

A PEDAGOGICAL ANALYSIS OF ABORIGINAL AND TORRES STRAIT ISLANDER HEALTH AND CULTURAL SAFETY CURRICULA IN OPTOMETRY PROGRAMS

Kate Pecar

MOptom BVisSci

Submitted in fulfilment of the requirements for the degree of Doctor of
Philosophy

Optometry and Vision Science, School of Clinical Sciences

Faculty of Health

Queensland University of Technology

2024

Keywords

Aboriginal and Torres Strait Islander health, cultural safety, curriculum, curriculum mapping, education, educator perspectives, online repository, optometry, optometry education, student evaluation

Abstract

The inclusion of Aboriginal and Torres Strait Islander health education in optometry programs was mandated in 2019, and the extent of progress is unknown. The overarching aim of this research was to investigate progress and advance the implementation of Aboriginal and Torres Strait Islander health education in optometry programs.

Four studies were undertaken: 1) mapping of the curriculum in optometry programs, 2) a survey on the perspectives of program leads and educators, and in-depth interviews with educators, 3) a survey on the perspectives of Queensland University of Technology (QUT) optometry students, and 4) a Delphi study to develop guidelines for creating a repository of resources to support educators. Mixed methods were used, and qualitative data were analysed using qualitative content analysis or constructivist grounded theory.

Five of the seven Australian optometry programs participated in curriculum mapping, which revealed progress in implementing content related to the themes in the *Optometry Aboriginal and Torres Strait Islander Health Curriculum Framework (Optometry Framework)*. Areas for improvement included directly related learning outcomes, integration of Aboriginal and Torres Strait Islander perspectives and knowledges, clinical placements, and assessment.

Five program leads and 20 educators reported strong commitment and willingness to implement the curriculum. However, only 37% and 6% of educators felt fully prepared to teach and assess this curriculum respectively, citing lack of resources and support. Although partnerships were considered

crucial for curriculum implementation, program leads and educators reported needing support with establishing partnerships with Aboriginal and Torres Strait Islander stakeholders. Students (n = 16) reported content was minimal and that more authentic learning opportunities were needed.

The findings from the first three studies informed the fourth, the purpose of which was to support educators with an online repository of shared resources. However, prior to creating the repository, guidelines were first needed. Thirty-one stakeholders participated in up to three rounds of consensus building surveys, followed by a workshop facilitated by an Aboriginal content expert. This study prioritised Aboriginal and Torres Strait Islander perspectives, partnerships, and reflection, to foster the trust and commitment needed not only to develop guidelines, but to create an effective repository in future. Eleven recommendations about the content, structure, resource evaluation, naming, location, funding, and governance of a repository were agreed.

In conclusion, Aboriginal and Torres Strait Islander health curricula in optometry programs has increased considerably; however, there is a long way to go. One of the most notable shifts observed over the past decade, is the increased commitment and engagement of program leads and educators. Nevertheless, educators lack adequate preparation and resources, thereby contributing to the colonial burden experienced by Aboriginal and Torres Strait Islander people. To foster meaningful and reciprocal partnerships, non-Indigenous educators must embrace allyship.

Table of Contents

Keywords	i
Abstract.....	ii
Table of Contents.....	iv
List of Figures	vii
List of Tables.....	viii
List of Abbreviations.....	x
Acknowledgements.....	xi
Chapter 1: Introduction	1
Background.....	1
Significance.....	7
Thesis Outline	7
Chapter 2: Literature Review	10
Terminology	10
Optometry Framework	13
Lessons on Indigenous Health Curriculum Implementation	17
Summary and Implications.....	26
Chapter 3: Research Design and Methodology.....	27
Research Aims and Objectives	27
Research Design	28
Methodology	30
Reporting and Ethics.....	39
Chapter 4: Aboriginal and Torres Strait Islander Health Curriculum Mapping in Optometry.....	40
Introduction	40
Methods	43
Results.....	53
Discussion	70
Conclusion	83
Chapter 5: Educator Perspectives on Aboriginal and Torres Strait Islander Health Curriculum	86
Introduction	86
Methods	89
Results.....	99

