

School of Psychology and Speech Pathology

**Transformative Learning and Cultural Capabilities: Understanding Factors
Associated with Student Preparedness to Work with Indigenous People in Health
Settings**

Jonathan Craig Bullen

**This thesis is presented for the Degree of
Doctor of Philosophy
of
Curtin University**

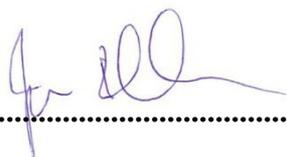
January 2019

Declaration

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The research presented and reported in this thesis was conducted in accordance with the National Health and Medical Research Council National Statement on Ethical Conduct in Human Research (2007) – updated March 2014. The proposed research study received human research ethics approval from the Curtin University Human Research Ethics, Approval Number #RDHS-19-15

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Abstract

Across a range of health indicators, Indigenous Australians experience profound differences in outcomes compared to their non-Indigenous counterparts. This gap is driven by a range of interrelated determinants that directly and indirectly affect both access to, and the provision of health services. One of the key determinants considered to play a powerfully influential role in both the provision and accessing of health care is the cultural capability of health practitioners. Responding to international and national recognition of the imperative of this skill development in future health practitioners, Australian tertiary health curriculum built around Indigenous knowledge and perspectives is now common. Literature around this curriculum consistently notes the transformative learning students often experience in the form of powerful shifts in attitudes, behaviours and knowledge with respect to Indigenous Australian people and cultures. Despite this promising growth in evidence of transformative experiences within the Indigenous Studies health education environment, there is very limited literature investigating these student experiences beyond relatively simple binary conceptualisations of transformation vs. non-transformation. Very limited research has examined the potential influence of transformative learning within the Indigenous Studies health curriculum context on students' preparedness to work in Indigenous health settings. Further, the predictors of these transformative learning experiences, and how these experiences are interpreted and articulated by educators and students remain largely unexplored.

The central aim of the research presented in this thesis was to explore, through a transformative learning theory (Mezirow, 2003) lens, the individual, pedagogical and contextual factors within an Australian Indigenous Studies context associated with the development of students' cultural capabilities and preparedness to work in Indigenous health care settings. A mixed methods sequential exploratory design comprised pre-post

quantitative surveys of health science students' attitudes conducted at the start (Phase 1) and towards the end (Phase 2) of an Indigenous Studies unit, followed by interviews with tutors (Phase 3) and students (Phase 4) about students' transformative learning experiences. In combination, the five journal articles within this thesis provide a unified and necessary exploration into the effects of Indigenous Studies and its alignment with transformative learning theory, across a single first year health sciences cohort within a single semester within a large Australian university.

The first paper included in this thesis is an exploration of health students' ($N = 1175$) attitudes toward Indigenous Australians and their interactions with culturally diverse groups, measured during Phase 1 of the research. The paper explores the predictive capacity of these two factors upon students' self-reported preparedness to work in Indigenous health contexts, as measured upon entry to their first semester of their first year of university. Results suggest that attitudes toward Indigenous Australians, and not interactional diversity experiences, were the key driver of students' levels of preparedness to engage in Indigenous health settings. These findings support literature reporting associations between health practitioner perspectives and beliefs about Indigenous Australians and the health provision afforded them. Further, these findings provide a baseline of understanding where students begin the process of cultural capability development, and inform the remainder of papers included in this thesis.

The second paper in this thesis investigates relationships between health science students' ($N = 336$) attitudes to Indigenous Australians and their experiences with diversity (measured in Phase 1 in the first week of semester), with transformative learning experiences and preparedness to work within Indigenous health contexts (measured in Phase 2 in the tenth week of the semester). Across these time points, small

but significant changes in student attitudes and preparedness to work in Indigenous health settings were found, with the number of elements of transformative learning experienced predictive of these changes. These results support the effectiveness of Indigenous Studies courses in reducing negative student attitudes toward Indigenous Australians, and consequently increasing student preparedness to work in Indigenous health contexts. While these results suggest a relationship between transformative learning and shifts in attitude and preparedness, they also highlight the need to better understand the internal mechanisms of transformative learning in the Indigenous Studies context.

The third paper in this thesis builds upon the two earlier papers, investigating predictive relationships between learning approach, critical reflection, perceptions of the classroom community, rapport between student and teacher, and transformative learning, across the same sample of 336 first year health sciences students, measured during Phase 2 of the research. Each of these constructs was selected due to reported associations within the literature to affective learning, itself considered a key component of transformative learning. Findings from this third paper suggest that while almost all of the included constructs were correlated with transformative learning, only a deep learning approach at Phase 1 of the study, and levels of critical reflection at Phase 2, predicted student transformative learning experiences. More specifically, the relationship between a deep learning approach to the course and student transformative learning experiences was mediated by critical reflection. These findings have implications for the manner in which learning is structured and facilitated within courses underpinned by transformative learning theory, with a focus on structuring units with activities designed to induce critically reflective thinking, and supporting these activities with the active teaching of critical thinking skills throughout.

The fourth paper in this thesis builds on the quantitative base of evidence provided by the earlier three papers through a qualitative explication of non-Indigenous and Indigenous tutors' ($N = 12$) observations and interpretations of students' transformative learning experiences within the Indigenous Studies health education context (Phase 3). Findings from this study suggest educators observe a range of transformative learning stages within students, from disorientation and dilemmas experienced as a result of the introduction of course material, critical reflection, and shifting of students' perspectives about Indigenous Australian, and importantly their own, culture, and the exploration of new roles. These findings highlight the importance of educator positioning and relational factors between students and educators in the transformative learning process.

The fifth paper also builds on the earlier quantitative base, complementing the fourth paper's focus on tutor perspectives by exploring students' ($N = 13$) perspectives of their own transformative learning experiences (Phase 4). In common with tutor reports (paper four), students reported experiencing disorientation and dilemmas, critical reflection, and the exploration of new roles. However, students' reflections differed from tutors in terms of two key points: the prevalence of shame and guilt felt as a response to the confronting learning experiences, and the enacting of new ways of being during interactions with Indigenous Australian people and cultures. Students also noted the vital nature of educator positioning and approach to the learning context, in terms of the students' own navigation of cognitive and affective challenges in class. These findings reinforce the importance of the educators' role in the transformative learning process, and the power of the curriculum to effect transformative change.

Findings across these five papers are integrated in the discussion chapter, and provide support for Mezirow's (2003) transformative learning theory as a means

of examining, interpreting and understanding student learning experiences within Indigenous Studies health curriculum intended to play a role in the development of student cultural capability. The three quantitative papers document statistically significant changes in student attitudes and preparedness to work in Indigenous health contexts, highlighting transformative learning experiences as a potential mechanism for change. The two qualitative papers documenting tutor and student articulations of student transformative learning experiences provide further explanation of these findings, drawing attention to the contextual, pedagogical, and individual factors associated with transformative learning. Considered together, the findings from the five articles within the current thesis provide strong support for the use of Mezirow's transformative learning theory as a means to 1) better understand student learning experiences in this challenging educational context, 2) guide the development of Indigenous Studies curriculum with a transformative intent, and 3) align the development of this curriculum and intentions with the development of educators, to equip them to more effectively facilitate the nuanced and specialised learning context of Indigenous Studies health education.

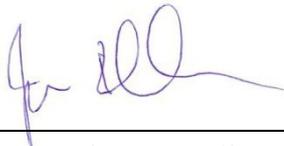
Publications Included as Part of the Thesis

- Bullen, J., Roberts, L., & Hoffman, J.** (2017). What predicts health students' self-reported preparedness to work in Indigenous health settings?. *The Australian Educational Researcher*, 44(1), 71-87.
- Bullen, J., & Roberts, L.** (2018). Transformative learning: A precursor to preparing health science students to work in Indigenous health settings?. *The Australian Journal of Indigenous Education*, 1-12. doi:10.1017/jie.2018.3
- Bullen, J., & Roberts, L.** (2018). Driving transformative learning within Australian Indigenous studies. *The Australian Journal of Indigenous Education*, 1-12. doi:10.1017/jie.2017.40
- Bullen, J., & Roberts, L.** (2018). From the outside in: Tutor perspectives of student transformative experiences within Indigenous Studies health education. *Higher Education Research & Development*.
<https://doi.org/10.1080/07294360.2018.1549538>
- Bullen, J., & Roberts, L.** (in press). "I wouldn't have been culturally safe": Health science students' experiences of transformative learning within Indigenous Studies. *Higher Education Research & Development*

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The nature and extend of the intellectual input by the candidate and co-authors has been validated by all authors, and can be found in Appendix A.



Jonathan C. Bullen

(Candidate)



Lynne D. Roberts

(Supervisor)

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Introduction

The research presented in this thesis examines, through a transformative learning theory (Mezirow, 2003) lens, the individual, pedagogical and contextual factors within an Australian Indigenous Studies context associated with the development of students' cultural capabilities and preparedness to work in Indigenous health care settings. In this introductory chapter I first provide my positioning in relation to this research, outlining my background and personal experiences that influenced the selection of this research topic and methodology. Next, I summarise the literature relevant to the Indigenous Studies health context in relation to this research project and the studies within, leading to the aims, rationale, context and design of this research project. This chapter ends with a brief introduction to the papers included in the thesis.

Personal positioning

In terms of how this research project came to be, it is important that I enter into brief discussion and consideration around those characteristics, qualities and attributes that make me, me, and the role they may have played in choosing to conduct research on transformational learning and cultural capabilities within the current thesis' research studies. I identify as an Aboriginal man of 42 years at the time of writing, born and raised predominantly in Western Australia. My father is a Wadjella – a white Australian born in Bristol, England. Beyond the age of 11 years I had little to do with my father, living predominantly with my mother. My mother is an Aboriginal woman from Bibbulman/Wardandi country on her father's side, and Yamatji country on her mother's. My mother and her siblings, as young children, were taken from their parents and placed in Sister Kate's home for half-caste children, these actions legislated and facilitated under the government at the time's Aborigines Act of 1905. My mother describes herself as a survivor of what is now known as the Stolen Generations. She is also an educator, one who willingly shares her story with those willing to hear it, in her words to be "an open

book, to have limits but also openness if we want to effect change” with a willingness to be vulnerable as students go through a process of learning. While this approach and perspective to teaching in this space may not be suitable for all educators, I acknowledge that it is perhaps through my mother’s influence that I have learned to walk in different worlds, to be able to discuss these things with both some distance and some familiarity. While I am able to empathise with my mother’s experiences, and those Aboriginal people who similarly have had these experiences, I do not claim to know what it is these individuals have gone through, the impacts from a purely visceral, personal level of knowing. I acknowledge that that is both a privilege and a difficulty, but also that these things impact upon my perceptions of teaching within this context.

Somewhat related to these points around my Aboriginal heritage, while Indigeneity goes beyond the colour of one’s skin - a construct more complex than simply outwardly observable phenotypic markers of a particular genotype - the nature of my physical appearance is contextually influential and a factor in whether I am accepted by people as a ‘real blackfella’ (e.g. not a ‘tribal’ Blackfella’, to use a well-worn expectation of many non-Indigenous people) with valid/authentic perspectives within the Indigenous Studies space, by both educators and students alike. At times students have noted that they liked the fact they could engage with an Aboriginal man in their educational setting; at other times they expressed a desire to interact with someone more ‘traditional’. I suspect that each of these responses (and no doubt others) is influenced by other factors also, such as my own personality and the way that is projected into the space.

My interest in conducting research on transformative learning and cultural capabilities grew from my experiences within the Indigenous Studies teaching and learning context. Having come to teach within the ‘space’ with relatively fresh eyes appears to be a double-edged sword. On the one hand, the lens from which I’ve observed the space is presumably somewhat ‘naive’ with perhaps few preconceptions

of the space and its inhabitants that may begin to accompany and/or encumber the perspective of those individuals with many years of experience within the space. This may well be a good thing. The other side of the coin of course is that the lens may also be somewhat 'naive' (I am aware of the redundant use of the term), and as such certain things may go unnoticed that are potentially important in the development, doing and interpreting of this research project.

There was no particular moment in time where I can say I was convinced that this was a project I must undertake. Rather, the desire, curiosity and imperative grew as a consequence of many moments that provoked thought around the nature of the space, and those who were involved in the learning and teaching in and of it. Having put forth this lack of specificity with regard to an 'epochal' moment, the first instance I can recall where I questioned the nature of the space was in a tutor meeting. In attendance were many seasoned educators, some sessional, some fixed-term, and a few (myself included) who were relatively new to the Indigenous Studies space altogether. What stuck in my mind from that meeting was the vigorous discussion of students, a discussion driven by a pervasive undercurrent of 'us and them', a discussion focused on the lack of student engagement in the space, a discussion that, to my naive eyes, was entirely new and quite confronting. I recall students being talked about as though they were fixed in time, unchangeable in their beliefs, ideas, and assumptions about Indigenous people, and utterly unwilling to engage beyond a highly superficial level. Educators frequently used the 'R' word – Racism. Apparently it was rife among this, and previous, cohorts and the majority of these students were clearly not interested in learning about any of the subject matter. I left this meeting asking questions: What was this thing I was getting into? What is happening for these educators that they are positioning these students in this way? Would I have similar experiences?

The second experience that led me to seriously consider undertaking this

research was a more practical, coalface one. I had been teaching in the space for a while now, and on this day – roughly midway through semester - was filling in for another tutor who happened to be unwell and couldn't make it onto campus. As I walked into the classroom, students sat deathly quiet at their desks with a look on their faces suggesting they had either all lost someone dear to them the night before, or they really didn't want to be there. A couple of students were straggling in as I said "Hi" to the seated students and prepared for the class. The class 'happened', with the usual material and learning activities explored and undertaken. For the first 20 minutes, student engagement remained as it began when I entered the room – deathly quiet. Not simply quiet, but a lingering atmosphere of caution. Curiosity got the better of me. I asked what was really going on for them, beyond the course material and activities. Students looked at me as though I was speaking a language foreign to them – utterly surprised that I had even asked them for some input. In fact, some even noted that they were not used to being asked questions, and certainly not asked to be open with their thoughts and perspectives in this learning space. They had questions, and ideas, and individual natures – a plurality of constructs that were seemingly being squashed into a singular homogenous box of racism or 'badness', if the earlier meeting was anything to go by.

This divergence from the intended lesson material and activities played a vital role in altering the trajectory of engagement within this complex space; interaction became more open and positive between students and the tutor, tutor and students and students with one another. Students seemed to be actually enjoying themselves, expressing agitation, sadness, confusion – in short, exploring the gamut of human experience and emotion in this class that they had previously been told was boring and redundant, and one that had previously resulted in the student-held perspective that they weren't allowed to have or share a perspective.

As a result of that one classroom lesson interaction and the ensuing

‘conversation’, students gave feedback (via the institutions formal unit evaluation medium, eValuate) for a class that wasn’t actually mine:

“Your one relief lesson with our class changed a lot of people's attitudes toward Indigenous Australians. It was a pleasure to watch. I like how you are open to criticism, but then push back on that with a well thought out answer. Love your crazy professor stints.”

Similar to the earlier experience within the tutor meeting, I was left asking questions of the space, those involved in it, and how we might harness these to improve outcomes. For example, how was it that a single session with these students could lead to this kind of outcome and feedback? I’d had the fortune to sit in with other educators who also approached the class from a highly student-centric position, with similar positive outcomes for individuals within the space. Needless to say, curiosity – a need to explore more deeply just what was going on here - got the better of me. Framed by Mezirow’s (2003) transformative learning theory and set within an Australian Indigenous Studies context, this research exploring influential factors associated with the development of students’ cultural capabilities and preparedness to work in Indigenous health care settings, is part of the outcome of that curiosity.

Literature Review

Across a range of indicators, health outcomes between Indigenous and non- Indigenous populations are profoundly differentiated both nationally and internationally (AIHW, 2011; Anderson et al., 2016; Hill, Barker, & Vos, 2007; Marmot, Friel, Bell, Houweling, & Taylor, 2008; Vos, Barker, Begg, Stanley, & Lopez, 2009). Despite marginal improvements in certain areas of Indigenous health, Indigenous Australians experience ongoing disparity –in some areas, a worsening of outcomes - across several key markers of health comparative to the health outcomes of non-Indigenous Australian (Commonwealth of Australia, 2018). Considerable evidence details causes of these disparities, with a host of determinants – including socioeconomic status

and characteristics, educational access, participation outcomes, adequate housing and transportation, behavioural factors, community capacity and support, and of course sociocultural factors such as discrimination - underpinning and influencing the trajectory of Indigenous social and emotional well-being (Gracey & King, 2009; Marmot & Wilkinson, 2005; Paradies, 2018). These determinants and their associated impacts are varied, numerous and complex in their interrelationships, each playing an influential role both directly and indirectly in the ways Indigenous Australians access the health system, and perhaps more importantly, the quality of the health provision available (Durey & Thompson, 2012).

There is now broad recognition that to close the gap in health outcomes between Indigenous and non-Indigenous Australians health practitioners must be equipped to interoperate in a range of diverse cultural contexts, and to develop capabilities beyond those exclusive to their discipline (Clifford, McCalman, Bainbridge, & Tsey, 2015; Durey & Thompson, 2012). As such, and in response to recommendations (Universities Australia, 2011), tertiary institutions have made efforts to include appropriate curricular content within health courses across a range of disciplines (Mills, Creedy, & West, 2018; Pitama, Palmer, Huria, Lacey, & Wilkinson, 2018). The effects of these curricular offerings upon non-Indigenous students understanding of disparities between Indigenous and non-Indigenous health outcomes, their own and Indigenous cultures and, and a willingness to work in Indigenous health settings – that is, the early development of cultural capabilities - have begun to be documented (e.g. Flavell, Thackrah, & Hoffman, 2013; Mills, Creedy & West, 2018). While differentiated across models, this skill/capability development has been shown to follow typical trajectories inclusive of (though not solely): an ignorance or denial of cultural difference and diversity, the acquisition or awareness of early knowledge of cultures different to one's

own, and onward to an increased or developing capability to sit with discomfort and interact effectively in culturally heterogeneous environments (Cross, Bazron, Dennis, & Isaacs, 1989).

Within this cultural capability/competence developmental process, the nature of ‘self’ is noted consistently throughout the literature, with literature proposing the manifestation of a range of affective responses at the locus of personal experience, such as shame, guilt and discomfort or cognitive dissonance (Maddison, 2011; Walker, 2017). Each of these responses are posited as both common to the challenging learning experience, and deeply relevant to the learning process, highlighting the capacity of the learning experience to go beyond simply cognitive learning and into the affective domain (Cranton & Roy, 2003; Dirkx, 2006). Beyond personal responses, a range of factors that can inhibit or promote this skill development have been proposed – from student-centric factors such as resistance to the learning experience (Asmar & Page, 2009), related sociocultural factors such as attitudes toward Indigenous Australians (Pedersen, Bevan, Walker, & Griffiths, 2004), and curricular and pedagogical factors such as the nature of the learning experience itself and the individuals tasked with facilitating these (Wolfe, Sheppard, Rossignol, & Somerset, 2017).

Related to the concept of affective learning, literature has noted student experiences and exposure to this curriculum as beneficial; not simply in terms of skill and knowledge development and acquisition, but also personally transformative – that is, shifts in self-description and a deeper understanding of values, beliefs, behaviours and worldviews held and enacted (e.g. Flavell, Thackrah, Hoffman, 2013; Jackson, Power, Sherwood, & Geia, 2013; Prout, Lin, Nattabi, & Green, 2014). This suggestion that Australian Indigenous Studies carries transformative potential is not unusual (Page, 2014). Transformative learning theory (Mezirow, 2003) offers a means with which to understand the mechanisms within Indigenous Studies education contexts, and thus the

development of cultural capabilities within students of these courses. Based on concepts of openness and a willingness to examine and deeply reflect upon views, experiences, beliefs and perspectives of others and self, Mezirow's theoretical framework proposes stages which individuals' iteratively navigate in the course of transforming "problematic frames of reference – sets of fixed assumptions and expectations (habits of mind, meaning perspectives, mindsets) – to make them more inclusive, discriminating, open, reflective and emotionally able to change" (Mezirow, 2003, p. 58). These points around the importance of 'self' in the learning experience perhaps highlight the utility of Mezirow's framework in interpreting and understanding the transformative experiences of students within Indigenous Studies contexts.

However, to date most research in this Indigenous Studies transformative learning context has been concerned with simple conceptualisations of transformation (e.g. Jackson et al., 2013;) as opposed to an in-depth examination of factors that predict, precipitate, or simply play a part in facilitating transformative learning experiences. Similarly, a body of literature notes the transformative outcomes of curricular interventions, without necessarily engaging specifically with Mezirow's framework (e.g. Mills et al., 2018; McDonald et al., 2018). While outcomes may indeed be 'transformative' across the range of this literature, the limited body of work specifically engaging with Mezirow's framework to interpret and explain what may be occurring in Indigenous Studies highlights the importance of research focused on explicating those factors related to transformative learning using Mezirow's theoretical framework. The current thesis adopts Mezirow's transformative learning theory as a lens to investigate transformative learning experiences within the Australian Indigenous Studies educational context. The specific focus is on factors affecting the development of students' cultural capabilities to work in Indigenous health contexts.

Within the exegesis of this thesis, I first discuss the Indigenous health context,

with specific reference to the current thesis' curricular context, the concept of reconciliation within Australia, health disparities between Indigenous and non-Indigenous Australians and, as a means of addressing these two complex issues within the Australian historical and sociocultural context, the associated imperative for the development of cultural capabilities. I follow this with discussion around individual factors influencing student preparedness to work in Indigenous health settings, inclusive of non-Indigenous attitudes toward Indigenous Australians, and engagement and interaction with diverse cultures. This is followed by discussion introducing Mezirow's transformative learning theory as the framework within which the thesis is viewed, and its application to the Indigenous Studies educational context. Next, I discuss pedagogical factors influencing transformative learning, including the teacher-student relationship, the classroom context and community, student's approaches to learning, and the construct of critical reflection. Finally, I close the introduction section of this exegesis with an overview of the aims and rationale for the broader thesis and its constituent studies.

The Indigenous Health Context

The current Indigenous health context is shaped by colonisation and the processes towards reconciliation, and the continuing health disparities between Indigenous and non-Indigenous Australians. For further improvements to occur there is a need to develop health professionals with cultural capabilities. Each of these key concepts are discussed below.

Reconciliation

The current thesis' focus on investigating and better understanding factors related to transformative learning and cultural capability development within the Indigenous Studies educational context are fundamentally underpinned and driven by the imperative to contribute to reconciliatory action within the health education sector.

Reconciliation is both simple and complex, a powerfully emotive concept, with potential to engender vastly divergent perspectives and powerful psychological responses (Dudgeon & Pickett, 2000; Francis & Davidson, 2002; Green & Sonn, 2005; Halloran, 2007; Paradies, 2016; Pedersen, Bevan, Walker, & Griffiths, 2004). As a process, it is generally recognised as having its roots in the 1967 referendum where, under the Liberal Party, changes to the Australian Constitution were made that would significantly shape the foundation for later governmental intervention affecting Aboriginal people (Attwood & Markus, 2007; Behrendt, 2007).

However, more than 50 years on, there is considerable evidence that despite governmental initiatives focused on structural and legislative reform, Indigenous Australians remain recipients of varied forms of discrimination (Beyond Blue, 2014; Paradies, 2018), highlighting that despite institutional and political support (Australian Government, 2013; Recognise, 2014; Reconciliation Australia, 2014), a more expansive effort and approach is required – particular at the substantive, grass roots, ordinary non-Indigenous Australian level (Pedersen, Bevan, Walker, & Griffiths, 2004).

Accordingly, while acknowledging the necessity of symbolism and structural reform as the foundation for more practical and substantive action (Burrige, 2009), at present the notion of reconciliation remains somewhat rhetorical at the community level. It remains consistently discussed in an abstract, 'out there' context - one in which the sentiment, despite a recent groundswell of community engagement, can be, and frequently still is, viewed and/or misunderstood in one of several possible ways: as an end unto itself, as 'someone else's responsibility' (Halloran, 2007; Pedersen & Neto, 2013), or, alarmingly, as an Indigenous problem (Burrige, 2009).

Antithetically, each of these misunderstandings positions the notion of reconciliation as a perpetuator of cultural and social division. However, reconciliation,

by its very definition, is a mutual activity (Subašić & Reynolds, 2009). Thus, each of these constructs is problematic at best, each facilitating on behalf of non-Indigenous Australia the absolution of any responsibility for, or role in, the process of reconciliation, while implicitly positioning Indigenous Australia as the problem, or worse, further marginalising.

Health disparities

As noted in the introduction, globally, the gap between Indigenous health outcomes and those of non-Indigenous people is well documented (AIHW, 2011; Anderson et al., 2016; Hill, Barker, & Vos, 2007; Marmot, Friel, Bell, Houweling, & Taylor, 2008; Vos, Barker, Begg, Stanley, & Lopez, 2009). Specific to the Australian context, Indigenous Australians continue to experience significantly lower life expectancy, higher infant mortality, greater prevalence of chronic disease, and poorer mental health compared to non-Indigenous Australians (Commonwealth of Australia, 2018). Reconciliation, along with a range of more recently recognised factors specific to Indigenous people – for example, colonisation, the history (and on-going manifestations) of racism and associated loss of traditional lands and culture - are recognised as fundamental determinants of health for Indigenous Australians (King, Smith, & Gracey, 2009; Paradies, 2016; Paradies, 2018; Vickery, Faulkhead, Adams, & Clarke, 2007). Beyond these specific distal determinants, other more proximally situated causes of disparity are also noted, inclusive of genetic, health behavioural and socio- environmental interactions (Loppie Reading & Wien, 2009). Pervasive structural relations, such as socioeconomic characteristics, housing and transport and community capacity (King, Smith, & Gracey, 2009; Marmot & Wilkinson, 2005; Marrone, 2007), also play a role in maintaining the relative advantage of non-Indigenous Australians comparative to the disadvantage experienced by Indigenous peoples. The impacts of these determinants are varied, numerous and difficult to fully quantify, each directly or indirectly affecting the quality and/or accessibility of the health system for Aboriginal

and Torres Strait Islander people (Durey & Thompson, 2012).

The inherent capacity of individual determinants to influence the wellbeing of individuals and communities is noted. However, the complexity of interrelationships between the multiple determinants simultaneously experienced by Indigenous communities - and the consequent exponential force of this - remains highly challenging to efforts to effect enduring change, for communities straining under this weight and policy makers alike (Baum, Laris, Fisher, Newman, & MacDougall, 2013; Carey, Crammond, & Keast, 2014). While recent reports highlight advances made over the last 10 years in terms of progress toward key markers of equity, continued systematic efforts are required, with four of the seven specific targets within the Closing the Gap strategy - a large-scale Australian federal government initiative intended to close the gap between Indigenous and non-Indigenous health, educational and employment outcomes - not on track (Commonwealth of Australia, 2018).

Cultural Competence/Capability

A key development in efforts to close the gap between Indigenous and non-Indigenous health outcomes has been the embedding and integration of curriculum into tertiary courses, with a focus on Indigenous Australian knowledge, perspectives, people and cultures (Mills, et al., 2018; Pitama et al., 2018; Universities Australia, 2011).

Interventions of this nature, based on models of cultural competence development, have been demonstrated to improve the knowledge, attitudes and skills of individuals to engage effectively in intercultural health contexts (Beach et al., 2005; Clifford et al., 2015; Truong, Paradies & Priest, 2014).

Cultural competence as a concept is most widely accepted as “a set of congruent behaviours, attitudes, and policies that come together in a system, agency, or among professionals and enable that system, agency, or those professionals to work effectively in cross- cultural situations” (Cross, Bazron, Dennis, & Isaacs, 1989, p. 13). A further

definition contextually relevant to the Australian tertiary education landscape, describes cultural competence as “Student and staff knowledge and understanding of Indigenous Australian cultures, histories and contemporary realities and awareness of Indigenous protocols, combined with the proficiency to engage and work effectively in Indigenous contexts congruent to the expectations of Indigenous Australian peoples.” (Universities Australia, 2011, p. 6). Building on concepts of cultural awareness, safety and security (Coffin, 2007) this refined definition of cultural competence - underpinned by a critically reflexive practice related to knowledge, values and behaviours - extends these further, facilitating “changes in all dimensions of practice, including the levels of the practitioner, the organisation and the system.” (Grote, 2008, p. 5).

Adding complexity, a range of possible frameworks designed to describe and evaluate interventions and/or ways of working with culturally diverse groups in culturally appropriate ways exist. Many of the naming conventions around these frameworks are contested, this contestation representing different perspectives around factors related to the approach: behavioural, psychological and philosophical. The idea of cultural ‘competence’, as an example, reflects an implicit finality in the learning process – that is, an end point where the individual will be competent to interact in ways that reflect a certain mastery of cultural knowledge differing to one’s own (Carey, 2015). However, increasingly, there is recognition that cultures are diverse and continually evolving (Paul, Hill, & Ewen, 2012) and that reliance on a prescriptive approach to intercultural interactions risks both an essentialising of Indigeneity and a related deference to the ‘Indigenous’ (Carey, 2015; Nakata, Nakata, Keech, & Bolt, , 2012). As one way of knowing and doing, this prescriptive approach perhaps reflects shifts in behaviours, though not necessarily shifts in beliefs and attitudes toward culturally diverse groups (Tervalon & Murray-Garcia, 1998). As such, it is proposed that approaches to these intercultural interactions ought to reflect an understanding that

complete knowledge of the diversity within and between cultures, and of cultural practice, is not realistic.

In response, a range of related alternatives to the concept of cultural competence has arisen. As an example, cultural capability as a concept is purported to reflect key philosophical differences in the complexity of learning in relation to diverse cultures, suggesting this process is an ongoing journey (Stephenson, 2000). Similarly, cultural humility is predicated on the recognition of the on-going learning process as a result of the evolving nature of culture and of self. Differentiating itself from the perceived 'finality' of competence and the associated pitfalls, cultural humility is the capacity for self-reflexivity and appraisal around beliefs and attitudes counter-productive to the well-being of those in one's care, and a personal humility to acknowledge that "[we] do not know when [we] truly do not know (Tervalon & Murray-Garcia, 1998, p. 119). This too is not without limitations and critique (Carey, 2015).

Beyond this brief outlining of possible frameworks, other models exist within the literature (for example, cultural sensitivity: Dutta, 2007), and undoubtedly, future models will also be proposed or refined in line with an increased understanding of their relevance and application to intercultural spaces. Summarily, it is important to note that, while the diversity and contestation of these terms may seem academic, and the terms are often used interchangeably, there are clear distinctions between each, in practice, philosophy and limitations, and thus potential consequences to, and outcomes for, the recipient of care within the given health setting.

International (Betancourt, Green, Carillo, & Park, 2005; Williams & Rucker, 2000) and domestic (Universities Australia, 2011) recommendations around best practice for working with Indigenous and culturally diverse populations continue to

drive the growing imperative for tertiary institutions to integrate the development of intercultural competence and capabilities within tertiary curriculum. Within the current thesis' educational context and locale, this imperative has seen the integration of such recommendations within both discipline specific curricular interventions and broader graduate attributes. The following section discusses further these concepts of cultural competence in terms of preparing tertiary students to work in culturally diverse contexts.

Individual Factors Influencing Student Preparedness to Work in Indigenous Health Settings

Reflecting literature around cultural competence and capabilities, the preparedness of students to engage effectively in Indigenous and intercultural contexts requires the development of behaviours/skills, attitudes and knowledge (Cross, Bazron, Dennis, & Isaacs, 1989; Grote, 2008; Universities Australia, 2011). Broadly, studies in a range of contexts have highlighted the necessity and impact of interventions designed to prepare students to engage more effectively within complex health contexts, such as engagement with groups subject to potential social stigma (Happell, 2009; Happell & Gough, 2007; Sedgwick & Yonge, 2008).

Specific to this thesis' subject, a significant body of literature details the development and implementation of interventions designed to develop cultural competence, and thus increase preparedness to engage effectively within Australian Indigenous health contexts. While each intervention is specific to tertiary students within Australian universities, there is considerable diversity among the disciplines including psychology (e.g. Pedersen & Barlow, 2008; Ranzijn, McConnochie, Nolan, & Wharton, 2008), nursing and midwifery (e.g. Biles, Coyle, Bernoth, & Hill, 2016; Thackrah & Thompson, 2013), medicine (Paul, Carr & Milroy, 2006) and those of a more multidisciplinary focus (e.g. Jackson et al., 2013; Kickett et al., 2014). Across

available studies, there are broad concerns around the rigor of evaluative methods of available studies (Clifford et al., 2015), the ‘persistence’ of learning outcomes for individuals from these interventions (Mills et al., 2018), and the impacts of institutional factors upon the efficacy of cultural competence interventions (Pitama et al., 2018). Despite these concerns, there is a general consensus around their efficacy in terms of at least a short term increase in evidence of factors inherent to cultural competence, and the development of preparedness to engage in Indigenous health contexts (Mills et al., 2018).

Very few studies have explicitly measured preparedness to work in Indigenous health settings, with only Paul et al. (2006) exploring changes in students’ self-reported knowledge, skills and attitudes as a result of experiences within a medical curriculum with a strong focus on Indigenous health. However, while positive in terms of increased preparedness across the cohorts involved, individual factors predicting changes in students preparedness to engage in Indigenous health settings effectively were not a focus of this study. Beyond this limited evidence of preparedness are questions of the persistence of changes to preparedness and its compositional elements. For example, Thackrah, Thompson, and Durey, (2015) noted differences between students’ self-described knowledge of the Indigenous cultural and health context at both early and later years of the course, results suggesting issues around a lack of persistence in potential shifts or knowledge retention. This limited evidence complicates matters; negative or ambivalent student attitudes toward the curriculum may be responsible (Asmar & Page, 2009; McDermott & Sjoberg, 2012), but so too might cultural humility (Tervalon & Murray-Garcia, 1998).

While this evidence of a developing workforce capable of engaging in Indigenous intercultural health contexts is encouraging, there remains very limited

research around what might predict student preparedness to work in these contexts. Clearly a range of factors are involved. Also clear is the general acceptance of the imperative for developing cultural competencies within tertiary graduates (Universities Australia, 2011). However, examining and understanding predictive factors of student preparedness has not necessarily been a consideration, component or priority of the extant research around the outcomes of cultural competence curriculum intended to prepare students to work in Australian Indigenous health settings. Within the current thesis' context, two interrelated factors are proposed as influential as to whether students will be prepared to engage in Indigenous health contexts: personally held attitudes toward Indigenous Australians, and the quantity and quality of interactions with culturally diverse groups, including with Indigenous Australian people and cultures.

Attitudes toward Indigenous Australians

The prevalence of negative and discriminatory attitudes toward Indigenous Australians is well-established (Beyond Blue, 2014; Brondolo, ver Halen, Pencille, Beatty & Contrada, 2009; Durey, 2010; Larson, Gillies, Howard, & Coffin, 2007; Paradies, 2018). Despite shifts in the method of articulation and expression and differentiated forms of discrimination (Pedersen, Walker, Beven, & Griffiths, 2004; Priest et al., 2013), these attitudes continue to impact Indigenous Australians' social, emotional and physical well-being (Paradies, Harris & Anderson, 2008; Paradies, 2018; Ziersch, Gallaher, Baum, & Bentley, 2011), with links between psychological harm caused and very real physical manifestations of chronic illness (Mellor, 2004; Priest, Paradies, Stewart, & Luke, 2011; Priest et al., 2013).

The consequences of this are magnified and reinforced when considered in the light of Indigenous Australians seeking health care provision. Attitudes and beliefs held by practitioners within the health system underpin and influence both the level and

quality of care Indigenous Australians receive, and the accessibility of this care (Durey & Thompson, 2012; Kelaher, Ferdinand, & Paradies, 2014). This differentiation in the level and quality of care appears to be an emergent property of interactions between the Western biomedical model of health care, and a lack of practitioner critical reflexivity in relation to one's own implicit attitudes, beliefs and consequent behaviours toward Indigenous peoples (Cunningham, Cass, & Arnold, 2005; Durey & Thompson, 2012). In response to this, Cunningham et al. (2005) simply state that if "clinicians and researchers are to fulfil our obligation, we must first understand how we might inadvertently be contributing to the problem..." (p. 506).

More recent findings suggest the persistent and on-going nature of these contributing attitudinal factors across the broad population of non-Indigenous Australians (presumably inclusive of health practitioners), in relation to Aboriginal and Torres Strait Islander people (Beyond Blue, 2014; Durey & Thompson, 2012; Jennings, Bond, & Hill, 2018). Simultaneously, a lack of awareness of these attitudes, or a lack of willingness to explore both their existence and social consequences are both implied. Similarly, related antecedents to the seeking of health care provision – for example, previous healthcare experiences, and an awareness or perception of institutional and systemic negative/discriminatory attitudes toward, and perceptions of, Indigenous Australians - remain powerfully persuasive determinants of health behaviours and significant barriers to accessing health care for Indigenous Australians (Coffin, 2007; Durey, Thompson, & Wood, 2012; Hayman, White, & Spurling, 2009). The increase in numbers of Indigenous health practitioners is suggested as likely to play a significant role in ameliorating the immediate and systemic effects of negative and discriminatory attitudes within healthcare for Indigenous Australian recipients of care (West, Usher, & Foster, 2010). Ironically, key factors preventing this are discriminatory attitudes, racism and lack of cultural safety experienced by Indigenous health practitioners within the

health setting itself, whether unconscious or explicit, personal or systemic (West, Usher, & Foster, 2010).

Looking beyond discussion of the existence and impact of negative attitudes toward Indigenous Australians, studies have investigated more deeply the nature of attitudes of non-Indigenous Australians toward Indigenous Australians, the functions they serve, and factors underpinning their gradual evolution and maintenance or dispulsion over time (Pedersen et al., 2000, 2004, 2005, 2006, 2008). Factors suggested as predictive of attitudes toward Indigenous Australians (and related conceptual constructs such as reconciliation) vary, including the strength of individual adherence to concepts of egalitarianism (Halloran, 2007; Paradies, 2016), beliefs held about Indigenous Australians (Pedersen, 2000), the source of these beliefs, such the influence of popular media (Ramjan, Hunt, & Salamonsen, 2016), motivating values held by an individual (particularly self-enhancement versus self-transcendence) and emotion (such as shame and guilt; Feather & McKee, 2008). Of relevance, it may be these same values and emotions— when harnessed appropriately (Kowal, Franklin, & Paradies, 2013) - that lead to a greater support of Indigenous Australians (Feather, Woodyatt, & McKee, 2011). These studies also point toward relationships between the nature of attitudes held, and the capacity for focused educational interventions to effect positive changes in these attitudes.

Foundationally, the attitudes toward Indigenous Australians that non-Indigenous students bring to the learning environment are both complex and laden with artefacts of the Australian sociocultural context (Bornholt, 2002). Further perpetuating these attitudes, and complicating efforts to counteract and modify them, is an associated normalisation of their articulation and expression within everyday Australian society (Mitchell, Every, and Ranzijn, 2011; Striley & Lawson, 2014), with a lack of knowledge, perceived threats to social group membership, and limited confidence to speak out

proposed as reasons for an unwillingness to speak out against racist and discriminatory social interactions (Nelson, Dunn, & Paradies, 2011).

