-ways” philosophy (Ober, 2009). Indigenising the curriculum is observed to be “increasingly acknowledged as a possible avenue for addressing Indigenous under-representation [especially] in tertiary science education in a culturally appropriate and relevant manner” (Hauser, Howlett, & Matthews, 2009, p. 46).

An Indigenised curriculum is defined as a “negotiated space between Indigenous knowledge systems and Eurocentric knowledge systems” (Howlett et al., 2008, p. 25). This space is named by Nakata (2007) as the cultural interface – the contested space between the two knowledge systems. An Indigenised curriculum calls for, “among other things, a genuine acceptance, and actualisation, of ontological pluralism via a genuine engagement with Indigenous people and their ontologies” (Howlett et al., 2008, p. 25). Recognition of Indigenous knowledge system and Indigenous ways of knowing in turn entails the re-positioning of Indigenous Australians in higher education and in the wider Australian society. A great number of innovations are engaging with this cultural interface in various ways to facilitate Indigenous higher education.

One approach is to tap Indigenous knowledge by involving Indigenous people in the educational

process. For instance, when developing a unit on writing fictional texts for Indigenous students at ECU, two Aboriginal authors were invited for interviews. The transcriptions were used as a basis for unit content (Stratton et al., 2001). Morgan and Golding (2010) and Kelly et al. (2009) both document the difference it can make when Indigenous educators use their distinct ways of thinking when interacting with an audience. Higgins-Desbiolles (2007) reports on the success of a course on Indigenous Tourism which involved consultation with Indigenous academics and leaders in course development, and as guest speakers during the course.

Another approach is to transform educator's knowledge and pedagogies to accommodate the cultural interface. In order to pursue an Indigenous-inclusive curriculum in social work, one non-Indigenous educator spent time seeking supervision from Indigenous people within the academy and the community (Gair, 2007). The experience provided essential learning, helping her to create a "safe learning environment and relevant content for Indigenous social work students" (p. 53). A number of Indigenous educators also work on student learning in the common ground between Indigenous and Western knowledge systems. Brown (2010) nurtured the educator-learner relationship within a space created by "Indigenous pedagogy" and epistemology, in a unit titled *Aboriginal Ways of Knowing* at the University of Western Australia. Within the one-semester long unit, an Indigenous coordinator and many guest educators, some Indigenous, participated in delivery. The unit also contained social events and informal meetings shared by learners and educators. The Indigenous space, where the learning process is informed by Indigenous values and philosophies, offered both non-Indigenous and Indigenous students "opportunities to connect spiritually and personally with themselves, one another and their educators" (p. 15). Other strategies, such as arts (Vaughan, 2005) and simulation case studies (Norman, 2004) have been employed to create a safe environment in which both Indigenous and non-Indigenous students can learn Indigenous Australian Studies.

Another form of innovative engagement at an institutional level is the incorporation of Indigenous knowledge in the curriculum. One example is the philosophy of both-ways that is applied to all course programs and operations at Batchelor Institute of Indigenous Tertiary Education (Ober, 2009). In essence, both-ways is about accommodating Nakata's (2007) concept of the cultural interface, which is the core of Indigenous the curriculum. It is defined as follows:

Both-ways is a philosophy of education that brings together Indigenous Australian traditions of knowledge and Western academic disciplinary positions and cultural contexts, and embraces values of respect, tolerance and diversity (Batchelor Institute, 2007, p. 4, cited in Ober, 2009, p. 34).

In practice at Batchelor, both-ways means "a shared learning journey", "student-centered learning", and "about strengthening Indigenous identity", in all the academic and administrative operations (Ober, 2009, p. 38). Other examples include the embedding of an Indigenous graduate attribute into UWS courses, as noted (Anning, 2010); building Indigenous cultural competency within an Aboriginal health curriculum project at the University of Tasmania (Andersen, 2009); and a project at Queensland University of Technology to embed Indigenous perspectives in Humanities and Human Services curricula (Williamson & Dalal, 2007). Hauser et al. warn that "[w]ithout a genuine commitment to ontological pluralism at the institutional level, there exists a danger that the Indigenous knowledge embedded in Indigenous programs could be appropriated by the hegemonic structures" (2009, p. 54).

