

**Department of Education, Employment and Workplace
Relations**

**Literature Review relating to the current context and
discourse of Indigenous Tertiary Education in Australia**

By



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Executive Summary

This review outlines some of the themes that have emerged in the growing global discourse of Indigenous education in the higher education sector. The past decade and a half have seen increased numbers of Indigenous students and academic staff in universities, a proliferation of publications exploring Indigenous issues in the academy, and heightened interest in the nature and meaning of Indigenous knowledge and studies.

This review examined information provided by 22 Australian universities to gain a picture of the research fields and topics that are attracting most interest from Aboriginal and Torres Strait Islander graduates and academics. It also reviewed some of the international and national literature to identify themes and issues generating debate among Indigenous scholars.

Research being undertaken by graduate Aboriginal and Torres Strait Islander students and academics shows a rich and diverse range of interests and issues being explored. Data collected from Australian higher education institutions for this review indicate that the most common fields of interest for Aboriginal and Torres Strait Islander students and academics are health, the arts, education, and Indigenous studies. Limited data obtained from Australian universities about the current topics being studied by Indigenous academic staff suggests health and education are among the most popular areas. It appears that Aboriginal and Torres Strait Islander graduate students and academic staff are less likely to be pursuing research in law, business-related studies, architecture and science than in other areas.

Of the themes engaging Indigenous researchers in debate, three stand out in particular: Indigenous knowledge and pedagogy, Indigenous studies, and Indigenous research and research methodologies. Other themes to surface in the literature relate to the level and quality of support for Indigenous students (undergraduate and graduate) and staff; cross-cultural issues to do with teaching, research and researchers; access for rural and remote tertiary students; issues to do with enrolment and retention; leadership; success for Indigenous students; and careers, professional focus areas and working in Indigenous communities.

Perhaps the dominant theme to emerge from the current discourse is the need to value and embed Indigenous knowledge and perspectives throughout all levels of the university. The question of who is conducting Indigenous research and how it is being conducted is directly related to this issue. Another key question is how Indigenous methods of education and pedagogy, and the valuing and recognition of Indigenous knowledge, could benefit the nation as a whole. Research into where Indigenous approaches have been used in a general population would be helpful.

Current gaps in the research that could usefully be explored are successful approaches nationally and internationally in attracting and retaining Indigenous students in higher education, how universities can best prepare Aboriginal and Torres Strait Islander students

for future careers in particular professions, and how Indigenous knowledge and perspectives can be used for the wider benefit of Australian society.

Introduction

Purpose

This review of the literature on the context and discourse relating to Aboriginal and Torres Strait Islander higher education is one of several background papers prepared as part of the *Review of Higher Education Access and Outcomes for Aboriginal and Torres Strait Islander People*. The Review, which is aimed at 'ensuring that Aboriginal and Torres Strait Islander people share equally in the life chances that a quality university education provides', is being conducted by the Department of Education, Employment and Workplace Relations (DEEWR).

In this paper the term Indigenous is used to refer to First Peoples and nations globally. The term Aboriginal and Torres Strait Islanders is used to refer to Higher Degree by Research students, staff and researchers in Australian universities. However, if a researcher in an Australian context has used the term Indigenous then, out of respect for this research, this term has been retained in the review.

The purpose of this paper is to outline:

- the current context and discourse on Indigenous involvement in higher education;
- current research being undertaken by Indigenous students and academics (including PhDs written on the topic of Indigenous higher education); and
- current research being undertaken on Indigenous peoples.

The literature review was conducted in a very short timeframe and is not exhaustive. One thing that is clear from the review is the rich and dynamic nature of the current discourse on Indigenous knowledge and research.