Efforts to counteract the effects of these attitudes via the development of cultural competence are well-established (e.g. Clifford et al., 2015; Truong et al., 2014). A body of literature notes shifts in student attitudes (as a subset of outcomes related to overarching imperatives of the development of cultural competence) as a result of engagement in, and completion of, a range of educational interventions within health science disciplines (e.g. Mills et al., 2018; Pitama et al., 2018). Within this body of literature, several key themes are notable with respect to factors conducive to attitudinal change toward Indigenous Australians. The privileging of Indigenous voices within the learning process (Bessarab et al., 2014), student engagement with Indigenous educators (Ranzijn et al., 2008), and the implementation of targeted strategies within the learning experience to combat discriminatory attitudes (Kowal, Franklin & Paradies, 2013; Pedersen and Barlow, 2008) are all implicated as important catalysts for student attitudinal shifts. While there are exceptions (e.g. Mooney et al., 2005), it appears exposure to educational interventions designed to shift personally held negative or discriminatory attitudes appear effective in changing views and perspectives over relatively short periods of time, with positive outcomes extending from this shift such as increased desire (Kickett et al., 2014; Morrisey & Ball, 2014) and preparedness (Paul et al., 2006) to work in Indigenous health contexts. However, the persistence of these shifts is unknown (Thackrah et al., 2015).

Interactional Diversity

Another potential predictor of student preparedness to work within Indigenous health settings is the level of interaction and engagement of individuals with culturally diverse groups. Allport's (1979) contact hypothesis suggests that contact between groups has the capacity to facilitate a reduction in prejudice. A significant

body of research has explored the capacity of interactions between diverse individuals and groups and the amelioration of attitudes held toward one another (e.g. Barlow et al., 2012; Pettigrew & Tropp, 2006; Pettigrew, Tropp, Wagner, & Christ, 2011). Despite this, culturally diverse groups tend to maintain a certain distance, with minimal interaction typical (e.g. Pritchard & Skinner, 2002; Smart, Volet, & Ang, 2000; Summers & Volet, 2008; Trice, 2004). Within the Australian context, many non-Indigenous Australians are noted as having had little to no contact or engagement with Indigenous Australians (Phillips, Whatman, Hart, & Winslett, 2005; Ranzijn et al., 2009). Given this, it is perhaps unsurprising that so many non-Indigenous Australians hold negative, discriminatory, or complex attitudes toward Indigenous Australians. At the individual level, certain factors – for example, antecedent dispositional and experiential phenomena – are related to the likelihood of engaging in these interactions with perceived out-groups (Paradies, 2005). Similarly, affective factors such as empathy are suggested to play a linked role in reducing stereotypes and prejudice via intergroup contact, each related to attitudes towards culturally diverse ‘others’ (Pettigrew and Tropp, 2008; Pedersen et al., 2004). This suggests that particular targeted strategies taking into account these factors may prove efficacious in the context of developing students’ cultural competence and thus preparedness when faced with the prospect of professional or personal engagement in unfamiliar cultural contexts.

In terms of developing cultural competence, immersive interactions with perceived out-groups appear to trigger powerfully affective experiences capable of catalysing meaningful learning processes that can diminish the strength of negative attitudes toward out-groups, and increase capacity for perspective taking (Garmon, 2005; Pattnaik, 1997). However, it appears that the duration of the immersion within diverse settings appears to be a key factor (Berhnd & Porzelt, 2011; Dwyer, 2004).

Within the Australian Indigenous intercultural context there is evidence that short term immersive experiences within Indigenous contexts have capacity to influence the attitudes of non-Indigenous Australians toward typically perceived out-groups (Hodge et al., 2011; Prout et al., 2014; Wright & Hodge, 2012; Young & Karne, 2015), though the persistence of these effects is unknown. It is suggested that immersive interactive experiences are not limited to travel to and interaction within geographically dispersed locations. The profoundly limited nature of interactions with Indigenous Australians for so many non-Indigenous Australians appears to increase the magnitude of effects experienced when interaction does occur, even if that interaction happens to be within a classroom setting (Jackson et al., 2013; Kickett et al., 2014; Ranzijn et al., 2009). Given greater openness to interactions with diversity is likely related to attitudes held toward diversity, the approach taken to position students' to engage with diversity, and thus differentiation of outcome from these experiences is important. As such, it appears that a range of elements and interactive models and modes have the potential to play a vital role in diversity education outcomes (Causey, Thomas, & Armento, 2000; Major & Brock, 2003; Pascarella, Edison, Nora, Hagedorn, & Terenzini, 1996; Pettigrew & Tropp, 2006; Pettigrew, Tropp, Wagner, & Christ, 2011; Whitt, Edison, Pascarella, Terenzini, & Nora, 2001). How these are harnessed to foster a greater openness to diversity interactions may play a role in the transformation of attitudes, and consequent increases in student preparedness to work in Indigenous health contexts.

Mezirow's Theory of Transformative Learning

If the quality and quantity of interactions with culturally diverse groups and attitudes held toward Indigenous Australians are predictors of levels of student preparedness to work in Indigenous health contexts, Mezirow's (2003) transformative learning theory – considered one of the most important theories of adult learning - may

be a useful framework to identify, interpret and articulate processes of personal change in relation to intercultural learning experiences. Transformative learning theory has its genesis in research on the experiences of women re-entering, or entering for the first time, education after or during significant life experiences (Mezirow, 1978) and undergoing shifts in understanding of themselves, their assumptions and roles played within their lives. There were two key foundational theoretical influences upon the development of transformative learning theory. The first is Habermas' (1984) research on domains of learning and his fundamental distinction between the hypothetical-deductive instrumental learning (the control and/or manipulation of the individuals environment in order to attain some empirically measurable and valid outcome), and the analogical-abductive nature of communicative learning (the interpretation of communication (in its many forms) to come to an understanding of the perspective or 'frame of reference' of those communicating. The second is Freire's (1970) concepts of 'conscientisation' and emancipation within the educational process. This 'consciousness raising' is aligned with the notion of "human beings as active agents who change their world" (Freire, 1998, p. 499) through analysis of their cultural contexts and the inherent assumptions, beliefs and values that exist as a product of these (Freire, 1970). Over time, Mezirow further refined his theoretical construct of transformative learning as one in which learners – through the experience of a 'disorienting dilemma' - become cognisant of their own worldview, and the contradictions and limitations of this worldview, and thus seek to reflect upon and address incongruence identified between existing frames of reference and those brought into awareness as a result of the introduction of some form of knowledge and/or experience (Mezirow, 1991; 2012).

It follows then that transformative learning has certain fundamental elements: a willingness and desire for openness to alternate perspectives, experiences, and beliefs

(whether these are the individuals own or another's), and an advocacy for and appreciation of empathic listening (Mezirow, 2003). Each of these elements may not necessarily be present upon entry to a potentially transformative context. Mezirow proposed that individuals iterate through a range of possible stages to address the conflicts between old and new perspectives, assumptions and beliefs, these steps being: "1. A disorienting dilemma. 2. Self-examination with feelings of fear, anger, guilt, or shame. 3. A critical assessment of assumptions. 4. Recognition that one's discontent and the process of transformation are shared. 5. Exploration of options for new roles, relationships, and actions. 6. Planning a course of action. 7. Acquiring knowledge and skills for implementing one's plans. 8. Provisional trying of new roles. 9. Building competence and self-confidence in new roles and relationships. 10. A reintegration into one's life on the basis of conditions dictated by one's new perspective" (Mezirow, 2000, p. 22).

Despite the theory's ubiquity and an ever growing body of research built around its theoretical premise (Taylor, 2007; Taylor & Snyder, 2012), there is critique of the methods that have been used to identify transformative learning and Mezirow's theory itself. In terms of methodology, criticism has been directed at the overwhelmingly qualitative base of literature investigating transformative learning (Newman, 2012; Taylor, 2007). While a growing body of research has begun to use quantitative measures (see, for example, King's Learning Activities Survey, 1997, designed to provide a quantitative measure of the transformation stages experienced), most of these have evolved in the context of a specific phenomenon the researchers wished to study (e.g. Cragg et al., 2001; Goldie et al., 2005; Mallory, 2003). In attempts to address this lack of unification, Stuckey, Taylor and Cranton (2013) developed a measure aligned with research around Mezirow's theory, though more broadly encompassing both individual and social dimensions of change, and also perspectives beyond Mezirow's

relatively narrow concepts of rationality within the critical reflection construct (Cranton & Roy, 2003; Dirkx, 2006). Other measures have evolved in recent times (e.g. Walker, 2018), both encouraging in their continuation of the search to find ways of measuring the transformative learning ‘construct’ but also reflective of the difficulty in developing valid measures that can be used across transformative learning contexts.

There has also been concern directed at a perceived stagnation of theoretical understanding and refinement (Taylor & Cranton 2013). This lack of theoretical progress appears born of the earlier points around the overwhelming reliance on a single research paradigm (that is, qualitative), the replication of transformative learning across a variety of settings (Taylor & Cranton, 2013) and, related to this last point, a reliance on a deterministic perspective with regards to antecedents of transformative learning within a given setting. Taylor and Cranton (2013) propose a means of addressing these concerns, by focusing on 1) the nature of experience in the transformative learning process and its role in providing the context for the purported transformation, 2) the role of empathy in influencing or catalysing transformative experiences, 3) concepts of transformation as ‘universally/inherently good’, 4) desire or openness to experience shifts in frames of reference, and 5) a broadening of the methodology adopted beyond qualitative approaches (touched on previously).

A further criticism of transformative learning theory is the focus on rationality within processes of critical reflection (Cranton & Kasl, 2012; Cranton & Roy, 2003; Dirkx, 2006). While Mezirow’s early conceptualisation of critical reflection as the primary driver of transformative learning has been noted as cognitive-rational in nature, several authors suggest this focus on rationality ignores the multitude of ways suggested as holding capacity for the facilitation of transformative learning through imaginative and/ extra-rational means such as emotions (e.g. Cranton & Roy, 2003; Dirkx, 2006). In terms of the ‘doing’ of shifts in frames of references, concerns have also been raised

around the capacity of learners to engage in a theoretical context requiring a certain level of cognitive capacity and maturity (Merriam, 2004), and the fraught nature of perspectives and interpretations of transformation (Hoggan, 2016; Newman, 2012).

Finally, powerful questions have also been asked in terms of the nature and locus of transformation itself. Mezirow posited that individual transformative learning involves a transformation of ‘problematic frames of reference - sets of fixed assumptions and expectations (habits of mind, meaning perspectives, mindsets) - to make them more inclusive, discriminating, open, reflective, and emotionally able to change’ (Mezirow, 2003, p.58). However, shifts in meaning or perspectives reflect not only shifts in that outer layer of understanding and interpretation of an event, activity, assumption or expectation but also shifts in the individualised foundational entity that facilitates and guides the construction of individuals’ meaning schemes (Kegan, 2000). Thus, beginning with Kegan’s (2000) question of “what form transforms?”, discussion has been on-going as to what the target of transformative learning is, or more simply, what actually changes within the individual, beyond frames of reference, as a result of transformative learning experiences (Cranton & Kasl, 2012; Dix, 2016; Illeris, 2014; Mälkki, 2010; 2014; Newman, 2012).

While indeterminate at this point (Illeris, 2014; Desapio, 2018), several differing perspectives on what is transformed within the transformative learning process have been put forth, with outcomes of transformative learning processes described as shifts in worldview, self, epistemology and/or ontology, behaviours and capacity (Hoggan, 2016). The range of outcomes described reflect the diversity of understandings around the proposed or desired outcomes of transformative learning, but perhaps also the difficulty in coming to some consensus. Newman (2012), in his well-documented critique of Mezirow’s theory, proposed that the target of transformation is that of consciousness as opposed to identity, suggesting that the

term identity appears superficial in contrast to the phenomenon of consciousness, the distinction one of a mask we present the world identity), dependent on the role we are required to play at any given time, versus the experience or essence of existence (consciousness), an unquantifiable phenomenon and the means through which individuals understand and give meaning to both themselves and the context they exist within. Cranton and Kasl (2012) address elements of this argument, suggesting that interpretations of the theory itself may play a role in the misinterpretation of the locus of shifts (i.e. identity, consciousness, or another construct), but ultimately noting the legitimacy of Newman's critique of this component of the theory.

In relation to Kegan's (2000) question around the target of transformative learning, Illeris (2014) proposed that it is the identity of individuals, composed of and determined by many parts (including those personal and social facets within the individual's psychosocial context), that is subject to the profound shifts involved in transformative learning. However, Illeris extends earlier definitions of identity (e.g. Erikson, 1950; 1968) to encompass more recent sociological concepts such as liquid modernity (Bauman, 2000; Ziehe, 2009): a description of the complexity and difficulty of stable identity development as a result of modern life and its impacts upon individuals within societies. Illeris argues that the highly reflexive process of identity development in response to ever-changing social contexts means individuals develop layers of identity, from the core layer (stable, deeply held, and biographical in nature), to the personality layer (related to significant societal interaction, issues and events) and the preferences layer (most peripheral and non-crucial in importance). It is within the centrally located personality layer that, in the context of liquid modernity, Illeris (2014) proposes the majority of transformative demands are responded to and accommodated (or not accommodated). However, in terms of transformative learning, Illeris (2014) also proposes that "our inclination to make changes in elements of the

identity mainly depends on how close to the core identity the changes are subjectively experienced to be.” (p. 157). Certainly, within these concepts, it is perhaps possible to see how the diverse range of ideas – that is, ‘self’, ‘worldviews’, ways of being’ – might be related to or subsumed under these seemingly higher-order conceptualisations of the target or locus of transformative learning.

Discussion around the target of transformation appears relevant to the Indigenous Studies context. In this context the psychosocial development of non-Indigenous Australians is typically built within the bounds of a national identity forged upon foundations of colonialism, violence and dispossession and, contradictory to these ‘ugly’ components, of mateship and a ‘fair go for all’ reflecting an egalitarianism sensibility, and a growing recognition and acceptance of reconciliatory action, globalism and multiculturalism (Asaratnam, 2014; Maddison, 2012). The combination of these conflicting constituent parts of a national, and presumably personal, identity mean the Indigenous Studies classroom is positioned as a place where threats to, and demands for transformation of, this identity arise as a result of the jarring historical context it unveils to participants and the context these exist within contemporarily.

Finally, and also of particular relevance to the Indigenous Studies learning context, extant literature highlights the intention and outcomes of transformative learning in a range of disciplinary contexts (e.g. Prout et al., 2014, Jackson et al., 2013; Mackinlay & Barney, 2014), but also the very real risks associated with the notion of ‘transformation’ of students and their minds within this context (Nakata, Nakata, Keech, & Bolt, 2012). Nakata et al., caution that efforts to intentionally ‘decolonise’ the minds of students within the Indigenous Studies, underpinned by a desire and/or perceived necessity to bring student’s to account “for their own embodied, ‘white’, privileged identities as the beneficiaries of colonial productions” (Nakata et al., p. 134) are highly problematic and likely lead to resistance and/or disengagement. The

relevance of such caution is necessary, however literature has noted the potential of Indigenous Studies contexts to ‘shake things up’, to foster an environment conducive to epistemic disruption (Asmar & Page, 2009; McDermott & Sjoberg, 2012; Mignolo, 2009).

Applying Mezirow’s Theory to the Indigenous Studies Classroom

Transformative learning theory (2003) offers a useful means of developing curricular experiences in the Indigenous Studies social justice and equity space, and of evaluating these offerings in terms of the impacts upon students undertaking courses in this domain. The transformative potential of tertiary Indigenous Studies has been noted – for example, attitudinal and behavioural shifts in relation to Indigenous Australians (e.g. Kickett et al. , 2014; Mackinlay & Barney, 2014a) - yet the body of research in this context remains limited (Page, 2014). A small body of peer-reviewed studies has explored student experiences within Australian Indigenous Studies contexts with an explicit alignment with Mezirow’s theory. Curricular and pedagogical methods adopted in this context differ considerably, from problem-based learning (Jackson et al., 2013; Mackinlay & Barney, 2011; 2012; 2014a), service learning (Young & Karne, 2015), practice based field-work (Hodge et al., 2011), and intensive experiential interprofessional education on country (Prout et al., 2014). Timeframes have varied, from a single day (Jackson et al., 2013), approximately a week’s duration (Prout et al., 2014), to an entire semester (Mackinlay & Barney, 2011; 2012; 2014a). In this space, the privileging of Indigenous voice – from both from educators and community members alike - has been a key feature across each of these studies, vital in its support for cultural safety, and notable for its transformative capacity (Jackson et al., 2013).

Differences exist between these studies in terms of student level also, ranging from first year to postgraduate. Despite these differences, and discussion around

cognitive capability to engage in processes requisite to transformative learning (Merriam, 2004) each describes transformative outcomes and experiences for participants, with a particular emphasis on concepts of self and the development of cultural capabilities. However, while there may be overlap in terms of intentions and outcomes for students, the majority of these are in non-health disciplines (e.g. education, the arts, engineering) and thus have different disciplinary contexts that students will learn from and interact within.

Within Australian Indigenous Studies health-related disciplines, there is a considerably smaller body of work exploring transformative learning experiences of students in the context of shifting perspectives and developing cultural capability and preparedness to work in the Indigenous health context. Jackson et al.'s (2013) study explored postgraduate health students' experiences in a single day intensive workshop facilitated by a team of Indigenous educators with an emphasis on group learning processes, discussion and critical reflection, and importantly the cultural safety of the educators throughout the experience. Despite limited theoretical alignment to transformative learning theory within the analysis, qualitative findings suggest many students' experiences were transformative, with a range of student perspectives espousing the value of exposure to such material, and noting intentions to examine or alter current ways of working in Indigenous health contexts. Prout et al. (2014) investigated undergraduate health students' experiences within an immersive on-country week long practice based field-trip, the field trips learning method itself developed in alignment with key elements of Mezirow's framework (e.g. the intentional 'placement' of opportunities for the experience of disorienting dilemmas, and the practice of critical reflection upon assumptions).

Similarly, qualitative analysis was aligned with components of transformative learning theory, with explication of student expressions around shock and surprise

(disorienting dilemma), responses of shame and guilt, and the articulation of critical reflection upon experiences in the on-country setting. Again, students' reported the value and meaning of the experience to them, in terms of the power of immersion as a means of generating affective 'human' learning experiences in ways not usually afforded them. Also reported were powerful memories of tangible experiences and interactions with Indigenous people and culture – memories that in some cases were noted as replacing older, more negative memories of experiences and interactions with Indigenous Australians. In relation to this, students also reported uncovering attitudes that they may not have been aware of with regard to Indigenous Australians, and recognition of these attitudes as real barriers to working in a culturally competent manner. These outcomes from this second study directly inform ways in which Indigenous studies education can align strongly with Mezirow's framework from early stages of development through to understanding the experiences of those within, in terms of learning processes, catalysts for cognitive and affective learning, shifts in student frames of reference, and the importance of the context within which the learning is proposed to occur.

A notable problem in the available literature in the Australian Indigenous Studies space appears to be that terms such as 'transformation', 'transformative learning' or 'transformative experience' are frequently adopted to describe any kind of 'shift' or change (Newman, 2012). While not exclusive to the Indigenous Studies context (e.g. Kiely, 2005), a good deal of the literature speaks of transformative learning without either utilising Mezirow's theoretical framework, or defining what transformative learning might be for that context (Mills et al., 2018; Pitama et al., 2018). At present, there appears a conflation of personal shifts (commonly attitudinal and behavioural), cultural capability development and transformation with relatively limited theoretical evidence to

suggest this is the case (e.g. Bennett, Jones, Brown, & Barlow, 2012; Hart, 2016).

Extending this lack of theoretically aligned evidence, a significant proportion of literature in this space neglects to explicitly address or elaborate on the mechanisms of student transformation, beyond merely an outcome of exposure and immersion within Indigenous Studies learning experiences. Mezirow's transformative learning theory is aligned with the emancipatory and social justice underpinnings of Indigenous Studies educational contexts (Mackinlay & Barney, 2014b), and certainly appears to hold utility in terms of investigating and describing reported outcomes. However, the predominant focus on the outcomes of student learning within a binary construct of transformation or non-transformation (Taylor, 2007), as opposed to more deeply explored questions of how and why these may have occurred, leaves us with "a theoretical "black box" regarding the contextual and process mechanisms in [Indigenous Studies] that enhance certain cognitive, affective, and behavioural outcomes — particularly those that are transformative (Kiely, 2005, p. 5)". While there are a few exceptions to this within Indigenous Studies (Mackinlay & Barney, 2011; 2012; 2014a) and specifically the health disciplines (e.g. Jackson et al., 2013; Prout et al., 2014), the inner workings of transformative learning remain unclear, particularly from the perspective of students, and the way they themselves experience the learning environment and experience potential changes to extant frames of reference (Doucet, Grayman-Simpson, & Shapses Wertheim, 2013; Page, 2014; Thorpe & Burgess, 2016).

There are suggestions of pedagogical factors involved in transformative learning experiences in Indigenous Studies contexts from a broad disciplinary context. Educators' means of relational development, models of pedagogical and curricular engagement, and learning environments formed within the classroom have each been posited as pedagogical factors associated with the navigation of the Indigenous Studies

and intercultural space (e.g. Aberdeen, Carter, Grogan, & Hollinsworth, 2013; Jackson et al., 2013; Kickett et al., 2014; Mackinlay & Barney, 2014a; Ranzijn et al., 2008).

However, these studies typically do not investigate these constructs in terms of their predictive capacity or interrelationships with one another and transformative learning experiences. Also of interest, student feedback across many of these studies suggests an experience and depth of both teaching and learning qualitatively different to non-transformative pedagogical approaches.

Pedagogical, Contextual and Individual Factors Influencing

Transformative Learning

As noted earlier, certain pedagogical factors are suggested as influential with regard to the facilitation of transformative learning experiences in Indigenous Studies contexts. These include the nature of the relationship or rapport between student and educator, the sense of connectedness to the classroom community, students' approaches toward their learning, and the development of, and capacity for, critical reflection. Each of these key concepts is discussed below.

Teacher-Student Rapport

Relational approaches are important to teaching in any context (Worley, Titsworth, Worley, & Cornett-DeVito, 2007), particularly those within a transformative paradigm (Cranton, 2006; Slavich & Zimbardo, 2012), such as the Indigenous Studies context where the complex interplay of affect (whether negative or positive) and openness to the learning context are magnified (Asmar & Page, 2009; McDermott & Sjoberg, 2012; Brown, 2010). The development and nurturance of rapport – an affect-based construct characterised by mutuality, prosocial behaviours and cognitions, and a foundation of trust (Catt, Miller, & Schallenkamp, 2007) – influences a host of educational outcomes, including student perceptions of the learning environment, their engagement within the learning environment, and approaches to their own learning

inclusive of both cognitive and affective modes (Benson, Cohen, & Buskist, 2005; Frisby & Martin, 2010; Frisby & Myers, 2008; Grantiz, Koernig, & Harich, 2009; Ryan, Wilson, & Pugh, 2011; Wilson, 2006; Wilson & Ryan, 2013; Wilson, Ryan, & Pugh, 2010). This relational 'mode of being' in educational environments, in terms of its influence on classroom engagement, also plays a role in potentially shifting attitudes toward culturally diverse groups (Pettijohn & Naples, 2009; Pettijohn & Waltzer, 2008) and reductions in prejudice toward out-groups (Pettigrew, Christ, Wagner, & Stellmacher, 2007; Tropp & Pettigrew, 2005). Supporting this, a range of literature suggests relational approaches play a vital role in the quality of student outcomes within the Indigenous Studies context (Hendrick, Britton, Hoffman, & Kickett, 2014; Jackson et al., 2013; Kickett et al., 2014). This last point is particularly salient when considering the growing number of Indigenous academics in tertiary settings, the privileging of Indigenous voices within Indigenous Studies classrooms, and the limited interaction between many non-Indigenous Australians and Indigenous Australian people and cultures (Phillips et al., 2011; Ranzijn et al., 2008).

Classroom Environment

Limited research has explored how students perceive the sense of community and connectedness within their classroom environments in the intercultural and Indigenous Studies context (e.g. Aveling, 2002; Aveling, 2006; Phillips & Whatman, 2007; Williams, 2000). This is despite acknowledgment of the importance of the creation of these environments in fostering student capacity for critical thinking and reflection (Brookfield, 1986). Students' sense of connectedness to, and within, the classroom community has been correlated with positive outcomes within diversity education classes (Kernahan, Zheng, & Davis, 2014). However, literature around this construct in the Indigenous Studies educational space has been primarily qualitative and not necessarily the focus of the study (e.g. Aberdeen et al., 2013; Hollinsworth, 2014;

Kickett et al., 2014; Ranzijn et al., 2008). Interestingly, development of this community and sense of connectedness is proposed to be a mutual construction, as opposed to a unilateral undertaking (Johnson, 2009; Sidelinger & Booth-Butterfield, 2010), the quality of communication and interaction, and consequent learning outcome, mediated by both students and educators (Frisby & Martin, 2010), with links between student connectedness within the learning environment and educator-student rapport (Sidelinger & Booth-Butterfield, 2010).

Engagement and participation is acknowledged as complex within Indigenous Studies classrooms (Asmar & Page, 2009; McDermott & Sjoberg, 2012). Better understanding models of engagement conducive to the development of strong classroom learning communities (Battistich, Solomon, Watson, & Schaps, 1997; Coupland, 2003; Frisby & Myers, 2008) may play a role in ameliorating a commonly noted tension and resistance to the Indigenous Studies context itself.

Learning Approach

Also related to broad educational and academic outcomes are student learning factors – specifically, learning approach (Biggs, 1993; Entwistle & Waterston, 1988; Marton & Säljö, 1976) and critical reflection (Boud, Keogh, & Walker, 1985; Dewey, 1933; Schön, 1983). Marton and Säljö (1976) found that students differed on their intentions and motivations to learn, and thus their consequent processes adopted while undertaking this learning. Several means of quantifying the approach students take to learning have been developed – for example, Entwistle and Ramsden's (1983) Approaches to Study Inventory, and Biggs' (1987) Study Process Questionnaire. Despite certain conceptual differences, each is built upon Marton and Säljö's (1976) foundations, with student's generally oriented toward either an intrinsic motivation for finding and making deeper meaning within the learning context, or a more extrinsically motivated leaning toward surface reproduction of material to avoid

failure with the minimum effort expended (Biggs, 1987; Leung & Kember, 2003).

Links between academic outcomes and the approach to learning have been documented in a range of academic contexts (Boyle, Duffy, & Dunleavy, 2003; Fox, McManus, & Winder, 2001; Gordon & Debus, 2002; Wilson, Smart, & Watson, 1996; Zeegers, 2001). Certain factors are suggested to play a role in the adoption of each approach. Individual personality traits, such as openness to experience and conscientiousness (Sadowski & Cogburn, 1997), and a related high need for cognition (Cacioppo & Petty, 1982) have been associated with deep approaches to learning (Evans, Kirby, & Fabrigar, 2003), the opposite is also true, with lower need for cognition linked to more surface approaches (Cacioppo, Petty, Feinstein, & Jarvis, 1996). Beyond personal trait-based factors, the environment within which learning takes place is also suggested to influence the adoption of a particular approach to learning, with considerable literature noting the effects of student-centred curricular and pedagogical methodologies upon approach selection (Baeten, Kyndt, Struyven, & Dochy, 2010). Indeed, there is evidence that the nature of the learning environment plays a more profound role in the choice of learning approach and behaviours than do the internalised traits of individual students (Eva, 2003).

Perhaps supporting this proposition, within educational contexts, it is suggested that individuals holding a relatively low need for cognition may also adopt a deep approach to learning in the appropriate learning space (Wilson & Fowler, 2005). A range of factors are implicated in this, from the nature, and perceptions of the curricular subject matter, levels of engagement with this subject matter, and the requirements of the tasks at hand and thus depth of investment necessary (Baeten et al., 2010; Biggs, 1987; Coles, 1985; Hilliard, 1995; Newble & Clarke, 1986; Sobral, 1995). However, the suggestion that simply personalising the learning context via a student-centred approach will ensure a more meaningful learning experience is fraught, with

considerable evidence suggesting that encouraging a deep learning approach remains highly complex and multifaceted (Baeten et al., 2010; Papinczak, Young, Groves, & Haynes, 2008). Of specific relevance to the Indigenous Studies educational context, perceptions held by students of the learning environment quality (i.e. ‘good’ or ‘bad/poor’, whether before or after course commencement) play a significant role in the approach taken to the learning (Biggs, 1989; Lizzio, Wilson, and Simons, 2002), with a presumed flow on effect upon the quality of learning outcomes (Page, 2014). The subjective nature of what a ‘good’ learning environment consists of may be apparent and, in the Australian Indigenous Studies context, is likely coloured by the sociocultural context of Australia’s colonial foundations as a nation (Asmar & Page, 2009; McDermott & Sjoberg, 2012).

Critical Reflection

Central to the exposition and understanding of personally held attitudes, beliefs, assumptions and worldviews, critical reflection is linked to the development of cultural competence (Abrams & Moio, 2009). A range of frameworks exist to define and evaluate critical reflection (e.g. Fook, White, & Gardner, 2006; Kember et al., 2000; Kember, McKay, Sinclair, & Wong, 2008; King & Kitchener, 1994; Ryan & Ryan, 2010), though most of these are built on earlier theoretical foundations (e.g. Boud, Keogh, & Walker, 1985; Dewey, 1933; Schön, 1983). Stein (2000) aggregates a range of commonly held ideas about critical reflection, succinctly defining it as “the process by which adults identify the assumptions governing their actions, locate the historical and cultural origins of the assumptions, question the meaning of the assumptions, and develop alternative ways of acting.” (p. 3). It is perhaps here that the conceptual relationship to learning approach is made clear, Leung and Kember (2003) noting an association between the capacity for, and likelihood of, critical reflection and the learning approach adopted. In short, the deeper the learning approach adopted, the

more likely critical reflection is to occur, the two presumably correlated via the deeper search for meaning and understanding underpinning each construct. While each appears fundamental to transformative learning (Mezirow, 1997; 1998), Brookfield (2000) positions the capacity for critical reflection as pivotal within the process. Within the transformative learning context, Mezirow articulates critical reflection as an interrogative exploration, and potential revision, of assumptions, beliefs and ideas about one's existence previously held to be true (Mezirow, 2000).

The nature of the teaching and learning environment – inclusive of health professional educational settings - can facilitate reflective thinking (Mann, Gordon, & MacLeod, 2009). Across numerous studies, reflective practice within the learning environment has been found to facilitate a range of outcomes related to the development of cultural capabilities, inclusive of positive changes to associated constituent constructs such as empathy and attitudes held (e.g. Chick, Karis and Kernahan, 2009; Hendrick et al., 2014; Prout et al., 2014; Mann, et al., 2009; Mills et al., 2018). These findings are doubly important when considered in the light of educational contexts – here, Indigenous Studies education - often demarcated with a status of lesser relevance (Betancourt, 2003; McDermott & Sjoberg, 2012). Within many of these studies are suggestions of the influence of certain elements upon the development of critically reflective capacity and quality; inclusive of the classroom community and context, group dynamics, and associated levels of support and relationship between educators and students. These findings further emphasise the importance of relational and student-based factors (rapport, classroom community, and learning approach) as fundamental to outcomes, particularly when the context introduces material that may be threatening.

Aims and Rationale of the Thesis

The primary aim of this thesis was to explore, through a transformative learning theory lens, the individual, pedagogical and contextual factors within an

Australian Indigenous Studies learning environment associated with the development of students' cultural capabilities and preparedness to work in Indigenous health care settings. While Mezirow's (2003) framework has been used to understand/examine/interpret a range of learning and educational experiences in previous research (Taylor, 2007; Taylor & Snyder, 2012), there is a lack of empirical evidence to support its use as a means of guiding curriculum development and the evaluation of this curriculum, in terms of the impacts, processes and milestones associated with exposure to Indigenous Studies educational contexts. This lack is particularly notable when considered in the light of the critique of transformative learning theory providing earlier, including the over-reliance on qualitative research paradigms and methodologies (Taylor & Cranton, 2013), a paucity of studies examining student perspectives of their learning experiences (Doucet et al., Page, 2014; Thorpe & Burgess, 2016), and debate around the idea of what transformation might actually be (Cranton & Kasl, 2012; Dix, 2016; Illeris, 2014; Mälkki 2010; 2014; Newman, 2012) and mean to the individual as a result of exposure to, and participation in, the given context (Nakata et al., 2012).

Existing studies within the Australian Indigenous Studies context have either discussed findings in the context of being 'transformative' for students with limited or no explicit adoption of Mezirow's framework and theory (e.g. Mills et al., 2018; Pitama, 2018), or more commonly utilised the framework from the perspective of commonly touted discrete elements within (Prout et al., 2014), and with loose associations between perceived manifestations and behaviours of students and stages in the framework (e.g. Jackson et al., 2013). No studies, whether individually or as part of a larger body of work, have quantitatively examined transformative learning in an Australian Indigenous Studies health context inclusive of the attitudes held toward Indigenous people and cultures, and levels of preparedness to work within Indigenous

health context, both upon entry to the learning experience and at its completion. No studies have explored from both student and educator perspectives the ‘inner workings’ of transformative learning experiences as a result of exposure to Indigenous Studies health curriculum designed to develop cultural capabilities to work with diverse Indigenous populations within this country. Also absent is what the articulation of these perspectives might mean in a theoretical and practical sense to the individual personally and professionally, but also the Indigenous people and communities they will one day serve.

As it stands, there may be an oversimplification of transformative learning and its functional predictors, and an overestimation of the importance and/or profundity of posited transformative learning experiences for students (Kiely, 2005; Newman, 2012; Taylor & Cranton, 2013). There appears to be a conflation of ‘movement’ – commonly noted as (for example) outward expressions of emotion and/or statements of remorse, regret and future intent - with shifts in perspective (Newman, 2012) and thus a move toward greater capability and preparedness to work within challenging Indigenous health settings.

The limited body of research in this specific space appears encumbered by disparity in terms of the source of the data and its collection, but also in terms of methodology, rendering the bigger picture of transformative learning in this space a patchwork of contexts and perspectives, and thus interpretations, points raised elsewhere (Doucet et al., 2013; Page, 2014). Methodological diversity around the construct of transformative learning in the Indigenous Studies space across a single cohort enables richer understanding of transformative experiences. These points suggest further research is both necessary and valuable to further understand the student experience of cultural capability development within an intentionally guided transformative learning context. As such, the studies within this thesis aim to examine

elements and experiences implicated in the development of cultural capability and preparedness to work in Indigenous health settings through Mezirow's transformative learning theoretical lens, across a cohort of tertiary first-year health science students.

Thus, the rationale for exploring these phenomena through mixed methods research with a single Indigenous Studies cohort context is three-fold. First, such an approach can add to, and build upon, extant literature exploring the utility of transformative learning theory in the Indigenous Studies space. Second, investigating the development of cultural capabilities through the lens of transformative learning theory may assist the development of curriculum with a greater attention to the nuanced processes that are most likely to influence cognitive and affective learning in the complex Indigenous Studies space. Third, identifying the way students and tutors experience these learning contexts may also highlight ways in which educators can be further developed to engage in these spaces with greater efficiency, agency and effectiveness. Each serves a purpose in terms of the bigger picture of developing culturally capable future health practitioners ready and willing to work in the complex arena of Indigenous health, and ultimately contributing to improving Indigenous health outcomes.

The Educational Context for this Research

The context of the educational intervention around which this thesis is based is a core first year interprofessional health sciences unit – Indigenous Cultures and Health – at a large metropolitan university in Australia. The unit, founded on a national and institutional acknowledgement of the marginalisation and exclusion of diverse Indigenous populations and the experiences of Indigenous people historically (Grote, 2008), seeks to address disparities between Indigenous and non-Indigenous health (and broader) outcomes, via a commitment to reconciliation and human rights (Curtin University, 2007; Flavell, Thackrah, & Hoffman, 2013; Marmot, Friel, Bell,

Houweling, & Taylor, 2008). All students across the Faculty of Health Sciences in this university are required to undertake this unit, spanning the seven schools within the faculty.

The unit focuses on the “culture and diversity within local, national and global Indigenous populations, the impacts of specific policies and historical events on Aboriginal and Torres Strait Islander Australians, and their effects on health and health care access” (Curtin University, 2014), in the context of building student capacity to engage effectively in intercultural and Indigenous health settings. At the time of this research, each tutorial was taught by a single tutor. Both non-Indigenous and Indigenous educators were employed as tutors, both a nod to reconciliatory practices and the relatively limited number of Indigenous academics available at any one time to facilitate the large number of classes (Asmar & Page, 2009). For many students, this learning environment provides their first engagement with Indigenous people or content (Ranzijn et al., 2008, Phillips, 2011). As such, the context can be confronting, with resistance not uncommon (Asmar & Page, 2009).

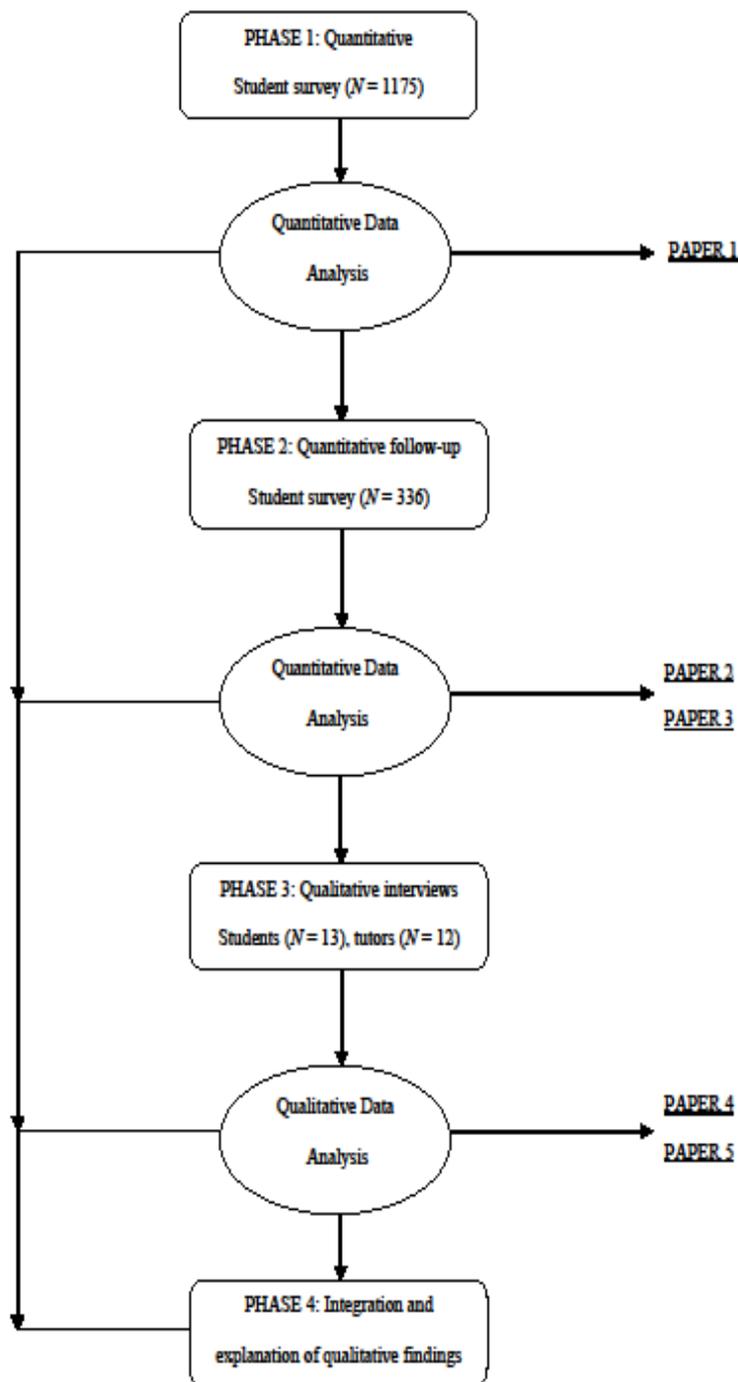
Foundationally, the unit is built on models of cultural competence development (Flavell et al., 2013; Kickett et al., 2014) and Mezirow’s transformative learning framework (Mezirow, 2000), with intentionally structured curricular milestones throughout aligned with Mezirow’s theoretical framework (such as the disorienting dilemma, and critical reflection) implemented to provide opportunities to develop early foundations of cultural competence. Specifically, the unit places an emphasis on providing students with early opportunities to develop an awareness and sensitivity to cultural diversity, and *begin* a process of transforming “negative assumptions, stereotypes and frames of reference through self-reflection and discussion in a safe learning environment” (Taylor et al., 2014, pp. 47), rather than making assumptions that students will complete this lone intercultural educational experience unit as culturally

capable health practitioners (Barry & Lechner, 1995; Brown, 2004; Sonn, 2008; Ukpokodu, 2004). These expectations and intentions also define the parameters of what might be considered transformation in the current thesis' context – that is, the beginning of a process, inclusive of experiences of disorientation and dilemmas and critical reflection upon assumptions, beliefs and worldviews, all integral to early stages of Mezirow's framework (2003).