Course design, delivery and research

There are also innovations in modes of delivery of courses within Indigenous higher education. Some online programs using ICT support have proved effective. These include the online ECU unit for pre-tertiary Indigenous students which focuses on the processes of writing fictional text (Stratton et al., 2001); an exciting pilot project at the UTS that aims to enhance research dissemination through digital video and online interfaces (De Santolo & Ypinazar, 2008); the RATEP project at JCU (York & Henderson, 2003). Off-campus modes combined with visits from university staff to Indigenous students' communities have also been used in the above mentioned RATEP project, and the reverse block visits in a project at CUT (Sharrock & Lockyer,

2008).

There has also been research focused on Indigenous ways of knowing. Indigenising the curriculum cannot advance in the absence of research in Indigenous epistemologies. A study by three Indigenous researchers (Tur et al., 2010) is a good example. By drawing on Indigenous standpoints specific to their own disciplines and their research context, the authors demonstrate that Indigenous standpoints can further the development of their own research methodologies.

In summary, numerous innovations have been implemented in Australia to improve Indigenous learning and teaching in tertiary education. Emphasis on the involvement of Indigenous people is a feature of nearly all initiatives. This highlights the need for educational initiatives that are not just *for* Indigenous people, but also *by* them and *with* them. Review of the relevant international literature confirms these understandings and provides another rich set of practical examples.

International context

This section provides a snapshot of good practices in two other world zones where Indigenous peoples share similar historical experiences of British colonisation: North America and New Zealand. Within an immense body of relevant scholarship the main attention here is given to three sub-topics that were addressed above in relation to Australia: Indigenous student participation; capacity building for Indigenous and non-Indigenous stakeholders; and curriculum reform.

1) Indigenous students' participation

The main lesson from the Canadian and New Zealand contexts is about the value of holistic approaches to student support designed to increase Indigenous enrolments and completion rates. In Canada, access programs have been in place since 1970s, beginning with the University of Manitoba, to increase educational opportunities for Indigenous people (Levin & Alcorn, 1999). These programs were initially intended largely for Indigenous people but extended to other marginalised groups. In 1999, 25 years after inception, it was found the programs had had “very significant success in providing high quality postsecondary education to populations, primarily Aboriginal, that had previously been excluded from such education” (p. 20). Levin and Alcorn (1999) analyse those characteristics of access programs that facilitated success. These include recruitment, selection, and an integrated student support system seen as essential to assure Aboriginal students' academic achievement in university studies. The integrated student support system is “the heart of the access model” (p. 22). It includes financial support, academic support and remediation, and personal support. Access programs were jointly funded by federal and provincial governments, and operated in collaboration with universities or community colleges. Despite the fact that the original programs experienced reduced government financial support which led to reduced enrolments, the model became adopted elsewhere in Canada.

Access programs are still in place in Canada. There have been modifications to the initial 1970s models. While still holistic in student support, recent access-related initiatives have incorporated Indigenous knowledge, beliefs and practices, gaining further success in increasing Indigenous participation. Examples include the University of British Columbia (UBC) Okanagan's Aboriginal Access Studies Program (AASP) (Vedan et al., 2011) and the Integrated Nursing Access Program (INAP) to educate nurses for the Inuit communities on the north coast of Labrador (Orchard et al., 2010).

The AASP was launched at UBC Okanagan in 2007. It is a unique program because it has been modelled to reflect medicine-wheel teachings. This distinct approach is key to the success of the program. There are various medicine-wheel models among different North American tribal groups. Using this approach, the program provides an educational experience for the whole

person, their physical, emotional, social and intellectual wellbeing (Vedan et al., 2011). Another distinct feature of the program is the provision of peer support structure for AASP students. Specifically, communities for the students have been established and maintained through a peer support network and social groups via sports, trips, news blast, and social media. AASP students are also encouraged to apply as Indigenous Peer Support Network (PSN) mentors, which allow them to be employed as work-study students.

The INAP reported by Orchard et al. (2010) incorporates Inuit culture in learning, including health beliefs and language usage, to create an appropriate balance of approach incorporating both traditional Western and Aboriginal nursing care. Throughout program development, Inuit educators and health professionals were consulted to ensure that the INAP curriculum remained anchored in the cultural context. “The learning environment is rooted in Inuit ways of being, and incorporates an approach focused on higher university level skill development rather than on specific content” (p. 7). The support structure for the Inuit students is holistic, integrating students’ family needs, such as accommodation, schooling and day care for their children.