Discussion	139
Conclusion.....	154
Chapter 6: Student Perspectives on Aboriginal and Torres Strait Islander Health Curriculum.....	156
Introduction.....	156
Methods.....	159
Results.....	166
Discussion	179
Conclusion.....	190
Chapter 7: The Development of Guidelines for an Online Repository of Aboriginal and Torres Strait Islander Health Educational Resources in Optometry	192
Introduction.....	192
Methods.....	202
Results.....	211
Discussion	237
Conclusion.....	248
Chapter 8: Summary and Conclusions.....	250
Summary of Major Findings.....	250
Final Conclusions	263
Strengths and Limitations of Research.....	271
Future Research.....	274
Concluding Remarks	276
Bibliography.....	278
Appendices	299
Appendix A Study 1: Optometry Aboriginal and Torres Strait Islander Health Curriculum Mapping Tool.....	299
Appendix B Study 2: Optometry Aboriginal and Torres Strait Islander Health Curriculum Critical Reflection Survey – Program Lead.....	306
Appendix C Study 2: Optometry Aboriginal and Torres Strait Islander Health Curriculum Critical Reflection Survey – Educator	310
Appendix D Study 2: Interview Guide – Educator	313
Appendix E Study 3: Student Experience of Aboriginal and Torres Strait Islander Health Curriculum Survey	314
Appendix F Study 4: Round one and two pre and Pilot Testing Results.....	316
Appendix G Study 4: Round one Questionnaire	318
Appendix H Study 4: Round two Questionnaire.....	327

Appendix I Study 4: Acknowledgement of Contributors	335
Appendix J Study 4: Round one and two Summary	336
Appendix K Peer-Reviewed Publications Arising From the Thesis	342
Appendix L Conference Proceedings Arising From the Thesis	343

List of Figures

Figure 1 <i>Components of the Optometry Framework</i>	15
Figure 2 <i>Visual Representation of Grounded Theory</i>	36
Figure 3 <i>Frequency of Delivery Mode for Lessons (Calculated as the Percentage of Total Lessons Across all Programs)</i>	66
Figure 4 <i>Frequency of Assessment Type (Calculated as a Percentage of Total Assessments Across all Programs)</i>	69
Figure 5 <i>Teaching Activities Considered Most Effective for Teaching Aboriginal and Torres Strait Islander Health – Program Leads</i>	109
Figure 6 <i>Teaching Activities Considered Most Effective for Teaching Aboriginal and Torres Strait Islander Health – Educators</i>	110
Figure 7 <i>Assessment Tasks Considered Most Effective for Assessing Aboriginal and Torres Strait Islander Health – Program Leads</i>	111
Figure 8 <i>Assessment Tasks Considered Most Effective for Assessing Aboriginal and Torres Strait Islander Health – Educators</i>	112
Figure 9 <i>Preparedness to Teach and Assess Aboriginal and Torres Strait Islander Health Curriculum – Program Leads</i>	115
Figure 10 <i>Preparedness to Teach and Assess Aboriginal and Torres Strait Islander Health Curriculum – Educators</i>	116
Figure 11 <i>Strategies Available to Support Educators</i>	117
Figure 12 <i>Categorisation of Educators’ Perspectives on Aboriginal and Torres Strait Islander Health Curricula in Optometry</i>	119
Figure 13 <i>Student Perspectives of the QUT Optometry Aboriginal and Torres Strait Islander Health Curriculum</i>	172
Figure 14 <i>The AIATSIS Resource Evaluation Framework</i>	199
Figure 15 <i>Cultural Appropriateness and Educational Quality Resource Pyramid</i>	201
Figure 16 <i>Delphi Technique Used in This Study</i>	203
Figure 17 <i>Overview of the Results of the Delphi Process</i>	216