Research Design

The research within this thesis utilised both quantitative and qualitative data (collected in distinct sequential phases), from within a single unit in a single semester, from a single cohort of students. Given these differing data types, the mixed method research methodology was considered an appropriate fit (Creswell, Clark, Gutmann, & Hanson, 2003). The means of implementing the mixed method design is dependent on the nature of both the data collected across the study and the intentions in terms of integrating this data (Creswell et al., 2003). For this research project, Creswell et al.'s (2003) sequential explanatory model has been selected, due to its alignment with the staged and differentiated data collection phases, and the intention to collect and analyse the quantitative data on change across time, followed by a more nuanced and refined qualitative perspective and elaboration of these quantitative results (Ivankova, 2006). Figure 1 visually depicts the phases of the mixed methods sequential explanatory model used in this research.

Figure 1
Visual Model for Mixed Methods
Sequential Explanatory Design Procedures



The first two phases of the research are quantitative. Phase 1 involved the collection and analysis of survey data from 1175 students at the start of the Indigenous Cultures and Health unit. The findings from this phase are presented in paper 1. Phase 2 involved the collection and analysis of follow-up survey data from the same body of students, with 336 students completing matched surveys for Phase 1 and Phase 2. The longitudinal findings from Phase 2 are presented in papers 2 and 3. The third phase of the research is qualitative. This phase involved collecting qualitative data from students ($N = 13$) and tutors ($N = 12$) via individual semi-structured interviews. Findings from this qualitative data collection phase are presented in papers 4 and 5. The fourth and final phase of the project is the integration of quantitative and qualitative findings, where the qualitative findings are used to explain the quantitative findings (presented in the discussion section of this thesis).

Outline of Papers Included in This Thesis

The first paper in this thesis (Bullen, Roberts, & Hoffman, 2017) explored first year undergraduate health students' ($N = 1175$) attitudes towards Indigenous Australians, their interactions with people of diverse cultural backgrounds and perceptions of their own preparedness to work with, and engage in, Indigenous health settings. Students completed a survey at the beginning of their first class in Week 1 of their first year at university. A series of hierarchical multiple regression analyses found that diversity experiences and attitudes toward Indigenous Australians (as measured at Week 1 of semester) were predictive of a range of measures of preparedness to work in Indigenous health settings. Findings within this paper support the idea that attitudes held toward Indigenous Australians by future health practitioners influence self-reported preparedness to function effectively and appropriately in Indigenous health contexts and set the foundation for the remaining four papers within this thesis.

The second paper in this thesis (Bullen & Roberts, 2018b) investigated relationships between health science students' ($N = 336$) attitudes to Indigenous Australians, their experiences with diversity, transformative learning experiences and preparedness to work within Indigenous health contexts. Participants completed surveys at Week 1 of their first semester of university, and Week 10. A series of t -tests and hierarchical multiple regression analyses found small but significant changes in student attitudes, and preparedness to work in Indigenous health settings over time, and that the numbers of precursor steps to transformative learning experienced was predictive of this change in attitudes and preparedness. These results suggest Indigenous Studies courses are effective in reducing negative student attitudes toward Indigenous Australians, and increasing student preparedness to work in Indigenous health contexts, and these shifts are associated with a transformative learning process. Results also highlight the need to better understand the internal mechanisms of transformative learning in the Indigenous Studies context.

The third paper in this thesis (Bullen & Roberts, 2018a) investigated predictive relationships between constructs of learning approach, critical reflection, perceptions of the classroom community, rapport between student and teacher, and precursor steps to transformative learning, across the same sample of first year health sciences students ($N = 336$). A series of hierarchical multiple regression analyses found that only a deep learning approach upon student entry to the course and student critical reflection throughout the course uniquely predicted transformative learning experiences for students, with critical reflection mediating the relationship between deep learning approach and transformative learning experiences. The results highlight the importance of facilitating a deep learning approach throughout the learning experience as a means of engendering robust critical reflection upon existing perspectives, beliefs, values and assumptions.

The fourth paper (Bullen & Roberts, in press: a) explored Indigenous and non-Indigenous educators ($N = 12$) perceptions and interpretations of students' transformative learning experiences within the Indigenous Studies learning context. This study differed from the three earlier papers, adopting a qualitative methodological approach, with semi-structured interviews held with educators, and a thematic analysis conducted to explicate overarching themes. Results of this study reinforce earlier quantitative findings highlighting critical reflection as a key driver of transformative learning experiences. Results also suggest other meaningful milestones and elements throughout the learning process, inclusive of disorienting dilemmas, exploring and trying on new roles, and the importance of educators themselves in students' transformative experiences within the Indigenous Studies educational space. Specifically, the findings suggest the importance of the educator themselves within the critical reflection process and the transformative learning process more broadly. As it stands, the findings of this study highlight that transformative learning experiences aligned with Mezirow's theory do occur for students, these experiences and milestones are often visible to educators, and that these educators play a significant role in the quality of these experiences in terms of both student learning outcomes, and outcomes beyond the Indigenous Australian Studies classroom.

Paper Five (Bullen & Roberts, in press: b), again explored students' transformative learning experiences within the Indigenous Studies learning context, this time from the student perspective. Adopting a qualitative methodological approach, semi-structured interviews were held with students ($N = 13$), and a thematic analysis conducted to explicate overarching themes. The results of this study reiterate certain findings of paper four – the experience of disorienting dilemmas, critical reflection, and exploring and trying on new roles. Students also articulated guilt and shame experienced as a result of exposure to elements of the course, noting the educators' approach and positioning as

important in the navigation of these complex intrapersonal encounters and emotions. This exploration of the complex iterative nature of students' transformative learning experiences offers compelling evidence for the necessity of educators to be equipped appropriately to facilitate navigation of the complex Indigenous Studies space by students, and nuanced insight into what occurs for students within this learning environment.

The later discussion section, presented after the five papers, synthesises the findings across the five papers of this mixed methods research project, and places them in the context of literature in this space. In line with the sequential explanatory model, the findings within the two qualitative papers are used to complement and further explain findings from the three earlier quantitative papers. Finally, limitations within and across each of the five papers are discussed, with possible avenues for future research based on the evidence outlined.

In summary, the papers included in this thesis provided significant and necessary empirical support for the utility of transformative learning theory within Indigenous Studies learning contexts, in terms of explanatory power but also as a guide to the development of curriculum conducive to effective facilitation of cultural capability development. Through a richer grasp of the complexity of the intersection between transformative learning, Australian Indigenous Studies curriculum and cultural capability development, the current studies identify key factors involved in both the learning and teaching of this complex Australian Indigenous Studies educational material. Of equal importance, the studies also suggest powerful curricular structures upon which to base and guide the development of transformative learning experiences designed to facilitate cultural capabilities in future health practitioners. Focusing on these specific areas within the Indigenous Studies learning and teaching environment can contribute to educators' identification, interpretation and utilisation of potential pedagogical entry points with the capacity to effect powerful shifts in perspective.

Further, professional development can equip educators with the means to support students' navigation through the often personally precarious terrain of Indigenous Studies courses and onward to the development of a strong foundation for cultural capabilities.

Publication One

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What predicts health students' self-reported preparedness to work in Indigenous health settings?

Jonathan Bullen¹ · Lynne Roberts¹ · Julie Hoffman¹

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Abstract Australian undergraduate programs are implementing curriculum aimed at better preparing graduates to work in culturally diverse settings, but there remains uncertainty over the role of extant student attitudes towards Indigenous Australians. To begin to address this, we obtained baseline data on student attitudes upon entry to tertiary education. 1175 health science first-year students (275 males, 897 females) completed an anonymous in-class paper questionnaire. On average, students reported positive attitudes towards Indigenous Australians, with female students reporting more positive attitudes than male and domestic students more positive than international. Hierarchical multiple regression analyses indicated that after controlling for demographic variables, interactional diversity experiences and attitudes accounted for significant variance in a range of measures of preparedness to work in Indigenous health contexts. The knowledge gained will inform the development of, and alignment between, curriculum and pedagogical approaches, leading to an improved facilitation model for educators in the Indigenous Studies context.

Keywords Indigenous Studies · Attitudes · Diversity · Undergraduate students · Education

✉ Jonathan Bullen
jonathan.bullen@curtin.edu.au

Lynne Roberts
lynne.roberts@curtin.edu.au

Julie Hoffman
julie.hoffman@curtin.edu.au

¹ Curtin University, Bentley, WA, Australia

Introduction

Reconciliation, along with the history of racism and marginalisation, is recognised as social determinants of health for Indigenous people in Australia (Vickery et al. 2007). The gap in health outcomes between Indigenous and non-Indigenous people is well documented, at both national and international levels (AIHW 2011; Hill et al. 2007; Vos et al. 2009). Compared to non-Indigenous Australians, Indigenous Australians continue to experience significantly worse rates of life expectancy and infant mortality, and experience greater prevalence of chronic disease and poorer mental health (Vos et al. 2009). Causes of disparity are also well documented, with acknowledged social determinants including socioeconomic characteristics, social and emotional well-being, housing and transport, community capacity, and behavioural factors. These factors also either directly or indirectly affect the quality and/or accessibility of the health system for Aboriginal and Torres Strait Islander people (Zubrick et al. 2010).

The quality of care afforded to Indigenous Australians within the health system is also impacted by the attitudes and beliefs of health practitioners working with it, the personal ‘baggage’ of non-Indigenous health practitioners in their interactions with Aboriginal and Torres Strait Islander clients. Cunningham et al. (2005) explored the ‘treatment gap’ and how medical practitioners might be contributing to this gap, concluding that if “clinicians and researchers are to fulfil our obligation, we must first understand how we might inadvertently be contributing to the problem...”. These ‘contributions’ to the treatment gap from practitioners are not necessarily based in overt or intentionally racist or discriminatory behaviour, but rather in the form of (as an example) stereotypic diagnoses based on implicit beliefs and attitudes of which the practitioner may not be cognisant. This is in alignment with more recent findings (e.g. Durey and Thompson 2012) suggesting that a significant proportion of non-Indigenous Australians (including health practitioners) continue to hold certain attitudes towards, and beliefs about, Aboriginal and Torres Strait Islander people. Reflecting Cunningham et al.’s (2005) findings, many did not identify these attitudes, beliefs and behaviours as discriminatory, or were unaware of, or unwilling to examine their existence. These findings indicate that it is not just the quality and or/acceptability of health services, but the quality of care afforded to Indigenous Australians once they are in it, which are of importance.

Cultural capability

In order for students to develop into health practitioners able to work effectively within Indigenous health settings, they need to develop cultural capability. Indeed, literature highlights the point that quality health care for Indigenous Australians requires the development of culturally capable health practitioners (Downing et al. 2011; Durey 2010). Cultural capability refers to ‘a set of congruent behaviours, attitudes, and policies that come together in a system, agency, or among professionals and enable that system, agency, or those professionals to work effectively in cross-cultural situations’ (Cross et al. 1989). This cultural capability

needs to be developed during the education and training of intending health practitioners. Universities Australia (2011) contextualises this definition to the Australian tertiary education landscape, describing cultural competence as “Student and staff knowledge and understanding of Indigenous Australian cultures, histories and contemporary realities and awareness of Indigenous protocols, combined with the proficiency to engage and work effectively in Indigenous contexts congruent to the expectations of Indigenous Australian peoples”. This refined definition—with its basis in knowledge, values and skills, each underpinned by a critically reflexive practice—builds on related or foundational concepts of cultural awareness, safety and security (Coffin 2007; Grote 2008).

The term ‘competence’ is, however, a contested one—cultures are diverse, and evolving (Paul et al. 2012) and require approaches that reflect this. Accordingly, in recent times focus has shifted towards the concept of cultural capability, this subtle change in nomenclature reflecting the key difference of cultural learning as an ongoing and flexible process (Stephenson 2000) versus the implied finality, or endpoint, of learning outcomes in the cultural competence construct (Duignan 2006). They align with the relatively recent global imperative for the development of cultural capability in the health context (Betancourt et al. 2005; Flores 2000).

Student preparedness to work within indigenous health contexts

Previous research (Happell 2009; Happell and Gough 2007; Sedgwick and Yonge 2008) across a range of contexts indicates that student preparedness can be improved via strategies targeting specific factors such as attitudes towards potentially stigmatised groups. Specific to the Australian Indigenous health context, a growing body of evidence suggests efficacy of educational interventions ultimately designed to increase student preparedness through engaging in cultural competence education. Ranzijn et al. (2008) examined the efficacy of an Australian psychology program focused on the development of cultural competence, finding positive change in attitudes in most students, accomplished via a focused reconciliatory teaching model inclusive of Indigenous content and Indigenous educators. Pedersen and Barlow (2008) similarly found that a cross-cultural psychology unit focused on anti-racism strategies was effective in changing attitudes towards Indigenous Australians. Paul et al.’s (2006) explicit examination of medical student self-perceptions of preparedness to work in Indigenous health settings suggested that “with a relatively small amount of targeted and structured teaching and learning in Aboriginal health, significant shifts in students’ self-perceived levels of knowledge, skills and attitudes are possible” (p. 522). However, most of these studies have focused on student response to the intervention, with little to no direct focus on individual predictive factors of student preparedness, or preparedness itself.

Very limited research has investigated predictive factors of student preparedness to work within Indigenous health settings, despite most tertiary institutions recognising a growing imperative for cultural capabilities in graduates and offering courses designed to develop these. However, there is a growing body of research on student attitudes towards Indigenous Australians within other disciplines. Bornholt

(2002) evaluated attitudes towards Aboriginal people as expressed by pre-service teachers in the context of intention for action, noting that participants did not enter the space value-neutral. Mitchell et al. (2011) examined the ways non-Indigenous students approached racist discourse, the consequent ‘normalisation’ of this discourse, and thus the perpetuation of attitudes that underpinned this discourse. Other studies have looked at attitudes, values and beliefs as predictors in non-curricular contexts. Halloran (2007) examined the impact of shared values and identity of non-Indigenous Australians as predictors of attitudes towards reconciliation, with findings suggesting egalitarianism as a key component in the development of conciliatory attitudes. Values and prejudice have also been found to be predictive of attitudes held by non-Indigenous Australians (Feather and McKee 2008), and these values later associated with willingness to assist Indigenous Australians (Feather et al. 2012).

Research suggests that attitudes are integrally related to the interactions of diverse individuals and groups (e.g. Burriss and Burriss 2003; Pedersen 2010), yet typically, interaction between people of diverse cultural groups is minimal (Summers and Volet 2008; Trice 2004). Significant immersion within intercultural spaces has been found to positively influence both attitudes held by individuals towards people of diverse cultures and levels of cultural competence (Behrnd and Porzelt 2012; Garmon 2005).

Thus, while literature exists around interactions with diverse cultural groups, or attitudes towards Indigenous Australians, there remains a paucity of literature addressing relationships between these and student preparedness. Daly et al. (2013) noted that while developing cultural awareness and competence enhanced preparedness to work in rural health settings, not all students were suited to this type of strategy, stating that “personality, attitudes and learning styles may all affect how students engage with learning opportunities” (p. 10). While not in an Indigenous Australian context, Niu et al. (2012) found a positive relationship between students’ interactions with culturally diverse groups and greater self-reported preparedness to work in culturally diverse health settings. Thus, there is evidence that students enter tertiary education with a range of attitudes towards Indigenous people and experience in interacting with people from diverse cultural backgrounds, and these may be predictive of preparedness to work with Indigenous Australians in health care settings.

The purpose of the present study is to examine first-year undergraduate health students’ attitudes towards Indigenous Australian culture and people and their interactions with people of diverse cultural backgrounds as predictors of student self-perceptions of preparedness to work with, and engage in, Indigenous health settings. We hypothesised that attitudes towards Indigenous Australians and extent of interactions with people of diverse cultural backgrounds would be statistically significant predictors of self-reported preparedness to work within Indigenous health settings.

Method

Participants

Participants were 1175 students (275 males, 897 females, 3 unspecified) enrolled in a large Australian university Faculty of Health Sciences interprofessional first-year core unit on Indigenous cultures and health. Students from 22 disciplines across the Faculty of Health Sciences were represented in the sample. Of the 1175 students, 133 were international students. The majority of students identified as non-Indigenous Australians ($n = 998$). Only 15 students identified as Indigenous Australians. The ages of participants ranged from 17 to 59 years (Mean = 21 years; SD = 5.8 years).

Materials

A questionnaire was developed comprising measures of attitudes towards Indigenous Australians, interactional diversity experiences, preparedness to work in Indigenous health settings and student demographics.

Attitudes towards Indigenous Australians

The Attitudes towards Indigenous Australians measure (ATIA; Pedersen et al. 2004) was developed in Australia, specifically for the Australian cultural context, to measure attitudes towards Indigenous Australians. The questionnaire consists of 18 items reflecting the evolution of racism, from “old-fashioned” to more modern conceptions. An example item is “*Aborigines would be lost without White Australians in today's society*”. Participants respond to each statement via a Likert scale ranging from 1 (*disagree strongly*) to 7 (*agree strongly*). Higher scores indicate greater negative attitudes held towards Indigenous Australians. Pedersen et al. (2004) have demonstrated internal consistency of the scale ($\alpha = 0.93$).

College Student Experiences Questionnaire-Experiences with Diversity Index

The College Student Experiences Questionnaire (CSEQ; Pace and Kuh 1998) measures the quality of student effort, both in and out of class, towards their personal learning and development. Only the CSEQ's Experiences with Diversity Index, as adapted for use by Hu and Kuh (2003), was selected for use in this study. This adapted measure consists of seven (of the original 10) items focusing on the interactional experiences of students with diverse cultural groups, with responses to each item statement via a Likert scale ranging from 1 (*never*) to 4 (*very often*). An example item is “*Became acquainted with students whose race or ethnic background was different from yours*”. Wording from each question was modified for the current study's purpose (i.e. using the plural term “people” in place of the

original “students”), reflecting the broader societal impact upon learning. Higher scores reflect greater quality of effort towards diverse interactional experiences. Hu and Kuh (2003) found the adapted Experiences with Diversity to be highly internally consistent ($\alpha = 0.89$).

Preparedness to work in Indigenous health

The Impact of the Aboriginal Health Undergraduate Curriculum questionnaire (IAHUC: Paul et al. 2006) was developed to measure the impact of Aboriginal health curriculum in undergraduate students. It consists of 24 items across four key areas of Aboriginal health—Aboriginal health as a social priority, Aboriginal health service (including access, provision and health models), student preparedness to work in the Aboriginal health context and student future commitment. Participants respond to each statement via a Likert scale ranging from 1 (*no agreement*) to 5 (*full agreement*). An example item is: “*I feel well prepared by my course to improve the health of Aboriginal people*”. To score, subscale items are summed, no items reverse-scored, with higher scores indicating higher impact of the curriculum upon the student. Paul et al. (2006) have demonstrated internal consistency of the overall scale ($\alpha = 0.84$), but have not examined the factor structure or internal consistency of subscales. For the current study, amendments were made to five-scale items to ensure institution- and degree-neutral language and to contextualise the items to a future tense, such as “*In the future, I see my only role in improving Aboriginal health as treating sick Aboriginal people in a hospital or clinic*”.

Demographics

Single items were used to measure participant’s age, gender, student type (domestic or international), cultural background and study discipline.

Procedure

This study was approved by the university Human Research Ethics Committee. Students were invited to participate in this study during their first class of an Indigenous cultures and health unit. All students completed the questionnaire which provided a stimulus for thinking about attitudes towards Indigenous cultures and health (the focus of the unit). Students were advised that while the completion of the questionnaire was required as a tutorial activity, their written consent was required to take part in the research project. Tutors left the room during questionnaire administration to ensure the students did not experience any coercion to participate. Questionnaires took approximately 10–15 min to complete. Questionnaires were completed by students from 68 classes. Of the 1341 students completing questionnaires, 1175 provided permission for their data to be used in this research, providing a response rate of 87.7%. Data were entered into SPSS (v.22) for analysis.

Results

Missing values in the original dataset were relatively infrequent; however, use of the 'No Answer' response option was more frequently used for items linked to Indigenous material *(ATIA and IAHUC measures) than other measures. 'No Answer' responses were recoded as missing values and a missing values analysis conducted. Little's MCAR test was significant, indicating that data were not missing at random (Little 1988). These missing values were then imputed using Expectation Maximisation, preserving inter-variable relationships.

The factor structure and reliability for each of the three key measures were tested using principal axis factoring with varimax rotation. Examination of scree plots supported the proposed single factor structure of the ATIA ($\alpha = 0.90$) and CSEQ:EDI ($\alpha = 0.85$).

Factor analysis of the IAHUC identified six factors with multiple cross-loadings, in contrast to the four factors proposed by Paul et al. (2006). As such, factor analysis with forced single factor extraction was conducted on each of the four proposed subscales, resulting in a 3-item Social Priority subscale ($\alpha = 0.58$), a 5-item Health Service subscale ($\alpha = 0.61$), a 7-item Preparedness subscale ($\alpha = 0.83$) and a 2-item Future Commitment ($\alpha = 0.82$) subscale (see Appendix).

Descriptives

Table 1 outlines the aggregated descriptive statistics for all students across each of the measures.

Male students ($M = 50.24$, $SD = 15.66$) reported significantly more negative attitudes towards Indigenous Australians than female students ($M = 46.68$, $SD = 16.52$; $t(1170) = -3.20$, $p = 0.001$, two-tailed, $d = 0.22$, 95% CI [-5.81 to -1.39]), a small effect size. International students ($M = 59.10$, $SD = 12.25$) reported significantly more negative attitudes towards Indigenous Australians than domestic students ($M = 45.94$, $SD = 16.28$; Welch's $t(197.49) = 11.18$, $p < 0.001$, two-tailed, $d = 0.83$, 95% CI [10.84–15.48]), a large effect size. International students ($M = 18.8$, $SD = 5.0$) reported less interactional diversity experiences than did domestic students ($M = 20.5$, $SD = 4.7$; $t(1160) = -3.88$, $p = 0.001$, two-tailed, $d = 0.35$, 95% CI [-2.55 to -0.84]), a small effect size. The proportion of respondents above the ATIA scale midpoint (reflecting negative attitudes towards Indigenous Australians) was 6%.

Table 1 Descriptive statistics for student respondents ($N = 1175$)

	Minimum	Maximum	Mean	SD
ATIA	18.00	102.00	47.49	16.42
CSEQ:EDI	7.00	32.00	20.34	4.76
Social Priority	4.00	15.00	12.69	1.71
Health Service	7.00	25.00	15.31	3.07
Preparedness	7.00	35.00	24.53	4.82
Future Commitment	2.00	10.00	7.32	1.66

To assess the size and direction of the linear relationships between the key variables of interest, bivariate Pearson's product-moment correlation coefficients (r) were calculated (see Table 2).

Hierarchical multiple regression

Hierarchical multiple regression analysis (HMRA) was conducted to estimate the proportion of variance across the four dependent variables (Indigenous health as a social priority, perceptions of adequacy of health services for Indigenous Australians, preparedness and ability to work in Indigenous health settings, and future commitment to Indigenous health) that can be accounted for by attitudes towards Indigenous Australians and diversity interactional experiences after controlling for gender and student type. The assumptions underlying HMRA were tested and not violated.

Social priority

On step 1, gender and student type accounted for a significant 0.8% of the variance in social priority, $R^2 = 0.008$, $F(2, 1158) = 4.58$, $p = 0.010$. On step 2, interactional diversity and attitudes towards Indigenous Australians were added to the regression equation, and accounted for an additional 12.4% of the variance in social priority, $\Delta R^2 = 0.124$, $F(2, 1156) = 82.94$, $p < 0.001$. In combination, the four predictor variables explained 13.2% of the variance in social priority, $R^2 = 0.132$, adjusted $R^2 = 0.129$, $F(4, 1156) = 44.08$, $p < 0.001$. By Cohen's (1988) conventions, a combined effect of this magnitude can be considered medium ($f^2 = 0.15$).

Health service

On step 1, gender and student type accounted for a significant 3.0% of the variance in health service, $R^2 = 0.030$, $F(2, 1158) = 17.89$, $p < 0.001$. On step 2, interactional diversity and attitudes towards Indigenous Australians were added to the regression

Table 2 Pearson correlation matrix among scale scores

	Interactional Diversity	ATIA	Social Priority	Health Service	Preparedness	Future Commitment
Interactional Diversity	1	-0.180**	0.109**	-0.115**	0.175**	0.155**
ATIA		1	-0.355**	0.554**	-0.060*	-0.362**
Social Priority			1	-0.237**	0.041	0.295**
Health Service				1	0.129**	-0.272**
Preparedness					1	0.295**
Future Commitment						1

** $p < 0.01$

equation, and accounted for an additional 27.4% of the variance in health service, $\Delta R^2 = 0.274$, $F(2, 1156) = 227.73$, $p < 0.001$. In combination, the four predictor variables explained 30.4% of the variance in health service, $R^2 = 0.304$, adjusted $R^2 = 0.302$, $F(4, 1156) = 126.32$, $p < 0.001$. By Cohen's (1988) conventions, a combined effect of this magnitude can be considered large ($f^2 = 0.44$).

Preparedness

On step 1, gender and student type accounted for a non-significant 0.2% of the variance in preparedness, $R^2 = 0.002$, $F(2, 1158) = 0.99$, $p = 0.370$. On step 2, interactional diversity and attitudes towards Indigenous Australians were added to the regression equation, and accounted for an additional 3.4% of the variance in preparedness, $\Delta R^2 = 0.034$, $F(2, 1156) = 20.21$, $p < 0.001$. In combination, the four predictor variables explained 3.5% of the variance in preparedness, $R^2 = 0.034$, adjusted $R^2 = 0.032$, $F(4, 1156) = 10.62$, $p < 0.001$. By Cohen's (1988) conventions, a combined effect of this magnitude can be considered small ($f^2 = 0.03$).

Future commitment

On step 1, gender and student type accounted for a significant 3.0% of the variance in future commitment, $R^2 = 0.030$, $F(2, 1158) = 18.00$, $p < 0.001$. On step 2, interactional diversity and attitudes towards Indigenous Australians were added to the regression equation, and accounted for an additional 14.6% of the variance in future commitment, $\Delta R^2 = 0.146$, $F(2, 1156) = 102.36$, $p < 0.001$. In combination, the four predictor variables explained 17.6% of the variance in future commitment, $R^2 = 0.176$, adjusted $R^2 = 0.173$, $F(4, 1156) = 61.76$, $p < 0.001$. By Cohen's (1988) conventions, a combined effect of this magnitude can be considered medium ($f^2 = 0.21$). Unstandardised (B) and standardised (β) regression coefficients and squared semi-partial (part) correlations (sr^2) for each predictor on each step of each hierarchical multiple regression analysis are reported in Table 3.

Discussion

The current study examined whether first-year undergraduate health students' attitudes towards Indigenous Australian culture and people, and their interactions with people of diverse cultural backgrounds, were predictors of student self-perceptions of preparedness to work with, and engage in, Indigenous health settings. The hypothesis that attitudes towards Indigenous Australians and the extent of interactions with people of diverse cultural backgrounds would be statistically significant predictors of self-reported preparedness (using only the preparedness subscale of the IAHC) to work within Indigenous health settings was partially supported. Students who reported more interactional diversity experiences also reported greater preparedness to work in Indigenous health (albeit a small effect size), while students' reported attitudes towards Indigenous Australians did not predict differences in levels of preparedness to work in Indigenous health.

Table 3 Unstandardised (B) and standardised (β) regression coefficient, and squared semi-partial correlations (sr²) for each predictor variable on each step of a hierarchical multiple regression

Variable	Indigenous Health as a Social Priority			Perceptions of Adequacy of Health Services for Indigenous Australians				
	B	[95% CI]	β	sr ²	B	[95% CI]	β	sr ²
Step 1								
Gender	-0.35	[-0.58, -0.12]**	-0.09	-0.01	0.62	[0.21, 1.04]**	0.09	0.01
Student Type	0.14	[-0.17, 0.45]	0.03	0.00	-1.51	[-2.06, -0.96]***	-0.16	-0.02
Step 2								
Gender	-0.2	[-0.42, 0.02]	-0.05	0.00	0.20	[-0.16, 0.55]	0.03	0.00
Student Type	-0.4	[-0.69, -0.09]**	-0.07	0.00	-0.11	[-0.60, 0.38]	-0.01	0.00
Interactional Diversity Experiences	0.02	[0.00, 0.04]	0.05	0.00	-0.01	[-0.04, 0.02]	-0.02	0.00
Attitudes Towards Indigenous Australians	-0.04	[-0.04, 0.03]***	-0.36	-0.11	0.10	[0.09, -0.11]***	0.54	0.26
Preparedness and Ability to Work in Indigenous Health Settings								
Future Commitment to Indigenous Health								
Variable	Preparedness and Ability to Work in Indigenous Health Settings			Future Commitment to Indigenous Health				
	B	[95% CI]	β	sr ²	B	[95% CI]	β	sr ²
Step 1								
Gender	0.34	[-0.32, 0.99]	0.03	0.00	-0.65	[-0.88, -0.43]***	-0.17	-0.03
Student Type	-0.46	[-1.33, 0.41]	-0.03	0.00	-0.20	[-0.50, 0.10]	-0.04	0.00
Step 2								
Gender	0.38	[-0.27, 1.02]	0.03	0.00	-0.50	[-0.71, -0.30]***	-0.13	-0.02
Student Type	-0.95	[-1.84, -0.06]**	-0.06	0.00	-0.76	[-1.05, -0.48]***	-0.15	-0.02
Interactional Diversity Experiences	0.17	[0.11, 0.23]***	0.17	0.02	0.04	[0.02, 0.06]***	0.11	0.01
Attitudes Towards Indigenous Australians	-0.02	[-0.03, 0.00]	-0.05	0.00	-0.04	[-0.04, -0.03]***	-0.37	-0.12

** $p < 0.005$, *** $p < 0.001$

However, the analysis and interpretation of this outcome was more complex than initially considered. Preliminary inspection of fitness for purpose of the IAHUC measure indicated that using the scale as a unified measurable construct of student preparedness to work in Indigenous health was not suitable. Instead, each of the four subscales was used as separate measures; preparedness to work in Indigenous health was only one piece of the puzzle. Our results indicated that negative attitudes towards Indigenous Australians were negatively associated with perceptions of Indigenous health as a social priority and future commitment to Indigenous health, and positively correlated with perceptions of the adequacy of Indigenous health services. Finally, interactional diversity experiences were positively associated with future commitment to Indigenous health. While interactional diversity experiences predicted preparedness and future commitment, the effects were small. In contrast, attitudes towards Indigenous Australians were the key drivers of the range of variables measuring whether students considered themselves prepared to work in Indigenous health contexts.

Summarily, these findings are both mixed and telling. They suggest that despite the nature of reconciliatory action, of secondary school based interventions or awareness, attitudes towards Indigenous Australians remain a matter for further consideration. Firstly, it does appear that reported attitudes towards Indigenous Australians are changing. Pedersen et al. (2004) reported that 47.8 and 43% of their two respective study samples scored above the scale's overall midpoint, compared to 6% in our study. While the samples differed in size and age, if this is an accurate portrayal of the predictors of student preparedness to work in Indigenous health settings, it is encouraging.

However, when considered in terms of just how attitudes towards Indigenous Australians might influence student preparedness to practise in Indigenous health contexts, the finding that attitudes towards Indigenous Australians strongly predicted all of the dependent variables except for the preparedness subscale raises certain questions. Why would this be the case? One possible explanation is related to the scale items themselves. Statements on the preparedness subscale generally began with the pronoun "I", each appearing to reflect the idea of self-efficacy. Aside from the preparedness items, only the future commitment subscale used the personal pronoun "I" on each of its two items, and these reflected respondents' future commitment, not personal self-efficacy. This suggests the possibility of the personal nature of the items influencing student interpretations, and thus student responses, towards more socially desirable responses (i.e. not wanting to appear incapable or lacking in knowledge of the context). Interestingly, literature around cultural capability and Indigenous health (e.g. Coffin 2007; Downing et al. 2011; Durey 2010) advocates for the development of well-rounded practitioners with a holistic view of the determinants of Indigenous health and well-being, in order to mitigate the effects of historically discriminatory and/or racist health care practitioners and systems. In effect, all of these subscales are related to student (and consequently, practitioner) preparedness, not simply the items concerned with points of personal efficacy represented on the preparedness subscale. The apparent focus on the latter idea of personal efficacy within the data speaks to, and reinforces, the point at hand—a lack of understanding of the multifaceted nature of Indigenous

well-being, and the consequent preparedness of students to engage in the Indigenous health context. For students to go out and practise in Indigenous health settings, they must have an understanding of the bigger picture of necessary elements to be a practitioner in the Indigenous space—elements that, while encompassing points of personal efficacy, acknowledge the holistic nature and perception of Indigenous health and thus extend into the domain of personal worldview and philosophy. As such, it is ironic that it is this very lack of student knowledge of the requirements of working in this space that may lead to such an interpretation, and suggests potentially discriminatory attitudes towards Indigenous Australians, and a consequent lack of preparedness to engage in Indigenous health settings.

Perhaps lending further credibility to this element of explanation of the analysis is the finding that students responded very differently to statements within the Attitudes towards Indigenous Australians measure, depending on whether the statements comprised positive or negative statements about Indigenous people. While negative statements had high frequencies of “No Answer” responses, positive statements such as “We should all be working toward better cultural understanding” were overwhelmingly skewed towards positive extremes of the scale. Student resistance to Indigenous perspectives within curriculum is well documented (Asmar and Page 2009)—the fact that students were likely aware of the nature and intent of the unit (given the name of the unit—Indigenous Cultures and Health) leaves open the possibility that students responded in ways that did not reflect their genuine attitudes towards Indigenous Australians. A significant body of literature related to the potentially fraught nature of self-report measures (e.g. vulnerability to demand characteristics, response bias, etc.) supports both of these possible explanations (e.g. Gur and Sackeim 1979; Orne 1962).

A further explanation related to the nature, and thus interpretation, of the scale items themselves may be related to Henry et al.’s (2000) idea of “democratic racism”, a term used to describe the coexistence of two seemingly contradictory sets of values, one set built upon Western ideals of fairness, tolerance and egalitarianism, the other set built upon a narrow, often stereotypical interpretation of ‘culture’. The fact that students’ responses to positive statements within the ATIA measure were so overwhelmingly positive suggests this phenomenon perhaps also played a part in the results within the current study. At first glance, homogenous positive responses to statements such as “*We should all be working toward better cultural understanding*” and “*All Australians need to understand Aboriginal history and culture*” suggest an encouraging willingness and desire to embrace cultures other than one’s own. Upon closer inspection, these responses may more accurately reflect a certain ignorance of the nuanced fabric of the culture in question, and thus a certain ignorance of the individual’s own ethnocentric biases and worldviews, leading to an external ascription, and thus limitations, of what is and is not acceptable in the domain of culture and multiculturalism.

Differences across domestic and international students were also of interest. International students reported significantly more negative attitudes towards Indigenous Australians, despite Australia not being their country of origin or residence. Given literature detailing the changing nature of racism in Australia (Pedersen et al. 2004), is it a case of politically correct responding driving the

differences attitudinally between domestic and international students? In short, do domestic students better know 'the rules' when it comes to discussing issues related to Indigenous Australians and thus provide a more sanitised, politically correct version of events, or is there an alternative explanation to account for this difference? Future research should explore this in greater depth.

Theories of intergroup contact and prejudice reduction and related research (e.g. Miller et al. 2004; Pettigrew et al. 2007) suggest that a relationship may exist between interactional diversity experiences and attitudes held towards those from culturally diverse groups. Within the current study, there is a negative relationship between interactional diversity experiences and negative attitudes towards Indigenous Australians, i.e. the more students interacted with culturally diverse others, the less negative their attitudes were. Each construct also correlates in the anticipated direction with the four dependent variable subscales. However, only attitudes towards Indigenous Australians had a non-trivial effect when predicting the dependent variables included in the regression analysis. In short, if ATIA predicts the dependent variables, then theoretically so should experiences with diversity. The finding that the latter does not predict the dependent variables indirectly lends support to the idea that attitudes towards Indigenous Australians remain complex (Pedersen et al. 2004). Research around interactions between Indigenous and non-Indigenous Australians, and the effect upon attitudes remains relatively scarce, with many Australians having never met or interacted in any way with an Indigenous Australian (Jackson et al. 2013; Pedersen and Barlow 2008; Ranzijn et al. 2008). As such, while theories of intergroup contact and prejudice reduction may be valid, the theoretical background in this context perhaps serves to highlight the gap that still remains between cultures in this country in terms of interaction and attitudes, and its consequent effect upon preparedness to engage and work within Indigenous health settings. Tempering these statements, however, is an acknowledgement that the interactional diversity measure used in this study does not measure interactions between Indigenous and non-Indigenous people specifically. Against a theoretical backdrop of prejudice reduction via intergroup contact and the contact hypothesis (Allport 1979), perhaps it remains a case of meaningful contact and interaction being required between Indigenous and non-Indigenous Australians before congruence (or lack thereof) can be accurately determined.

There are three limitations to this study that temper our confidence in the findings. First, the study was conducted within a single university; as such, the findings may not be generalisable to health science students in other universities. Second, the self-report nature of the survey instruments leaves open the possibility that students responded in ways that did not accurately reflect their genuine attitudes towards Indigenous Australians. Future research should focus on exploring attitudinal data via alternate measures that capture implicit attitudes. Skinner et al. (2013) examined the validity of the Implicit Association Test (Greenwald et al. 1998) against the ATIA, finding little correlation between the two, raising concerns around the ATIA construct validity. Previous studies have demonstrated the utility of self-report measures in the determination of attitudes towards people from different cultural and racial groups (e.g. Ecker et al. 2014; Greenwald et al. 2009; McConnell and Leibold 2001; Pedersen et al. 2004); however, Skinner et al.'s study

suggests that the use of both an implicit and explicit measure of attitudes towards Indigenous Australians may be useful in determining a clearer picture of the extent of attitudes held. Another possibility to address this would be to include a social desirability scale. Finally, given the correlational nature of the research design, these results are not assumed to be representative of causality.

In summary, this study provides compelling evidence that health students (and thus potential future health practitioners) bring to the tertiary health context a range of both attitudes towards Indigenous Australians and interactional experiences with diverse cultural groups. Each influences student preparedness to work in Indigenous health settings. Given what we now know about student attitudes upon entry to health science courses, future research is required to determine how best to change attitudes and prepare students for working in Indigenous health settings.