In Indigenous higher education in New Zealand, Victoria University of Wellington (VUW) has used a variety of retention strategies to not only encourage Māori attendance but also to support Māori academic achievement (Stewart & Rawrhiti, 2004). These strategies include faculty-based programs, mentoring activities, and student support programs. Programs set their own goals and individually assess their success. However, the principal innovation offered in the project, as reported by Stewart and Rawrhiti, is the use of two different holistic models – one on retention and the other from a Māori perspective – to evaluate the programs. The first model is the Beatty Guenter model. The second is the Mason Duries Whare Tapa Wha using Māori concepts. The Duries model identifies areas that need improvement, such as the spiritual side, and integration and connectedness. Stewart & Rawrhiti (2004) recommend that future research in Indigenous education in New Zealand should use a Māori perspective to examine issues relating to Indigenous students who drop out or those who are at university but struggling. Such an Indigenous-based model can be a resource for Australian universities when examining their own strategies for retaining and supporting Indigenous students, if the Indigenous perspective is Australian-specific.

2) Indigenous and non-Indigenous stakeholders

Indigenous involvement, direct from the community or via the Indigenous Centre, is significant in many innovative programs (Hauser et al., 2009; Orchard et al., 2010; Vedan et al., 2011). In the United States, Barnhart (2009) reports on the development of the Indigenous Studies PhD Program at the University of Alaska Fairbanks. This program and the formation of an Indigenous PhD Thematic Network are designed to prepare Alaskan Native PhD’s for leadership in research.

Another focus of capacity building is non-Indigenous teachers and staff in Indigenous education. The AASP includes staff training which “features an Aboriginal perspective such as using the medicine wheel in suicide prevention and sexual harassment” (Vedan et al., 2011, p. 91). In relation to the VUW initiative, Stewart and Rawrhiti (2004) talk about the need to develop the appropriate skills and understanding among non-Indigenous staff by working collaboratively with Indigenous peoples. At the University of Waikato (Glynn et al., 2010), non-Indigenous school teachers were involved in a special one-year university postgraduate course, which encouraged them to incorporate in classroom learning two Māori pedagogical principles, *ako* and *whakawhanaungatanga*. *Ako* is a responsive and reciprocal process, through which both teaching and learning roles are shared. According to *ako* principle, the roles of teacher and learner are fluid and interchangeable. *Whakawhanaungatanga* is the process of building relationships in the classroom, between people, between students’ cultural and domain knowledge. The study shows that the Māori and Pasifika students benefited from their teachers’ successful application of these concepts into their classroom practice.

At the institutional level, programs such as the access initiative in Canada (Levin & Alcorn, 1999;

Vedan et al., 2011) and the VUW project (Stewart & Rawrhiti, 2004), all emphasise the role of policies and institutional transformation in the success of Indigenous teaching and learning.

3) Curriculum and other factors

Indigenising the curriculum

Research suggests that internationally, Indigenising the curriculum is the most popular strategy. Many initiatives use Indigenous knowledge systems to guide the process. In New Zealand, the main focuses are the promotion of culturally responsive pedagogy in a New Zealand context (Glynn et al., 2010) and the use of Māori perspectives in research (Stewart & Rawrhiti, 2004). The North American Medicine Wheel (Shield, 2009) was mentioned above. Hauser et al (2009) note a rare Canadian example of indigenising science curricula using a community-based approach.

It is interesting to note that in their strategies to Indigenise the curriculum, some projects focus on the *particular knowledge of a particular group of Indigenous people* directly relevant to the project, not Indigenous people and Indigenous knowledge in a broader sense. Glynn et al. (2010) report a postgraduate course designed to encourage non-Indigenous teachers to use culturally responsive pedagogy in teaching science to Māori and Pasifika students. The research shows that the Māori students found their Indigenous knowledge was respected and affirmed in the classroom and the field. There were positive outcomes in Māori students' knowledge and understanding of science. In Canada, the INAP (Orchard et al., 2010) accommodated within its curriculum both traditional Western care and Indigenous nursing care specific to Inuit culture. In contrast, Herbert (2010, p. 23) notes in relation to Australia that "Indigenous Australians" or "Indigenous peoples" are called as a collective group. This contrast suggests a new strategic direction for Australian programs.

Hauser and colleagues report on two Canadian programs: Trent University's Indigenous Environmental Studies (IES) program, and Cape Breton University's Integrative Science (IS) program, both home to Indigenised science learning. The study reveals that "Indigenised curriculum can increase Indigenous student representation in tertiary science studies, but not without encountering problems. There needs to be institutional acceptance of ontological pluralism in order for fully Indigenised programs to emerge" (Hauser et al., 2009, p. 56).