Numbers of Aboriginal and Torres Strait Islander postgraduates and staff

According to DEEWR data there were 69 Research-only Aboriginal and Torres Strait Islander staff and 245 Teaching and Research Indigenous staff employed on either a full-time or fractional full-time basis at Australian universities in 2010.¹ While there are many casual staff employed at universities, and presumably also many Aboriginal and Torres Strait Islander staff employed on a casual basis at universities, casual staff are generally employed on a teaching-only, rather than research, basis. In terms of numbers of Aboriginal and Torres

¹See

<http://www.deewr.gov.au/HigherEducation/Publications/HEStatistics/Publications/Pages/Staff.aspx>

Strait Islander postgraduate students, in 2010, 96 Aboriginal and Torres Strait Islander students commenced either a Doctorate by Research or a Masters by Research at an Australian university, and a total of 429 Aboriginal and Torres Strait Islander students were currently enrolled in a Higher Degree by Research qualification (both commencing and continuing). In terms of completion rates, in 2010, 43 Aboriginal and Torres Strait Islander students completed a Doctorate by Research or Masters by Research.² It is not known how many Aboriginal and Torres Strait Islander academics are also current Higher Degree by Research students. These statistics rely on students and staff self-identifying as Aboriginal or Torres Strait Islanders and so the actual numbers of graduates and staff could be higher.

Methodology

The paper draws on information supplied by universities in Australia and material published nationally and internationally to indicate areas of focus with relation to contemporary Indigenous research and discourse. The main focus has been on material published during the past five years, but the paper also draws on some earlier material, the focus and content of which has informed and continues to inform the discourse. Most of the material reviewed is based on Australian sources with some Canadian, American, New Zealand and Pacific sources also examined. Material sourced included a range of conference proceedings, journal articles, and book overviews. It proved difficult to scan the topics of theses as (a) there was no way of knowing if the writer was Indigenous or not, (b) most theses are held in university libraries and can only be made available if the writer has given permission for public use, and (c) it was difficult to identify Indigenous content if this was not evident in the title as time constraints did not allow for the abstracts of theses to be searched for Indigenous content.

Forty Australian universities (including the Batchelor Institute of Indigenous Education) were contacted and asked to provide information about the broad themes or topics of research for their Aboriginal and Torres Strait Islander Higher Degree by Research students and academics. Of these 40 institutions, 22 provided information that contributed to this paper. The main information sought related to the broad research topics for Aboriginal and Torres Strait Islander academics and graduates undertaking PhD and masters' degrees.

Data Issues

Several issues emerged during the review:

- Much of the data relies on the self-identification of Aboriginal and Torres Strait Islander student and academic staff. Theses held in university libraries or available online generally do not provide demographic information about authors because this is not collected at the time of submission. While published research may provide background information about authors, this is not always the case.

² See <http://www.deewr.gov.au/HigherEducation/Publications/HEStatistics/Publications/Pages/Staff.aspx>

- Even if the title of a thesis or research study relates to an Indigenous theme it does not necessarily mean that the author is Indigenous. The opposite also holds true. Not all research by Indigenous students and staff is about Indigenous matters or topics (although a vast majority of research topics would appear to be so).
- It is not clear how many Aboriginal and Torres Strait Islander academics are also Higher Degree by Research students. Neither DEEWR nor universities appear to collect this data.
- The type of information collected on Higher Degree by Research students; the ways in which this information is captured, stored and presented; and accessibility of this information varied from university to university.
- The level of detail provided by universities also varied. Despite all university data being de-identified for use in this paper, privacy and confidentiality considerations made some universities reluctant to provide information about topics in case individual students could be identified. However, most of these institutions were prepared to provide broad themes.

Main areas of postgraduate research interest

For the purposes of this paper, ‘field’ is defined as the broad area of research, ‘subject’ is the specialised research within the field, and ‘research topic’ is the specific focus of the research. Of the universities that provided information, around half provided ‘field’ level information and the other half provided information at the level of subject. Around one-third of the universities also provided (de-identified) information at the individual topic level. Thematic classification is therefore broad rather than precise.

Herbert (2010) refers to ‘the exciting and innovative research’ being undertaken by postgraduate Aboriginal and Torres Strait Islander students. The data collected from universities for this paper supports this description. What stands out most about the topics and themes being studied is their diversity.

According to our research for this paper, the fields currently attracting the most interest from Aboriginal and Torres Strait Islander Higher Degree by Research students are (in order of popularity) health; the arts, humanities and social studies; Indigenous studies; and education. These field descriptions rely on university definitions, which can vary across institutions. For example, some universities reported Higher Degree by Research students undertaking ‘Society and Culture’ while others used the term ‘Indigenous Studies’. ‘Creative arts’ is reported separately by some universities and incorporated under a broad umbrella of ‘the arts’ by others.