List of Tables

Table 1 <i>Research Design Matrix</i>	29
Table 2 <i>Summary of Curriculum Mapping Pretesting Feedback</i>	47
Table 3 <i>Coding Frame</i>	49
Table 4 <i>Characteristics of Participants who Completed the Curriculum Mapping</i>	54
Table 5 <i>Examples of Explicit and Implicit Content</i>	56
Table 6 <i>Mapping of Explicit Content and Assessment related to Optometry Framework Themes and Subthemes for Each Optometry Program</i>	59
Table 7 <i>Number of Optometry Programs Covering Each Optometry Framework Subtheme to any Extent (Explicit and Implicit)</i>	60
Table 8 <i>Median and Total Number of Lessons (Explicit and Implicit) Across all Programs by Subtheme</i>	62
Table 9 <i>Median and Total Number of Lessons (Explicit and Implicit) Across all Programs by Mode of Delivery</i>	65
Table 10 <i>Median and Total Number of Assessments (Explicit and Implicit) Across all Programs by Assessment Type</i>	68
Table 11 <i>Summary of Educator Survey Pretesting Feedback</i>	92
Table 12 <i>Summary of Survey Pilot Testing Feedback</i>	94
Table 13 <i>Summary of Interview Guide Pilot Testing Feedback</i>	97
Table 14 <i>Participant Characteristics</i>	102
Table 15 <i>Educator Response Rate by University</i>	103
Table 16 <i>Progress with Implementing the Optometry Framework</i>	104
Table 17 <i>Perceived Enablers/Barriers to Implementing the Optometry Aboriginal and Torres Strait Islander Health Curriculum</i>	107
Table 18 <i>Position Description of Educators Delivering the Aboriginal and Torres Strait Islander Health Curricula</i>	114
Table 19 <i>Summary of Student Survey Pilot Testing Feedback</i>	164
Table 20 <i>Participant Characteristics</i>	168
Table 21 <i>Response Rate by Year Level</i>	169
Table 22 <i>Student Perspectives of the QUT Optometry Aboriginal and Torres Strait Islander Health Curriculum</i>	171
Table 23 <i>Student Perspectives of the QUT Optometry Aboriginal and Torres Strait Islander Health Curriculum by Year Level</i>	175

Table 24 <i>Frequencies of Comments by Categories and Codes with Illustrative Examples</i>	177
Table 25 <i>Participant Characteristics</i>	213
Table 26 <i>Format and Coverage of Resources</i>	218
Table 27 <i>Types of Resources</i>	219
Table 28 <i>Structure of the Repository</i>	221
Table 29 <i>Evaluators</i>	223
Table 30 <i>Application of the AIATSIS Guide to Selecting Resources</i>	225
Table 31 <i>Resource Evaluation Process</i>	227
Table 32 <i>Repository Host Site</i>	229
Table 33 <i>Funding</i>	231
Table 34 <i>Governance: Who has Overall Decision-Making Authority for the Repository</i>	232
Table 35 <i>Skills Required of Decision-Makers</i>	234
Table 36 <i>Final Recommendations for Developing an Online Repository of Educational Resources</i>	236
Table 37 <i>Summary of Major Findings</i>	251

List of Abbreviations

ABSTARR	ABoriginal Straight Talking About Responsibility and Respect
AIATSIS	Australian Institute of Aboriginal and Torres Strait Islander Studies
CBL	Case-based learning
CDAMS	Committee of Deans of Australian Medical Schools (now Medical Deans Australia and New Zealand)
LIOEN	Leaders in Indigenous Optometry Education Network
National Framework	Aboriginal and Torres Strait Islander Health Curriculum Framework
OCANZ	Optometry Council of Australia and New Zealand
Optometry Framework	Optometry Aboriginal and Torres Strait Islander Health Curriculum Framework
PBL	Problem-based learning
PEARL	Political, embodied, active, reflective and lifelong learning
QUT	Queensland University of Technology

Acknowledgements

I begin by acknowledging the Traditional Owners of the diverse and unceded Lands on which this research has been conducted. For the past three years, I have had the privilege of living and working in Meanjin, and I extend my respect to the Elders, past, present, and emerging, for their custodianship.

I would like to express my heartfelt appreciation to all those who have played a role in supporting me throughout my studies. This support has been instrumental in making this life changing experience not only possible but also incredibly enriching. Above all, I express my sincere gratitude to my principal supervisor, Professor Sharon Bentley. It is challenging to fully capture the extent of my appreciation for the exceptional support she has provided me. Professor Bentley's constant guidance has not only positively influenced this research and my academic trajectory but has also played a crucial role in shaping my personal development. I am truly thankful for the impact she has had on this phase of my life. I am also deeply appreciative to my incredibly supportive associate supervisor, Dr Shelley Hopkins. Her mentorship, endless encouragement and numerous shared laughs have truly enriched my journey. I would also like to extend my heartfelt thankfulness to my external supervisors, Professor Peter Anderson and Associate Professor Kristopher Rallah-Baker. I am extremely grateful for their generous investment of time and invaluable input into me and this research. Learning from this team of remarkable people has truly been a privilege. Their collective kindness and friendship have turned this period of my life into one of the most enjoyable experiences, and for that, I am deeply and eternally grateful.