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Appendix

Impact of the Aboriginal Health Undergraduate Curriculum questionnaire

Social priority

- The state of Aboriginal health is a social priority
- Trust is key for culturally secure health care
- Feeling intimidated is a barrier to culturally secure health care

Health service

- The Western medical model suits the health needs of Aboriginal people
- The state of Aboriginal health is mainly due to lack of funding for health services
- Aboriginal people have the same level of access to health services as all other Australians
- The health care issues for Aboriginal people are basically the same across Australia
- Aboriginal people should take more individual responsibility for improving their own health

Preparedness

- I feel well prepared to improve the health of Aboriginal people
- I feel well prepared to advocate for improvements in Aboriginal health
- I will be able to apply knowledge of Aboriginal health to provide culturally secure healthcare
- I will be able to practice equity in the provision of service by treating Aboriginal patients the same as all my other patients
- I communicate appropriately with Aboriginal people
- I have a good understanding of the holistic concept of health in relation to Aboriginal matters
- I have the ability to communicate effectively with Aboriginal patients by myself

Future commitment

- I will work for changes in Aboriginal health as a personal priority in my health practice
 - I have a social responsibility to work for changes in Aboriginal health
-

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Jonathan Bullen is a Nyungar (Wardandi) man from the south-west of Western Australia. He is Learning Designer, Indigenous Curriculum & Pedagogy within Curtin Teaching and Learning. Prior to this, Jon was co-unit coordinator of an award-winning large scale interprofessional health unit, Indigenous Cultures and Health. His PhD research focuses on the elements underpinning, and outcomes from, transformative pedagogies.

Lynne Roberts is a Wadjella living in Western Australia. She is an Associate Professor in the School of Psychology and Speech Pathology at Curtin University. Lynne is an Australian Teaching Fellow and Chair of Curtin Academy. Her research interests include higher education research and she has published widely on teaching and learning topics.

Julie Hoffman is the current Dean of Learning and Teaching at the Centre for Aboriginal Studies, Curtin University. Dr. Hoffman is a recipient of the 2010 Neville Bonner Award in Indigenous education and a recipient of the 2014 Office of Teaching and Learning for teaching that enhances learning. As an Anthropologist in health and education Dr. Hoffman's interests investigate and examines transformative learning and resistance to change in social, cultural and environmental contexts.

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Transformative Learning: A Precursor to Preparing Health Science Students to Work in Indigenous Health Settings?

Jonathan Bullen¹ and Lynne Roberts²

¹*Curtin Learning and Teaching, Curtin University, Perth, WA 6845, Australia*

²*School of Psychology and Speech Pathology, Curtin University, Perth, WA 6845, Australia*

Australian undergraduate programmes are implementing curriculum aimed at better preparing graduates to work in Indigenous health settings, but the efficacy of these programmes is largely unknown. To begin to address this, we obtained baseline data upon entry to tertiary education (Time 1) and follow-up data upon completion of an Indigenous studies health unit (Time 2) on student attitudes, preparedness to work in Indigenous health contexts and transformative experiences within the unit. The research involved 336 health science first-year students (273 females, 63 males) who completed anonymous in-class paper questionnaires at both time points. Paired sample *t*-tests indicated significant change in student attitudes towards Indigenous Australians, perceptions of Indigenous health as a social priority, perceptions of the adequacy of health services for Indigenous Australians and preparedness to work in Indigenous health settings. Hierarchical multiple regression analyses indicated that after controlling for Time 1 measures, the number of precursor steps to transformative learning experienced by students accounted for significant variance in measures of attitudes and preparedness to work in Indigenous health contexts at Time 2. The knowledge gained further informs our understanding of both the transformative impact of such curriculum, and the nature of this transformation in the Indigenous studies health context.

■ **Keywords:** Indigenous studies, attitudes, preparedness, transformative learning, Indigenous health settings

Tertiary curriculum focusing on Indigenous Australian perspectives have emerged in Australia in response to recommendations around the development of graduate attributes related to Indigenous cultural competence (Universities Australia, 2011). These recommendations are a response to literature highlighting the importance of such action in closing the gap between Indigenous and non-Indigenous outcomes (Indigenous Higher Education Advisory Council (IHEAC), 2006; Nakata, 2007). A wealth of Australian literature has detailed various effects of such curriculum, broadly finding that students developed both their knowledge of Indigenous ways of doing and knowing, but also gained insight into their own values, beliefs, behaviours and biases (e.g. Jackson, Power, Sherwood, & Geia, 2013; Kickett, Hoffman, & Flavell, 2014). While encouraging, a good deal remains

unknown about the efficacy of the learning experience, in terms of shifting attitudes and preparedness to work in Indigenous health settings, and theoretical mechanisms involved. Systematic review of evaluations of interventions focused on developing the capacity for engaging with Indigenous populations in health contexts (Clifford, McGalman, Bainbridge, & Tsey, 2015) highlights both the lack of such evaluations in Australia, and issues with methodological rigor. Simply, while developing health students preparedness to work within Indigenous health contexts is paramount, no explicit evaluation of pre to postcurriculum changes nor testing of possible underlying

ADDRESS FOR CORRESPONDENCE: Jonathan Bullen, Curtin Learning and Teaching, Curtin University, Perth, WA 6845, Australia.
Email: jonathan.bullen@curtin.edu.au.

mechanisms, has occurred. In this paper, we review literature on student preparedness in the Indigenous health context, before discussing transformative learning (Mezirow, 2000) as a theoretical framework to understand the process of preparing students in this context. We then present results of a pre/postevaluation of (1) students' attitudes and preparedness and (2) the role of transformative learning across both measurements. We conclude with discussion on the nature of the relationship between transformative learning and changes to student attitudes and preparedness throughout the learning experience, and implications of findings to the development of offerings within the Indigenous studies health curriculum space.

Students enter Australian undergraduate education with diverse beliefs about, and experiences with, Indigenous Australians. Previous research suggests that, upon commencing university study, students' attitudes towards Indigenous people and interactive experiences with culturally diverse people are predictive of their self-reported preparedness to work with Indigenous Australians in health care settings (Bullen, Roberts, & Hoffman, 2017). While important to understand, from an outcome-based perspective, it is perhaps more important to understand how knowledge, attitudes and capabilities change during the course, and the processes that underlie this change.

Student Preparedness for Working in Indigenous Health Settings

A body of literature suggests student preparedness to work with potentially stigmatised groups can be strategically improved through the targeting of attitudes in curriculum (e.g. Happell & Gough, 2007; Sedgwick & Yonge, 2008). Local to the Indigenous Australian context, previous literature has demonstrated that curriculum designed to both change student perspectives towards Indigenous Australians and improve preparedness to work in Indigenous health settings may have a positive effect. However, studies relevant to this context have generally focused on either qualitative student responses to the curricular intervention (e.g. Ranzijn, McConnochie, Day, Nolan, & Wharton, 2008), or discriminatory attitudes (Pedersen & Barlow, 2008). There have been two exceptions to this trend. First, Paul, Carr, and Milroy (2006) measured final-year medical students' preparedness to work in Aboriginal health settings following a newly remodelled Aboriginal health curriculum, using data from two separate cohorts (cohort 1, 2003; cohort 2, 2004). The study examined differences between the two cohorts at different time points, leaving open the possibility of significant confounding factors in the posited effects of the curriculum. Further, no explicit measures of attitudes towards Indigenous Australians were taken. Second, Thackrah and Thompson (2013) explored the efficacy of curriculum intended to prepare students to work in Indigenous health contexts, while considering the influence of attitudes towards Indigenous Australians

upon entry to the unit of tertiary study. However, while the study adopted a pre-/post-measurement methodology, it was limited to nursing and midwifery students, with an acknowledged small sample size limiting further generalisation of findings. In short, very few Australian-based quantitative studies have used pre–post intervention measures to ascertain the effect of curriculum designed to change student attitudes towards Indigenous Australians and prepare these students to work in Indigenous health settings — that is, curriculum aligned with closing the gap between Indigenous and non-Indigenous health outcomes.

Outside of Australia, there is a significant body of literature around curriculum addressing race and racial diversity contextually aligned with the amelioration of race relations and outcomes of minority racial groups within specific locales. Meta-analyses by Denson (2009) and Bezrukova, Spell, Perry, and Jehn (2016) indicated that curricular interventions with a focus on racial diversity are effective in improving both student understandings of diversity and also reducing discriminatory attitudes and behaviours. There are methodological, demographic and theoretical differences between the Australian studies and those found within either of the meta-analyses. Perhaps, most significant is that the vast majority of the studies included in the meta-analyses are external to the Australia context. This is important to note because while broad parallels exist in terms of the historical experiences, and current understandings of race and racism, there are also significant differences between Australia and other countries that suggest that approaches, principles and practices may not be simply retrofitted onto the Australian Indigenous context.

Transformative Learning

One posited mechanism for change in diversity attitudes in educational settings is through transformative learning (Biermann & Townsend-Cross, 2008; Kickett et al., 2014; Page, 2014). Transformative learning can be defined as 'learning that transforms problematic frames of reference — sets of fixed assumptions and expectations (habits of mind, meaning perspectives, mindsets) — to make them more inclusive, discriminating, open, reflective and emotionally able to change' (Mezirow, 2003, p. 58). Transformative learning is based upon tenets of openness and willingness to consider the views, experiences, beliefs and perspectives of others and self, and advocates the value of empathic listening and understanding when doing so (Mezirow, 2003). Despite an almost purely qualitative evidence base, Mezirow's transformative learning theory is one of the preminent theories of adult learning (Taylor, 2007).

There is some evidence to support the adoption of transformative learning within the Australian Indigenous context. A postgraduate curricular offering over 1 day

with a team of Indigenous facilitators explored Indigenous issues delivered via Mezirow's transformative framework (Jackson et al., 2013), with student responses strongly supporting the value of such a transformative pedagogical model of learning within an Indigenous studies context. Notably, the majority of the Australian students within the study had prior experience educationally within Indigenous studies, and openly stated the value of this particular experience above and beyond earlier 'nontransformative' offerings. Existing qualitative and descriptive research on the curriculum that is the focus of this research (an Indigenous cultures and health unit for first-year health science students in an Australian university) suggests that some students do indeed have transformative experiences throughout, and as a result of, the unit (e.g. Flavell, Thackrah, & Hoffman, 2013; Thackrah & Thompson, 2013). However, findings were generally based on student evaluations upon completion of the unit, and were not specifically analysed using Mezirow's transformative learning framework.

While Mezirow (1978; 1994) suggested 10 steps leading to perspective transformation (see Table 3), he has stated that not all are mandatory in the transformative process. Indeed, there is evidence that some of these links in the transformational 'chain of events' may loom larger than others, at least in tertiary curriculum and pedagogical models. Brock (2010), in one of relatively few quantitative studies around Mezirow's precursory steps to perspective transformation (there are others, e.g. Glisczinski, 2007; King, 2009), suggested that the more of these steps to transformation were remembered (and thus by implication experienced), the more likely the student reported transformation, with a disorienting dilemma, trying on new roles, and critical reflection the most commonly experienced.

While there is on-going critique of elements of Mezirow's theory (e.g. Merriam, 2004; Newman, 2014), this theory provides testable hypotheses in relation to the steps of transformative learning. The key points of differentiation between previous research and the current study are the explicit use of Mezirow's framework as an explanatory tool for changes that students may experience and the use of a pre-post design. This will provide a rigorous test of the applicability of Mezirow's theory to the Indigenous education context.

Aims and Hypothesis

The current study is the second phase of a broader research project examining the development of undergraduate health students' cultural capabilities. Phase 1 examined students' attitudes towards Indigenous Australians, and preparedness to work in Indigenous health settings at the time of entry to the university. The aim of this second phase was to examine changes in these attitudes over the course of the semester. Second, we aimed to exam-

ine whether self-reports of experiencing Mezirow's (1978) precursor steps to transformative learning predicted attitudinal change. Understanding whether and how transformative learning influences student outcomes has significant implications for institutions implementing courses focused around Indigenous perspectives, knowledge and diversity, particularly with regard to how these courses are implemented at first-year level and beyond, in the context of developing graduate attributes around cultural capability and intercultural understandings.

We first hypothesized that attitudes towards Indigenous Australians and preparedness to work within Indigenous health settings would be statistically significantly improved from the start to the end of the semester. Second, we hypothesised that after controlling for baseline attitudes and preparedness, the number of precursor steps to transformative learning self-reported would significantly predict changes in attitudes towards Indigenous Australians and preparedness to work within Indigenous health settings.

Method

The Learning Context

The context of this study is an Indigenous cultures and health unit at an Australian metropolitan university. This is a first-year core unit for all undergraduate students within the health faculty, developed in response to human rights initiatives such as Closing the Gap (Marmot, Friel, Bell, Houweling, & Taylor, 2008). Diverting from previous 'ways of doing', it represents an acknowledgment that tertiary institutions have historically ignored both the diversity of historical and cultural experiences, and thus the associated health outcomes, of Indigenous populations, in their provision of educational experiences (Grote, 2008).

This unit examines Indigenous populations — local, national and global — exploring the diversity and historical and contemporary experiences of each, while focusing on developing students understanding of these in the context of the effects on Indigenous health and health care. It is taught predominantly by Indigenous tutors, reflecting the recognition of the value and effectiveness of both a personal, relational pedagogical approach, exposure to Indigenous perspectives and voices and interaction with Indigenous people (Pedersen & Barlow, 2008; Ranzijn et al., 2008).

Structurally, the unit was developed upon theoretical foundations of intercultural competency (Flavell et al., 2013; Kickett et al., 2014) and Mezirow's (2000) theory of transformative learning. Importantly, the latter theoretical basis was intentionally built into the unit from conception with attempts to facilitate outcomes in Mezirow's theoretical context via specific structural milestones, each purposefully situated at two key points throughout the semester (Weeks 5 and 10), and each reflecting potentially

critical incidents considered likely to raise a dilemma for students. The aim of this structure was (1) to allow students to develop some comfort within a typically uncomfortable learning space prior to their being required to engage in often challenging conversations and learning around particularly uncomfortable material (i.e. Week 5's exploration of past policies and practices affecting Indigenous Australians) and (2) to facilitate a space for students to work interprofessionally with peers on a case study (i.e. Week 10's case study of an Indigenous man removed from family and community, and now experiencing significant health issues). Both weeks are highly confronting and challenging, and require an application of the accumulation of learning (both personal and formal in nature) across the semester.

Course expectations are that students will develop the capacity for critical reflexivity, instigated via an intentionally challenging and often confronting context based on contemporary and historical material. Further reflecting its conceptual origins in, and adherence to, Mezirow's transformative learning theory, the unit is designed to facilitate via a culturally immersive experience the development of capacity of students 'to transform negative assumptions, stereotypes and frames of reference through self-reflection and discussion in a safe learning environment' (Taylor et al., 2014, pp. 47).

The unit's assessment model has a heavy focus on critical reflection (posited as a key component of Mezirow's theory), is intentionally aligned with the unit's learning structure, and is designed to facilitate a space for students to explore and critically reflect upon the challenging material about the history of Australia and Indigenous cultures, and more importantly, in relation to and about themselves.

Importantly, the unit's conceptual origins acknowledge the significant challenge of effecting genuine transformation in Mezirow's theoretical context (i.e. a reintegration into one's life of reformulated beliefs, values and perspectives towards culturally diverse people and groups), noting that it is unlikely that culturally capable health practitioners will be created within the space of a single-semester first-year unit (Snyder, 2008; Sonn, 2008; Taylor et al., 2014). Early qualitative evaluation of the unit's intended transformative model suggests the early development of more culturally capable health practitioners through the shifting and transforming of existing perspectives held, facilitated by increasing awareness and sensitivity to diverse cultural experiences through critically reflexive practice focused on values, beliefs and attitudes towards Australian Indigenous people and society (Flavell et al., 2013; Kickett et al., 2014). Finally, there is an expectation within the unit that it act as the foundation for later curriculum, in terms of knowledge acquisition and accumulation, and as a catalyst for early shifts in perspective around Indigenous Australians and culture.

Participants

Participants were students enrolled in a large Australian university Faculty of Health Sciences interprofessional first-year core unit on Indigenous cultures and health. Students from 22 disciplines across the Faculty of Health Sciences were represented in the sample. At Time 1, participants were 1175 students (275 males, 897 females and 3 unspecified). Of the 1175 students, 133 were international students and 15 students identified as Indigenous Australians. The ages of participants ranged from 17 to 59 years (Mean = 21 years; SD = 5.8 years).

At Time 2, of 614 student respondents, 336 were able to be matched and linked via a code to their data at Time 1. Of these 336 students (63 males, 273 females), the majority were domestic ($n = 301$), with 35 international students and 5 students identifying as Indigenous Australians. The ages of participants ranged from 17 to 54 years (Mean = 21.5 years; SD = 6.0 years). The Time 1 and Time 2 data for these 336 students forms the dataset for all further analyses presented.

Materials

A questionnaire was developed comprising measures of attitudes towards Indigenous Australians, preparedness to work in Indigenous health settings, transformative learning and student demographics.

Attitudes Towards Indigenous Australians

The Attitudes towards Indigenous Australians measure (ATIA, Pedersen, Bevan, Walker, & Griffiths, 2004) was developed specifically to measure attitudes towards Indigenous Australians. The 18 questionnaire items reflect both 'old-fashioned' and more modern conceptions of racism. An example item is *Urban Aboriginal people are not real Aboriginal people*. Participants respond to each statement via a Likert scale ranging from 1 (disagree strongly) to 7 (agree strongly), with a higher score indicating greater negative attitudes towards Indigenous Australians. In this sample, the measure had high internal consistency ($\alpha = .91$).

Preparedness to Work in Indigenous Health

The Impact of the Aboriginal Health Undergraduate Curriculum questionnaire (IAHUC, Paul et al., 2006) was developed to measure the impact of Aboriginal health curriculum on undergraduate students. Originally consisting of 24 items across four key areas of Aboriginal health, the current study used Bullen et al.'s (2017) revised measure, developed following factor structure and internal consistency testing, along with amendments to five-scale items to ensure institution- and degree-neutral language and to contextualise the items to a future tense. The revised measure comprises four discreet subscales: Aboriginal health as a social priority ($\alpha = .62$), perceptions of the adequacy of Aboriginal health services ($\alpha = .58$), student preparedness to work in the Aboriginal health context

($\alpha = .83$) and future commitment to Indigenous health ($\alpha = .83$).

Learning Activities Survey

Brock's (2010) adaption of King's (1997) Learning Activities Survey (LAS) was used to measure perspective transformation experiences in the learning environment. The measure consists of 13 items and participants select as many as are applicable to their learning experience. An example question is *I had an experience that caused me to question the way I normally act*. The measure is scored by counting the number of statements endorsed.

Demographics

Single items were used to measure participant's age, gender, student type (domestic or international), cultural background and study discipline at Time 1.

Procedure

This study was approved by university Human Research Ethics Committee. Students were invited to participate in this study during their first tutorial and again after 10 weeks of study. Week 1 was chosen as the point immediately prior to exposure to the content of the unit, a time when students were generally presumed to have very little knowledge on the subject matter and had typically had minimal exposure to Indigenous Australians and culture. Week 10 was chosen due to the proximity to semester completion, the placement of necessary course material, and resultant generally high attendance. By this time, students had covered the unit's core material and had considerable time to critically reflect across the semester via the unit's assessment model. Tutors left the room during questionnaire administration to ensure students did not experience any coercion to participate. Questionnaires took approximately 10–15 minutes to complete. Data was entered into SPSS (v.22) for analysis. At Time 1, there were less than 1% of responses with missing data on items of either of the two key measures of attitudes and preparedness. However, students were able to select 'No Answer' as a response on both measures, and these were more frequently selected — response frequencies hovered between

5% and 10% on individual items. In general, high numbers of 'No Answer' responses were on items that might be considered controversial (e.g. Urban Aboriginal people tend to be pretty hostile). At Time 2, the extent of any missing data (formally missing or 'No Response' selected) was proportionally less than at Time 1. Formally missing values comprised less than 1% of all responses across any individual item. The proportion of 'No Response' answers was between 1% and 5% across all items. At Time 2, 'No Response' was selected proportionately more on the attitudes (ATIA) measure than on preparedness (IAHUC), the latter with no particular differentiation of response regardless of item wording. For the purposes of this analysis, student responses of 'No Answer' were converted to missing values. Finally, missing values were imputed using Expectation Maximisation, preserving intervariable relationships.

Results

Table 1 provides descriptive scale statistics for Time 1 (pretest) and Time 2 (posttest). Paired sample *t*-tests with an alpha of .01 were conducted to compare differences between the time points (Table 1). On average, student attitudes towards Indigenous Australians improved by 4.11 points (Cohen's $d = 0.27$, a small effect size), student perceptions of Indigenous health as a social priority increased by 0.79 points (Cohen's $d = 0.52$, a medium effect size), student perceptions of the adequacy of health services for Indigenous Australians decreased by 1.07 points (Cohen's $d = 0.35$, a small effect size) and student self-reported preparedness improved by 2.56 points (Cohen's $d = 0.56$, a medium effect size). There was no significant change in students' future commitment.

To assess the size and direction of the linear relationships between the key variables of interest, bivariate Pearson's product-movement correlation coefficients (r) were calculated (Table 2).

Across Kings LASQ, 311 students selected at least one of Mezirow's precursor steps to transformative learning, with 25 students not identifying with any of the precursor steps. Students reported a mean of 4.21 precursor

TABLE 1
Descriptive Statistics and *t*-tests of Time 1 and Time 2 Attitudinal and Preparedness Variables

Measure	Pretest		Posttest		95% CI for mean difference	d	t	df
	M	SD	M	SD				
ATIA ¹	45.94	15.63	41.83	15.32	2.85, 5.36	0.27	6.42***	335
Social priority	12.77	1.58	13.57	1.52	-0.97, -0.62	0.52	-8.83***	335
Health services	14.86	3.04	13.79	3.07	0.75, 1.38	0.35	6.67***	335
Preparedness	24.03	4.92	26.59	4.13	-3.08, -2.04	0.56	-9.66***	335
Future Commitment	7.41	1.61	7.54	1.69	-0.29, 0.03	0.08	-1.61	335

*** $p < .001$; ¹Attitudes towards Indigenous Australians.

TABLE 2

Pearson Correlation Matrix among Scale Scores at Time 1 and 2

Time 1	Interactional diversity	ATIA	Social priority	Health service	Preparedness	Future commitment
Interactional diversity	1	-0.180**	0.109**	-0.115**	0.175**	0.155**
ATIA ¹		1	-0.355**	0.554**	-0.060*	-0.362**
Social priority			1	-0.237**	0.041	0.295**
Health service				1	0.129**	-0.272**
Preparedness					1	0.295**
Future commitment						1
Time 2	Kings LASQ	ATIA	Social priority	Health service	Preparedness	Future commitment
Kings LASQ ²	1	-0.231**	0.191**	-0.244**	0.238**	0.297**
ATIA ¹		1	-0.465**	0.575**	-0.244**	-0.408**
Social priority			1	-0.358**	0.226**	0.356**
Health service				1	-0.145**	-0.373**
Preparedness					1	0.466**
Future commitment						1

* $p < .05$; ** $p < .01$; ¹Attitudes towards Indigenous Australians; ²Learning Activity Survey Questionnaire.**TABLE 3**

Percentage of Students Selections Across Each of Mezirow's Precursor Steps

1a. Disorienting dilemma (about actions)	44.0
1b. Disorienting dilemma (about social role)	63.1
2a. Critically reflected on assumptions (questioned worldview)	40.5
2b. Critically reflected on assumptions (maintained worldview)	36.6
3. Recognized discontent shared	56.8
4. Explored new roles	41.4
5. Self-examination	26.5
6. Tried on new roles	19.3
7. Planned action course	31.0
8. Acquired knowledge/skills	17.6
9. Built competence/confidence	29.5
10. Reintegrated to life	15.2
None of these steps	7.4

steps. Table 3 outlines the frequency of Mezirow's precursor steps selected by students.

Experiences of a disorienting dilemma was the most prevalent precursor step, with preeminence placed upon social roles (63.1%), as opposed to a dilemma around personal actions (44%). Critically reflecting on assumptions was selected by over three quarters of respondents, with slightly more questioning their worldviews (40.5%) than maintaining previously held beliefs (36.6%). Many respondents also recognised a shared discontent throughout their learning experience (56.8%), with some exploring new roles (41.4%), though not necessarily trying these roles on in a practical sense (19.3%).

We conducted a series of hierarchical multiple regressions using the number of precursor steps as the independent variable to estimate the proportion of vari-

ance accounted for by transformative learning steps after controlling for Time 1 scores across the four Time 2-dependent variables where statistically significant change occurred. Unstandardised (B) and standardised (β) regression coefficients and squared semipartial (part) correlations (sr^2) for each predictor on each step of each hierarchical multiple regression analysis are reported in Table 4.

Attitudes towards Indigenous Australians

On step 1, pretest ATIA scores accounted for a significant 51% of the variance in posttest ATIA scores, $R^2 = .51$, $F(1, 334) = 347.50$, $p < .001$. On step 2, the number of precursor steps to transformative learning accounted for an additional 2.9% of the variance in attitudes towards Indigenous Australians, $\Delta R^2 = .029$, $F(1, 333) = 21.25$, $p < .001$, $f^2 = 0.03$ (small effect). In combination, the two predictor variables explained 53.9% of the variance in Time 2 attitudes towards Indigenous Australians, $R^2 = .539$, adjusted $R^2 = .537$, $F(2, 333) = 194.91$, $p < .001$.

Social Priority

On step 1, pretest measures of perceptions of Indigenous health as a social priority accounted for a significant 18.9% of the variance in posttest scores, $R^2 = .189$, $F(1, 334) = 77.70$, $p < .001$. On step 2, the number of precursor steps to transformative learning accounted for a significant additional 1.7% of the variance in student perceptions of Indigenous health as a social priority, $\Delta R^2 = .017$, $F(1, 333) = 7.04$, $p = .008$, $f^2 = .017$ (small effect). In combination, the two predictor variables explained 20.6% of the variance in perceptions of Indigenous health as a social priority, $R^2 = .206$, adjusted $R^2 = .201$, $F(2, 333) = 43.07$, $p < .001$.

TABLE 4

 Unstandardised (B) and Standardised (β) Regression Coefficient, and Squared Semipartial Correlations (sr^2) For Each Predictor Variable on Each Step of Hierarchical Multiple Regressions

Variable	B	[95% CI]	β	sr^2
Attitudes towards Indigenous Australians				
Step 1				
Attitudes towards Indigenous Australians — T1	0.7	[0.626, 0.774]***	0.714	0.51
Step 2				
Attitudes towards Indigenous Australians — T1	0.685	[0.613, 0.757]***	0.7	0.486
Precursor steps to transformative learning	-0.953	[-1.359, -0.546]***	-0.172	0.029
Indigenous health as a social priority				
Step 1				
Social priority — T1	0.415	[0.323, 0.508]***	0.434	0.188
Step 2				
Social priority — T1	0.397	[0.304, 0.490]***	0.416	0.169
Precursor steps to transformative learning	0.072	[0.019, 0.125]**	0.131	0.017
Adequacy of Indigenous health services				
Step 1				
Adequacy of health services — T1	0.543	[0.451, 0.635]***	0.537	0.288
Step 2				
Adequacy of health services — T1	0.517	[0.426, 0.608]***	0.512	0.256
Precursor steps to transformative learning	-0.182	[-0.282, -0.081]***	-0.164	0.026
Student preparedness				
Step 1				
Student preparedness — T1	0.364	[0.282, 0.445]***	0.434	0.188
Step 2				
Student preparedness — T1	0.37	[0.292, 0.448]***	0.442	0.195
Precursor steps to transformative learning	0.376	[0.237, 0.515]***	0.252	0.063

 *** $p < .001$; ** $p < .01$.

Health Service

On step 1, pretest measures of perceptions of the adequacy of health services for Indigenous Australians accounted for a significant 28.9% of the variance in posttest measurement, $R^2 = .289$, $F(1, 334) = 135.63$, $p < .001$. On step 2, the number of precursor steps to transformative learning accounted for a significant additional 2.6% of variance, $\Delta R^2 = .026$, $F(1, 333) = 12.73$, $p < .001$, ($f^2 = .027$) (small effect size). In combination, the two predictor variables explained 31.5% of the variance in perceptions of the adequacy of health services for Indigenous Australians, $R^2 = .315$, adjusted $R^2 = .311$, $F(2, 333) = 76.56$, $p < .001$.

Preparedness

On step 1, pretest measures of student preparedness to work in Indigenous health settings accounted for a significant 18.8% of the variance in posttest measurement, $R^2 = .186$, $F(1, 334) = 77.55$, $p < .001$. On step 2, the number of precursor steps to transformative learning accounted for a significant additional 6.3% of the variance in preparedness, $\Delta R^2 = .063$, $F(1, 333) = 28.2$, $p < .001$, $f^2 = .067$ (small effect). In combination, the two predictor variables explained 25.2% of the variance in student pre-

paredness and ability to work in Indigenous health, $R^2 = .252$, adjusted $R^2 = .247$, $F(2, 333) = 56.03$, $p < .001$.

Given that hierarchical multiple regression analysis demonstrated a predictive relationship between the number of precursor steps selected and posttest scores after controlling for pretest scores, independent sample t -tests were also conducted across each of the four dependent variables to determine whether differences existed on each scale depending on whether a precursor step was reported or not. Table 5 outlines results for each precursor step at a conservative alpha level of .01.

There were statistically significant differences between students who did and did not complete a particular step, across a range of Mezirow's precursor steps. The experience of a disorienting dilemma (about both actions and social roles), critical reflection (and questioning one's own worldview), the exploration of new roles, and planning a course of action were the most common differentiators.

Finally, an independent sample t -test ($\alpha = .05$) was conducted to compare differences between participants who completed Time 1 only ($M = 48.14$, $SD = 16.70$) and those who completed Time 1 & 2 ($M = 45.82$, $SD = 15.61$). Students completing Time 1 only had significantly more negative attitudes towards Indigenous Australians,

TABLE 5Results of *t*-tests for Time 2 Measures of Each Dependent Variable by Precursor Steps

	Attitudes towards							
	Indigenous Australians		Social priority		Health services		Preparedness	
	Yes	No	Yes	No	Yes	No	Yes	No
1a. Disorienting dilemma ¹	37.86	44.96***	13.99	13.24***	13.05	14.37***	27.32	26.02**
1b. Disorienting dilemma ²	39.34	46.09***	13.66	13.41	13.89	14.48**	27.22	25.51***
2a. Critical reflection ³	38.59	44.04**	13.88	13.36**	12.91	14.39***	27.18	26.19
2b. Critical reflection ⁴	44.09	40.53	13.35	13.70	14.33	13.47	26.21	26.81
3. Recognised discontent shared	40.68	43.36	13.63	13.49	13.68	13.94	27.27	25.70**
4. Explored new roles	38.12	44.45***	13.89	13.35**	13.06	14.31***	26.99	26.31
5. Self-examination	39.53	42.66	13.91	13.45	13.54	13.88	26.94	26.46
6. Tried on new roles	40.74	42.10	13.80	13.51	12.95	13.99	27.66	26.33
7. Planned action course	37.89	43.6**	13.92	13.41**	13.03	14.13**	27.25	26.29
8. Acquired knowledge/skills	39.32	42.37	13.59	13.56	12.95	13.97	28.00	26.29**
9. Built competence/confidence	39.27	42.9	13.72	13.51	13.19	14.04	27.61	26.17**
10. Reintegrated to life	38.37	42.45	13.90	13.51	12.65	13.99**	28.47	26.25***
None of these steps	46.84	41.43	13.32	13.59	14.68	13.72	24.6	26.75**

p* < .01; *p* < .001; ¹about actions; ²about social role; ³questioned worldview; ⁴maintained worldview.

$t(1173) = 2.2$, $p = 0.028$, two-tailed, $d = 0.14$ (very small effect size). There was no statistically significant difference in preparedness to work in Indigenous health settings between groups.

Discussion

The current study examined whether first-year undergraduate health students' attitudes towards Indigenous Australian culture and people, and their levels of preparedness to work within Indigenous health settings would improve across a single semester course. Students reported small, but significant decreases in negative attitudes towards Indigenous Australians and perceptions of the adequacy of health services for Indigenous Australians, and increases in perceptions of Indigenous health as a social priority and perceptions of preparedness to work in Indigenous health. No change was found in future commitment to Indigenous health. Overall, these findings indicated that completing the Indigenous studies health unit was effective in producing small changes in self-reported student attitudes towards Indigenous Australians, and preparedness towards working in Indigenous health settings, at least for those students who continued to attend tutorials towards the end of semester.

This study also examined whether, and which of, Mezirow's precursor steps to transformative learning played a role in effecting change across attitudes towards Indigenous Australian culture and people, and their levels of preparedness to work with, and engage in, Indigenous health settings. The results indicated the more precursor steps students reported experiencing, the more likely they were to report positive changes on each of the measures, with the exception of future commitment

to Indigenous health. These findings provide support for transformative learning as the mechanism through which changes in attitudes and preparedness can occur, and validate the findings of transformative learning experiences reported in this unit in previous research (Flavell et al., 2013; Kickett et al., 2014; Thackrah & Thompson, 2013). Further, these findings support Brock's (2010) suggestion that the number of steps to transformation experienced and remembered were predictive of transformative experiences, extending that study's findings within a business education discipline to an Indigenous studies unit within health sciences. Experiencing a disorienting dilemma, critically reflecting on and questioning ones worldview, exploring new roles, and planning a course of action were the steps associated with more positive attitudes towards Indigenous Australians, perceptions of Indigenous health as a social priority and perceptions of preparedness to work in Indigenous health, and decreased perceptions of the adequacy of health services for Indigenous Australians. Disorienting dilemmas, critical reflection and trying on new roles were the most commonly reported transformative steps in previous research (Brock, 2010), and this concordance across studies suggests areas on which future curriculum can focus.

Taken in combination, these results suggest that there are some steps within transformative theory that may lead to potentially transformative experiences, with consequent shifts in attitudes towards Indigenous Australians, and an increased preparedness, understanding and commitment to work within Indigenous health settings. More specifically, the results suggest that when students in Indigenous studies health courses experience a contextualised dilemma about their actions and roles in

society, critically reflect on their own worldview, explore new roles in terms of ways of being and plan a course of action towards this, their attitudes towards Indigenous Australians become more positive, and their general preparedness to work in Indigenous health settings increases.

The precursor step to transformative learning most commonly selected was critical reflection on assumptions, with nearly 80% of students stating they had done so at some point during the study period. Students who questioned their worldviews had more positive attitudes towards Indigenous Australians than those who did not, supporting the idea that an examination of, and potential shift in, personal epistemic foundations can have an impact in terms of how one views oneself and others. However, this finding needs to be treated with caution as the individual step analyses did not control for preexisting levels of attitudes. Noting this interpretive caveat, the findings align with Mezirow's own writings around the influence of critical reflection (Mezirow, 1990), and other literature, both quantitative (e.g. Brock, 2010) and qualitative (e.g. Jackson et al., 2013; Thackrah & Thompson, 2013). While the majority of transformative learning literature is qualitative in nature, the relatively scarce quantitative data available does appear to support critical reflections preeminence as the key in individual transformation of perspective.

While these results are encouraging, and appear to reflect the intent of the unit to facilitate the beginning of a process of student perspective transformation in terms of attitudes towards Indigenous Australians and preparedness to work in Indigenous health settings, it should be noted that approximately half of the original cohort did not attend the Week 10 class where the second stage of data collection occurred. It is possible that the results may have differed if these students were included in the analyses presented here. While the reason for their absence in this class is unknown, and reduced student attendance is common across disciplines (Massingham & Herrington, 2006), we can speculate that there may be lingering perceptions of irrelevance when it comes to learning about Indigenous people and issues (McDermott & Sjoberg, 2012) and resistance, or at least ambivalence, to the Indigenous studies classroom in a health context, something also related to attitudes and their suppression (Costarelli & Gerlowska, 2015). Analysis of differences between students who completed questionnaires at Time 1 and those who completed both Time 1 and 2 also suggest that Time 2 attendees held different perspectives about Indigenous culture and people at the start of the unit. It is possible that students who were no longer attending by Time 2 were not interested in the prospect of transformative experiences (Snyder, 2008).

Within this study, the lower proportion of students reporting experiencing later precursor steps (from step 5 to step 10) reflects previous reports (Thackrah & Thompson, 2013). Lack of practical engagement with Indigenous people (beyond tutors) during the unit may limit the

potential of attitudinal change and preparedness to work in Indigenous health settings. This raises issues around when and where students may adopt and enact new roles in a practical sense, highlighting the need for continuing exposure to increasingly refined models of learning that facilitate an ongoing transformative process. Thus, there is a need to build upon first-year offerings, and effectively scaffold the transformative experience across years, from developing basic capabilities of reflexivity and cultural capabilities, before moving onto the culmination of truly critically reflexive entry level practitioners (Thackrah & Thompson, 2013). Further, this model complements the proposed structure of Indigenous studies curriculum in terms of the stated intention for transformative learning, a process that appears to have been commenced at the first-year level within the unit at the heart of this study.

Facilitating a Mezirowian disorienting dilemma early in the educational experience facilitates the early emergence of critical reflective capabilities (to varying degrees). This is particularly salient when considering the value and importance placed upon critically reflexive practitioners in most disciplinary graduate attributes. It is possible that some students are not cognitively or psychologically equipped to deal with matters underpinned by deep moral and ethical foundations such as the historical injustices and future wellbeing and health outcomes of Indigenous Australians. While our results are encouraging, they highlight the need for curricular opportunities beyond first year, this on-going 'stimulation of the "transformative experience" suggested elsewhere' (Brock, 2010).

Further research is required into *how* "entry" to these precursor steps is induced. Do certain factors shape student experiences of Mezirow's precursor steps, and thus transformative potential? Notably, Ranzijn et al. (2008) suggest pedagogical factors (e.g. cultural background of educators, rapport development, methods of engagement and the classroom context) as providing students with a unique opportunity to traverse "difficult" terrain — elements attested to elsewhere (e.g. Hollinsworth, 2016; Kickett et al., 2014). Of interest, student feedback across many of these studies also suggests an experience and depth of both teaching and learning qualitatively different from nontransformative pedagogical approaches.

There are limitations to this study that temper our confidence in the findings. First, the study was conducted within a single university; as such, the findings may not be generalisable to health science students in other universities. Second, students self-reported across each of the measures, leaving open the possibility of socially desirable responding, based upon students' understanding of 'correct' answers developed over the unit's duration. While this cannot be fully discounted, we argue that socially desirable responding was already likely to be present at the time of first administration of the measures (see Bullen, Roberts, & Hoffman (2017) for a discussion of demand characteristics, response biases and democratic racism associated

with self-report measures of attitudes relating to Indigenous Australians). Perhaps, further mitigating this point, many students were quite willing to provide qualitative comments related to their experiences, and not necessarily positive, thus suggesting openness to responding honestly. Indirectly related, a further limitation is the difference between those who completed Time 1 only (group 1), and those who completed Time 1 and Time 2 (group 2). It is possible that, despite the very small effect size, group 1 declined in attendance due to their more negative attitudes, thus introducing further bias into the analysis results. Finally, this study lacked a control group, making it difficult to unambiguously attribute observed changes in student attitudes and preparedness to the Indigenous studies health unit. However, the associated qualitative comments from students suggest that the content and importantly, the process of learning, were key factors in shifts in student perspectives. Regardless, future research would benefit from the use of a control group, preferably of students enrolled in a course similarly focused on diversity and health, but not specifically on Indigenous Australian culture and issues (Cole, Case, Rios, & Curtin, 2011).