Health encompasses both community and clinical health. Popular areas of research interest are nursing, midwifery, health-related sciences, emotional wellbeing and Indigenous health. A very small number of Higher Degree by Research students are undertaking studies in physiotherapy, nutrition and exercise science.

For the purposes of this review we have combined the fields of arts, humanities and social studies, which encompass postgraduate research in the areas of creative and visual arts, creative writing, museum studies, human geography, sociology, history, linguistics, politics and other subjects, such as anthropology and cultural studies.

‘Indigenous studies’ covers a wide range of disciplines. Universities do not always specify what is meant by the term or how it relates to other fields (such as the arts), although it is interdisciplinary by nature. In this review Society and Culture has been included under this term. Research interests of Higher Degree by Research Aboriginal and Torres Strait Islander students in Indigenous studies – as identified by universities – include the stolen generation, land claims, cultural competency, ethical research in Indigenous contexts, postcolonial theory, Indigenous anthropology and Indigenous knowledge systems.

Education includes early childhood, higher education and school education. There is interest in innovative pedagogical approaches and programs, including for high achieving Aboriginal and Torres Strait Islander students, maths education, educational policy, school-based traineeships, and education in rural and remote settings.

Topics within business and management, including a thesis topic on why there are so few Indigenous tertiary business graduates, are attracting some interest from Higher Degree by Research students. The fields that appear to have the smallest numbers of Aboriginal and Torres Strait Islander PhD and masters’ students currently, based on the data provided by universities for the purposes of this review, include social work, architecture, law, and technology/engineering.

Not all of the universities who provided data indicated the main research interests of Aboriginal and Torres Strait Islander staff. Of those universities where staff research interests were given, health and education appear to be the most popular fields of study. However, publications like *The Australian Journal of Indigenous Education*, particularly the supplementary conference editions, show there is considerable interest in the nature, meaning and place of Indigenous knowledge and studies, not only in the academy but also their significance for Australian society more generally.

Review of the literature

The growing interest in Indigenous knowledge and studies globally has been reflected in the proliferation of publications in the past decade and a half. Battiste (2002) describes this heightened interest as ‘an act of empowerment’ by Indigenous people that challenges western knowledge, particularly in the area of educational reform. Nakata (2007) attributes the growing global discourse of Indigenous knowledge to humanitarian and scientific concerns, suggesting that the elevation of Indigenous knowledge in the human sciences is driven by ‘the academic interrogation of dominant discourses’, and recognition and valuing of diversity. While Indigenous knowledge is a contested term, sometimes used

interchangeably with local knowledge or traditional knowledge, there are some identifiable characteristics, including that it is:

- distinct from 'scientific knowledge'
- unique to a given culture or society
- oral and holistic
- informal and unsystematised
- spiritual and material
- subject to different intellectual and cultural property protection (Nakata, 2007).

The range of topics covered in a 2009 review of Indigenous issues in Australian universities shows the diversity of the academy in terms of research about Indigenous issues, including Indigenous governance and leadership, social work training, cross-cultural spiritualities, educational and curriculum change, Indigenous legal education, history, Indigenous business education, the decolonisation of research agendas, ethical research, leadership and university-educated Indigenous women, cultural safety in universities, and for health professionals (Frawley et al, 2009).

While there is overlap across the studies a breakdown in terms of *primary* research focus indicates the following themes. The three major themes in contemporary Indigenous discourse are the value and importance of Indigenous knowledge and pedagogy, Indigenous studies, and Indigenous research and research methods, including who is conducting the research. Other themes include:

- the level and quality of support for Indigenous students (undergraduate and postgraduate) and staff
- cross-cultural issues to do with teaching, *research* and researchers
- access for rural and remote tertiary students
- issues to do with enrolment and retention
- leadership
- success for Indigenous students
- careers, professional focus areas and working in Indigenous communities.

Many of these issues overlap. For example, student engagement research is connected to enrolment and retention research. Both of these areas connect with the recognition and value placed on Indigenous knowledge by higher education. Indigenous knowledge is and has been the subject of many conferences, reports, books and articles. This section of the paper looks briefly at each of the themes identified in the review. The focus of the review has been primarily on Australia although some exploration has also been done of Indigenous research experiences and debates in higher education globally.