I also wish to acknowledge that this endeavour would not have been possible without the selfless contributions of the participants, seminar panel members, examiners and external consultants.

I would like to express my deep appreciation to my exceptionally supportive parents, Leo and Debbie; my cherished grandparents, Brian, Mary, Deniesce and Frank; and my dear siblings, Jordan, Maddi and Sam. Their unconditional and limitless love has been a constant source of strength, especially during the challenging moments of completing this dissertation.

I extend a special note of thanks to Dr Andrew Carkeet, along with Professor Bentley and Dr Hopkins, who not only afforded me with opportunities to engage in teaching during my candidacy but also invested their time in shaping me into a more effective educator. I would also like to recognise my nearest and dearest, colleagues and fellow students who supported me throughout this journey.

Finally, acknowledgment is due for the financial support received during my candidature. This research was supported by QUT Scholarship funding.

Chapter 1: Introduction

The first two sections of this chapter outline the background and significance of the research. The final section presents an overview of the structure of this thesis.

Background

The *United Nations Declaration on the Rights of Indigenous Peoples*, to which Australia is a signatory, declares that Indigenous¹ Peoples² have an equal right to the highest attainable standard of physical health (United Nations, 2007). In 2007, the Council of Australian Governments developed a plan to achieve health equity between Aboriginal and Torres Strait Islander Peoples and non-Indigenous Australians known as the *Closing the Gap Strategy* (Australian Human Rights Commission, 2022). Reinforcing the *United Nations Declaration on the Rights of Indigenous Peoples*, the *National Aboriginal and Torres Strait Islander Health Plan 2021–2031* is a policy framework that was developed to support the *Closing the Gap Strategy*, which prioritises a healthcare system free of racism (Commonwealth of Australia, 2021; United Nations, 2007). Despite these initiatives, vision loss represents 11% of the health gap between non-Indigenous Australians and Aboriginal and

¹ The term Indigenous is respectfully used in this context when referring to First Nations Peoples worldwide or when discussing more than one country. When referring to the First Peoples of Australia, Aboriginal and Torres Strait Islander is used. The only exception is when directly citing relevant literature.

² Peoples (capitalised) is used when referring to Aboriginal and Torres Strait Islander Nations and people (lower case) is used when referring to Aboriginal and Torres Strait Islander individuals.

Torres Strait Islander Peoples (Taylor et al., 2012), suggesting much more is needed in eye care for these policies to transpire into practice.

Although 96% of vision loss in Aboriginal and Torres Strait Islander adults is avoidable through early detection, prevention, and treatment (Arnold et al., 2009), research indicates that Aboriginal and Torres Strait Islander Peoples are reluctant to attend health services because of a lack of culturally safe care, past mistreatment, racism and fear (Yashadhana et al., 2021). Health disparities are associated with historical, structural, socioeconomic, and sociocultural factors arising from colonisation (Yashadhana et al., 2021). Notably, the quality of care provided to Aboriginal and Torres Strait Islander Peoples by health professionals is a contributing factor to the health gap (Ewen et al., 2012).

In 2014, the Australian Government Department of Health published the *Aboriginal and Torres Strait Islander Health Curriculum Framework* (hereafter, *National Framework*) (Department of Health, 2014). This was in response to the *Growing Our Future* report released by Health Workforce Australia (2011), which identified the potential to reduce health disparities through embedding mandatory cultural competency curricula in higher education. The development of the *National Framework* was directed by a project advisory group primarily composed of Aboriginal and Torres Strait Islander representatives from stakeholder organisations across the nation and offers guidance on implementing Aboriginal and Torres Strait Islander health curricula. The intention of embedding the *National Framework* is to produce graduates that provide culturally safe care to Aboriginal and Torres Strait

Islander Peoples through the development of cultural capabilities (Department of Health, 2014).