These results also raise questions around the nature of transformation itself — what is transformation, and where does it begin and end? Do Mezirow's theory and steps adequately describe transformative experiences, or are they best aligned with a specific context, intention and boundaries within this intercultural space? We suggest that this is perhaps best answered by notions of specificity. In the current study, the transformative context is bounded by the specific intentions of the unit itself; that is, intentions to begin — not complete — movement towards cultural capability via the transformation of 'negative assumptions, stereotypes and frames of reference' (Taylor et al., 2014). As such, transformation at a first-year level may be, and probably should be expected to be, simply that — early yet fundamental experiences of the disorienting dilemma, the catalyst for future change, with opportunities for transformation of attitudes, beliefs and ultimately behaviours arising through learning models that explicitly encompass discourse and the development of critically reflexive capacity. Accordingly, any shifts in student attitudes and consequent preparedness during this point of their academic lives should be interpreted as the student moving into the process of transformative learning, as opposed to having completed a transformation in Mezirow's theoretical sense — that is, where an integration into one's life of often starkly differentiated perspectives, values and beliefs has occurred.

Conclusion

In summary, this study suggests that health students' experiences within educational environments with a pedagogical transformative focus and intention are capable of

effecting small but significant quantitatively measurable shifts in students, both attitudinally towards Indigenous Australians and in terms of preparing students for working in Indigenous health settings. Transformative learning — the shaking up of students personal epistemic and ontological foundations — appears key to facilitating this shift, something extending beyond purely cognitive learning models, and venturing into the realm of affective learning. By facilitating a space for students to explore the interface between Indigenous Australia and themselves, courses focused on Indigenous health and perspectives provide the beginning of a transformational experience enabling and positioning students to play a part in the future of Indigenous health.

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Conflicts of Interest

None.

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About the Authors

Jonathan Bullen is a Nyungar (Wardandi) man from the south-west of Western Australia. He is Learning Designer, Indigenous Curriculum & Pedagogy within Curtin Teaching and Learning. Prior to this, Jon was co-unit coordinator of an award-winning large-scale interprofessional health unit. His Ph.D. research focuses on the elements underpinning, and outcomes from, transformative pedagogies.

Lynne Roberts is a Wadjella living in Western Australia. She is an Associate Professor in the School of Psychology and Speech Pathology at Curtin University. Lynne is an Australian Teaching Fellow and Chair of Curtin Academy. Her research interests include higher education research and she has published widely on teaching and learning topics.

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Driving Transformative Learning within Australian Indigenous Studies

Jonathan Bullen¹ and Lynne Roberts²

¹*Curtin Learning and Teaching, Curtin University, Perth 6845, Western Australia, Australia*

²*School of Psychology and Speech Pathology, Curtin University, Perth 6845, Western Australia, Australia*

Australian undergraduate programmes implementing Indigenous studies courses suggest transformative educational outcomes for students; however, the mechanism behind this is largely unknown. To begin to address this, we obtained baseline data upon entry to tertiary education (Time 1) and follow-up data upon completion of an Indigenous studies health unit (Time 2) on student learning approaches, student-teacher rapport, classroom community, critical reflection (CR) and transformative experiences within the unit. Three-hundred-thirty-six health science first-year students (273 females, 63 males) completed anonymous in-class paper questionnaires at both time points. Hierarchical multiple regression analysis indicated that (a) CR was the strongest predictor of transformative learning experiences, (b) the relationship between deep learning approach upon entry to tertiary education and transformative learning experiences was mediated by CR and (c) rapport and classroom community accounted for significant variance in CR. These results suggest that students benefit from tutors' ability to develop rapport and classroom community, leading to greater capacity for student CR. This in turn promotes transformative learning possibilities within the Indigenous studies learning environment. These findings provide a further rationale for institutions to embed Indigenous knowledge into courses and highlight the importance of evaluating their effect and quality.

■ **Keywords:** learning approach, critical reflection, transformative learning, classroom community, rapport, Indigenous studies

There are complexities in teaching Australian Indigenous studies. The context is often confronting; tutors are often Indigenous, the majority of students are non-Indigenous, and the relevance of the content is not always immediately apparent (IHEAC, 2006). The courses are fundamentally underpinned by the nature of Australia's 'beginnings', from colonisation and its historical policy foundations — policies that had, and continue to have, marginalising influence on Aboriginal and Torres Strait Islander people and culture (Gunstone, 2009). Reflecting the complexity of the space, student resistance is a key impediment to the quality of learning (Asmar & Page, 2009; McDermott, 2014), this itself reflecting the attitudes, values and beliefs of students entering it (Bornholt, 2002; Bullen, Roberts, & Hoffman, 2017). Australian literature details various positive effects of such challenging courses, broadly suggesting the existence of personal shifts in the perspective or worldview of students, while highlighting the efficacy

of their adopted teaching and learning models to effect these shifts (e.g., Bierman & Townsend-Cross, 2008; Jackson, Power, Sherwood, & Geia, 2013; Kickett, Hoffman, & Flavell, 2014). While similarities and differences exist contextually across these studies, two unifying themes appear to be the adoption of Mezirow's (2000) transformative learning theory as fundamental to the development, delivery and evaluation of the course offerings, and the embedding of explicit opportunities within courses to engage in, or at least develop capacity for, critical reflection (CR). However, despite positive accounts of these learning experiences and/or aligning the learning and teaching process with the principles of transformative learning theory, very little literature actually explores or elaborates in detail the

ADDRESS FOR CORRESPONDENCE: Jonathan Bullen, Curtin Learning and Teaching, Curtin University, Perth 6845, Western Australia, Australia. Email: jonathan.bullen@curtin.edu.au.

effect of such courses (Clifford, McCalman, Bainbridge, & Tsey, 2015) or the mechanisms within doing the ‘heavy lifting’. This phenomenon reinforces the sentiment of a recent review of transformative learning theory itself (Taylor & Cranton, 2013), suggesting that studies adopting, or aligning with, Mezirow’s theory rely too extensively on interpretive paradigms within the transformative context, to the general exclusion of a positivist approach.

The current study explores the factors conducive to transformative learning within an Indigenous studies context, examining the predictive power of each, and examines factors predicting CR itself. This exploration is done in the context of a tangible outcome beyond simply ‘shifting perspectives’, that is, shifting perspectives in terms of attitudes towards Indigenous Australians and preparedness to work in often challenging contexts of Indigenous health. In this paper, we first review transformative learning (Mezirow, 2000) as a theoretical construct aligned with, and holding utility towards, the understanding of potential student experiences within complex learning environments such as the Indigenous studies context. We follow this with an exploration of potential predictors of transformative learning. We then present predictive analysis findings, along with post-hoc analyses, examining the mediating role of CR in the relationship between learning approach and precursor steps to transformative learning. Finally, we discuss the implications of these findings for the refinement and development of existing and future course offerings within the transformative Indigenous studies space.

Transformative Learning Theory

Mezirow’s transformative learning theory has been coined one of the preeminent theories of adult learning (Merriam & Caffarella, 1999; Taylor, 2007), and has been adopted as a framework across a range of domains, from Mezirow’s (1978) original exploration of women reentering college, to student experiences within educational disciplines such as business, teaching and health (Brock, 2010; Kickett et al., 2014; Taylor, 2003). Habermas (1984) distinguishes between instrumental and communicative learning, the former concerned with controlling and manipulating environments to assess claims to truth, the latter concerned with the understanding and assessing of claims to authenticity and appropriateness (Mezirow, 2003). Reflecting this distinction, transformative learning theory’s key premise is that of ‘[transforming] problematic frames of reference—sets of fixed assumptions and expectations (habits of mind, meaning perspectives, mindsets)—to make them more inclusive, discriminating, open, reflective, and emotionally able to change’ (Mezirow, 2003, p. 58). This is facilitated predominantly through a critically reflective process engaging the learner with these beliefs, habits of mind and personal assumptions, with 10 precursor steps proposed to lead to transformative experiences: ‘(1) a disorienting dilemma, (2) self-

examination with feelings of fear, anger, guilt or shame, (3) a critical assessment of assumptions, (4) recognition that one’s discontent and the process of transformation are shared, (5) exploration of options for new roles, relationships and actions, (6) planning a course of action, (7) acquiring knowledge and skills for implementing one’s plans, (8) provisional trying of new roles, (9) building competence and self-confidence in new roles and relationships, (10) a reintegration into one’s life on the basis of conditions dictated by one’s new perspective’ (Mezirow, 2000, p. 22).

Despite broad adoption of transformative learning theory, significant on-going critique remains (Taylor, 2007; Taylor & Cranton, 2013; Newman, 2012). This focuses on a range of elements including cognitive maturity in relation to the capacity for CR (Merriam, 2004), the ethics of inducing potential identity transformation via the deep questioning of assumptions held (Taylor & Cranton, 2013), and even the validity of transformative learning theory itself (Newman, 2012). While debate remains on-going, transformative learning theory is implicitly acknowledged as relevant to Indigenous Australian studies through the growing use of, and call for, the theoretical framework in detailing the effects of courses in this space (e.g., Jackson et al. 2013; Kickett et al., 2014; Page, 2014). This body of work, while not necessarily focused on transformative learning itself, approaches the context with a premise of understanding and affecting change, personally and socially.

Predictors of Transformative Learning

Students enter undergraduate education in Australia with a variety of beliefs about, and attitudes towards, Indigenous Australians (Bullen et al., 2017). How individuals perceive and interact within the education environment and their own learning preferences are examined below as potential predictors of transformative learning experiences in Australian Indigenous contexts.

Educational Factors

Rapport

Student–teacher rapport predicts a range of positive student outcomes including student perceptions, cognitive and affective learning, and class engagement and participation (Benson, Cohen, & Buskist, 2005; Frisby & Martin, 2010; Grantiz, Koernig, & Harich, 2008; Wilson, Ryan, & Pugh, 2010). This is supported by findings around the positive relationship between engagement within the classroom and attitudinal changes towards diverse ethnic groups (Gimmestad & De Chiara, 1982; Pettijohn & Waltzer, 2008) as well as theories of intergroup contact and prejudice reduction (Tropp & Pettigrew, 2005). Literature within the Indigenous studies domain points to the role of the relational elements of the learning environment as one of facilitating shifts of perspectives

(Jackson et al., 2013; Kickett et al., 2014). Thus, the influence of student–teacher rapport, often overlooked (Buskist, Sikorski, Buckley, & Saville, 2002), requires consideration as a predictor of transformative learning.

Classroom Environment

Sense of community within the classroom is related to numerous learning and retention variables (e.g., Freeman, Anderman, & Jensen, 2007; Kernahan, Zheng, & Davis, 2014). The need for educators to create classroom environments conducive to the development of reflection and critical thinking within complex learning contexts is recognised, Brookfield (1986) acknowledging the imperative in terms of international students. However, to date, there has been very little research around student perceptions of the classroom community in the context of intercultural learning spaces, less when discussing the transformative learning context. Previous research is mostly qualitative in nature, indirect in its acquisition of data and relevance, with transformative learning not necessarily the focus of the study (e.g., Aberdeen, Carter, Grogan, & Hollinsworth, 2013; Aveling, 2002; Ranzijn, McConnochie, Day, Nolan, & Wharton, 2008). The complexity of many Indigenous studies classrooms is such that participation alone is a considerable part of the battle; effectively developing a sense of classroom community may assist in managing tension and anxiety, consequently attracting and retaining learners within this classroom context (Battistich, Solomon, Watson, & Schaps, 1997; Frisby & Myers, 2008) and ultimately improving learning outcomes. Sidelinger and Booth-Butterfield (2010) found links between student connectedness, instructor rapport and learning preparation and in-class participatory behaviours, suggesting a student/instructor co-creation of the classroom community and consequent learning environment. Indeed, Sidelinger, Bolen, Frisby and McMullen (2011) suggest student connectedness within the classroom may actually offset poor instructor-based teaching and learning behaviours.

Individual Factors

Learning Approach

Students enter undergraduate education in Australia with preferred learning approaches. Learning approaches refer to ‘the ways in which students go about their academic tasks, thereby affecting the nature of the learning outcome’ (Biggs, 1994). A deep learning approach is characterised by an intrinsic enjoyment in, and personalisation of, the subject, with the learner seeking understanding. This approach involves a range of higher order cognitive capabilities (e.g., analytic and metacognitive skills) to develop a deep grasp of the subject matter. Underpinning this is the assumption that knowledge and understanding constructed through this lens is transferrable and applicable to a range of contexts, not simply the context within

which the material has been learned (Biggs, 1987; Marton, 1983). In contrast to this is the extrinsically motivated, nonpersonalised, superficial methodology of the surface approach to learning (Leung & Kember, 2003). Both have been linked to academic outcomes across a range of domains and demographics. Purdie and Hattie’s (1999) meta-analyses of a range of studies examining the relationship between students’ study strategies and outcomes indicates that, over and above the time spent learning, strategies of a ‘deep or elaborative nature’ (p. 82) had the most significant effect.

From a trait-based perspective, students with a high need for cognition (Cacioppo & Petty, 1982) typically approach their learning deeply (Evans, Kirby, & Fabrigar, 2003). However, students low on need for cognition are able to adopt a deep learning approach dependent on the learning environment context (Wilson & Fowler, 2005). This is dependent on a range of factors such as interest in the subject, personal engagement and investment, task requirements (Biggs, 1987) and the design and delivery of the course (Baeten, Kyndt, Struyven, & Dochy, 2010; Meyers & Nulty, 2009). This suggests that the more personalised and meaningful the learning experience, the more likely the adoption of the deep approach. Importantly, Biggs’ (1989) learning model suggests that student perceptions of the learning environment influence approaches to learning, with a consequent influence upon learning outcomes (Wilson & Fowler, 2005).

Critical Reflection

Conceptually related to the deep learning approach is CR (Leung & Kember, 2003). The core of CR is the questioning, and potential reformulation, of premises previously held to be true (Mezirow, 2000). Importantly, learning approach and critical reflective capability are positively related, with deep approaches associated with greater CR (Leung & Kember, 2003; Phan, 2007; Sobral, 2001). The implication being that a deep approach to learning is both necessary and conducive to authentic reflection on deeply held beliefs and values, particularly within learning environments relegated to irrelevance (Betancourt, 2003; McDermott & Sjoberg, 2012), such as in Australian Indigenous studies. While both deep learning approach and CR are fundamentally related to transformative learning (Mezirow, 1998), CR has been posited as the central tenet (Brookfield, 2000).

Previous research (e.g., Bullen & Roberts, in press; Jackson et al., 2013; Kickett et al., 2014) suggests that within the Indigenous studies domain CR occurs, and is the driving force behind any transformative learning occurring. However, there is little within these studies that explicitly examine the nature of CR, or that highlights critically reflective material is indeed aligned with existing definitions of CR. This is despite acknowledging the transformative intent and outcomes of their respective educational interventions. Related to this, Lundgren and

Poell's (2016) review of literature of empirical studies on CR (as based on Mezirow's own definition, albeit shifting over time) notes a lack of consensus around the operationalisation of the CR construct across a number of studies, suggesting a lack of fidelity of data related to the existence of CR occurring. This somewhat echoes Taylor's (2007) concern that further evidence of the existence and role of CR requires greater examination.

Predictors of Critical Thinking

If indeed CR is the primary driver of transformative learning, what aspects of the learning environment are associated with, and conducive to, CR? Teaching environments can be conducive to authentic reflection, Chick et al.'s (2009) finding that group-based reflective learning facilitated increased empathy and attitudinal change, suggests the nature of the group, classroom context and associated levels of support within as factors impacting upon the quality of reflection. Indeed, across a range of studies within the health domain, these elements have been put forth as influential in facilitating the development of critically reflective practices (Mann, Gordon, & MacLeod, 2009). These findings further emphasise the importance of relational and student-based factors (rapport, classroom community and learning approach) as fundamental to potentially transformative outcomes, particularly when the context introduces material that may be threatening.

In summary, transformative learning theory posits that, while a range of factors may be involved in facilitating potentially transformative experiences, CR is the preeminent factor behind the potential for perspective transformation (Brookfield, 2000; Mezirow, 2000), and this is facilitated by a deep learning approach. Other aspects of students' engagement in the classroom context may also be conducive to the development of CR within the Indigenous studies learning environment, but are yet to be empirically tested.

Aims and Hypothesis

The current study is the third phase of a broader research project examining the development of student cultural capabilities through a transformative educational course mechanism. Phase 1 examined student attitudes towards Indigenous Australians, and student preparedness to work in Indigenous health settings upon entry to their first Indigenous health course experience (Bullen, Roberts, & Hoffman, 2017). Phase 2 examined the efficacy of the course experience in terms of shifting attitudes and preparedness, and the role of transformative experiences within this. After controlling for preexisting attitudes, the number of Mezirow's posited precursor steps to transformative learning self-reported predicted significant changes in student attitudes towards Indigenous Australians ($f^2 = 0.03$), and student perceptions of Indigenous health as a social priority ($f^2 = 0.017$), the adequacy of

health services for Indigenous Australians ($f^2 = 0.027$) and preparedness to work in Indigenous health settings ($f^2 = 0.067$) (Bullen & Roberts, in press).

The aim of this third phase of the research project was to examine the predictors of transformative learning of first year undergraduate health students' within an Australian Indigenous studies context. First, we aimed to examine which of the individual and classroom factors most powerfully predicted these potentially transformative experiences. We hypothesized that CR, student perceptions of the classroom community, student/teacher rapport and the learning approach adopted would be significant predictors of the number of precursor steps to transformative learning self-reported by students (H1), and that CR would be the strongest unique predictor (H2). Second, assuming CR is the key predictor of transformative learning, we aimed to examine which of the classroom factors predicted CR. We hypothesised that student perceptions of classroom community and student/teacher rapport would be significant predictors of CR. Understanding the key factors driving transformative experiential learning for students has significant implications for institutions implementing courses focused around Indigenous perspectives, knowledge and diversity.

Method

Participants

Participants were 336 students (63 males, 273 females) enrolled in a large Australian university Faculty of Health Sciences interprofessional first-year core unit on Indigenous cultures and health. Of the 336 students (63 males, 273 females), the majority were domestic ($n = 301$), with 35 international students and 5 students identifying as Indigenous Australians. Participant ages ranged from 17 to 54 years (Mean = 21.5 years; SD = 6.0 years).

Materials

Students completed questionnaires at two time points, at the beginning and end of semester. A measure of student learning approach [Revised Two Factor Study Process Questionnaire (R-SPQ-2F); Biggs, Kember, & Leung, 2001] was included in the Time 1 questionnaire (see author details omitted for all measures included in this questionnaire). At Time 2, a questionnaire was developed comprising student approaches to learning, student/teacher rapport, quality of the classroom community, students' reflective thinking, the number of precursor steps to transformative learning, teacher Indigeneity, the number of classes attended across the semester and student demographics.

Revised Two Factor Study Process Questionnaire

Derived from Biggs' Study Process Questionnaire (1987), the R-SPQ-2F (Biggs et al., 2001) measures student approaches to learning. The R-SPQ-2F is intended to be

responsive to changes in higher education and consists of 20 items across two learning approaches, with responses to each item via a Likert scale of 1 (never/only rarely) to 5 (always/almost always). An example question from the Deep Approach is 'I find that at times studying gives me a feeling of deep personal satisfaction'. An example question from the Surface Approach is 'I do not find my course very interesting so I keep my work to the minimum'. Items for each approach are summed with higher scores indicating preferences for a particular approach. Cross-validation in two large Western samples (Immekus & Imbrie, 2010) indicates acceptable reliability for the deep (cohort 1: $\alpha = .76$; cohort 2: $\alpha = .76$) and surface (cohort 1: $\alpha = .73$; cohort 2: $\alpha = .7$) approaches. Across this study's sample, the measure had acceptable reliability for both Time 1 (deep approach: $\alpha = .82$; surface approach: $\alpha = .76$) and Time 2 (deep approach: $\alpha = .85$; surface approach: $\alpha = .80$) measures.

Classroom Community Scale

The Classroom Community Scale (CCS: Rovai, 2002) measures the quality of the sense of community in learning environments. It focuses on the extent to which students' feel learning goals are being satisfied in the classroom, via both a sense of class connectedness, and the use of class interaction to construct understanding. It consists of 20 items evenly split across two subscales (connectedness and learning), with responses to each item statement via a Likert scale of 1 (strongly agree) to 5 (strongly disagree). An example question is 'I feel connected to others in this course'. To score subscale items are first summed, and then can be added to provide the CCS total, with higher scores indicating higher sense of classroom community. In this sample, the measure had acceptable reliability for the full scale ($\alpha = .88$), and the learning ($\alpha = .82$) and connectedness ($\alpha = .83$) subscales.

Reflective Thinking Questionnaire

The Reflective Thinking Questionnaire (RTQ: Kember et al., 2000) measures students' engagement in reflective thinking, and was developed in explicit alignment with Mezirow's transformational learning framework. Only the CR subscale was used in the current study. Participants respond to each statement via a Likert scale of 1 (definitely agree) to 5 (definitely disagree). An example question is 'This course has challenged some of my firmly held ideas'. Items are summed with higher scores indicating higher engagement with critically reflective thinking. In this sample, the measure had high internal consistency ($\alpha = .85$).

Professor – Student Rapport Scale – Brief

The Professor–Student Rapport Scale – Brief (PSRS-B: Wilson & Ryan, 2013) measures student perceptions of rapport with their teacher. It consists of six items, with responses to each item statement via a Likert scale of 1 (strongly disagree) to 5 (strongly agree). An example

question from the scale is 'My professor encourages questions and comments from students'. To score, items are summed with higher scores indicating greater perceived rapport. Internal consistency ($\alpha = .86$) was acceptable in this study.

Teacher Indigeneity perceptions

A single item was used to measure participants' perceptions of their tutor's cultural background. Possible responses are limited to 'Indigenous', 'Non-Indigenous' and 'I don't know'.

King's Learning Activities Survey

The Learning Activities Survey (LAS) developed by King (1997) is used to measure perspective transformation experiences in the learning environment. The adapted version used by Brock (2010) consists of 13 items, participants responding by checking as many as are applicable to their learning experience. An example item is 'I had an experience that caused me to question the way I normally act'. Scoring is a matter of counting the number of statements endorsed.

Demographics

Single items were used to measure participant's age, gender, student type (domestic or international) and number of tutorials attended.

Procedure

This study was approved by the university Human Research Ethics Committee. Students completed part 1 of the questionnaire during week 1 of an Indigenous cultures and health unit, and were invited to participate in part 2 of this study in week 10 of semester. All students in attendance completed the questionnaire, after being advised that while participation in completing the questionnaire was part of a tutorial activity, their written consent was required for their data to be used in the research project. Tutors left the room during questionnaire administration to minimise ethical concerns around coercion of students to participate. Questionnaires took approximately 10–15 minutes to complete. Of the 1175 Time 1 and the 614 Time 2 student respondents, 336 were able to be matched on a code to their data at Time 1, forming the dataset for the current study's analysis. Of the 336, 116 students reported having an Indigenous tutor, 189 a non-Indigenous tutor, with 24 unsure and 4 not reporting.

Data was entered into SPSS (v.22) for analysis. Missing values and 'No Answer' responses in the original dataset were relatively infrequent across each of the key measures used, the latter recoded as missing values also. Missing values analysis reported Little's MCAR test as significant, indicating that data was not missing at random (Little, 1988). Missing values were then imputed using expectation maximisation, preserving intervariable relationships.

TABLE 1
Descriptive Statistics for Student Respondents ($n = 336$)

	Minimum	Maximum	Mean	SD
Deep learning approach — T1	13.00	49.00	31.48	6.62
Surface learning approach — T1	10.00	43.00	21.67	5.82
Deep learning approach — T2	12.00	49.00	29.53	7.34
Surface learning approach — T2	10.00	47.00	23.43	6.63
Teacher/student rapport	6.00	30.00	22.91	4.34
Connectedness	14.00	45.00	30.51	5.20
Learning	18.00	50.00	36.25	5.60
Critical reflection	4.00	20.00	13.27	3.43
Precursor steps to transformative learning	0.00	12.00	4.21	2.77

The factor structure and reliability for each of the four key measures were tested using principal axis factoring with varimax rotation. Examination of scree plots supported the proposed single factor structure of both the PSRS-B ($\alpha = .86$) and RTQ ($\alpha = .85$). Factor analysis of the R-SPQ-2F identified five factors with multiple crossloadings, in contrast to the four factors (two deep subscales, two surface subscales) proposed by Biggs et al. (2001). Factor analysis with forced two factor extraction was conducted on the overall scale, resulting in a 10-item deep subscale ($\alpha = .85$) and a 10-item surface subscale ($\alpha = .80$) subscale, aligned with Immekus & Imbrie's (2010) validation study. Factor analysis of the CCS also identified five factors with multiple crossloadings, in contrast to the two factor model (connectedness and learning) proposed by Rovai (2002). Factor analysis with forced two factor extraction was conducted on the overall scale resulting in a 9-item connectedness subscale ($\alpha = .85$) and a 10-item learning ($\alpha = .81$) subscale.

Results

Table 1 outlines the aggregated descriptive statistics across each of the measures. To assess the size and direction of the linear relationships between the key variables of interest, bivariate Pearson's product-movement correlation coefficients (r) were calculated (Table 2).

Hierarchical Multiple Regression Predicting Precursor Steps to Transformative Learning

A hierarchical multiple regression analysis (HMRA) predicting precursor steps to transformative learning was conducted in two steps. In the first step, Time 1 measures of deep and surface learning approach were entered and accounted for a significant 3.6% of the variance in precursor steps to transformative learning, $R^2 = .036$, $F(2, 333) = 6.26$, $p = .002$. On step 2, student/teacher rap-

port, classroom community subscales (connectedness and learning), Time 2 deep and surface learning approach, and CR were added to the regression equation, and accounted for an additional 29.7% of the variance in precursor steps to transformative learning, $\Delta R^2 = .297$, $F(6, 327) = 24.27$, $p < .001$. In combination, the eight predictor variables explained 33.3% of the variance in precursor steps to transformative learning, $R^2 = .333$, adjusted $R^2 = .317$, $F(8, 327) = 20.42$, $p < .001$ (see Table 3). By Cohen's (1988) conventions, a combined effect of this magnitude can be considered large ($f^2 = 0.50$). Of these, CR accounted for the largest proportion of significant unique variance in precursor steps to transformative learning, $sr^2 = .205$, supporting the second hypothesis that the strongest predictor of transformative experiences would be CR.

Mediation

Only deep learning at Time 1 and CR at Time 2 accounted for significant unique variance in precursor steps to transformative learning. Further to this, based on literature suggesting a relationship between deep learning approaches and CR (Leung & Kember, 2003), and the suggested pre-eminence of the role of CR in transformative learning theory (Mezirow, 1998), it was hypothesised (post-hoc) that the deep learning approach (prior to commencing the unit of study) indirectly affects the number of precursor steps to transformative learning through the mediating variable of CR.

This was tested using PROCESS (Hayes, 2012). Results indicated that deep learning approach was a significant predictor of CR, $b = 0.105$, $SE = 0.028$, $p < .001$, and that CR was a significant predictor of precursor steps to transformative learning, $b = 0.443$, $SE = 0.037$, $p < .001$ (see Figure 1). A deep learning approach was no longer a significant predictor of precursor steps to transformative learning after controlling for the mediator, CR, $b = 0.033$, $SE = 0.019$, $p = .089$. These results support the mediational hypothesis.

HMRA Predicting Critical Reflection

A second HMRA of classroom factors predicting CR was conducted in two steps. Measurements of student/teacher rapport and classroom community subscales (connectedness and learning) were entered into the regression equation, and accounted for 23.1% of the variance in CR, $R^2 = .231$, $F(3, 332) = 33.29$, $p < .001$. By Cohen's (1988) conventions, a combined effect of this magnitude can be considered medium ($f^2 = 0.30$).

Unstandardised (b) and standardised (β) regression coefficients and squared semipartial (part) correlations (sr^2) for each predictor on each step of each HMRA are reported in Table 3.

Discussion

The current study examined whether individual and classroom factors were predictive of first-year undergraduate

TABLE 2

Pearson Correlation Matrix Among all Personal and Pedagogical Variables

	Tutor Indigeneity	Deep learning approach — T1	Surface learning approach — T1	Deep learning approach — T2	Surface learning approach — T2	Teacher/ student rapport	Connectedness	Learning	Critical reflection	Precursor steps to transformative learning
Tutor Indigeneity	1	0.064	−0.006	0.011	0.007	−0.092	−0.041	−0.067	−0.002	0.006
Deep learning approach — T1		1	−0.300**	0.644**	−0.359**	0.240**	0.128*	0.220**	0.203**	0.190**
Surface learning approach — T1			1	−0.296**	0.684**	−0.105	−0.057	−0.165**	−0.090	−0.045
Deep learning approach — T2				1	−0.430**	0.397**	0.224**	0.352**	0.373**	0.282**
Surface learning approach — T2					1	−0.279**	−0.131**	−0.339**	−0.237**	−0.134**
Teacher/student rapport						1	0.468**	0.728**	0.442**	0.299**
Connectedness							1	0.623**	0.267**	0.201**
Learning								1	0.451**	0.267**
Critical reflection									1	0.566**
Precursor steps to transformative learning										1

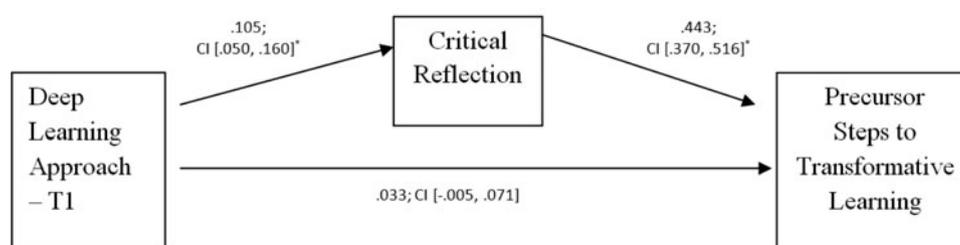
** $p < .01$; * $p < .05$.

TABLE 3

Unstandardised (*b*) and Standardised (β) Regression Coefficient, and Squared Semi-Partial Correlations (sr^2) for Each Predictor Variable on Each Step of a Hierarchical Multiple Regression Predicting Precursor Steps to Transformative Learning

Variable	<i>b</i>	[95% CI]	β	sr^2
Transformative learning				
Step 1				
Deep learning — T1	0.081	[0.035, 0.127]**	0.194	.034
Surface learning — T1	0.006	[−0.047, 0.059]	0.013	.000
Step 2				
Deep learning — T1	0.024	[−0.025, 0.073]	0.058	.002
Surface learning — T1	0.08	[−0.051, 0.067]	0.017	.000
Rapport	0.044	[−0.042, 0.130]	0.069	.002
CCS: connectedness ¹	0.034	[−0.027, 0.094]	0.063	.002
CCS: learning ¹	−0.041	[−0.116, 0.035]	−0.082	.002
Deep learning — T2	0.018	[−0.031, 0.066]	0.047	.001
Surface learning — T2	0.09	[−0.047, 0.065]	0.021	.000
Critical reflection	0.429	[0.345, 0.514]***	0.532	.205
Critical reflection				
Step 1				
Rapport	0.191	[0.082, 0.300]**	0.242	.027
CCS: connectedness ¹	−0.019	[−0.099, 0.061]	−0.028	.001
CCS: learning ¹	0.179	[0.084, 0.275]***	0.293	.031

*** $p < .001$; ** $p < .01$; ¹Classroom community scale.

**FIGURE 1**

The mediating role of critical reflection in the effect of learning approach on precursor steps to transformative learning. * $p < .001$.

health students' transformative experiences within a semester long tertiary Indigenous studies course. Our results indicate that while all variables examined, with the exception of surface learning at Time 1, were individually correlated with transformative learning, deep learning approach upon entering the course and CR were the only unique predictors of transformative learning. As hypothesised, CR accounted for the most unique variance in the number of precursor steps to transformative learning experienced by students.

Post-hoc analyses supported the hypothesis that a deep learning approach (at Time 1) indirectly affected the number of precursor steps to transformative learning through CR. Within the Indigenous studies context, this ties together and perhaps clarifies literature suggesting a relationship between deep learning approaches and CR

(Leung & Kember, 2003), and the suggested preeminence of the role of CR in transformative learning theory (Mezirow, 2000), while offering possible explanation of the nature of the relationship between the three constructs. The level of rapport between student and teacher, and the perceived quality of the classroom learning environment in terms of facilitating and supporting learning were both predictive of the level of student CR. These findings provide support for relational teaching as a mechanism through which learning and potential transformative experiences occur in a complex environment such as the Indigenous studies context.

Overall, these results suggest that CR is indeed the key component of transformative learning. Students bring to the class a range of attitudinal factors, perhaps rendering the learning somewhat in-effective until CR is

facilitated through a relational channel. Previous literature has outlined some factors that make the Indigenous studies context different — for example, resistance (McDermott, 2014), discomfort (Mitchell, Every, & Ranzijn, 2011), guilt (Williams, 2000) and discussions of power and white privilege (Nicholl, 2004). It is interesting that student attitudes brought to the learning context have generally developed through the very same sociocultural context that have led so many Australian tertiary institutions to engage in the embedding of this ‘different’ material within their respective courses. The role of CR appears to support literature positing CR as preeminent in transformative learning.

These findings suggest that, beyond simply the course material, the pedagogical approach used within the learning setting — particularly the relational approach adopted by the teacher/facilitator, and the subsequent community of learning invoked — plays a key part in whether students had transformative experiences in relation to their ideas of self, and their consequent/related ideas of Indigenous Australians and culture. Our previous research (Bullen & Roberts, in press) indicated that one of the steps in Mezirow’s theory, recognition of shared discontent, was commonly selected by students, further providing support to the role of community within the classroom, a community built on perhaps a shared grappling with highly challenging personal and social content. This appears to be reflected in the community classroom subscale of learning [reflecting ‘feelings regarding the use of interaction within the community to construct understanding and the extent to which learning goals are being satisfied within the classroom setting’ (Rovai, 2002, pp. 202)] significantly predicting greater CR by students. In contrast, the subscale of connectedness (reflecting more the students’ ideas of how connected they felt to the classroom community), while significantly associated with CR when examined individually, did not predict student CR once other variables were controlled for. This highlights the greater importance of the learning environment in the classroom over the student’s sense of connectedness in the classroom.

Despite literature suggesting otherwise (Ranzijn et al., 2008), no significant relationships were found between tutor Indigeneity and rapport, classroom community (learning or connectedness subscales), CR or precursor steps to transformative learning. Ranzijn et al. notes ‘Having the opportunity to be taught by and interact with an Indigenous academic is thought to have a major role in reducing stereotypes and negative attitudes about Indigenous people’. Explanation for this lack of influence on outcomes (in relation to the previous quotation) may come in the form of Allport’s (1979) contact hypothesis. As a former tutor in the unit in question, when a student raised the idea that practical interaction with Indigenous Australians is vital to social and personal change, the first author responded with ‘you are interacting with Indigenous people — you have an Indigenous tutor’. To this,

the student responded ‘yeah, but that’s different, you’re different’. While this might be interpreted in a range of ways (e.g., the tutor did not reflect the student’s external ascription of what they consider an Indigenous Australian to be), an alternative interpretation is also possible — that the student is aware of the structural dynamic of a classroom setting where, despite the tutor being Indigenous, they are also a tutor, a role that perhaps takes precedence, violating one of Allport’s four essential conditions (i.e., equal status of interactors) for the contact hypothesis, and thus somewhat nullifying the ‘interaction’ at hand (Pettigrew & Tropp, 2000). The nature of teaching is such that, whether Indigenous or not, the teacher is in a position of authority — in this context, something likely to lead to elements of resistance, or at least possible ambivalence towards the tutor. This is a real prospect given the documented complex nature of Indigenous/non-Indigenous relations in this country.

Of course, there are benefits to the engagement of Indigenous tutors above and beyond their predictive value, and this ought to be made clear. In this study, tutors’ cultural background did not contribute to significant differences in outcomes. Future research might focus on exploring potential differences between Indigenous and non-Indigenous tutors in terms of pedagogical method, learning outcome and impact on tutors for example, or indeed whether practical and culturally safe interaction with Indigenous Australians and culture outside of the current study’s learning context makes a difference to potential transformative shifts.

This study has limitations that temper our confidence in the findings. First, the study was conducted within a single university and, as such, the findings may not be generalisable to health science students in other universities. Second, the study lacked a control group as the ‘intervention’ (the course of study) is compulsory for all health science students. Despite these limitations, this study provides a major contribution to the literature on the factors that contribute to CR and transformative learning in the Indigenous studies context. A future area for research is to examine how well these findings generalise to differing learning settings that require transformative learning.

In summary, this study suggests that health students within Indigenous studies courses benefit from both a deep learning approach and tutors’ ability to develop rapport with their students, and the consequent communal nature of the classroom, leading to greater capacity for student CR. This in turn appears to promote transformative learning possibilities within the Indigenous studies learning environment. The study, while enabling a closer look at the drivers of transformative learning in the Indigenous studies space, also affords a glimpse at areas of difference between Indigenous and non-Indigenous course models, suggesting further rationale for institutions approaching the embedding of Indigenous knowledge into courses differently in terms of both resourcing

requirements, human and economic, and in terms of evaluating the effect and quality of the course. Importantly, this study also further highlights the transformative capacity and mechanisms of Indigenous studies courses in enhancing future non-Indigenous health professionals' capabilities to work with Indigenous Australians in a very practical sense — that is, in ways that play a role in closing the gap between Indigenous and non-Indigenous health outcomes. If Australian universities are to continue offering, and realise the potential of, this course model, it is crucial that those within the institutions are aware of how to implement such courses, and how to measure their effectiveness.

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About the Authors

Jonathan Bullen is a Nyungar (Wardandi) man from the south-west of Western Australia. He is learning designer, Indigenous curriculum and Pedagogy within Curtin Teaching and Learning. Prior to this, Jon was co-unit coordinator of an award-winning large-scale interprofessional Indigenous health unit. His PhD research focuses on the elements underpinning, and outcomes from, transformative pedagogies.

Lynne Roberts is a Wadjella living in Western Australia. She is an Associate Professor in the School of Psychology and Speech Pathology at Curtin University. Lynne is an Australian Teaching Fellow and Chair of Curtin Academy. Her research interests include higher education research and she has published widely on teaching and learning topics.

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**From the outside in: tutor perspectives of student transformative experiences
within Indigenous Studies health education**

Jonathan Bullen* and Lynne Roberts

Curtin University, Perth, Australia

* Corresponding author. School of Psychology, Curtin University, Bentley, Western
Australia 6102, Australia. Email: jonathan.bullen@curtin.edu.au, ORCID: 0000-0003-
0437-2541

While more is becoming understood about the effects of Indigenous studies health curricula on student preparedness and attitudes toward working in Indigenous health contexts, less is known about how tutors in this space interpret student experiences and contribute to the development of preparedness. Reporting on a qualitative study, this paper provides insight into tutors' perceptions of tertiary first year health students' transformative experiences in an Indigenous Studies health course. Twelve Indigenous and non-Indigenous tutors were interviewed about their teaching experiences within this context. Framed by Mezirow's transformative learning theory, thematic analysis findings suggest tutors observe several precursor steps to transformative learning including disorienting dilemmas, critical reflection on assumptions, exploration of new roles, and trying on new roles. The content of these themes extends our understanding of how these precursor steps manifest, and the elements related to this. Findings also suggest tutors vary in their identification, interpretation and response to many of these pedagogical entry points. Within this learning context, the concept of teacher/student relationship is suggested as playing a meaningful role in the positioning and efficacy of tutors. This impacts tutors understanding of transformative learning, the social construction of students, consequent interpretations of student experiences, and means of facilitating cognitive and affective learning. We propose a reconceptualisation of thinking around teaching in this space, with a focus on both further development of educator capabilities and student curricular opportunities to promote transformative learning appropriate to the stated goals of the Australian Indigenous Studies learning and teaching context. The findings indicate that institutional investment in the development of educators in this space remains vitally important.