Indigenous knowledge, Indigenous studies, Indigenous research and Indigenous pedagogy are all inter-connected and form major topics in contemporary Indigenous debates in higher education, particularly in Australia. While Indigenous research includes research conducted by both Indigenous and non-Indigenous researchers, the discourse around Indigenous knowledge, studies and research methodologies involves mainly Indigenous scholars.

Indigenous knowledge

Battiste (2002: 3) reviews the discourse around Indigenous knowledge in a Canadian context, suggesting that the question 'What is Indigenous knowledge?' is usually asked by Eurocentric scholars 'seeking to understand a cognitive system that is alien to them' (p. 3). She argues that Indigenous knowledge needs to be understood as essential and integral to contemporary education and argues for a 'blending' of Indigenous and mainstream knowledge systems. Despite a similar trajectory of interest in Indigenous knowledge in Australia, this knowledge is still regarded as an 'outsider and misunderstood in the academy' (Huggins and Mackinlay, 2008: iv). Nakata (2008) sees value in contestation of the issues surrounding Indigenous knowledge and of generating 'unsettling' conversations that promote analysis of 'the complexities of Indigenous people's position in the 21st century' (p. 2). Issues raised in various papers range from the theoretical, such as the relationship between Indigenous and western knowledge or the nature of a critical Indigenous discursive framework, to the nexus between theory and practice, and the practical, such as the inadequate nature of the support being provided for Indigenous students and staff.

The annual *Indigenous Studies, Indigenous Knowledge* conferences in Australia encourage debate about the place and meaning of Indigenous knowledge in the academy. The 2009 conference, for example, covered four broad sub-themes: the implementation of Indigenous studies in the academy, the nature of the relationship and tensions between Indigenous knowledge and western science, projects that have strengthened Indigenous communities, and the place of storytelling and narrative in the academy.

In an Australian context, Nakata (2007) urges tertiary teachers to prepare students to approach Indigenous knowledge 'not as the facts of Indigenous realities but as the context that provides the conditions for intellectual reflection and engagement with contemporary Indigenous issues' (p. 225).

Indigenous studies

Many researchers have addressed the place of Indigenous studies in tertiary institutions. Nakata (2006) suggests that the questions and issues raised in these debates are at the heart of the Indigenous dilemma in western education. He argues that Indigenous studies in the academy 'is not the study of Indigenous societies, histories, cultures, or contemporary issues alone but necessarily, given historical circumstances, *the study of how we have been studied, circumscribed, represented* and how this knowledge of us is limited in its ability to

understand us' (p. 272). Indigenous studies is necessarily mediated through the lens of western culture, which requires an ongoing denial or exclusion of Indigenous knowledge, epistemologies, and traditions, and 'further co-option into a system that is deeply implicated in the historical treatment and continuing position of Indigenous peoples' (pp. 267–268).

Nakata (2008) notes how, *internationally*, Indigenous studies has become 'the focal point for the collection and *distribution* of knowledge about Indigenous peoples across the academy' (p. 1). He identifies how the production and transmission of knowledge for Indigenous and other students through a mostly non-Indigenous lens has become increasingly contested as growing numbers of Aboriginal and Torres Strait Islander students, staff and researchers participate in and contribute to the *academy*.

A strong theme has been the benefits of such studies to Indigenous students, non-Indigenous students and Indigenous Australians overall. Herbert (2010) is representative in considering how Indigenous Studies programs both empower individual students and enable them to become change agents in the wider Australian society.

Indigenous research

Indigenous research and research methodology is another major area of contemporary discussion and debate. Porsanger (2011) suggests that the decolonisation of research is one of the most hotly debated issues in Indigenous research, particularly among the new generation of researchers. This is partly because the process of decolonisation requires new, critically evaluated methodologies and culturally acceptable approaches to the study of Indigenous issues, which may differ in fundamental ways for Indigenous and non-Indigenous scholars (Porsanger, 2011: 107). Porsanger identifies some of the most important issues in the Indigenous research methodology discourse as being:

- critiques of previous research, conducted by outside researchers
- Indigenous approaches, the decolonisation of methodology and the human mind
- Indigenous epistemologies and epistemological racism
- culturally safe research, protection from misinterpretation
- mystification and fragmentation of indigenous knowledge
- the invention of tradition
- the notion of objectivity
- power and control over research on Indigenous issues
- intellectual property and ownership of Indigenous knowledge
- mutual benefit between the researcher and the studied Indigenous community
- interdisciplinarity and the accountability of Indigenous research.