Research

Barnardt (2009) and Walker (2000) both advocate research into Indigenous knowledge systems by Native scholars and Indigenous PhDs as a way of decolonising formal Western university processes. One example, noted above, is the Indigenous Studies PhD Program at the University of Alaska Fairbanks, working at the dynamic interface between Indigenous knowledge systems, western science and higher education (Barnhardt, 2009). The program creates opportunities for collaboration among Indigenous peoples across the circumpolar region.

One example of research conducted by Indigenous people using Indigenous epistemologies is noted by Shield (2009). Here native women identify and understand the spiritual and cultural factors that enable them to attain higher education goals. The author also explains how she developed and utilised a Native research methodology for the research study that was based on the Medicine Wheel. This was constructed as an intrinsic Indigenous research paradigm and used as a process for identifying and understanding the relevant spiritual and cultural factors.

Conclusion

This section has provided a brief literature review of Australian and international scholarly research and publications on good practices in innovative Indigenous learning and teaching in higher education. The key themes are innovative practices in Indigenous students' participation in higher education; capacity building for other Indigenous and non-Indigenous stakeholders; and transforming curricula and other contributing factors. The literature highlights the

importance of involving Indigenous people and communities, the benefits to be gained from the recognition and promotion of Indigenous knowledge systems, the need for holistic support for students, and the role of transformation of stakeholders - and persistent effort in all areas - in improving the quality of Indigenous education. There are many challenges and perils but the many success stories show that improvements in Indigenous education are possible and rewarding for all involved.

Recommendations

This section presents a number of key principles and recommendations which build on the observations from the review of ALTC projects and fellowships and relevant literature, both Australian and international, on the topic of good practices in innovative Indigenous teaching and learning in higher education. The review points out several principles that can be considered for future innovations:

- educational initiatives should be not just *for* Indigenous people, but also *by* them and *with* them
- concerted efforts from Indigenous and non-Indigenous stakeholders, including Indigenous communities, are often necessary with a need for the combination of activities and initiatives to achieve effects
- the transformation of those directly involved in Indigenous education and the re-positioning of Indigenous Australians in higher education and in the wider Australian society are both essential to facilitate improvements in Indigenous higher education.

It is recommended that the following approaches are key in building success in Indigenous education:

1. *Disciplines*: while it is necessary to keep working on the disciplinary areas that have made good achievements, such as Health, Education and Australian Indigenous studies, special attention is needed in other areas that experience even lower Indigenous participation. These areas include IT, Science, Engineering and Tourism. Innovations into Indigenised curriculum within different disciplines are needed.
2. *Support for Indigenous students*: further work is essential throughout different stages of higher education: promotion, recruitment, retention and completion. It is highly recommended that for Indigenous higher school students culturally appropriate career promotion activities should be started as early as possible. Further development is also needed in the area of pre-tertiary and postgraduate Indigenous student support and in exploring success stories of Indigenous graduates. Once indigenous students are enrolled at tertiary level their experience will be optimized by a holistic support structure including information dissemination, cultural and spiritual support, peer-support networks and employment opportunities, among other types of support.
3. *Capacity building and other stakeholders*: It is important to strengthen the capacity of Indigenous academics and units/centres within each institution. More initiatives to build up cultural competence of non-Indigenous staff and students are also recommended. Cross-cultural collaboration and learning opportunities between Indigenous and non-Indigenous educators should be encouraged. Initiatives in relation to institutional transformation on the basis of genuine acceptance and actualization of Indigenous knowledge systems should be high on the list.
4. *Indigenous knowledge and pedagogies*: Further development in the areas of Indigenous pedagogy and teaching methodologies, research *into* Indigenous epistemologies, and research *from* Indigenous perspectives are needed to help inform Indigenous education as a whole. For example, the development of an Australian-specific and Indigenous-based model, one similar to the Mason Duries Whare Tapa Wha using Māori concepts, or the Medicine Wheel Model in North America, can be a valuable resource for Indigenous higher education in Australia.
5. *Grounding educational strategies in localities*: Finally, while it is important to promote Indigenous knowledge system as a whole, in the process of Indigenising the curriculum, more projects may choose to focus on a *particular set of knowledge of a particular group of Indigenous people* directly relevant to the project, instead of 'Indigenous people' and 'Indigenous knowledge' in a universal sense

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