Keywords: Indigenous Studies, transformative learning, tutor perspectives, student experiences

Introduction

Teaching in any context has challenges. However, the Australian Indigenous studies space is greater in complexity to many others for a range of reasons (Asmar & Page, 2009; IHEAC, 2006; Wolfe, Sheppard, Rossignol, & Somerset, 2017). The curriculum focuses on challenging and confronting topics of Australian history, from colonisation, through to discriminatory policies and practices that continue to impact and influence Indigenous Australian outcomes (Durey & Thompson, 2012). Further, students come to classes with a range of attitudes and dispositions toward Indigenous Australians (Asmar & Page, 2009; McDermott & Sjoberg, 2012; Bullen, Roberts, & Hoffman, 2017). Despite this complexity, students of tertiary Indigenous health courses appear to benefit from these learning experiences (Flavell, Thackrah, & Hoffman, 2013; Jackson, Power, Sherwood, & Geia, 2013).

Previous research has explored the relevance of transformative learning theory (Mezirow, 2000) to the Indigenous studies domain, highlighting the potential to stimulate transformative learning experiences in health students undertaking these courses, with shifts in attitudes toward Indigenous Australians, preparedness to work in Indigenous health settings, and the development of cultural capabilities noted (Bullen & Roberts, 2018b; Jackson et al, 2013). Interpersonal and pedagogical elements, and critical reflection are posited as underpinning these transformative experiences (Bullen & Roberts, 2018a), but despite research demonstrating the importance of the student-teacher relationship in stimulating learning (e.g. Frisby & Martin, 2010), limited research has examined this relationship within the Indigenous Studies transformative learning context.

In this paper we first review transformative learning theory as a framework for understanding the Indigenous Studies teaching and learning context. This is followed by an exploration of tutors' perspectives of student experiences within diversity learning

contexts. Finally, we present a thematic analysis of interviews with tutors, before discussing implications of the findings in the context of transformative Indigenous Studies education.

Transformative Learning

Indigenous Studies curricular experiences are increasingly built upon, and described within, the principles of transformative learning theory (Mezirow, 2000); a growing body of literature (e.g. Biermann & Townsend-Cross, 2008) highlighting the potential of curriculum to “...transform [student’s] negative assumptions, stereotypes and frames of reference through self-reflection and discussion in a safe learning environment’ (Taylor et al., 2014, pp. 47).

Reflecting Habermas’ (1984) distinction between instrumental and communicative learning, Mezirow’s key theoretical premise is the transformation of ‘frames of reference’ through a process of critical reflection – the examination and revision of fixed assumptions, habits of mind, and meaning perspectives within the individual’s existing schema. This examination is suggested to be catalysed via a disorienting dilemma – triggering events, often highly varied in their nature, that illuminate discrepancies between the individual’s existing perspectives and assumptions and newly introduced experiences or knowledge (Cranton, 2002; Mezirow, 2012). As a result of revision of perspectives, individuals begin to actively seek congruence between existing habits of thinking and behaviour and these transformed perspectives and assumptions. Specifically, Mezirow’s theory proposes ten precursor steps to transformative learning: “1. A disorienting dilemma. 2. Self-examination with feelings of fear, anger, guilt, or shame. 3. A critical assessment of assumptions. 4. Recognition that one’s discontent and the process of transformation are shared. 5. Exploration of options for new roles, relationships, and actions. 6. Planning a course of action. 7. Acquiring knowledge and skills for implementing one’s plans. 8. Provisional trying of new roles. 9.

Building competence and self-confidence in new roles and relationships. 10. A reintegration into one's life on the basis of conditions dictated by one's new perspective" (Mezirow, 2000, p. 22). Empirical literature highlights both the role transformative learning can play in shifting students perspectives in the Indigenous Studies learning context (Bullen & Roberts, 2018b), and the risks specific to this context (Nakata, Nakata, Keech, & Bolt, 2012). However, while caution remains relevant, the nature of the Indigenous Studies learning environment raises inherent, potentially transformative challenges for many students, often before classes commence. Thus, educator perceptions, motivations, and actions in this space are important, and deserving of deeper examination and understanding.

Tutor experiences of student transformative learning within diversity education

Whilst a body of research in the cultural diversity educational context has focused on educators' experiences (e.g. Boyd, 2008; Kirkland, 2014), it has largely ignored educators' perspectives on students' transformative experiences. There are two contextually relevant studies that have explored educators' perspectives of student transformative experiences. Allen, Floyd-Thomas, and Gilman (2001) explored students and educators experiences within a social justice course, reporting that educators interpreted specific challenging student experiences, and transformative learning, via their own lens. However, no formal analytical or interpretive alignment with Mezirow's theory was noted. Doucet, Grayman-Simpson and Shapses Wertheim (2013) explicitly adopted Mezirow's framework to explore experiences of white female students in a diversity course. Findings highlighted the facilitative nature of relationships to effect shifts of perspective, disparity between tutor and students interpretations of transformation, and the framework's utility in interpretation and understanding of student transformative experiences. Doucet et al. (2013) also raised two important points, suggesting practitioners should "contemplate the tenets of transformative learning theory when

designing curricula, as well as whether or not students in different stages of their transformative process will benefit from various pedagogical approaches” (p. 290). Clearly, Australian Indigenous Studies course designers and practitioners are considering the first point; a developing literature broadly discusses themes of transformative learning, - for example, pedagogical models adopted, the transformative potential of curricular offerings, or the implicit alignment of student outcomes with theory (e.g. Jackson et al., 2013), reflecting both contemplation toward, and application of, Doucet et al.’s suggestion. Less clear however is consideration toward the second point; of available research in this Australian Indigenous Studies context, it appears none has explicitly adopted Mezirow’s framework in terms of analysis, educator interpretations of student transformative experiences, or what these might represent in terms of learning and teaching opportunities. As such, there is still much to be understood about transformative learning experiences within Indigenous studies contexts.

Educator-student relationships are important in stimulating learning (Cornelius-White, 2007). A range of factors have been implicated in terms of teaching and learning outcomes, including teacher immediacy (Christophel, 1990), teacher authenticity (Cranton & Carusetta, 2004), and teacher-student rapport (Frisby & Martin, 2010). However limited research has explored teacher-student relationships in transformative Australian Indigenous Studies social justice settings. Within this space, it is not uncommon for students to be constructed by educators as ignorant, resistant or racist (Asmar & Page, 2009; Davis & Steyn, 2012). However, this positioning of the recipient of knowledge as one-dimensional within the educator-student dyad is problematic and fraught with counterproductive pedagogical possibilities (Nakata et al., 2012). Recent research indeed suggests rapport – the bilateral understanding of the feelings and ideas of those engaged in the teaching/learning construct - plays a predictive role in transformative Indigenous Studies contexts (Bullen & Roberts, 2018a). However, given

the complexity of posited approaches to the space (Davis & Steyn, 2012; Nakata et al., 2012), and the real consequences for student and Indigenous health outcomes, rapport appears to inadequately describe what highly effective educators within this space develop and maintain within their practice to effect transformative learning. As such, it remains unclear how the relational construct between educator and student might be effectively conceptualised in this space, from pedagogical philosophy and positioning adopted by tutors, and consequent interpretations of, and responses to, student learning experiences.

The current research

This study is phase 4 of a research project examining the development of health student cultural capabilities through transformative Indigenous Studies health curriculum. Phase 1 examined student attitudes toward Indigenous Australians, and preparedness to work in Indigenous health settings upon entry to their first Indigenous health course (Bullen, Roberts, & Hoffman, 2017). Phase 2 examined the efficacy of this curriculum for shifting student attitudes and preparedness, and the role of transformative learning within this (Bullen & Roberts, 2018b). Phase 3 examined predictors of students' transformative learning experiences in this context (Bullen & Roberts, 2018a).

The aim of phase 4 is to examine, from the tutor perspective, transformative learning experiences of first year undergraduate health students within an Australian Indigenous Studies context. Specifically, we aimed to 1) examine how tutors interpret and explain students' transformative experiences associated with participation in an Indigenous Studies health curriculum, and 2) examine how tutors interpret and explain key milestones associated with these experiences. Understanding tutor perspectives of students' transformative learning experiences offers further insight into factors related to these experiences, and elucidates tutors' understanding of transformative learning

environments, the construction of students within these environments, and consequent interpretations of student experiences.

Methods

Participants

Participants were past and current female (N = 7) and male (N = 5) tutors of a first year undergraduate core interprofessional unit on Indigenous cultures and health at a large Australian university. Four participants identified as Indigenous. Participants' Indigenous Studies tutoring experience varied, from a single semester to many years of experience. Four participants were employed sessionally, eight on an on-going or fixed-term contractual basis. Qualifications ranged from Bachelor to Doctoral degrees, in a range of disciplines (e.g. psychology, education & nursing).

Materials

A semi-structured interview guide was developed for this research. Questions derived from Mezirow's transformative learning theory, and the Indigenous Studies teaching context. Prompts were used to encourage participants to expand upon answers. Example questions included "What alerts you to readiness or possibility for change?" and "How do you manage student resistance in the classroom?".

Procedure

Prior to the research commencing, ethics approval was obtained from the university's Human Research Ethics Committee. Participants were recruited via an email to all current and past tutors of the unit, asking them to take part in the study. Each potential participant was provided with an Information Sheet detailing the research, and the role of participants. All participants provided informed consent prior to interview participation. Eight semi-structured interviews were conducted on campus, three via telephone, and one via Skype. The majority of interviews were approximately one hour in duration.

Participants were reimbursed travel costs to and from campus, and parking. Interviews were audio-taped, transcribed and de-identified.

Data Analysis

Transcripts were entered into NVivo for thematic analysis (Braun & Clarke, 2006). Familiarisation began with reading each individual transcript in its entirety followed by notation of preliminary themes and ideas for each. Transcript notes were then transformed into emergent themes for each transcript, before seeking connections between emergent themes within the individual transcript. Code generation was an iterative process - focusing on each individual transcript through each analysis stage before moving to the next. Within this process, on-going review ensured that the meaning of the theme had not shifted and that each code was suitably allocated. Codes and themes for one transcript were cross-checked by an independent researcher. Finally, theme names were selected that reflected Mezirow's precursor steps.

Results

Four key themes based around Mezirow's precursor steps to transformative learning emerged. These were: 'It wasn't as they had learned in high school' (Disorienting dilemma), 'Actually this is about me' (Critical reflection on assumptions), 'I want to be as open and as vulnerable and as willing as you are' (Explored new roles), and 'It's not the norm yet in your life, it's not the default position' (Tried on new roles). The content of each theme elaborates and extends upon Mezirow's precursor steps. One non-Mezirow'ian theme also emerged - 'Tutor positioning affects the transformative process' - highlighting the influence of the tutor's positioning on students' transformative experiences.

It wasn't as they had learned in high school (*Disorienting dilemma*)

The first key theme to emerge was the perception that for many students the experience of

learning caused disorientation and dilemma. These experiences of being lost or directionless were noted to be highly personal, and representative of a place of discovery and choice. Tutors reflected that students' were unprepared for the learning within, the course information quite different to their previously held to be 'true' pre-university understanding, with long-held beliefs and meaning schemes appearing to be deeply challenged. Course material, personal interactions with peers and facilitators, and external circumstances and events were commonly cited as responsible for presenting the student with the consequent disorienting dilemma.

Several tutors interpreted student responses to the course learning as indicative of personal disorientation and dilemma, with sources ranging from historical facts to contemporary social perspectives, describing these moments as an awakening of something powerful within the student. As one tutor stated:

[Student's were shocked when they realised] it wasn't as they had learned in high school, you know? It wasn't that stereotypical, traditional, you know, corroborree sort of thing because that's all they ever learned about, you know?

Other tutors echoed this sentiment: "*[The week when past policies and practices is covered is] an enormous week for them, um, when they start to say, "Why didn't I know this? What's going on?"*"

Tutors also implicated external events as catalysts for student disorienting dilemmas, this occurring as a result of students engaging differently to in-class material, or externally building upon foundational knowledge from the classroom environment:

...they have cried because it's been real. So it's not just being an, in an academic context. They have been able to connect what they were learning in class ... to actual real-life experiences that they then were able to see, hear and actually understand.

Others noted that the discovery of one's own culture frequently acted as catalyst for

personal dilemmas experienced by the student throughout the learning, one tutor noting: *“[students realised] I’ve got a culture too [...] and you can see that they were almost imagining what it would be like if they went through it themselves...”*

Interestingly, many tutors interpreted agitation and resistance toward the idea of undertaking the unit prior to either commencement or any meaningful engagement within the unit as suggestive of a student experiencing a disorienting dilemma, one tutor recounting a confronting moment in class: *“[one student introduced himself with] I hate poofers and I hate Abos.” And this was his big [...] class statement. This big stocky guy- putting out this challenge. And so we explored that...”*

Another tutor noted: *“[I] can assume they might not be coming because they don’t like anything around Aboriginal. It’s actually [...] probably an unfair assumption. It may be that the information is just too uncomfortable.”*

Tutors also noted visceral outward expressions of emotion, distress and questioning as clear signs of student experiences of disorientation and dilemma, articulating their interpretation of this:

I think she struggled so much on an emotional level. I think she found it all so painful that she didn’t want to believe it. So, she was asking for more information, as if to say [...] I really need to know...

In contrast, some tutors noted a new sense of reticence in students as another expression of the experience of disorientation and dilemma:

[Upon noticing a student ‘getting quiet’] I was thinking well maybe she now doesn’t feel safe to express herself. [...] I picked up that she then realized that she didn’t know as much as what she thought she knew.

In summary, tutors observed students experiencing disorienting dilemma’s triggered by a range of events, with manifestation varying from questioning and reticence, to shock and other visceral expressions of emotion and behaviour.

Actually, this is about me (*Critical Reflection*)

The second key theme to emerge was the perception that for many students the experience of learning within the complex Indigenous Studies arena facilitated critical reflection - in Mezirow's terms, a process of exploring, excavating and interrogating one's assumptions, ideas, expectations and beliefs. Consistent with Mezirow's conceptualisation, most tutors understood critical reflection as 'self'-focused and central to transformative learning.

Tutors acknowledged the vital role of self in the critical reflection process: "*[by the second assessment students realise]... actually this is about me. And about how I am engaging. Not so much about learning about Aboriginal people.*"

The same tutor extended upon this commented:

[tutor] starts to ask questions of them about their identity, their sense of culture. I think it's that invitational process that enables them to actually realize that the whole question of cultural safety is actually about how a person sits in themselves really.

However, some tutors held differing ideas around the appropriate direction of focus. As one tutor recalled: "...it was all about [...] his transformation. I [said] you know this is not about you. It's great that you're having this amazing experience in your life, but it's actually about the Aboriginal people's journey"

Tutors mostly articulated interpretations of students having gone through a process of critical reflection with a resulting shift in perspectives. For example, one tutor recalling a student who, despite working with Indigenous people, had a limited understanding of his own biases and assumptions, noted: "*[He] didn't have much understanding of all the stuff that had happened. So, even he changed quite a lot, the way he sort of spoke, because he was quite abrasive in the way he had described his experiences before.*"

Very few tutors discussed interpretations of student critical reflection that did not result in a shift of perspective. As one tutor noted, some students, despite opportunities for critical reflection, and notable enthusiasm, did not appear to experience shifts in perspective: *“[despite passion for Aboriginal health], in terms of her progress and change, it didn't really go anywhere in that semester. So much of that is around that critical reflection of just world views and assumptions and all that.”*

Tutors consistently put forth observations around the timing of course events, milestones and interactions in terms of facilitating and guiding a critically reflective experience, one tutor stating:

For those students who are engaged for the entire semester, there's huge amounts of shifts, I think. [Students often start with] assumptions that they may have, value statements around Aboriginal people, [...] to shifting, by the end of the semester, where they are really a lot more questioning.

Tutors also noted seemingly spontaneous student critical reflection as a response to challenging tutor-student interactions within the class: *“...I could see the light bulb go on...I can't remember how I handled it, but I obviously got it right, or got the timing right, or something, so timing's really important...”*

In summary, tutors generally noted students' critical reflection process as an excavation of self and vital to the transformative learning process, with catalysts ranging from course materials and structure to tutor interactions.

I want to be as open and as vulnerable and as willing as you are (*Explored New Roles*)

The third key theme to emerge was tutors' observation of student exploration of new roles, actions and behaviours, conceptualised as a process of considering and reflecting on possibilities students now recognised as available to them, though not yet acted upon in any form. These explorations were generally as a result of some kind of

new stimuli, interaction or knowledge having affected a shift in perspective.

Many tutor observations of regular interactions with students revolved around new possibilities for professional practice in Indigenous health. Tutors described what they interpreted as signs of students in an exploration of new roles related to Indigenous health: *“...you can tell they're really engaged. And they're interested [...] in wanting to help or making a difference or contribute.”*

Tutors often viewed the semester long learning experience as pivotal in students' consideration of future possibilities: *“[nearing semester completion students are saying] I would never have thought about working in an Indigenous community until this unit. So that, for me, is profound.”*

Tutors also commonly interpreted student discourse as revolving around current and future ideas of self and ways of behaving, thinking and interacting. Several tutors observed students exploring new ways of being modelled by their tutors: *“...students are saying [...] "I want to be like you" means that, "I want to be as open and as vulnerable and as willing as you are.”*

Tutors observed that changes in student self-concept were interconnected with a willingness to explore new ways of being and doing: *“...it was actually something they realized they could use actually, professionally and personally. So, it expanded their horizons on people and they sort of grew a little bit.”*

Finally, tutors also observed students recognising how their ways of being might be interconnected with Indigenous health outcomes in some way: *“[when asked of the personal changes being considered] they said, "Well, just the conversations and the way that we treat Aboriginal people...and what I can do to change how I behave and how I engage”*

In summary, tutors interpreted students explorations of new roles – possible ways of being and doing, often with Indigenous Australians - as a reflection of individual

growth, and instigated by consistent exposure to the course, but also the modelling of these possibilities by the tutor themselves.

It's not the norm yet in your life, it's not the default position (*Tried on new roles*)

The fourth key theme to emerge was tutors' observation of students actively trying on new roles, actions and behaviours, this theme distinguishing itself conceptually from the less active phase of exploring new roles via the active engagement in new behaviours so as to develop comfort and confidence in these roles.

Tutors frequently recalled student accounts of novel interactions with Indigenous people in a range of 'everyday' contexts, as a result of a desire to engage differently, noting an alignment with these interactions and the broader understanding students had developed in class:

[During a student's first interaction with an Aboriginal Australian he thought], 'Oh, I learned that in class last week.' [...] that's really fundamental. [...] it might seem clunky, but anything in the learning stage is clunky. It's not the norm yet in your life. It's not the default position.

While these interactions had a range of outcomes, tutors noted students demonstrating reflexivity in their own responses to these outcomes also:

[Upon greeting an Indigenous woman and receiving no reply] ...they didn't [reciprocate]. But she said, she actually understood probably why [...], with everything that I may represent, she said if that had happened [...] before she'd done the unit, she would've just thought, "God, they're rude."

Tutor observations also consistently revolved around students attempting new ways of being with family and friends, as a result of new knowledge and conviction they had acquired within the Indigenous Studies learning experience. Tutors noted that students were initiating and engaging in challenging conversations with those closest to them: "*she'd take those conversations back into the family, and friends. [...] so you could*

see that water droplet kind of effect. [...] That's amazing learning."

Another tutor expanded on the challenge of these interactions, and how the willingness to engage in them reflected changes in student's sense of self: "*they understand more practically but they've got more understanding of themselves. They feel like their voice gets stronger. And they talk about that, which is fantastic.*"

In summary, tutors interpreted students trying on of new roles as a reflection of individual growth underpinned by a conviction to act, with students engaging in novel interactions with Indigenous Australians and challenging interactions with family and friends.

Tutor positioning affects the transformative process

The themes above provide evidence of tutor's perceptions of at least some students moving through stages of transformative learning. This should not be interpreted as meaning that all students did so. Tutors discussed students who did not 'move':

They're just unwilling to change, I think. They have a set thing that they've grown up with and that's fixed in their head and they don't want to see anything else, they don't want to change, too difficult, can't be bothered, whatever it is.

Some tutors conceptualised these students in terms of their privilege: "*They're just really entitled*" and "*...a lot of them are just, rich kids from [affluent suburb] and saw an Aboriginal person on TV, maybe, that's, that's about it, you know?*".

Related to this, some tutors adopted an authoritarian approach in their teaching, one less tolerant to the exploring of personal views required for transformative learning: "*if you say anything racist or anything nasty, I'll come down on you, end of story*" and resulted in less engagement: "*they weren't going to say anything to me because, you know, I don't know whether it's out of respect or out of fear or whatever*".

This can be contrasted to the more person-centred approach by other tutors who consistently responded with warmth, empathy and unconditional regard for their students:

[in response to a highly confronting student situation] to start with, I think he was a very crude voice for how people feel afraid to be in that setting. And I guess I take it that most often the students are fearful and don't necessarily manage their fear that well so they're learning how to be okay with their fear and their uncertainty.

Discussion

The current study offers a critical examination of tutor interpretations of students' transformative experiences and associated milestones as a result of participation in an Indigenous Studies health curriculum. Evidence of some of Mezirow's precursor steps to transformative learning reflects the findings of previous studies in this space (Bullen & Roberts, 2018b), with tutors consistently observing student experiences of disorientation dilemmas (step 1), critical reflection (step 3), exploration of new roles (step 5), and trying on new roles (step 8). The prevalence and manifestation of these steps complement previous research in the transformative education space (Brock, 2010; Doucet et al., 2013), and contribute to a clearer picture of both students' experiences and the relevance of Mezirow's theory as an interpretive framework within this complex educational environment.

Findings also contribute to our understanding of how tutors, as observers, interpret students' experiences within this context, suggesting some tutors, despite minimal grounding in Mezirow's theory, interpret the learning environment in ways strongly aligned with it. This suggests an intuitively 'human' formulation of its structural elements, and thus perhaps its goodness of fit for the context. Tutors also simultaneously implicated their own positioning, in relation to their students, via the articulation of their perspectives and expectations, and this is perhaps the study's strongest contribution.

The precursor steps to transformative learning

Each noted precursor step reflects tutor interpretations of student expressions of their experiences within the Indigenous Studies classroom. For many students, the experience of learning within the complex Indigenous Studies arena was disorienting. Mezirow (1978) viewed disorienting dilemmas as part of 'normal' adult development, with events such as parenthood, job loss, family breakdowns, and other acute life circumstances acting as catalysts for a disruption of existing worldviews, whether conscious or unconscious. Tutors observed overt student expressions of emotion and distress, but also students 'getting quiet', both possible 'tells' of disorienting dilemmas, despite a suggestion of associations between transformative activity and severity of the perceived trauma by the individual (Taylor, 2007). Disorienting dilemmas occurred in and out of class, some tutors noting lack of student attendance as perhaps reflective of this, suggesting that the proposition of immersion in this challenging environment posed a threat to students' sense, and understanding, of self. This last point is salient and multifaceted, given the characterisation of student resistance and/or ambivalence toward Indigenous 'stuff' as normative (e.g. Asmar & Page, 2009), suggesting value in consideration of pre-emptive mitigation strategies.

Negative affect has been associated with cognitive dissonance (Festinger, 1957). Tutors consistently articulated student expressions of negative affect – written, verbal, and physical - and a consequent grappling with dissonance-inducing information within the course, suggesting associations between this apparent dissonance and the quality of critical reflection. Contrasting this were articulated observations of students experiencing neither negative affect nor shifts in perspective via critical reflection - students wishing only to 'help' Indigenous people. Reasons for this reflect a range of possibilities e.g. habitual thinking, or perhaps avoidance of cognitive dissonance (Bowman & Brandenberger, 2012). In Festinger's theoretical context, these examples perhaps highlight the complexity and relevance of negative affect and psychological discomfort in

terms of signposting pedagogical entry points for educators, and bringing individuals to places of critically reflective utility (Lundgren & Poell, 2016).

Tutors interpreted students' exploration of new roles as inclusive of beliefs, motivations and behaviours involved in their construction of 'self-concept', this re-imagining of the health practitioner – and human - they wished to be often guided by an identification with empathic prototypes modelled by tutors (Plimmer & Schmidt, 2007). This appears to support the proposition that what is transforming is individual identity (Illeris, 2014), a more expansive construct than specific contextually situated functional capabilities. Extending this, students appear to be exploring future possible selves (Markus & Nurius, 1986), considering the discarding of existing ways of being for new, more functionally consonant possibilities (Rossiter, 2007).

The practical difficulties of trying on new roles at first year level have been discussed elsewhere (Bullen & Roberts, 2018b), with limited curricular opportunities to interact with Indigenous Australians. However, tutors in the current study noted many students engaging in previously disregarded or unconsidered intercultural interactions outside of both class and health contexts. Similarly, tutors noted students challenging dominant ideologies (Addleman et al., 2014) in, at times, charged interactions with both family and friends, perhaps reflecting a process of identity reintegration (Cranton, 2002; Mezirow, 2012). Implicitly, this active striving toward new possibilities (Rossiter, 2007) holds potential consequences for the individual's group and personal identity (Tajfel & Turner, 2004); educator care is required if transformative learning is a desired goal of social justice educational experiences (Curry-Stevens, 2007).

Tutors as transformative agents

Tutors varied in identification, interpretation and response to many of the milestones and pedagogical entry points within the transformative learning context. This variation appeared underpinned by tutor approaches to the space (as interpreted by authors from

both explicit and implicit tutor discourse within the interview analysis), with impacts upon tutors' understanding of transformative learning, construction of students, interpretation of student experiences, and their facilitation of cognitive and affective learning in this complex environment.

The interpersonal process between teachers and students is paramount (Cornelius-White, 2007), particularly in transformative learning contexts (Cranton & Carusetta, 2004). Several tutors consistently articulated both an approach of warmth, empathy, and unconditional regard toward students (Rogers, 1969) and a construction of their students as multifaceted social and cultural beings, engaging in ways that supported their navigation through difficult cognitive and affective terrain. These tutors typically interpreted challenging student responses as signs of potential pedagogical entry points, and a vital part of working 'with' students, as they navigated difficult terrain (Davis & Steyn, 2012). The manifestation of response - from hostility and resistance to sadness or reticence - mattered little, these tutors viewing each as signs of cognitive and affective 'movement', and thus cues to guide their own responses and behaviours. Tutors adopting less person-centred approaches seemed to gravitate toward more authoritarian styles (Walker, 2008), frequently positioning students as privileged and one-dimensional, and enforcing rigid boundaries of exploration throughout the learning experience. Similarly, learning expectations were predominantly on tutor terms and cognitive in nature, with the affective mostly overlooked. By implication, control was high, and nurturance was low.

Both approaches have implications for the student-teacher relationship, and transformative learning outcomes, given posited associations (Bullen & Roberts, 2018a; Cranton & Carusetta, 2004). Tutors adopting more authoritarian approaches may not understand the complexity of the space for students (for example, perceived threats to 'self' manifested as resistance) and thus experience difficulty guiding students toward positive educational and personal outcomes. Further, consideration must be given to the

possibilities of why an educator might adopt an authoritarian pedagogical style in the first place, such as their own discomfort in their role at the interface (Wolfe et al., 2017; Nakata et al., 2012), highlighting the need for appropriate on-going tutor development.

Limitations & Future Research

While the findings provide important insights into tutor perspectives of student transformative learning experiences, this study has limitations. Of 41 tutors invited, only 12 participated in the research. It is possible that some tutors did not take part due to a lack of experience or comfort in the context, and our findings may over-represent experienced tutors achieving positive results. Further, there is potential for socially desirable responding, despite adoption of an open, non-judgemental position by the interviewer. Finally, external perceptions of mobilisation do not necessarily reflect transformative learning (Cranton & Kasl, 2012) - the accuracy of tutors' interpretations of student experiences is unknown. Doucet et al. (2013) note misalignment between educator and student perspectives of transformative experiences, highlighting the importance going forward of data collection from student perspectives to enhance understanding of Indigenous Studies transformative learning contexts.

Conclusion

This study has shed light on key points of students' transformative learning within the Indigenous Studies context, as identified and interpreted by tutors. Consistent with Mezirow's transformative learning theory, tutors observed students moving through a transformative trajectory from disorienting dilemmas, critical reflection on assumptions, exploration of new roles, to trying on new roles. Tutor's own positioning, their philosophies of the space, and locus of their own cultural interface each contributed to the efficacy of curricular and other catalysts for transformative learning. Each suggests key points of development to further promote the transformative process in relation to shifts of perspective regarding Indigenous Australian people, culture and health. Strengthening

tutors' capabilities to appropriately interpret and support students through disorienting dilemmas and exploration of new ways of being via student-centred teaching will aid the transformation process. Similarly, institutional investment in curricula providing students' with opportunities for both critical reflection and engagement in culturally safe interactions with Indigenous Australians are necessary, with contextually specific prompts stimulating reflection upon assumptions and beliefs around Indigenous Australians in first year and beyond, and work integrated learning opportunities facilitating engagement in intercultural interactions at later years of study where students have ideally developed a sense of culturally safe practice. This investment in curricular and tutor development is vital to progress transformative models of learning within the Australian Indigenous studies context, and holds great promise for preparing students to work in Indigenous health contexts.

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Conflicts of Interest

None.

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***“I wouldn't have been culturally safe”*: Health science students' experiences of transformative learning within Indigenous Studies**

Jonathan Bullen^a and Lynne Roberts^b

¹ *School of Medicine, Curtin University, Perth, Australia;* ² *School of Psychology, Curtin University, Perth, Australia*

Despite a significant body of literature espousing the transformative impacts of Australian Indigenous Studies curriculum upon students, there remains a limited body of work related to how these students experience and learn within this complex environment. This is particularly notable for research aligned with Mezirow's transformative learning theory. Reporting on a qualitative study, this paper offers a perspective into students' transformative experiences within a tertiary first year Indigenous Studies health course. Thirteen non-Indigenous students were interviewed about their learning experiences within this context. Explicitly framed by Mezirow's transformative learning theory, thematic analysis findings suggest students consistently experience precursor steps to transformative learning including disorienting dilemmas, self-examination with guilt or shame, critical reflection on assumptions, exploration of new roles, and trying on new roles. The manifestation of these steps highlights the ways in which students experience learning in this space, and a range of elements influencing this - from students' own positioning and approaches to learning, to the nature of the curricular and pedagogical approaches. This study offers nuanced insight into the complexity of students' transformative learning experiences, suggesting students hold a range of contradictory perspectives at any one time. If curricular models are to be effective for the broader student body, we propose that 1) the complex intersection of students' identity development, need for group belonging, learning approach, limitations in existing knowledge and capacity for complex thought requires further consideration in this context, and 2) greater institutional investment is necessary in both the development of educators in this space, and educational opportunities beyond first year, lest we risk reinforcing extant beliefs and paradigms held by non-Indigenous Australians about Indigenous Australians, and a continuation of the health disparities these curricular offerings are designed to alleviate.

Keywords: Indigenous Studies, student experiences, transformative learning

Introduction

Efforts to integrate and embed Indigenous Australian perspectives into tertiary curriculum have grown in response to recommendations highlighting the necessity of the development of cultural competence in graduates (Universities Australia, 2011), and the related imperatives of achieving parity between non-Indigenous and Indigenous health outcomes (Durey & Thompson, 2012). Literature has noted the effects of these Indigenous Studies offerings on non-Indigenous students in terms of both an increased student understanding of Indigenous culture and health, and a willingness to work in Indigenous health settings (e.g. Flavell, Thackrah, & Hoffman, 2013). Significantly, the majority of research is from the perspective of the educator, and has placed primacy upon curricular and pedagogical considerations (Mackinlay & Barney, 2014), what students bring to the learning experience (e.g. Bullen, Roberts, & Hoffman, 2017), and the challenges of teaching in the space (e.g. Asmar & Page, 2009). More recently, research framed by Mezirow's (2000) transformative learning theory has noted the potential of the curriculum to effect powerful shifts in student attitudes and behaviours toward Indigenous Australians, and their preparedness to work in Indigenous health contexts (Bullen & Roberts, 2018b). However, while there are exceptions (see Mackinlay & Barney, 2011, 2012; 2014), few studies have explored in depth these powerful and personally transformative learning models and experiences from the perspective of those consistently scrutinised as a result of their exposure to them: students (Page, 2014). As such, much remains unknown around student experiences of these curricular offerings, particularly in terms of the ways students themselves perceive their experiences, the nature of their learning, and potential disconnects between commonly espoused pedagogical approaches to effecting transformative change- i.e. what educators believe 'works' - and what students actually find effective as a learning experience (Doucet, Grayman-Simpson, & Shapses Wertheim, 2013; Page, 2014; Thorpe & Burgess, 2016).

Within this paper, we first explore the intersection of critical pedagogies, transformative learning and concepts of safety within the Indigenous Studies learning context. Following this, we briefly discuss transformative learning theory as the lens for the current study, before presenting findings from thematic analysis of student interviews. We close with discussion around these findings in the context of transformative Indigenous Studies education.

The Indigenous Studies learning context

Indigenous Studies courses are challenging for institutions, educators, and students alike (Asmar & Page, 2009; Wolfe, Sheppard, Rossignol, & Somerset, 2017). Frequently built upon theoretical and pedagogical models designed to disrupt colonial knowledge and discourses (Mackinlay & Barney, 2012), these courses intend to guide non-Indigenous students toward a critical understanding of the ways their own thinking has evolved within an often exclusively Western framework, thus beginning a transformative process (Mezirow, 2000) towards cultural competence as individuals and practitioners within their chosen disciplines. Considerable tension and complexity is a noted feature of this context (Nakata, 2007), the curriculum exploring a range of topics that challenge students' prior knowledge (Asmar & Page, 2009), such as the impact of Australia's colonial beginnings upon both Indigenous and non-Indigenous Australians. Further increasing complexity, students do not come to class value-neutral (Bullen, Roberts, & Hoffman, 2017), with resistance to the learning experience cited as a pervasive by-product of the challenges perceived or imposed within the context (Asmar & Page, 2009).

Construction of 'safe spaces' for learning is consistently posited as necessary and effective in this challenging environment, despite being conceptually problematic (Barrett, 2010). While safety implies freedom from 'harm' within the learning environment, the nature of the curriculum means that at any one time, certain individuals will be vulnerable, from

those of relative privilege, to those for whom this curriculum is essentially designed to ‘bring from the margins’. Both possibilities appear incompatible (Barrett, 2010); to censure privilege makes difficult the task of addressing issues at the heart of critical pedagogy. To not censure reinforces this privilege while placing the lesser privileged in precarious situations. In pursuit of safe educational spaces for non-Indigenous students, it is important we remain focused on the imperative of developing culturally safe health practitioners as a key rationale for developing and implementing Indigenous studies curriculum, lest we risk positioning the discipline as a negotiable prospect (Bin-Sallik, 2003).

Transformative Learning

There is an increasing recognition and adoption of the principles of transformative learning theory (Mezirow, 2000) as a framework to guide the development of Indigenous Studies curriculum. Built upon Habermas’ (1984) distinction between instrumental and communicative learning, and informed by Freire’s (1970) concept of conscientization, Mezirow’s theory revolves around the shifting of individuals’ frames of reference, via a dialogical and critically reflective practice. This process is suggested as triggered by the introduction of new experiences or knowledge that highlights discrepancies between the individual’s existing schemas and this newly introduced information (Mezirow, 2012). Individuals thus begin to address the incongruence experienced and move through a range of potential steps proposed by Mezirow to lead toward perspective transformation (see Table 1). In practice, these steps are neither sequential nor necessarily all experienced, with potential for iterative visitation of stages throughout the learning process. The identification and alignment of student experiences to these steps are central to the present study.

Table 1: Ten precursor steps to transformative learning (Mezirow, 2000, p. 22)

1.	A disorienting dilemma
2.	Self-examination with feelings of fear, anger, guilt, or shame
3.	A critical assessment of assumptions
4.	Recognition that one's discontent and the process of transformation are shared
5.	Exploration of options for new roles, relationships, and actions
6.	Planning a course of action
7.	Acquiring knowledge and skills for implementing one's plans
8.	Provisional trying of new roles
9.	Building competence and self-confidence in new roles and relationships
10.	A reintegration into one's life on the basis of conditions dictated by one's new perspective

Transformative learning from the student perspective

Literature around tertiary Indigenous Studies health courses in Australia has highlighted the transformative potential of the curriculum with regard to students, consistently noting a shifting of values, beliefs, behaviours and biases toward and about Indigenous Australians (e.g. Flavell et al., 2013). However, there remains limited examination of students' experiences (Page, 2014) explicitly aligned with Mezirow's theory (Taylor & Cranton, 2012). Thorpe and Burgess (2016) critically examined the student voice, suggesting that the assumptions educators come to the learning context with - and in essence construct their students through - play a part in how students experience both the learning, and the learning environment. Mackinlay and Barney (2011; 2012; 2014), as part of a two-year Australian Learning and Teaching Council (ALTC) project, evaluated the capacity of problem-based learning models to effect transformative learning in the Australian Indigenous Studies context.

Consciously underpinned by Mezirow's theory, their work hints at elements of Mezirow's stages (e.g. critical reflection, exploring new roles) through its explication of the student transformative experience, though no explicit alignment is made. Finally, Bullen and Roberts (in press) noted tutors' perceptions of students' shifts in perspective but also elements related to these shifts. Again, educator positioning and assumptions played a significant role in student outcomes.

Thus, despite calls for an increased focus and the noted potential of the curriculum to be transformative (Mackinlay & Barney, 2014) there remains a paucity of research around student experiences of learning within the Australian Indigenous Studies context (Page, 2014). This paper attempts to add much needed critical discussion around students' transformative experiences in this complex context.

The current research

The research presented here forms part of a larger research project exploring the development of cultural capabilities for future health professionals within Indigenous Studies curricula. Completed quantitative phases of this research project have examined student attitudes toward Indigenous Australians, and preparedness to work in Indigenous health settings (Bullen, Roberts, & Hoffman, 2017), the efficacy of an Indigenous Studies unit in shifting student attitudes and preparedness (Bullen & Roberts, 2018b) and the predictors of students' transformative learning experiences (Bullen & Roberts, 2018a). Importantly, this body of research has demonstrated that the unit is effective in increasing self-reported preparedness to work in Indigenous health settings. Further, after controlling for pre-existing attitudes, the number of precursor steps to transformative learning experienced was a predictor of preparedness to work in Indigenous health contexts (Bullen & Roberts, 2018a). Building on research examining tutor perspectives of students' transformative learning

experiences (Bullen & Roberts, in press), the current phase examines student perspectives of their own learning experiences within a first year Indigenous Studies health sciences unit.

This unit, built on theoretical foundations of cultural competence and transformative learning, critically explores contemporary and historical issues and experiences of Indigenous peoples locally and globally, with the intention of developing more reflexive and culturally capable health practitioners capable of contributing to the transformation of health disparities between Indigenous and non-Indigenous Australians. Importantly, the unit is also typically students' first exposure to Indigenous knowledges, perspectives and people, and for the vast majority, the only exposure they will have throughout their degree at this institution (for an in-depth overview of the course at the heart of this research project (see Bullen & Roberts, 2018b). The first author, a Wardandi Noongar man with expertise in integrating and embedding Indigenous knowledge and perspectives within disciplinary curriculum, was formerly co-coordinator of this unit, and currently teaches within the unit, but was not involved in the unit at the time of data collection for this project.