Bull (2004) reports that, in the United States, Native educators and students have been seeking to preserve and revitalise cultural traditions and ways because Indigenous research is recognised as being essential to the survival of Indigenous people and tribal nations.

Nationally and internationally, the two key questions in Indigenous research methodology appear to be: who should conduct the research and how it should be conducted? While some scholars may suggest that Indigenous research should only be conducted by Indigenous people, a more commonly held view seeks 'to encourage Indigenous and non Indigenous academics, practitioners, and researchers to explore, investigate, describe, and interrogate our own assumptions and thinking as well as our own practices and positions' (Nakata, 2007: 2). In 2008, for example, the American Indian Higher Education Consortium, which comprises 34 American Indian tribally controlled colleges and universities, sought to develop an "Indigenous Framework for Evaluation" that would bring together Indigenous ways of knowing with western evaluation practice (LaFrance and Nichols, 2008). From a Maori perspective, Linda Tuhiwai Smith has argued that Indigenous decolonisation does not mean a total rejection of all western theory, research or knowledge but is more about 'centring our concerns and world views and then coming to know and understand theory and research from our own perspectives and for our own purposes'.³

Commonly held views in the discourse are that Indigenous experience, knowledge and perspectives need to be at the heart of any research, that this research needs to relate to Indigenous needs and interests, and that Indigenous people need to benefit from the research. Porsanger (2011) is representative in noting the critical importance of cultural and ethical protocols, values and behaviour in Indigenous methodology.

Indigenous pedagogy

Biermann and Marcelle Townsend-Cross (2008) argue that more academic attention needs to be given to Indigenous pedagogy in current debates. They highlight the importance of Indigenous pedagogy as a force for change and call for a stronger focus on 'the theoretical articulation of Indigenous pedagogy, not only as a valid system of knowledge and skill transfer, but also as one that conveys meaning, values and identity' (p. 146). While this has been given attention in other countries, most notably the United States, Indigenous pedagogy as a teaching methodology based on Indigenous values and philosophies has been

³ Linda Tuhiwai Smith is cited in an online paper by the Indigenous Peoples Specialty Group (IPSG) of the Association of American Geographers (AAG), Declaration of key questions about research ethics with Indigenous communities, www.indigenousgeography.net/IPSG/.../IPSGResearchEthicsFinal.pdf (retrieved 11 November 2011). The citation is from her 1999 book: *Decolonizing Methodologies: Research and Indigenous Peoples*. London, Zed Books.

insufficiently theorised in Australia. Sefa Dei (2007) raises issues relating to our collective responsibilities in nurturing the next generation of Indigenous scholars.

Support for Indigenous students and staff

Much of the research on this theme shows how designated support for Indigenous students, including Indigenous Centres, contributes to student wellbeing and success. Herbert (2005) reports on the critical importance of a 'culturally affirmative' and supportive learning environment for Indigenous students if universities are to achieve improved retention and success rates for these students. An alternative view is that universities do not give sufficient support to these services and that the existence of the Centres is a disincentive to the development of appropriate policies for Indigenous students (Gunstone, 2008). The discourse around the issue of Indigenous student support indicates that the university needs to support Indigenous students in terms of curriculum and acknowledgment of, and value placed on, Indigenous knowledge and contributions, and that this support is not an equity issue but core university business (Andersen et al., 2008). Four specific strategies to support Aboriginal and Torres Strait Islander students are suggested: the recruitment of highly dedicated staff, a strong focus on assisting beginning students, strengthening the role of Indigenous centres, and ongoing review of the support mechanisms designed to help Aboriginal and Torres Strait Islander students (Andersen et al., 2008).

There has been some discussion about the particular role of Indigenous academic and support staff and the issues associated with these positions. Staff, though few in number, are expected not only to teach Indigenous and non Indigenous students but are being called upon increasingly to assist with the 'indigenising' of academic curricula at a time when enrolments are increasing (Asmar and Page, 2009). While student need is well documented, the informal support role played by Aboriginal and Torres Strait Islander staff is considered to be under-researched (Page and Asmar, 2008).