In 2018, the organisation accrediting optometry programs, Optometry Council of Australia and New Zealand (OCANZ) adapted the *National Framework*, resulting in the publication of the *Optometry Framework* and its mandatory implementation from January 2019 (Optometry Council of Australia and New Zealand, 2018). This framework was tailored specifically for optometry (Optometry Council of Australia and New Zealand, 2018). Until now, optometry programs have mostly focussed on discipline knowledge (such as eye health care pathways, eye health clinical presentations and eye health population health programs) and professional knowledge (requirements for registration as an optometrist). However, the recent requirement to integrate Aboriginal and Torres Strait Islander health, signifies a considerable shift within the traditional Western-centric approach commonly observed in programs and requires a different mindset. Although the *Optometry Framework* provides programs and educators with guidelines about the Aboriginal and Torres Strait Islander health curriculum, educators control how the curriculum is taught and how students learn (i.e., the pedagogy).

Educators, including those in optometry, need to use evidenced-based and theoretically underpinned pedagogical approaches to support learning and teaching (Ramsden, 2003). However, optometry educators are experiencing challenges with implementing the *Optometry Framework*, lack of confidence and resources, and involvement of few Aboriginal and Torres Strait Islander academics (Bentley et al., 2021). Given the recency of the development of the

Optometry Framework, no studies about its implementation existed at the time this research commenced in 2020.

Prior to the implementation of the *Optometry Framework* there was one published study that investigated Australian and Aotearoa New Zealand optometry curricula related to cultural safety (Truong et al., 2014). The study applied a cultural competence lens to exploring culturally and linguistically diverse communities in the optometry curricula and did not specifically address cultural safety or Aboriginal and Torres Strait Islander health. Although the literature on Aboriginal and Torres Strait Islander health education in optometry remains limited, there has been increased commitment to the field by the profession since the publication of the *Optometry Framework*.

In 2021, the leads of optometry programs in Australia and Aotearoa New Zealand established a network with the goal of strengthening Indigenous eye care by better educating optometry students and increasing the number of Indigenous optometrists (Bentley et al., 2021). Subsequently, in 2022, the *Code of Conduct* and the *Entry-Level Competency Standards for Optometry*, which serve as the guiding principles for optometrists and optometry programs respectively, were updated and explicitly refer to the requirement for culturally safe care (Australian Health Practitioner Regulation Agency, 2022; Optometry Australia, 2022), reinforcing the requirement for optometry programs to adequately incorporate Aboriginal and Torres Strait Islander health curricula. Furthermore, for the first time, a special themed issue on *Public Health Optometry and Indigenous Eye health* was recently published in the Australian optometry journal, *Clinical and Experimental Optometry* (Bentley et al., 2023). Five of the sixteen articles were about Indigenous health education.

Additionally, multiple sessions were dedicated to Aboriginal and Torres Strait Islander health education at the 2023 *Scientific and Educators Meeting in Optometry* and *O=MEGA/4th World Congress of Optometry*. These examples demonstrate the recent increased interest and commitment to Aboriginal and Torres Strait Islander health in optometry.

Despite the limited literature available in optometry, research in this field of education primarily comes from medicine and nursing (Francis-Cracknell et al., 2019; Pitama et al., 2018), where the implementation of cultural safety in curricula commenced more than three decades ago (Copeman, 1989; Ramsden, 2002). Like optometry, medicine and nursing/midwifery have a discipline-specific Aboriginal and Torres Strait Islander health curriculum framework aligned to their accreditation standards (Congress of Aboriginal and Torres Strait Islander Nurses and Midwives, 2017; Phillips, 2004b). However, there are considerable differences between the capacity of optometry and medicine and nursing to embed Aboriginal and Torres Strait Islander health in curricula.

Discipline size is likely to have contributed to the success of medicine and nursing in securing resources to make advancements. Medical practitioners and nurses represent 15.6% and 54.7% of the regulated health workforce in Australia, respectively (Ahpra and the National Boards, 2023). In comparison, optometry comprises just 0.8% of the workforce. Medicine and nursing have been able to leverage their size and influence to establish government-funded platforms for universities to collectively share, develop and evaluate materials for teaching Aboriginal and Torres Strait Islander health, and so, support implementation of their curriculum frameworks (Congress of

Aboriginal and Torres Strait Islander Nurses and Midwives, n.d.; Leaders in Indigenous Medical Education Network, 2022a).