In this context, we aimed to examine the perspectives of students' transformative learning experiences associated with participation in this Indigenous Studies health curriculum. Understanding student perspectives provides further insight into the individual and environmental factors related to transformational learning and the consequent student preparedness to work within Indigenous health settings.

Methods

Participants

Participants were female (N = 7) and male (N = 6) students of a first year undergraduate core interprofessional unit on Indigenous cultures and health at a large Australian university. All identified as non-Indigenous, with three identifying as belonging to culturally diverse groups. Experiences with Indigenous Australians prior to the unit were

limited. Participants were aged between 21 and 50 years, and enrolled internally in a range of undergraduate degrees within the health sciences.

Materials

We developed a semi-structured interview guide (see Appendix) with questions informed by the Indigenous Studies teaching context and Mezirow's transformative learning theory. Prompts were used to encourage participants to expand upon answers.

Procedure

Ethics approval was obtained from the university's Human Research Ethics Committee. Participants were recruited via an in-class invitation at Week 10 of the semester. Students wishing to take part in interviews provided their contact details as part of an in-class survey. One participant was also recruited via snowball sampling. Participants provided informed consent prior to interview participation. Semi-structured interviews were conducted on campus, with the majority of these being approximately one hour in duration. Participants' costs, including travel to, and parking on, campus were reimbursed. Interviews were audio-taped, transcribed and de-identified.

Data Analysis

Transcripts were entered into NVivo for thematic analysis (Braun & Clarke, 2006) using the steps in Mezirow's transformative learning theory as an initial coding frame. The first author began by familiarising themselves with individual transcripts, reading each in its entirety followed by a notation of preliminary themes and ideas for each. Emergent themes from this phase of analysis were then developed and formulated for each transcript, prior to seeking connections between these themes within transcripts. Code generation was iterative with on-going review, ensuring thematic meaning remained consistent and ensuring a suitable allocation of codes. Codes and themes for one transcript were cross-checked by the second author. Finally, theme names reflecting Mezirow's precursor steps were selected.

Results

Five key themes based around Mezirow's precursor steps to transformative learning emerged. These were: 'How uninformed and uneducated we are...' (Disorienting dilemma), 'What kind of presumptions am I making?' (Critical reflection on assumptions), 'It was like being on trial' (Self-examination with feelings of guilt or shame), 'If I was working in Indigenous health...' (Explored new roles), and 'I'll challenge people in my private life now' (Tried on new roles). The content of each theme elaborates and extends upon one of Mezirow's precursor steps.

How uninformed and uneducated we are... (*Disorienting dilemma*)

The first key theme to emerge was the sense of disorientation and dilemma students experienced within the unit. Students articulated that previous learning had sheltered them from the harsh realities of Australia's colonial foundations, leaving them grossly unprepared for challenges to their ingrained knowledge, beliefs and behaviours. While course materials were predominant causes of disorientation and dilemma, interpersonal interactions, and consideration of their potential role in Indigenous health disparities were also noted as catalysts.

One student's response typified the sense of shock about both being 'in the dark' about Australia's colonial history, and its impact upon Indigenous Australians:

How uninformed and uneducated we are about what did really happen... [I]... when you get to know the facts and you get to hear about what actually happened and how cruel and disgusting and so wrong in so many ways, it really struck a chord in my heart about it...

Others noted their disgust and horror as Australia's history was laid bare, struggling with questions of complicity had they been there also: "[If I was there at the time] would I

have been as brutal and as disgusting as my ancestors? I don't know. I don't like to think so, of course."

Interestingly, some were shocked by an excavation of unacknowledged attitudes and behaviours toward Indigenous Australians:

The thing that I found most challenging was my attitude before I learned all of this. [...] I thought I was fairly open. I just look back at the time when I had accidentally been racist, and didn't even realise it.

Finally, several students made note of their response to revelations of the potential impact of their behaviours and attitudes: *"[It] made me realise how ignorant I was - and also made me really realise that if I hadn't gone through [the unit] I wouldn't have been culturally safe."*

It was like being on trial (*Self-examination with Feelings of Guilt or Shame*)

The second key theme to emerge was student expressions of guilt and shame. In Mezirow's context, the experience of shame by individuals is multifaceted in its potential; constricting in its capacity for prevention of exploration of new possibilities, yet catalysing in its transformative potential. Student expressions of shame were generally articulated in the context of learning about Australia's colonial underpinnings, of sharing racial commonalities and connection with this colonial force, and of acknowledging themselves as being beneficiaries of colonisation at the expense of the destruction of another.

Many students openly articulated a sense of shame, borne of ignorance to Australia's colonial history. One student discussed the sheer strength of the emotion and the difficulty of acknowledging and facing its genesis:

It was like being on trial. [A guest lecturer] handed round some of those pictures and we're confronted with the history of the state that we live in. [...] that was people's-

human beings' - lived experience- their life consisted of that, and that's really shameful.

Some students discussed the 'on trial' nature of the learning environment as an impediment and difficult to negotiate: "*[the unit made] a lot of people feel guilty...whereas I, I'm sure that, sorry as I feel I, like, we shouldn't feel guilty [...] I didn't have a choice where I was born.*"

Others echoed this sentiment, though discussing it in terms of the potential consequences of an unresolved or unexplored shame: "*...if you feel that shame, maybe some people find that uncomfortable [...] that's when all that rhetoric comes out of Indigenous people getting handouts, all that rubbish that comes out that's comfortable for them..*"

Finally, several students noted the importance of educator support in working through complex affective responses:

[I] felt embarrassed and awful and, like ... I don't know, ashamed. We were told, try to let that go a little bit. That sort of stuck a little bit, which ... well, it sort of, tackled that hurdle a bit. I can move on for the learning ... that got a bit stuck at the start.

Finally, one student spoke of acceptance in their process of navigating shame felt, and a consequent growth:

I wrote [...] 'hey you're a human and this is the best you did for what you knew'. And it's not something to be proud of and there's shame that that's how I felt. But I sort of embrace being a little bit more educated and enlightened now.

What kind of presumptions am I making? (Critical Reflection)

The third key theme to emerge was students' articulation of the critically reflective process throughout their learning experience. The learning context facilitated a reflective challenge to personal assumptions, attitudes, beliefs and behaviours and a gradual shifting of

these frames of reference with regard to Indigenous Australian people and culture, and their own.

Most considered self-examination important if they were to appropriately function in Indigenous contexts, with one student stating:

It made me think about [how I judge]. What kind of presumptions am I making? [...] What led them there? What circumstance? It opened me a little bit more rather than just being narrow-minded and saying, "This person is doing something bad. He must be bad. It's his choice."

Another student extended this, making clear the requirement of personal accountability in terms of challenging the veracity of one's existing knowledge and beliefs around Australia's colonial foundations and Indigenous Australians and culture:

You have to challenge yourself because a lot of the things that I was taught, like yeah they weren't right, not at all, sort of thing, but you definitely have to go back and change it in your own mind.

The highly personal process of the learning itself became the subject of critical reflection for many, with students navigating the process to varying degrees of 'success'. Some noted significant changes in the level and quality of their thinking about highly complex ethical and moral issues:

[In relation to a shift from emotional reactivity to deeper consideration] I came to a totally different understanding after reading a couple of articles that were talking about how safety and freedom is important but it's also important about how that's achieved [...] ...that was a challenging thing for me.

Finally, others articulated shifts in their frames of reference around Indigenous culture, while simultaneously maintaining essentialist and stereotypical views, one student noting a newfound appreciation:

They might have some things we consider a bit more savage in terms of their laws and things or how they treat their kids or things like that. But I mean, the reality is they were a lot more effective, in some sense, a lot more closely knit than we are.

If I was working in Indigenous health... (Explored New Roles)

The fourth key theme to emerge was students' exploring and reflecting on the possibilities of working in Indigenous health and cultural contexts. This arose seemingly as a result of stimuli within the course, and thus seeing this unexplored field of work as available and possible for them now, where previously it was not. Despite this developing willingness, most acknowledged concerns, fears and misinterpretations about the space, in terms of the appropriateness of their practice and possible consequences of it.

Some considered limitations in knowledge and ability as a natural part of this exploration, one student stating:

I would love to work with Indigenous people... in health setting or something like that - to learn more from them as well. [Because] I'm totally aware of the fact that I've only learned so much and I've learned it in the classroom so I've got no field experience.

Contrasting this, another student's account suggested a concerning fixed view of future roles: *"I just don't wanna say anything without a trained representative there to like censor everything that I say or like make sure I say the right thing"*

Others, despite exploration, maintained a relatively essentialist and fixed understanding of Indigenous cultural diversity: *"How can I help Indigenous Australians? How is an [Occupational Therapist] gonna help 'cause it's so very different than Indigenous culture of 300 years ago."*

Finally, several students articulated self-consciousness related to how they might be perceived by Aboriginal people in future interactions, this heightened awareness seemingly a

result of a more nuanced understanding of Australia's colonial history and related contemporary issues:

I think how do you deal with me? Like, how do you look at me? How do you...come to me asking for some sort of help in your life, whether it's physical or emotional [...] How do you resolve that in your mind? Like, what are you being told about me, you know?

I kind of stood for what I wanted to do. (Tried on new roles)

The fifth key theme to emerge was a willingness of students to try on new roles, actions and behaviours, in their personal and social contexts, the active engagement underpinning this theme differentiating it from earlier explorations of roles. This engagement demonstrated a powerful conviction in students' new-found beliefs and an acceptance of the consequences of their actions.

Students consistently shared accounts of interactions with those close to them, often making note of the sense of empowerment undertaking the unit had facilitated in them, one student noting:

Family-wise I've always kept quiet, and they did push me around a bit. But ever since starting [the unit] I kind of stood for what I wanted to do, and just stuck to it. So that gave me the courage to speak up more.

Others suggested that knowledge gained within the unit supported a conviction to challenge and potentially re-educate their social circle:

[In response to mother's ignorant opinion of Aboriginal Australians] I said 'well, actually mum it's not right, you're not right and that's not what happened' sort of thing and she's like 'but they've...' and it's like well it's not happened and this is why.

Another student expanded on this, accepting the possibility of relational fractures due to these challenging interactions:

I've had people who I like and I respect, and I've found their points of view are very different from mine, and it's really hard to reconcile do I still like this person? And I still do like the person, but I really don't like their values or opinions, and sometimes it's just ignorance, like with friends and family, [but] I mean I'll challenge people in my private life if they say things.

Finally, some students were also mindful of the nature of these challenges and cognisant of the historical and social context through which beliefs and attitudes might be held, with one student's account exemplary in its awareness of the complexity of this:

Our words are so powerful that we don't realise that we're repeating stuff through generations. Yeah and we don't realise how armed we are with those words. [...] I guess it's a part of me speaking in a different language to bridge that, or ask those questions, and try and keep the personal effect of my triggers somewhere [safe]. I started somewhere so someone else starts somewhere and it's allowing their process for them.

Discussion

The current study critically examines students' transformative learning experiences within Indigenous Studies health curriculum. Similar to previous research in this context (Bullen & Roberts, 2018a; Bullen & Roberts, 2018b), current findings provide evidence of specific precursor steps of transformative learning, consistent with Mezirow's framework. Students consistently articulated learning experiences indicative of disorientating dilemmas (step 1), self-examination with guilt and shame (step 2), critical reflection (step 3), exploration of new roles (step 5), and trying on of new roles (step 8). The manifestation of these steps appears consistent across research in the social justice and diversity transformative education space (Bullen & Roberts, in press; Doucet et al., 2013). Our findings contribute to a greater understanding of the way in which students experience

Indigenous Studies contexts, while highlighting the relevance of Mezirow's theory as a foundational framework to build, and evaluate the effects of, Indigenous Studies curriculum designed to address health disparities between Indigenous and non-Indigenous Australians.

Findings also contribute to our understanding of how students learn within the highly complex Indigenous Studies context. Students implicated the importance and role of 1) elements of the curriculum and pedagogy conducive to a shifting of personal frames of reference, 2) their own positioning, in terms of the way in which they approached, encountered and worked through the learning experience, and 3) the educator's skill in creating an environment conducive to a simultaneous challenging and supporting of students as they navigated the often precarious cognitive and affective aspects of their learning experience. Each is important in terms of developing future health practitioners as critically reflexive and dialectical thinkers capable of navigating complex intercultural spaces.

The precursor steps to transformative learning

Consistent with Mezirow's (2012) theory and reflecting previous quantitative findings in this space (Bullen & Roberts, 2018b), students expressed profound disorientation and dilemmas, this phase typically catalysed via course learning experiences. These disruptions to currently held knowledge, beliefs and assumptions facilitated a revelation of aspects of themselves they appeared unaware of and were shocked by, and their consequent own ignorance toward, and at times potential contribution to, the oppression of Indigenous Australians. This was coupled with a newly generated sense of shame or guilt, consistent with findings in similar contexts (Maddison, 2011; Walker, 2017).

Emotion is a noted component of transformative learning (Dirkx, 2006), and a powerful shame characterised much of the discussion by students. While posited as vital and a place of reparation (Walker, 2017), the complexity of navigating through this shame is apparent and varies between students, implicating issues around students' capacity for

reflective thought, educators' capacity to identify and act upon appropriate moments, or both. It is unclear how less cognitively mature students might respond to such shame-inducing encounters – literature suggests links between shame and an inability or failure to 'act' (Maddison, 2011), or even increased prejudice (Kowal, Franklin, & Paradies, 2013). Consistent with Mezirow's (2012) theory, the experience of shame served to orient students toward critical reflection upon a now precarious worldview.

The shame and cognitive dissonance (Festinger, 1957) induced through the learning experience appeared to propel those students capable or willing to do so toward an exploration of deeply held-beliefs and assumptions. However, the quality of this process appeared incumbent on a few factors. The students interviewed frequently discussed their own internal process of reflection upon existing frames of reference in relation to the material being learned, articulating these in ways that implied a depth of learning approach, and a capacity to grapple with novel and complex situations and issues. An elevated capacity to reason (King & Kitchener, 2004) has been noted as more likely in mature aged students (e.g. Richardson, 1994), and those approaching their learning from a 'deep' perspective (Mann, Gordon, & MacLeod, 2009). Importantly, the current study also appears to implicate critical reflection as a catalyst for the consideration of exploring and enacting new values, beliefs and behaviours, consistent with transformative learning literature (Taylor & Cranton, 2012).

Students' exploration of new roles was almost exclusively about future interaction with, and in, Indigenous health contexts. These future imaginings were informed by a range of perspectives about others and themselves, from shifting yet essentialist beliefs about Indigenous people, to limiting beliefs in their own capacity as learners in this complex context, and fears of being stereotyped themselves as 'just another racist white person' in the eyes of Indigenous people. While these phenomena are consistent with a range of literature around knowledge and identity (Dweck, 2008; Paradies, 2016; Stephan, Ybarra, & Morrison,

2009), the latter two points perhaps contribute to a sense of paralysis and inability to move beyond mere exploration and onward toward reconciliatory action (Maddison, 2011). Certainly, it appears the exploration of new ways of doing and being – an imagined reconstruction of individual identity (Illeris, 2014) – reflects a work in progress in terms of transformative learning, with a range of beliefs, doubts and preconceptions held simultaneously. By implication, there is value in, and necessity for, educators being equipped to walk with students through this liminal space (Page, 2014), as they attempt to shed old skin and grow into the new (Rossiter, 2007).

Beyond exploration of new roles, students noted frequent engagement in ‘difficult’ conversations with family and friends as they challenged dominant non-Indigenous ideologies and beliefs in relation to Indigenous Australians. The skill with which students engaged in, and articulated, these interactions, suggested an at times nuanced understanding of the context, in particular their understanding of the potential impacts in terms of intergroup relationships, and the need for some measure of tact and care when discussing such complex matters with those considered to be perhaps starting their own process of change. Each is consistent with literature around anti-racism action and a related sense of group identity and belonging (Nelson, Dunn & Paradies, 2011; Tajfel & Turner, 2004). Further, the conviction and consideration driving these behaviours suggests an internalisation of values – from unwilling or ignorant bystander to social justice ally and advocate for change (Redmond, Pedersen & Paradies, 2014). This appears consistent with Illeris’ (2014) proposition of transformative learning as identity work. Importantly, this willingness and self-acknowledged imperative as non-Indigenous individuals to undertake these potentially precarious and challenging actions has multiple and exponential effects, with impact upon both those non-Indigenous individuals holding contradictory beliefs to the interviewees, but also to people witness to these interactions (Nelson, Dunn & Paradies, 2011). This further highlights the

importance of students being willing to imagine and try out new ways of being, and the skill of the educator in identifying and supporting students in this context.

Student experiences beyond Mezirow's steps

Students viewed the tutor's approach as a key factor in their own, and their peers' engagement in the space, noting significant differences in perceived 'quality' and outcome. Some noted tutor passion, yet great rigidity imposed in the learning environment; others suggested a more inclusive learner-centred approach. The former's failure to facilitate a learner-centred environment conducive to engagement (Cornelius-White, 2007) appears associated with a highly prescriptive enforcing of Indigenous perspectives (Nakata, 2007) leading to deficit perspectives of Indigenous Australia, and a concerning fixed mindset (Dweck, 2008) in terms of both personal and professional self-censorship. In contrast, students associated the latter with facilitating a space of openness to discuss and challenge issues and ideas at the interface, affiliating the tutors' role with supporting navigation of the complexity of both the space, and their own cognitive and affective responses. These issues have been raised elsewhere (Bullen & Roberts, in press; Thorpe & Burgess, 2016).

Research regarding the influence of Indigenous educators upon students appears mixed (Bullen & Roberts, 2018a; Ranzijn et al., 2008). In this study, several students spoke to the authenticity of learning more from a 'culturally different' Indigenous educator. This perspective is both encouraging and telling in its depiction of student expectations of some form of cultural tourism or awareness, and perhaps contributes to a misunderstanding of the relevance and necessity of non-Indigenous educators in the space, a phenomenon that is discussed elsewhere (Housee, 2008; Wolfe et al., 2017).

Finally, resistance to learning in this space has been proposed as normative (Asmar & Page, 2009). However, the students interviewed demonstrated a general lack of resistance to the learning, engaging openly and with little concern about being the stereotypical 'older

student' (e.g. asking frequent questions in class). This perhaps suggests an understanding that the younger peer group was not 'their' group, and thus little was risked by venturing beyond its bounds (Tajfel & Turner, 1986), allowing for a greater capacity to work through the intersection of the material and their own cognitive and affective responses (King & Kitchener, 2004). Both possibilities appear relevant when considering the effects of this learning environment upon students.

Limitations & Future Research

Of the 13 students interviewed, 11 were mature aged. While reasons for the limited participation of 'traditional' tertiary aged students is unknown, it is possible younger students did not volunteer due to differing experiences in the unit, in relation to their older cohort peers. While we were able to gain insight into the transformative learning experiences of the participants interviewed, we make no claim in regard to the generalisability of these findings. Future research might consider the experiences of both younger students and those not experiencing transformative learning, with further consideration given to potential differences in engagement, and the factors involved in this educational context.

Conclusion

This paper has provided nuanced insight into students' experience and learning in this Indigenous Studies context, allowing us to better understand the milestones, facilitators and hurdles of transformative learning within curriculum, but also external impacts, potential or realised, upon Indigenous Australian people and communities. Based on our analysis, it appears student perspective transformation is a complex, iterative and on-going reflective process, with seemingly contradictory ideas (e.g. essentialist perspectives v. self-shame) existing side by side within student schemas at any one time. If current curricular models are to be truly effective, the complex intersection of identity development, group belonging, learning approach, limitations in existing knowledge and capacity for complex thought

requires further consideration. These findings of transformative learning are encouraging in terms of depicting both the ways non-Indigenous student attitudes, beliefs and behaviours toward Indigenous Australians can be shifted, and the steps in the process, each as a result of exposure to a first year core health unit based on Indigenous knowledges and perspectives. However, they also highlight the need to understand the perspectives and experiences of students not experiencing transformative learning. Combined, these findings point to the need for greater institutional investment in both the development of educators in this space, and educational opportunities beyond first year that allow students to build on, or simply start, this profound process of transformative learning. Ironically, until such time as this commitment is made, we risk reinforcing extant beliefs and paradigms held by non-Indigenous Australians about Indigenous Australians, and a continuation of the health disparities these curricular offerings are designed to alleviate.

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Conflicts of Interest

None.

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Discussion

“All students come to Indigenous Studies ill-prepared for the knowledge and political contests they will encounter. How students are positioned to engage in these contests has everything to do with whether they stay with or exit the encounter. How they are brought to the encounter has everything to do with whether they resist, oppose, defend, convert, patronise, tolerate, or thoughtfully engage the content of their courses to the best of their ability.” (Nakata et al., 2012, p. 136).

The overarching aim of this research was to investigate, within a transformative learning framework, factors involved in the development of cultural capabilities in first-year health science students so as to operate and engage effectively in Indigenous health settings. A mixed methods sequential explanatory research design was chosen as the approach to investigate these factors, with the aim of first determining whether shifts in preparedness to work in Indigenous health setting occurred following engagement in an Indigenous cultures and health unit (papers 1 and 2), followed by a more personalised qualitative investigation into the factors possibly driving these changes (papers 3 and 4). In this chapter, the findings from each of the different quantitative and qualitative components are integrated, with key areas for change proposed and recommendations made to practically address each of these areas, each based upon insights determined from this analytical integration. The method of integration is briefly introduced, followed by the presentation of the integrated findings, key areas for change and recommendations in a visual-display table. The key findings are then situated within the extant literature. This is followed by a discussion of the delimitations, limitations and strengths of the overall study, reflections on the

potential impact of my positioning on the research process and findings, and the theoretical, methodological and practical implications of the findings. Finally, I outline future directions and recommendations for teaching and learning in the Australian Indigenous Studies context.

Method of Integration of Findings

Mixed methods research is fundamentally based on the integration of diverse sets of quantitative and qualitative data so as to develop nuanced insight into the phenomenon at hand, one facilitating a holistic view typically inaccessible via methodologically singular paradigms (Creswell, Clark, Gutmann, & Hanson, 2003). The mixed methods sequential explanatory model adopted within the current study, with its focus on qualitative explication and extension of initial quantitative findings can be visually depicted in the form of a joint display (Guetterman, Fetters, & Creswell, 2015), this depiction intended to “provide a visual means to both integrate and represent mixed methods results to generate new inferences.” (Guetterman, et al., 2015, p. 555). While a range of possibilities for visually depicting the integration process and findings exist within the literature (Guetterman et al., 2015), I have adopted a modified version of the joint display, inclusive of the quantitative and qualitative phases, insights arising from the integration of these, key areas for change and associated recommendations derived from the integration process (Gilbert, Roberts, & Dzidic, 2018).

Table of Key Findings

Table 1 provides a joint display of the key findings from the components of this research project. Column One presents the overarching topics of the research project, with each subsequent column aligned with the respective presented topic. Column Two presents findings from the two quantitative phases of the broader study, with Column Three presenting thematic findings from the qualitative Phase 3 of the project. Column

Four outlines insights generated as a result of the integration of the quantitative and qualitative findings. Column Five builds on the integrated insights noted in Column Four, outlining key areas for change. Finally, Column Six proposes recommendations to address the identified key areas for change.

Overarching Topic	Quantitative	Qualitative	Integrated insight	Key areas for change	Recommendations
<p>Students' attitudes to Indigenous Australians and preparedness to work in Indigenous health setting on commencing the course</p>	<p>Students' attitudes towards Indigenous Australians were more positive than in previous studies of the general population. International students held more negative views toward Indigenous Australians than domestic students.</p> <p>Students' attitudes towards Indigenous Australians were predictive of perceptions of Indigenous health as a social priority, future commitment to Indigenous health, and perceptions of the adequacy of Indigenous health services.</p> <p>Interactional diversity experiences were predictive of future commitment to Indigenous health, and preparedness to work in Indigenous health settings</p>	<p>Students: Theme <i>'How uninformed and uneducated we are...'</i> highlights students' perceptions of their own often previously unacknowledged racist attitudes and behaviours towards Indigenous Australians at the time of commencing the unit</p> <p>Tutors: Theme <i>'It wasn't as they had learned in high school'</i> highlights tutors' perception that some students begin the course holding stereotypical views of Indigenous Australians, and attributing non-attendance in class to both negative attitudes towards Indigenous Australians, but also great discomfort associated with entering the space.</p>	<p>While attitudes towards Indigenous Australians may have become more positive in recent years, the qualitative findings suggest many students enter the unit with stereotypical negative views of Indigenous Australians that they may at that point in time not have acknowledged. Students don't necessarily 'get' what their attitudes are at this point in semester, or why they may or may not be conducive to working with Indigenous Australians, rendering the prospect of entering the space a highly uncomfortable one.</p>	<p>There is a need for educators to understand that students are 'unfinished products' holding a variety of ideas and beliefs at any one time, and to be capable of working with this.</p>	<p>Implement educator development opportunities designed to strengthen tutors' capabilities to appropriately identify their own positioning, their philosophies of the space, and locus of their own cultural interface, so they are equipped to respond to student experiences in this space in ways that support potential transformative learning.</p>
<p>Changes in students' attitudes and preparedness across the course</p>	<p>Students' attitudes towards Indigenous Australians improved from beginning to end of semester.</p> <p>There were small differences in attitudes towards</p>	<p>Students: Theme/s <i>'How uninformed and uneducated we are...'</i>, <i>'What kind of presumptions am I making?'</i>, <i>'If I was working in Indigenous health...'</i> and <i>'I kind of stood for what I wanted to do'</i> highlights students perception of their own realisations of the limitations</p>	<p>Despite shifts in attitudes and increased preparedness, doubts remain around how effective students feel they can be in Indigenous health settings. These doubts</p>	<p>Students require further support and opportunities in learning environments to address these doubts, including</p>	<p>Institutional investment in core disciplinary curricula beyond first year standalone units is needed, providing students with</p>

	<p>Indigenous Australians between students in attendance at only start of semester, and those who attended at the start and end.</p> <p>There were significant positive changes to all aspects of student preparedness (including Indigenous health as a social priority, adequacy of Aboriginal health services, student preparedness to work in the Indigenous health context), apart from future commitment to Indigenous health, by the end of the semester.</p>	<p>in their own early knowledge, in comparison to the new knowledge gained as the semester wore on, such as their own capacity for culturally safe practice. These themes also highlight the effect of these attitudinal changes upon students' preparedness in terms of considering working in Indigenous health settings, and to act as advocates for social justice.</p> <p>Tutors: Theme/s <i>'It wasn't as they had learned in high school'</i>, <i>'Actually, this is about me'</i>, <i>'I want to be as open and as vulnerable and as willing as you are'</i> and <i>'It's not the norm yet in your life, it's not the default'</i> highlights tutors' perception that, as the course went on, some students came to realise that there were significant limitations to their prior learning, and that much of the learning was about the student themselves, not necessarily about Indigenous people and cultures. They also highlight tutor perceptions of students considering their role in improving Indigenous health outcomes, and the challenges of enacting these considerations.</p>	<p>appear heightened due to the greater student awareness of the potential role their own ideas and beliefs might play in outcomes for Indigenous Australians.</p>	<p>increasing educator awareness of these doubts, and a practical and culturally safe (for both students and Indigenous people) way of working through them</p>	<p>opportunities for both critical reflection and engagement in culturally safe interactions with Indigenous Australians, with contextually relevant culturally safe learning opportunities (e.g. simulation or Work Integrated Learning).</p>
<p>Transformative learning as a predictor of changing attitudes and preparedness</p>	<p>Nearly all students (over 92%) experienced at least one of the precursor steps to transformative learning.</p> <p>The steps to transformative learning accounted for a small proportion of variance</p>	<p>Students: Theme <i>'How uninformed and uneducated we are...'</i>, <i>'What kind of presumptions am I making?'</i>, and <i>'If I was working in Indigenous health...'</i> highlights students' perceptions of their respective experiences within the unit aligned with transformative learning steps, specifically disorienting dilemmas, shame and guilt,</p>	<p>The powerful shame and/or guilt students felt in response to the learning experiences clearly catalysed a process of reflection for some students. It is possible many students avoided demonstrating this to tutors within the classroom</p>	<p>Students need a place to be able to express the range of affective emotions and responses within the learning environment, as it is in itself a powerful</p>	<p>Provide opportunities within the curriculum to specifically address the experiences of guilt/shame, and utilise it as a means of going forward in the development of cultural</p>

	<p>in attitudes toward Indigenous Australians, and preparedness to work within Indigenous health settings, after controlling for pre-existing attitudes.</p> <p>Experiences of certain precursor steps to transformative learning (specifically, disorienting dilemmas, critical reflection, exploration of new roles, and planning a course of action) were associated with significant differences in attitudes toward Indigenous Australians and preparedness to work in Indigenous health settings also.</p>	<p>critical reflection, exploration of new roles and trying on new roles.</p> <p>Tutors: Theme '<i>It wasn't as they had learned in high school</i>', '<i>Actually, this is about me</i>', and '<i>I want to be as open and as vulnerable and as willing as you are</i>' highlights tutors' perceptions that some students experienced steps to transformative learning steps, specifically disorienting dilemmas, critical reflection, and the exploration of new roles.</p>	<p>environment (the shame/guilt experienced was not noted by tutors), or simply stopped coming to classes.</p>	<p>learning mechanism when harnessed appropriately.</p>	<p>capabilities. Again, educators must be afforded developmental opportunities to further equip themselves to identify, recognise, and respond to these pivotal affective responses.</p>
<p>Predictors of transformative learning</p>	<p>The most powerful predictor of transformative learning was critical reflection.</p> <p>Deeper student learning approaches upon entry to the course also predicts greater critical reflection.</p> <p>The relationship between students and tutors, and the consequent learning environment, also predicts greater critical reflection.</p>	<p>Students: Theme '<i>It was like being on trial</i>', and '<i>What kind of presumptions am I making?</i>', highlights students' perceptions of the importance of their experiences with a process of critical reflection upon perspectives, assumptions and beliefs held with regard to Indigenous Australians., and also the supportive relationship between educator and student both facilitating students' approaches to the learning processes, and supporting the critical reflection process.</p>	<p>Critical reflection processes remain crucial to the transformative experience. However, there are factors – some inherent to students and some induced - that are vital in facilitating this process. Educators play a significant role in the class, well beyond 'traditional' models of pedagogy, and have the power to 'enable' reflective processes (and consequent transformative learning</p>	<p>There is a need for educators to understand clearly what their own role encompasses in the Indigenous Studies context (in terms of the approach they take as educator), and how pivotal this role is to student outcomes.</p>	<p>These points suggest a need to implement educator development opportunities designed to strengthen tutors' self-reflective capabilities so as to appropriately identify their own positioning and philosophy toward the space, their associated relational and pedagogical approaches to the space,</p>

		<p>Tutors: Themes '<i>Actually, this is about me</i>', '<i>I want to be as open and as vulnerable and as willing as you are</i>', and '<i>Tutor positioning affects the transformative process</i>' highlight tutors' perceptions that some students experienced transformative learning steps conducive to the critical reflection process and potentially onward to transformative learning. The themes also highlight the type of positioning tutors themselves adopted, and consequent relationships formed, conducive, or not conducive, to transformative learning.</p>	<p>experiences) or unwittingly smother them.</p>		<p>and the consequences and possibilities of various approaches (e.g. authoritative vs. authoritarian approaches).</p>
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In summary, key findings within the overall study depicted in the table suggest that many students' bring stereotypical and negative attitudes toward Indigenous Australians to their course of study, and that these attitudes are often unexplored or misunderstood in terms of their effects. Further, these attitudes influence students' levels of preparedness to engage in Indigenous health settings upon commencement of their health course. Findings also suggest that both students' attitudes toward Indigenous Australians and students' levels of preparedness are improved as a result of exposure to, and participation in, the Indigenous Studies learning environment. However, for some students considerable doubt develops as a result of 'learning and knowing more' about themselves and the Indigenous health context over the course duration, with this doubt remaining for students in terms of how, or whether, they should engage in Indigenous health settings. Related to this, most (though not all) students experienced steps related to transformative learning within the Indigenous Studies classroom, and these steps in the learning process were both catalysts for shifts in student attitudes and preparedness, and indicators of where students might be within the transformative learning process itself. Finally, there were certain factors that contributed to the experience of these transformative learning experiences and steps including the learning approach students brought to the Indigenous Studies educational context, the students' capacity for critical reflection, and the relational dynamic between tutors and students, both individually and as a larger group within the classroom.

In terms of convergence and divergence of findings, there were clear commonalities and differences between tutors' perceptions of student transformative learning experiences, and students' own articulation and expression of these experiences. In particular, students were noted as experiencing disorienting dilemmas, guilt and shame, critical reflection, exploration of new roles, and trying on new roles. Tutors also articulated observations of each of these precursor steps to transformative

learning in their students, except for experiences of guilt and shame (a notable exception and omission). Further to this, the identification and interpretation of certain commonly noted experiences differed from tutor to student. For example, the steps of exploring new roles and trying on new roles were expressed by both tutors and students in terms of imagining future health practice in Indigenous health settings, and actively challenging dominant ideologies within their own personal and social context (such as friends and family). Where observations differed between tutors and students was both the sense of doubt conveyed by students as to whether they should be engaging in Indigenous health contexts despite good intentions, and how they would be perceived, as a non-Indigenous person doing so. Each of these findings point to a range of recommendations intended to address and strengthen factors within the learning and teaching environment conducive to better preparing students for engagement as future professionals in Indigenous health settings.

The results of these studies demonstrate that non-Indigenous students enter Indigenous Studies course with certain attitudes toward and/or about Indigenous Australians, supporting earlier research (Pedersen et al., 2004; Hunt et al., 2015). Where findings initially appear to differ from these earlier studies is in the considerable differences between earlier findings of negative attitudes held (e.g. Pedersen et al., 2004) and the generally more positive attitudes held by this cohort of students. This may be partly explained by the relative youth of this study's sample demographic (in relation to Pedersen's study), and suggests a shift in attitudes over time, influenced perhaps by both sociocultural and generational changes within Australia. However, further investigation is needed to explain differences between the contextually similar and more recent longitudinal study conducted by Hunt et al., (2015) who, while noting significant changes to nursing student attitudes over the course of a semester-long unit focused on Indigenous health, reported considerably more negative measurements at both time 1

and time 2 of their study and shifts in these attitudes across each measurement of considerably smaller scale than within the current thesis' findings. Further extending the previous literature, the findings from this study indicate that while students may hold certain ideas, attitudes toward, and beliefs about Indigenous Australians upon entering university, there appears to be a common lack of insight into the existence of their own attitudes and beliefs and/or their meaning and potential consequences of this in relation to their future roles as health professionals.

The noted shifts in attitudes toward Indigenous Australians and student preparedness to work in Indigenous health settings following an Indigenous Studies unit found in this research supports findings from previous research in this space (e.g. Mills et al., 2018; Paul et al., 2006; Pitama et al., 2018). However, extending previous research, my findings suggest that while significant changes occurred for students, considerable doubts remained or arose in terms of projected future engagement in Indigenous health contexts. This finding is perhaps explained by two related yet seemingly contradictory factors. First, the students are only in the first year of their studies, and thus have had limited exposure to the Indigenous health context generally. Second, the increase in students understanding as a result of this limited exposure during the unit is sufficient to have triggered a sense of self-consciousness of their own positioning within Australia's complex sociocultural context (Maddison, 2011; Walker, 2017).

Shame and guilt played a significant role for students within this Indigenous Studies environment, supporting previous research (e.g. Pedersen et al., 2004; Williams, 2000). However, the association between guilt and negative attitudes appeared to differ to earlier research, with guilt and shame catalysing a process of reflection as opposed to reinforcing, or avoidance of exploring, attitudes. This may be related to cognitive maturity, given the relatively mature aged qualitative student

sample (Merriam, 2004). Beyond this, only students noted this guilt and/or shame – tutors did not (though tutors did note discomfort, there was no suggestion of this being reflective of a sense of guilt or shame). This appears unusual given the prevalence of literature on guilt within this context (e.g. Halloran, 2007; Maddison, 2011; Pedersen et al., 2004). One possible reason for this is that students who were incapable of negotiating this guilt and/or shame simply stopped coming to, or engaging in, class (Walker, 2017). A second possibility is that manifestations of guilt and/or shame presented in ways perhaps unrecognised by educators, such as resistance (Asmar & Page, 2009; Thorpe & Burgess, 2016).

Supporting earlier studies in this Indigenous Studies health education space and more broadly, critical reflection continues to be a primary predictor of transformative learning (e.g. Doucet et al., 2013; Jackson et al., 2013). Findings within the current thesis suggest certain factors are important in facilitating this reflective process, particularly the positioning and relational approach adopted by educators, these associations suggested elsewhere in this Indigenous Studies health education context (Prout et al., 2014). However, the findings within the current thesis extend our knowledge of how educator positioning and relational approach influence student transformative learning outcomes, suggesting that levels of control applied to, and nurturance afforded toward, students (each noted elsewhere, see Walker, 2008) influenced both the learning approach taken, the quality of critical reflection, and the likelihood of transformative learning experiences.

Delimitations, Limitations & Strengths

While there appears to be a general assumption in the Indigenous Studies health context that undergoing appropriate learning experiences will increase desire and capability to work in these contexts (MacDonald review, 2018), very few studies have investigated the impact of the learning beyond student experiences. There is limited

evidence of the potential consequences to and for Indigenous communities as a result of educational experiences designed to develop more capable and prepared health practitioners (Mills et al., 2018). For the sake of clarity, and in terms of delimiting scope and consequent findings, the current study is concerned with only the impact of the curriculum upon students, not direct impacts upon the communities potentially served by those future health practitioners who participated in the studies within this thesis.

Despite important findings across each of the five studies within this thesis, there are overall limitations that require addressing. Each of the individual papers included within the overall thesis have elaborated on study-specific limitations. As such, the focus here is on the limitations of the research as whole, to the exclusion of the study-specific limitations already discussed in the individual papers. The primary limitation to the broader study – sample attrition – is potentially intertwined between both the qualitative and quantitative components of the study, with possible sample homogeneity in the qualitative student phase reflective of sample attrition within the earlier quantitative phases. Many students did not attend the tutorial in Week 10 where Time 2 quantitative data collection occurred (a 71% decrease from Time 1), though no differences existed between Time 1 and Time 2 participation rates. The impact of this on the quantitative findings is discussed in Paper 2. In addition to being a concern for the quantitative analysis, it also limited the pool of students who were available to indicate interest in being interviewed within the qualitative phase. While not unusual in longitudinal studies (Young, Powers, & Bell, 2006), and possibly related to both typical retention/attrition rates across semesters and noted complexities for student retention within Indigenous Studies courses (Asmar & Page, 2009) it is important to consider the possible consequences of this. There were no interviews with students who either did not experience some form of transformative learning, or who were of ‘traditional’

university commencement age (that is, commencing university immediately upon secondary schooling completion). As such, both the Time 2 quantitative sample and the qualitative student sample are biased towards students who were still attending tutorials towards the end of semester and as such the views of those who did not attend are not fully represented in this research.