Supervision of graduate students

Some research examines the quality of the supervision provided to postgraduates, including ways in which supervision could be improved. Trudgett (2011) notes the critical importance of high-quality supervision for Indigenous students, including for completion outcomes, and suggests cultural awareness training could help supervisors to better understand the needs of Indigenous postgraduate students. Trudgett (2009) has identified a number of issues associated with supervision, including: attitudes of Indigenous Support Unit staff, low numbers of Indigenous academics in these units, poor understanding of Indigenous postgraduate needs, provision of collaborative academic peer support for postgraduates, lack of student awareness of the Indigenous Support Units, absence of an orientation day or program, significant levels of exclusion (through social and cultural isolation), and lack of information about scholarship opportunities.

Cross-cultural issues – teaching, research and researchers

The main questions arising in the discourse are about the role of non-Indigenous academic staff supervising Indigenous students, the level and appropriateness of cultural awareness training, and the appropriateness of the presentation of material to Indigenous students. This area could be explored more as it intersects with almost all of the other themes that have been identified in this review. The concepts of two-way learning or ‘both way’ learning or cultural competence are also relevant to this theme and integral to being able to work effectively.

Access for rural and remote tertiary students

Access to tertiary education and the enrolment and retention of rural and remote Indigenous tertiary students is an issue in the discourse, although there appears to be less research in this area than in some other areas. Similarly, while learning electronically has attracted some research, Indigenous learning online and remotely may be an area that could be further researched. Another area of research focus is the need for skilled personnel in remote and Indigenous communities.

Issues to do with enrolment and retention

Issues surrounding enrolment rates and retention continue to be debated, although the body of knowledge in this field is still scarce (O’Rourke, 2006). Raising Indigenous youth awareness of opportunities is one theme in the general discourse. Wollin et al. (2006) report a range of strategies that have helped with the recruitment and retention of Aboriginal and Torres Strait Islander students in nursing education. Other research explores the factors influencing the decision of Aboriginal and Torres Strait Islander students to enter higher education (Powell, 2006), and the need to increase the strength and importance of academic self-concept for Aboriginal and Torres Strait Islander students (Bodkin-Andrews et al., 2010). Pidgeon (2008) uses social reproduction theory and a post-colonial framework to argue that conventional discourses on retention and student success often exclude Indigenous understandings and worldviews.

Leadership

The areas of Indigenous leadership and of leadership with regard to Indigenous issues in tertiary institutions are the subject of a range of research. For example, Foley (2010) poses the question: ‘Can we educate and train Aboriginal leaders within our tertiary education systems?’, questioning whether leadership is an Aboriginal and Torres Strait Islander attribute or to be understood through the lens of western education. Fasoli et al. (2009) provide an institutional leadership paradigm for Indigenous staff and students, which has led to institutional change across a range of areas involving Indigenous staff and students. King (2008) offers a Canadian perspective on how to foster Indigenous leadership,

suggesting that Indigenous philosophies with a life-long, holistic approach to learning are needed for Indigenous leadership development.

Success for Indigenous students

Research on this theme includes both practical support (such as ways of building the capacity of Indigenous Support Units) and a call for new ways of thinking about success. Devlin (2009) argues for 'a new paradigm for research in Indigenous higher education student equity in Australia' that focuses on success (p. 1). Such a paradigm is needed urgently because of the dearth of peer-reviewed studies currently on 'what works' in higher education. Day (2007) calls for 'innovative research support' that will enhance success by taking account of Aboriginal and Torres Strait Islander student needs. Herbert (2005) also argues that 'there is clearly a case for changing the discourse that surrounds Indigenous education from one of deficit and failure to one of success and achievement' (p. 22).

The rhetoric of much that is written about Indigenous student enrolment, performance, first-year attrition rates, and retention in higher education courses focuses on gaps, yet recent Australasian Survey of Student Engagement findings shows that Indigenous students are engaged with learning at a similar or slightly higher level than their non-Indigenous peers and report levels of satisfaction equal to or higher than their peers (Australian Council for Educational Research, 2010). Herbert (2005) argues that for Indigenous students to experience success they need to be able to locate themselves strategically as intellectuals in the academy, Indigenous community, and the wider society and that 'the key to academic success for Indigenous students is related to their capacity to ensure their voices are heard and that someone is listening' (pp. 19–20). Oloo (2007) examines success from the perspective of Canadian undergraduate students and makes several recommendations as to how outcomes might be improved. An interesting insight is offered in relation to the Maori experience of undertaking doctoral studies. Mckinley et al. (2011) make the point that Maori students experience tensions between their sometimes strong cultural identities and their emerging and, therefore, less certain identities as researchers and scholars, suggesting that Maori scholars have additional challenges not faced by non-Indigenous doctoral students.

Careers, professional focus areas and working in the Indigenous communities

Much of the published material on the professions relates to health sciences. For example, Andersen et al. (2008) explore a model to develop cultural competence within health-related courses. Other papers discuss retaining Indigenous students in health sciences courses (Young et al, 2007), attracting and retaining Indigenous students in nursing education (Wollin et al, 2006), Indigenist research methodologies in health research (Saunders, 2010), and training Indigenous doctors for Australia (Lawson et al., 2007). Social work has attracted research ranging from the training of social workers in cross-cultural practice (Whyte and Clarke, 2009), understanding spirituality in the context of social work

(Whyte and Harms, 2009), implementing strategies to recruit more Indigenous social workers (Courtney and Gair, 2009), and incorporating Indigenous worldviews into social work (Baskin, 2005).

While there are some studies with a specific focus on law, early childhood teaching, pre-service training, business education, social work, psychology, science education and business education, this is an area that could benefit from more research with a view to preparing Indigenous students specifically for the professions.

Battiste (2002) calls for 'professional capacity building for First Nations education', suggesting that PhD students and graduates who show a commitment to working with communities and contributing to Indigenous people and development should receive targeted funding and support. The aim of such a strategy would be to drive educational reform and change from the 'top', not wait for a generation to come through. A significant finding by Herbert (2005) in her doctoral study was that Indigenous students in Australian universities believed higher education would not only help them gain the knowledge and skills needed to obtain secure employment in higher level jobs, but would also enable them to contribute in the future to their communities. Investment in Indigenous research in higher education can potentially assist not only students and staff but also Indigenous communities and society more generally.

Conclusion

The review shows that for graduate Indigenous students in Australian universities the most popular areas of study are health; the arts, humanities and social studies; Indigenous studies; and education. The most common themes in the contemporary discourse of Indigenous higher education are Indigenous knowledge, Indigenous studies, Indigenous research and research methodology, and Indigenous pedagogy. Other themes relate to the level and quality of support for Indigenous staff and students (undergraduate and postgraduate); cross-cultural issues to do with teaching, research and researchers; access for rural and remote tertiary students; issues to do with enrolment and retention; leadership; careers; and professional focus areas and working in Indigenous communities.

While the review indicates that all of these areas are crucial to an informed debate and discussion about Indigenous people in higher education, there is one overriding issue that permeates much of the discourse: the need to recognise and value Indigenous knowledge and to embed this knowledge into all aspects of higher education in Australia. The question of who is conducting Indigenous research and how it is being conducted is directly related to this issue.

Considerable material has been published over many years about attracting and retaining Indigenous students in higher education. This research is usually general in content and tone. It may be useful to focus more on specific courses and their approach to attraction and retention. It would be interesting and valuable to do a full and detailed literature review

from the perspectives of different professions, and to look closely at both Australian and international material. For example, the enrolment, retention and future careers of Indigenous students in nursing education among Indigenous peoples could be examined.

The experiences of Indigenous people in the United States and Canada are similar to those of Aboriginal and Torres Strait Islander peoples in that they have many disparate Indigenous peoples and nations within their borders. Many of these peoples have successfully brought tertiary education to their young people and have their own doctors, lawyers and other professional people on site in their communities. How did they achieve this? What can we learn from the barriers they faced and how did they overcome these barriers? What led to success?

Finally, there has been some reference in the literature regarding how Indigenous methods of education and pedagogy, and the valuing and recognition of Indigenous knowledge, could benefit the nation as a whole. Research into where Indigenous approaches have been used in a general population would be helpful. An example already researched to some extent in the justice arena would be the concept and application of restorative justice as practised and understood by Indigenous peoples.

The question that could be asked is: What can Australia as a nation learn about education and pedagogy from the Indigenous peoples of Australia? How can we use what we learn to improve outcomes for all Australian students? How do we apply what we learn? It would be valuable to have some research on where, how and how often, this has already been done.

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