In contrast to these limitations are notable strengths of this body of research, each related to the adoption of methodological rigor throughout and the nature of the mixed methods research methodology. A good proportion of research in the Australian Indigenous Studies space is based on either retrospective qualitative explication of experiences within, and outcomes from, Indigenous Studies learning contexts (e.g. Biles et al., 2016), or captures of quantitative data (infrequently in a pre-post format) most often using unvalidated measures (e.g. Jackson et al., 2013) or a combination of the two (e.g. Ranzijn et al., 2008). Further, many of the samples are small (e.g. Thackrah & Thompson, 2013), or the studies lack theoretical alignment (e.g. Hunt et al., 2015). In contrast, my adoption of a sequential explanatory mixed methods approach enables a shift from solely retrospective accounts of ‘experiences’, or purely quantitative capture and analysis of data. My research expands on earlier studies, providing a) the capture of point in time quantitative data at two key times of semester, b) the utilisation of validated measures for each of the given constructs under investigation), c) the controlling of Time 1 measures when examining outcomes at Time 2, and d) the examination of predictive relationships between transformative learning (the thesis’ centrally aligned theoretical construct) and shifts in attitudes and preparedness. It follows this rigorous quantitative phase with deeper exploration of these personal experiences, shifts, and learning possibilities via qualitative investigation of these phenomena from the mouths of those at the very heart of the study, the students and

tutors. In essence, the strength of the study is the strength of the mixed methods paradigm to expand upon the investigative possibilities of quantitative and qualitative research paradigms and bring them together for an enhanced, more holistic explication of the phenomena at hand – in this case, the development of cultural capabilities within the transformative Indigenous Studies health education space.

Subjectivity and reflexivity

Subjectivity in research is inevitable, coloured by the values and worldviews of those involved – researchers and participants alike – and the design and context of the research and its setting (Guillemin & Gillam, 2004). However, rather than being simply problematic, an impediment to ‘good’ research and something that must be minimised at all costs, the practice of reflexivity around and upon one’s subjectivity is considered a strength of the research (Creswell, 2013). Thus, the concept of reflexivity acts as a means of addressing the limitations of individual subjectivity via an on-going critical evaluation of one’s positioning, and the influence of this positioning, in relation to the research itself (Bradbury-Jones, 2007; Pillow, 2003). This acknowledgement, exploration, and articulation of one’s values, beliefs, motivations, behaviours and personal attributes, their influence upon the research at hand, and the understanding of these as potential limitations, is vital to the maintenance of the “balance between the personal and the universal” (Berger, 2015, p. 220), and the strengthening of the quality of the research itself (Guillemin & Gillam, 2004). As a consequence of this, it is important that I highlight potential effects of my positioning upon the research project, inclusive of the design, data collection, and analysis of the research (Bradbury-Jones, 2007; Guillemin & Gillam, 2004), and in particular possible sources of difference between my understanding and interviewees intended meaning (Josselson, 2007; Pillow, 2003; Smith, 1999).

My experiences as a tutor within this unit are likely to have impacted upon by interviews with students. Certainly, I was able to relate to, and with much of, what students articulated due to the experiences I had had in teaching the unit, and having witnessed the range of responses from students within that context. My empathic approach undoubtedly influenced students' interaction and engagement in the interviews, opening the gates to a relatively unguarded inner keep, so to speak. Because of this willing vulnerability on behalf of students, I found myself continuously having to remain on alert with regards to my 'presence' within the process, and remind myself that I didn't 'know' their experience, and was here to find that out. Certainly, there were guarded moments from students, particularly when it came to areas of the discussion that might perhaps implicate them as holding critical perspectives or discriminatory attitudes toward Indigenous Australians. My 'insider knowledge on this phenomenon, gleaned from teaching within the space, enabled me to notice when the tone of the conversation grew in tension and I typically responded with statements of a desire to be open to, and understand, their perspectives, and that what is said within this conversation remains within this conversation.

Disclosure of personal perspectives was at times an issue. Due to the apparent openness of my nature and of the interview itself, students would often ask about aspects of experiences within the class, what I thought of certain things, and there were times where the interviews took on a conversational tone. While not necessarily always frowned upon (Bessarab & Ng'andu, 2010), the overwhelming consensus in qualitative research is to maintain a certain distance, a certain 'professionalism', within the context. While I was not overly concerned about my own 'sensitivities' in relation to talking about topics of tension within this space (e.g. racism, perceptions of political correctness) I was concerned about whether my disclosure affected the approach students took within the interview. Upon reflection, I made the conscious decision to

seek sufficient and ‘appropriate’ distance within the interview so as to maintain the warmth and rapport necessary for conversations of a challenging nature, and to disclose when requested. This positioning appeared to not simply give licence to students to say anything at all with little care for the consequences or ramifications, but rather facilitated in them greater confidence that I was able to share the space with them, and to better understand their experiences. Some students noted that the interview itself was highly reflexive for them, and something they wished they had had the opportunity to do within their class learning.

As noted in the introductory chapter, my appearance does not match many individuals’ stereotypical image of an Aboriginal man. Indeed, I am confident that several of the students interviewed did not see me as an Indigenous man, and this may have shaped some of the things they were willing to offer up as part of the interview process.

My experience as an educator may also have impacted upon my interviews with tutors. At the time of collecting data I had only very recently ceased coordinating the unit at the heart of this research project, and had been a member of the teaching team. The relationships forged through this process with educators may have influenced how much of themselves they offered in the interviews held, but also whether they undertook an interview at all. At the time of interview, I knew the majority of these tutors and had formed relationships with, and opinions of, them and of their way of doing things in this Indigenous Studies context. It remains unknown how much this influenced their participation decisions and responses, or my interpretation of their statements and perspectives. Interestingly, I perceived a few interviewees as trying to say the right thing, in a seemingly competitive manner, or to demonstrate their capability to someone intimately involved with the unit. I am unsure whether this was simply my perception or there were genuinely moments of comparison and competition arising between the

interviewee and myself, issues noted elsewhere (Ahmed Dunya et al., 2011). In any case, it is useful to note that the power dynamics at play may well have influenced certain aspects of the conversations.

A few of the interviews really frustrated me - trying to keep the interviewee on track with the questions and responses, and focused was challenging, with certain interviewees going off on wide tangents proving a challenge to my own ability to focus, and I admit that I had thoughts of just ending the conversation. Certainly, at times I had an inner dialogue going that I think may have distracted me from remaining connected to the interview. Likewise, within the interviews I found myself asking whether I may have crossed the line in terms of giving enough to guide interviewee to where we were intending to go in terms of answering the research questions, and being too prescriptive. It's difficult to know where this line is at times, though I am not the first to consider these things (e.g. Bradbury-Jones, 2007; Gemignani, 2011). I also wonder how much valuable information was lost by keeping things too focused, or by the withholding of relevant information by interviewees occurring as a consequence of assumptions that I understood already what they meant or were implying – that I was part of the ‘inner circle’. Across both student and tutor interviews, there were things that I knew to ask, or to prompt with, borne in many ways of having shared experiences or witnessed them within the classroom or broader social setting. While this may seem an immediate benefit in terms of acquiring data, I am mindful of the ways in which this may make it difficult to stay within, or even recognise, where the boundaries exist in terms of the imposition of my own ideas about the space and its inhabitants (Drake, 2011). Having said this, hopefully the rapport developed prior to, and in some cases during the interviews, facilitated a kind of ‘looseness’ to go where the interviewee needed to go at any particular point.

Touching back on the tutor meeting that played a role in catalyzing this research

project (see Introduction), I found myself consistently reflecting on why my perspective of the space was not necessarily aligned with the seemingly common perspective that student resistance and lack of engagement was a consequence specific to students' ways of being, borne of ignorance, or worse racism. To my eyes, this tension, while notable at times, was not the driving force of interactions within the class, and I felt a certain amount of empathy for students in this space. Upon reflection, I found myself shifting between 'camps' of support, in terms of whether I disagreed or agreed with how educators spoke of students, and of course, whether my agreement or disagreement mattered anyway. However, I must acknowledge these tensions caused me to consider how much of the personal was driving the professional for educators when they stepped into the arena, and thus what was offered within the interviews themselves. Certainly, there is literature around the difficulties and complexities of teaching in this space (e.g., Asmar & Page, 2009). Despite this, I found myself questioning how generalisable many of the explanations of student resistance within the literature and anecdotally were. Alternatively, I also appreciate that perhaps I do not truly understand the position that many of the non-Indigenous or Indigenous educators occupy and the constant tension and push and pull noted in the literature as to their place in the Indigenous Studies space (e.g. Wolfe et al., 2017; Asmar & Page, 2009), and thus how they approached their roles in the space. Perhaps as a result of my walking within both Indigenous and non-Indigenous identity and worlds, I have made judgements with regard to individuals but also the narratives and resultant interpretations that are skewed to the seeming 'neutrality' of my own epistemic positioning (a loaded point to be certain!). Certainly, this questioning built upon my own worldview affected the ways I constructed and interpreted student and tutor narratives, alongside the theoretical means of conceptualising what might have been occurring for each; such ambiguity not unusual in complex and contested spaces (Kacen & Chaitin, 2006). This I presume has

played some role in the way I have approached this research project, and is perhaps something the concept of reflexivity is unable to mitigate entirely when considered in the light of my not belonging to a particular group within the research environment (Pillow, 2003). In any case, my positioning as an Indigenous educator, someone quite familiar with the unit at the heart of this thesis, is likely to have provided both additional insights into the findings as a result of exploring this complex learning and teaching space, but also to have affected the findings in potentially unknown ways.

Implications

The findings across the five studies within this thesis have implications, in terms of the theoretical contributions to Mezirow's transformative learning framework, the methodological means with which we attempt to evaluate and understand the quality and effect of Indigenous Studies educational offerings, and of course implications for those individuals developing, and teaching into, the curriculum. These theoretical, methodological, and practical implications are discussed below.

Theoretical

Despite transformative learning theory's ubiquity and an ever growing body of research built around its theoretical premise (Hoggan, 2016; Taylor & Cranton, 2013), there is critique of the theory around a perceived stagnation of methodological and theoretical understanding and refinement (Cranton & Taylor, 2013). In particular, Taylor and Cranton, (2013) suggest the theory has become bogged down in deterministic efforts to 'record' transformative learning experiences, and/or simply reproduce transformative learning experiences across settings, and is in need of theoretical revitalisation. In response to questions asked by Taylor and Cranton (2013) around the role of empathy in the fostering of transformative learning, findings from the studies within this thesis highlight the importance of authentic relationships between

educators and students and its association with the development of student 'empathy'. Extending this, it appears not only are empathic educators more effective at fostering transformative learning, but they facilitate the same in their students via a modelling of behaviours and ways of considering and articulating themselves within challenging and/or uncertain contexts, suggesting a Vygostky'ian dyadic construct that sets the terms of engagement within this challenging space, and beyond (Page, 2014). Perhaps related to this notion of relational development and empathy are 1) the notion of transformative learning as 'inherently good' and 2) the exploration of 'desire to change' within those individuals exposed to catalysts within the current thesis' educational context (Taylor & Cranton, 2013). Addressing these points simultaneously, findings from this study were gleaned exclusively from students who experienced transformation that aligned with these principles of 'inherent goodness'. In this context, these transformative experiences might be contextualised as improvements in the capability to engage effectively in Indigenous health contexts, for example, shifts in attitudes, qualitatively different engagements with Indigenous Australians, or increased preparedness to function effectively and in a culturally safe manner within Indigenous health settings. It follows that those individuals who experienced these shifts had, or were guided toward, a 'desire to change', with associations between movement toward this desire to change and the positioning adopted by the educator. Deconstructing the experience of transformative learning within this study, there are clearly articulated associations (by both tutors and students) of many students being at the entry point of learning in a profoundly 'new' way, and certain key factors that enabled the proposition of the crossing of this threshold to be accepted, namely the approach to learning adopted by students, but (as an antecedent to this approach) also the relational development and positioning adopted by the educator. This movement toward a place of desire to change is a noted area of limited exploration within the theoretical transformative learning

literature, and findings within this thesis contribute to and extend knowledge of this component of the theory.

Following this, it may be that many students were not brought to a place of desire to change, or that those students who may have had some kind of ‘reverse’ transformative learning experience – one not ‘inherently good’ in description - were not available or willing to discuss their experiences. This is no insignificant thing and, while considered in some ways elsewhere (e.g. Thorpe & Burgess, 2016), may be the very thing that enables a more critical exploration of the state of Indigenous Studies and its consequences for students and Indigenous communities alike. This critical blind spot appears to speak to the power of a socially derived emphasis on politically correct conduct within the Indigenous Australian/non-Indigenous Australian relational dynamic, a conduct that, while born external to the classroom environment, inevitably rears its head within it and is reinforced when educational practices are uncritically examined (Nakata et al., 2012). In any case, such sociocultural influences and unilateral educator approaches appear at odds with the possibility of finding out more about the flip side of an assumption of the ‘inherent good’ of transformative learning (within the Indigenous Studies space), and hold implications for consideration with regards to understanding certain facilitators and barriers to expanding and progressing areas of suggested need within transformative learning theory more generally. In summary, these findings further our understanding of Mezirow’s theory by addressing proposed areas of need within the literature around the role of empathy in fostering transformative learning; how students are ‘brought’ to a place of desire to shift perspectives, ideas and beliefs; and possible barriers to, and facilitators of, determining whether transformative learning is inherently good.

Methodological

From a methodological perspective, Taylor and Cranton (2013) note that “there

are no (or few) longitudinal studies, studies done in the time when the transformative learning occurs, [nor] studies that are in the positivistic paradigm...”. Findings within the current thesis have implications for both contributing to the addressing of these methodological limitations extant in the transformative learning theoretical literature, but also the Indigenous Studies space itself; a context where very little research has actually used or pushed the boundaries of transformative learning theory and its association with the challenging Indigenous Studies learning context beyond interpretive methodologies that typically capture retrospective data of transformative experiences (e.g. Jackson et al., 2013; Prout et al., 2014). The results from the five studies within this thesis highlight associations between positivist, quantitative point in time expressions of ‘where students are at’ with regard to facets of their ‘self’ such as attitudes toward Indigenous Australians, and experiences of transformative learning aligned with Mezirow’s theory captured through interpretivist qualitative methods. The finding that the more steps to transformative learning experienced the higher the likelihood of attitudinal change and increases in preparedness to work in Indigenous health contexts has implications for the way the evaluation and measurement of Indigenous Studies occurs, but also provides greater validity to claims made in the literature that these shifts are transformative in nature, in what way, and to what extent. This research has demonstrated the utility of adopting a mixed methods research design to assess transformative learning in the Indigenous Studies space.

Practical

Findings within the current thesis also have implications for teaching in the Indigenous Studies educational domain with suggestions that the positioning that educators adopt in the space may indirectly influence the approach of students to the space and thus educational outcomes. More specifically, findings indicate associations between the relationship developed between students and educators (itself predicated

upon the functional and philosophical stance adopted by educators) and influential factors leading to transformative learning experiences. Educators and students each noted the value of approaches to the Indigenous Studies learning space that reflected both strength and nurturance, a conceptual place of being “held but not held onto, contained but not constrained” (Dirkx, 2006, p. 22), one where both the learner and educator share and acknowledge a vulnerability, and sit with this to meet the needs of those in, or on the threshold of entering, the space. This divesting of power associated with a need to control the experiences of another, for both Indigenous and non-Indigenous educators and students within the Indigenous Studies context, is acknowledged elsewhere (Castell, Bullen, Garvey, & Jones, in press).

Findings also suggest that adopting a less open, vulnerable and authoritarian positioning as educator is powerfully influential with regard to students’ engagement within the space. Much of the learning facilitated within Indigenous Studies is affective in nature, and as such, the capacity to work effectively with this as an educator is deeply important. The current findings support Nakata et al.’s (2012) proposition that rigidly enforcing boundaries for students is problematic, and fraught with unintended consequences, from limited engagement with the material and vital learning within, to outright rejection of the space and an unwillingness to enter it. As noted across literature (Nakata et al., 2012; Mezirow, 2012; Taylor & Cranton, 2013) the intention of any conceptual space with transformative potential probably ought not to be positioned as mandatory to transform or even engage. Most certainly the intention should not be to ‘disorient’ students so as to intentionally ‘convert’ them from a particular epistemic positioning to a new way of thinking (Nakata et al., 2012). Rather, the findings within suggest it may be more effective to facilitate a place of ‘whatever will happen, will happen’, to support students to become aware of the breadth of perspectives, and to critically explore their own and other’s positioning at any one time. To do otherwise

raises ethical questions around notions of indoctrination and the appropriateness of such endeavours (Nakata et al., 2012; Rivera et al., 2010), and may bear significant consequences for student and future health practitioner developmental trajectories in terms of the manner in which they engage in Indigenous health contexts and their motivations for doing so (Kowal, 2011).

Future directions

There are several areas that future research might focus on in relation to the key findings, limitations and methodological and theoretical implications. The first is related to the relative positioning of the educational unit of learning within the broader health degree itself (that is, typically located in year one of the chosen degree), and the persistence of transformative shifts among students. Previous research (Thackrah et al., 2015) suggests that while encouraging shifts in attitudes and knowledge occur within Indigenous Studies educational contexts for non-Indigenous students, retention and persistence of each appears to diminish over time from the first year of study through to the second and third years of the degree. However, Thackrah's study was not framed by transformative learning theory, raising the possibility that the changes in attitudes and knowledge were not necessarily transformative in terms of shifts in students' personal epistemic foundations, perhaps offering explanation to the noted lack of persistence. Accordingly, future longitudinal research is required to determine whether changes to attitudes and knowledge, aligned with stages in Mezirow's theory, persist beyond initial exposure and experiences, how this might occur, and why.

One of the key components within the Indigenous Studies transformative learning classroom that has not been rigorously explored is the role and influence of educators in this learning context upon students. This lack of critical exploration may be related to certain ideas of the Indigenous Studies space, such as a necessary focus on the cultural safety of educators (particularly Indigenous educators) and a

considerable focus on students and the difficulties of engaging them productively in the space (Asmar & Page, 2009; McDermott & Sjoberg, 2012). While considerations of cultural safety and student engagement are vital to appropriate and effective learning and teaching in this context, very few explicit examinations of educators positioning (pedagogical and/or philosophical), and their influence, have been undertaken (for contextually related literature, see Thorpe & Burgess, 2016), and this remains a potential area of rich understanding around predictors of and contributors to students' transformative learning outcomes.

Papers 2 and 3 within this thesis identified relationships between learning experiences within the course and shifts in attitudes, knowledge and transformative learning experiences. However, given the considerable number of students who did not attend class at Time 2 data collection (week 10 of semester), and the finding that those same students differed on the majority of the research measures used within the studies, it is important that future research capture the perspectives of those students who do not continue to engage in Indigenous Studies learning activities. In the research presented in this thesis there is a possibility of bias in both the quantitative and qualitative samples towards students who having experienced transformative learning. While I acknowledge that this is a difficulty most who undertake research in this space are likely to encounter, future research in this space could investigate the experiences of students who noted no shifts in perspective, or even a reversion to older, earlier held perspectives.

The overwhelmingly mature aged sample recruited within the Phase 3 qualitative exploration of this research, combined with the criticism of Mezirow's theory related to the possible necessity of a certain level of cognitive capacity to navigate the complexity of spaces with inherent transformative potential (Merriam, 2004), suggest it is useful to investigate what role age and capacity to navigate complexity in tasks such as critical

reflection play in both retention and/or attrition within Indigenous Studies units that adopt a transformative framework. Given the positioning of transformative learning theory as a theory of adult learning (Mezirow, 2000), further examination may also clarify where adulthood may 'begin' for individuals within this specific educational context, and thus whether efforts to effect transformative learning are appropriately vertically located within a given curricular offering in relation to the students' 'adult' capacity for the navigation of complexity. The simple suggestion here is that if we are asking students to undertake tasks that are beyond their affective, cognitive and/or metacognitive capacity at the time, we are limiting possibilities for broad transformative learning experiences in this educational space to those who are either capable of navigating this complexity, or those on the cusp. Given the noted resistance to Indigenous Studies curriculum within this thesis and other similar literature, this potentially leaves out a significant proportion of students at a first year level.

Finally, there are several reviews of studies in the Australian Indigenous health context noting the transformative potential of Indigenous Studies health education (e.g. McDonald et al., 2018; Mills et al., 2018; Pitama et al., 2018). The studies within these systematic reviews adopt a range of differing methodologies (inclusive of qualitative, quantitative and mixed methods), educational settings (e.g. traditional class-based learning and on-country learning), measures and theoretical frameworks. However, while the concept of transformation and/or transformative learning is discussed in the context of developing student capabilities, there is little to no alignment with theoretical frameworks specific to transformative learning. Extending this, the overwhelming proportion of studies in the Indigenous Studies transformative learning space that are framed by Mezirow's theory (e.g. Jackson et al., 2013; Prout et al., 2014; Wright & Hodge, 2012) generally adopt research methodologies based in the interpretive paradigm, or are simply not set within a health discipline. This suggests a

significant gap in what we do and do not know about the Indigenous Studies health education space, with particular regard to what is going on ‘under the hood’ of transformative learning – specifically, the purported transformative processes involved in developing greater future health practitioner cultural capability - for both educators and students alike. Future research adopting first and foremost appropriate theoretical frameworks (that is, frameworks explicitly aligned with both cultural capability and transformative learning) and/or differentiated methodologies is necessary to provide more conclusive evidence of statements of students experiencing transformation or transformative learning in this Indigenous Studies health education context and, beyond this, how this transformation may occur, the factors involved in it, and the associated consequences.

Ways forward – Putting recommendations into practice

The overarching purpose of the studies within this thesis was to investigate the development of students’ cultural capability development as seen through a transformative learning theoretical lens. The final phase of the mixed methods sequential explanatory methodology, the integration of qualitative and quantitative data (as seen in Table 1), suggests a range of recommendations for the Indigenous Studies context, each aligned with the four key topics and findings arising from the integration process.

Recommendation 1: Supporting educators to support student transformative learning

Findings within this thesis suggest that students come to the learning environment with particular attitudes toward Indigenous Australians, and that at times students are unaware of these attitudes and their consequences. However, the learning in the space frequently shines a light on, and offers alternatives to, these perspectives held by students, leading to experiences of disorientation, dissonance and an

accompanying distress. The apparent consequences of this are that times individuals engage or do not engage in a range of ways, most of which should not be presumed to be the final resting place of the individual's perspective upon these newly introduced matters. Students are a work in progress, in this space and in any space. However, it would be prudent to assume that educators too are a work in progress, and bring their own psychosociocultural 'baggage' to the context, acting in response to student behaviours in varying ways, some productive, some counter-productive.

As such, the recommendation is to provide greater opportunities for educators to formally explore, identify, critically reflect upon and challenge their own internally held beliefs and ideas of the Australian sociocultural context, and the parameters of their possible role/s within this, so as to be better equipped to respond to student experiences in this space in ways that support potential transformative learning and its related outcomes. These developmental opportunities, if specific and appropriately developed and delivered, should facilitate a space for educators to identify their own positioning, their philosophies of the space, and locus of their own cultural interface, and consider ways in which they may harness this knowledge to work with students who are likely to be experiencing very similar things.

Recommendation 2: Institutional investment in future learning opportunities

While students experienced shifts in attitudes toward Indigenous Australians and preparedness to work in Indigenous health contexts, many expressed newly discovered or refined doubts about their ability and place to work in Indigenous health settings. With limited vertical integration throughout the undergraduate curriculum to build upon early exposure to the Indigenous Studies health context, often students are essentially left to 'figure things out' on their own, with little to guide them or assuage their doubts upon completion of the common first year unit. As such, it is vital that this general lack of curricular continuity is recognised as problematic and acknowledged as being fraught

with harmful consequences to both the student and those they will serve as future health practitioners.

In relation to this, this recommendation is a call for greater and more consistent institutional investment in core disciplinary curricula extending vertically to build upon learning and experiences within the first year standalone units. These calls to invest more deeply in this space have been noted elsewhere (Department of Health, 2014; Page, Trudgett, & Bodkin-Andrews, 2018), however the current thesis provides further evidence for its necessity. Curricular continuity requires providing students with opportunities for both critical reflection and engagement in culturally safe interactions with Indigenous Australians at later years of the curriculum. However, this recommendation around curricular continuity also acknowledges the theoretical underpinnings of Mezirow's theory itself (that is, a theory of 'adult' learning) by allowing the accumulation of experiences by individuals over time to act as a foundation (as students presumably mature) for the development of meaning perspectives, their exploration and, if considered necessary by the individual, their revision (Snyder, 2008). Suggested means of facilitating the accumulation of these experiences should take into account the need for cultural safety within these learning opportunities, such as experiences of Indigenous health contexts within simulation environments and, at later stages of study where appropriate, contextually relevant Work Integrated Learning opportunities.

Recommendation 3: Explicitly addressing student guilt and shame

A range of precursor steps to transformative learning were experienced by students and these were predictive of shifts in attitudes toward Indigenous Australians and preparedness to engage in Indigenous health contexts. One of these steps – the affective experience of guilt and/or shame – is noted as playing a pivotal role in transformative learning processes (Walker, 2017). However, manifestations of guilt and shame, if left unattended to or misinterpreted, may lead to counter-

productive psychological consequences such as overt or covert expressions and experiences of anger, despair, and the reinforcement of resistance to the learning, noted as common ‘markers of shame’ (Greenberg & Watson, 2006; Mollon, 2002; Walker, 2017). While not advocating an ethically questionable intent to manipulate or manufacture the induction of these affective emotional experiences (Nakata et al., 2012), in the Indigenous Studies context both shame and/or guilt are likely inevitable and unavoidable consequences of exposure to deeply challenging information, particularly in the context of Australia’s historical and contemporary (persistent) lack of cognizance of the meaning and processes of reconciliation. If we are to maximise the potential of curriculum designed to develop culturally capable future health practitioners, we would do well to ensure that these experiences are negotiated and ‘managed’ in structurally appropriate and effective fashion, and not left to chance. The contradiction between avoiding intentional induction, or imposition upon students, of these experiences and not leaving things to chance is apparent and further highlights the complexity of this educational space.

Here the recommendation is again to specifically create opportunities to develop educators’ capacity to identify, interpret and respond to the more often seen ‘markers of shame’ (as opposed to the core emotion of shame itself), but also to build guided opportunities within the curriculum to acknowledge and address possible experiences of guilt and shame, and utilise these as a means of navigating the complex terrain en route to the development of cultural capabilities.

***Recommendation 4: Identifying and strengthening educators’
relational approaches***

Transformative learning environments necessitate specific relational ways of being on behalf of those tasked with facilitating transformation (Cranton, 2006); without this capacity, we as educators may be contributing to the stifling of the transformative

learning process or, in complex learning environments such as the Indigenous Studies space, its cessation entirely. Discomfort and uncertainty is noted by educators engaging in the Indigenous Studies space. Specifically, many non-Indigenous educators feel they should not be, or have no right to be, teaching Indigenous content (Wolfe et al., 2017). Certainly there are arguments to support that this may be the case (Department of Health, 2014). However, if we are to seriously take into consideration Nakata et al.'s (2012) proposals around shifting the focus of Indigenous Studies education from that of 'decolonising student minds' to one of interrogation of the cultural interface, and of considering "the implications of coloniality for how non-Indigenous people understand the Indigenous and on contemporary Indigenous thought and practice" (Nakata et al., 2012, p. 133), then by implication non-Indigenous people also have a role at the coalface (Housee, 2008). In any case, the relatively limited (albeit growing) number of Indigenous academics (Asmar & Page, 2009; Nakata et al., 2012) to carry the load of this growing area within tertiary education necessitates alternatives. Importantly, findings from this thesis reflect that the discomfort and uncertainty experienced by non-Indigenous tutors may manifest certain counterproductive approaches to teaching if uncritically explored and addressed.

As such, this fourth recommendation is the imperative for educator development opportunities specifically focused on understanding what their role encompasses in the differentiated context of the Indigenous Studies transformative learning space and the consequences of specific positions and approaches adopted. Through this developmental process, we should aim to strengthen tutors' self-reflective capabilities so as to appropriately identify their own positioning and philosophy toward the space, and their associated relational and pedagogical approaches to the space (for example, authoritative vs. authoritarian approaches) – to strive toward authenticity within the space (Cranton & Carusetta, 2004).

Conclusion

The research presented in this thesis provides the first longitudinal mixed methods examination of transformative learning within the Australian Indigenous Studies health education context. Over the five papers presented within this thesis, clear associations have been made between what students bring to the Indigenous Studies health education context (specifically, attitudes held with regard to Indigenous Australians, diversity experiences, and levels of preparedness to engage in Indigenous health settings), the influence of the learning environment upon these attitudes, and the resultant increased preparedness to work in Indigenous health contexts. The research highlights the explanatory power of Mezirow's transformative learning theory, demonstrating its capacity to enable a rich explanation and understanding of what occurs in this challenging learning context, how it occurs, and why. Extending this, the unique lens it affords enables a nuanced deconstruction of the learning and teaching experience so we as educators may better guide the development of Indigenous Studies curriculum with a transformative intent, and align the development of this curriculum and its intentions with the development of educators, so as to equip them to more effectively facilitate the nuanced and specialised learning context of Indigenous Studies health education.

Indigenous Studies education has the capacity for effecting discomfort and thus an associated transformative learning process (Mackinlay & Barney, 2012; McDermott & Sjoberg, 2012; McLaughlin, 2013; Nakata et al., 2012). However, it is important to note that Indigenous Studies courses are not simply a 'tool' for catalysing transformative learning. Indigenous Studies courses represent an on-going effort to correct structural imbalances within both our society and the dominant models of education in our tertiary institutions. Further, these courses provide a means of developing tolerance for epistemic pluralism and cultural capability in future graduates

of health disciplines, invaluable in terms of human development, and ultimately for Indigenous people and communities served by these graduates. However, the complexity of the Indigenous Studies transformative learning space might also be re-framed and seen as perhaps something of a barometer of the nature of stigma, perceptions, attitudes and conflict existing and occurring at the interface of Indigenous and non-Indigenous intercultural relations within this country. While not naively suggesting these matters are ever resolved in the course of a thesis or a university degree, for one individual or many, this thesis and each of the studies within makes important contributions to efforts on-going by many individuals, with a call to continue the important work being done in the hope that someday our readings of the barometer within this challenging Indigenous Studies educational space are vastly different to those of today.

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School of Psychology

GPO Box U1987
Perth Western Australia 6845

Telephone +61 8 9266 0000
Facsimile +61 8 9266 0000
Email psych-office@curtin.edu.au
Web curtin.edu.au

5 November 2018

To whom it may concern,

I, Jonathan Craig Bullen, was the major contributor to the conceptualisation and coordination of the research resulting in the following publication entitled:

Bullen, J., Roberts, L., & Hoffman, J. (2017). What predicts health students' self-reported preparedness to work in Indigenous health settings?. The Australian Educational Researcher, 44(1), 71-87.

I am the lead author, and it was primarily my responsibility to conceptualise, collect and analyse data, write and edit the paper above, which is included in my PhD thesis. This paper explored first year undergraduate health students' attitudes towards Indigenous Australian culture and people, their interactions with people of diverse cultural backgrounds and the predictive power of each in relation to student self-perceptions of preparedness to work with, and engage in, Indigenous health settings, on a sample of 1175 students.

Commensurate with the extent of my contribution, I am the first author on this paper.

Jonathan Bullen:

Date: 15/10/2018

I, Associate Professor Lynne Roberts, as a Co-Author, endorse that the level of contribution specified by the candidate above is appropriate.

Lynne Diane Roberts:

Date: 15/10/2018

I, Associate Professor Julie Hoffman, as a Co-Author, endorse that the level of contribution specified by the candidate above is appropriate.

Julie Hoffman:

Date: 15/10/2018



School of Psychology

GPO Box U1987
Perth Western Australia 6845Telephone +61 8 9266 0000
Facsimile +61 8 9266 0000
Email psych-office@curtin.edu.au
Web curtin.edu.au

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To whom it may concern,

I, Jonathan Craig Bullen, was the major contributor to the conceptualisation and coordination of the research resulting in the following publication entitled:

Bullen, J., & Roberts, L. (2018). Transformative Learning: A Precursor to Preparing Health Science Students to Work in Indigenous Health Settings?. *The Australian Journal of Indigenous Education*, 1-12.

I am the lead author, and it was primarily my responsibility to conceptualise, collect and analyse data, write and edit the paper above, which is included in my PhD thesis. This paper investigated relationships between health science students' attitudes to Indigenous Australians, their experiences with diversity, transformative learning experiences and preparedness to work within Indigenous health contexts, across a final sample of 336 students.

Commensurate with the extent of my contribution, I am the first author on this paper.

Jonathan Bullen:

Date: 15/10/2018

I, Associate Professor Lynne Roberts, as a Co-Author, endorse that the level of contribution specified by the candidate above is appropriate.

Lynne Diane Roberts:

Date: 15/10/2018



School of Psychology

GPO Box U1987
Perth Western Australia 6845Telephone +61 8 9266 0000
Facsimile +61 8 9266 0000
Email psych-office@curtin.edu.au
Web curtin.edu.au

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To whom it may concern,

I, Jonathan Craig Bullen, was the major contributor to the conceptualisation and coordination of the research resulting in the following publication entitled:

Bullen, J., & Roberts, L. (2018). Driving Transformative Learning within Australian Indigenous Studies. *The Australian Journal of Indigenous Education*, 1-12.

I am the lead author, and it was primarily my responsibility to conceptualise, collect and analyse data, write and edit the paper above, which is included in my PhD thesis. This paper investigated predictive relationships between learning approach, critical reflection, perceptions of the classroom community, rapport between student and teacher, and transformative learning, across a sample of 336 first year health sciences students.

Commensurate with the extent of my contribution, I am the first author on this paper.

Jonathan Bullen:

Date: 15/10/2018

I, Associate Professor Lynne Roberts, as a Co-Author, endorse that the level of contribution specified by the candidate above is appropriate.

Lynne Diane Roberts:

Date: 15/10/2018

School of Psychology

GPO Box U1987
Perth Western Australia 6845

Telephone +61 8 9266 0000
Facsimile +61 8 9266 0000
Email psych-office@curtin.edu.au
Web curtin.edu.au

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Bullen, J., & Roberts, L. (in press). From the outside in: Tutor perspectives of student transformative experiences within Indigenous Studies health education. *Higher Education Research & Development*

I am the lead author, and it was primarily my responsibility to conceptualise, collect and analyse data, write and edit the paper above, which is included in my PhD thesis. This paper explored how transformative learning experiences appear to manifest to educators, and the elements associated with this manifestation, on a sample of 12 Indigenous and non-Indigenous educators of Indigenous Studies.

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Jonathan Bullen:



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Lynne Diane Roberts:



Date: 15/10/2018



School of Psychology

GPO Box U1987
Perth Western Australia 6845Telephone +61 8 9266 0000
Facsimile +61 8 9266 0000
Email psych-office@curtin.edu.au
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I am the lead author, and it was primarily my responsibility to conceptualise, collect and analyse data, write and edit the paper above, which is included in my PhD thesis. This paper explored students' transformative learning experiences, this time from the student perspective, on a sample of 13 non-Indigenous students who had completed a semester long tertiary Australian Indigenous Studies health course.

Commensurate with the extent of my contribution, I am the first author on this paper.

Jonathan Bullen:

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ARTICLE DOI:	10.1080/07294360.2019.1586843
AUTHOR(S):	Jonathan Bullen, Lynne D. Roberts
JOURNAL TITLE ('Journal'):	Higher Education Research & Development
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Signed and dated: Jonathan Bullen, 23 February 2019

HERDSA, 23 February 2019

Appendix C

Ethics Approval Document for Project

MEMORANDUM



To:	A/Prof Lynne Roberts School of Psychology and Speech Pathology
CC:	Jonathan Bullen
From:	Professor Peter O'Leary, Chair HREC
Subject	Ethics approval Approval number: RDHS-19-15
Date:	28-Jan-15

Office of Research and
Development
Human Research Ethics Office

TELEPHONE 9266 2784
FACSIMILE 9266 3793
EMAIL hrec@curtin.edu.au

Thank you for your application submitted to the Human Research Ethics Office for the project: 5879

Cultural capabilities: understanding factors associated with student preparedness to work with Indigenous people in health settings

Your application has been approved through the low risk ethics approvals process at Curtin University.

Please note the following conditions of approval:

1. Approval is granted for a period of four years from 29-Jan-15 to 29-Jan-19
2. Research must be conducted as stated in the approved protocol.
3. Any amendments to the approved protocol must be approved by the Ethics Office.
4. An annual progress report must be submitted to the Ethics Office annually, on the anniversary of approval.
5. All adverse events must be reported to the Ethics Office.
6. A completion report must be submitted to the Ethics Office on completion of the project.
7. Data must be stored in accordance with WAUSDA and Curtin University policy.
8. The Ethics Office may conduct a randomly identified audit of a proportion of research projects approved by the HREC.

Should you have any queries about the consideration of your project please contact the Ethics Support Officer for your faculty, or the Ethics Office at hrec@curtin.edu.au or on 9266 2784. All human research ethics forms and guidelines are available on the ethics website.

Yours sincerely,

Professor Peter O'Leary
Chair, Human Research Ethics Committee

MEMORANDUM



To:	A/Prof Lynne Roberts School of Psychology and Speech Pathology
CC:	Jonathan Bullen
From:	Dr Catherine Gangell, Manager Research Integrity
Subject	Amendment approval Approval number: RDHS-19-15
Date:	02-Jul-15

Office of Research and
Development
Human Research Ethics Office

TELEPHONE 9266 2784
FACSIMILE 9266 3793
EMAIL hrec@curtin.edu.au

Thank you for submitting an amendment to the Human Research Ethics Office for the project:

RDHS-19-15 Cultural capabilities: understanding factors associated with student preparedness to work with Indigenous people in health settings

The Human Research Ethics Office approves the amendment to the project.

Amendment number: RDHS-19-15/AR01

Approval date: 02-Jul-15

The following amendments were approved:

Administration of surveys in tutorials in TW1 and TW10.

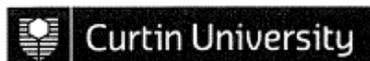
Data collection to continue into Sem 1, 2016.

Please ensure that all data are stored in accordance with WAUSDA and Curtin University Policy.

Yours sincerely

Dr Catherine Gangell
Manager, Research Integrity

MEMORANDUM



To:	A/Prof Lynne Roberts School of Psychology and Speech Pathology
CC:	Jonathan Bullen
From:	Dr Catherine Gangell, Manager Research Integrity
Subject	Amendment approval Approval number: RDHS-19-15
Date:	30-Sep-15

Office of Research and
Development
Human Research Ethics Office

TELEPHONE 9266 2784
FACSIMILE 9266 3793
EMAIL hrec@curtin.edu.au

Thank you for submitting an amendment to the Human Research Ethics Office for the project:

RDHS-19-15 Cultural capabilities: understanding factors associated with student preparedness to work with Indigenous people in health settings

The Human Research Ethics Office approves the amendment to the project.

Amendment number: RDHS-19-15/AR02

Approval date: 30-Sep-15

The following amendments were approved:

1. Conducting semi-structured interviews with students who completed the Indigenous Cultures and Health unit in Semester 2, 2015, with interviews to be conducted following the Semester 2, 2015 grade release. Students will be recruited via the Study 1 questionnaire, invitation within Blackboard, and word of mouth with participation voluntary.

2. Conducting of semi-structured interviews with tutors (past and present) who have taught in the Indigenous Cultures and Health unit, with interviews to be conducted following the Semester 1, 2016 grade release. Tutors will be recruited via email, in-person invitation, and purposive sampling.

Conversion from Masters by Research to PhD for student researcher.

Please ensure that all data are stored in accordance with WAUSDA and Curtin University Policy.

Yours sincerely

Dr Catherine Gangell
Manager, Research Integrity