Furthermore, there is a notable disparity in the representation of Aboriginal and/or Torres Strait Islander workforce in optometry. In the 2022/2023 registration period, optometry had the lowest number of Aboriginal and/or Torres Strait Islander health professionals among the 15 health professions, with just 15 optometrists identifying (Ahpra and the National Boards, 2023). In comparison, nursing and medicine had the highest numbers, with 6,759 and 845 professionals, respectively, excluding Aboriginal and Torres Strait Islander health practitioners, where identification is a requirement. These professions have well-established national bodies representing their Aboriginal and Torres Strait Islander workforce, with the Congress of Aboriginal and Torres Strait Islander Nurses and Midwives and Australian Indigenous Doctors' Association both celebrating their 25th anniversary in 2022 (Australian Indigenous Doctors' Association, n.d.; Congress of Aboriginal and Torres Strait Islander Nurses and Midwives, n.d). Conversely, the equivalent network in optometry was established in 2023 (First Nations Eye Health Alliance, n.d.). This variance in infrastructure and workforce magnitude impacts staffing in higher education, as evidenced by the fact that in 2011, five Indigenous academics working in medical schools were medical practitioners (Cavanagh, 2011), while there were none in optometry over a decade later. Regardless, despite medicine and nursing having more experience implementing curricula and resources than optometry, there remain challenges embedding Aboriginal and Torres Strait Islander curricula even in these disciplines (Francis-Cracknell et al., 2019; Pitama et al., 2018).

Significance

Although there are parallels and optometry can learn from medicine and nursing, it also has unique strengths and challenges. Therefore, there is an important need to understand and improve the current state of Aboriginal and Torres Strait Islander health curricula implementation in optometry. This knowledge would provide critical evidence needed to guide progress in the field. Longer-term, improvements in the Aboriginal and Torres Strait Islander health curriculum implemented into optometry programs has the potential to contribute to strengthening the cultural safety of optometry programs, the graduation of optometrists who can provide culturally safe care and ultimately, improvements in eye health equity.

Thesis Outline

The thesis will be presented in eight chapters as follows:

1. Chapter 1: Introduction

This chapter covers the background and significance of the research, followed by providing an overview of the structure of this thesis.

2. Chapter 2: Literature Review

This chapter begins with clarifying terminology, followed by a description of the *Optometry Framework* and a review of the literature on the implementation of Indigenous health curricula and pedagogical approaches. The final section of this chapter highlights implications from the literature review and gaps in the field.

3. Chapter 3: Research Design and Methodology

This chapter presents the aims and objectives of the research, followed by the research design and an overview of the methodologies used for each study of the research.

4. Chapter 4: Study One: Curriculum Mapping

This chapter presents the first study of the research, a mapping of the Aboriginal and Torres Strait Islander health curriculum in Australian optometry programs. It begins with an introduction describing what curriculum mapping is, followed by an overview of the relevant curriculum mapping literature. The next section describes the methods used in this study, followed by the results. Finally, the last section contains a discussion of the results with reference to the relevant literature.

5. Chapter 5: Study Two: Educator Perspectives

This chapter presents the second study, educator perspectives on Aboriginal and Torres Strait Islander health curriculum in optometry. It begins with a review of the literature on educator perspectives. The next section describes the methods used in this study. This is followed by the results of the study and a discussion of the results with reference to the relevant literature.

6. Chapter 6: Study Three: Student Perspectives

This chapter presents the third study, student perspectives on Aboriginal and Torres Strait Islander health curriculum. The chapter begins with an introduction presenting the relevant literature on student perspectives of Aboriginal and Torres Strait Islander health curriculum. The next section describes the methods used in this study, followed by the results and a discussion of the results compared with previous studies.

7. Chapter 7: Study Four: Online Repository of Educational Resources

This chapter presents the fourth and final study, development of guidelines for an online repository of educational resources on Aboriginal and Torres Strait Islander health for use in optometry programs. It begins with a summary of the study design followed by background information of existing online repositories and a review of the relevant literature on guidelines for evaluating and selecting resources. The next section describes the methods used in this study. This is followed by the results of the study and a discussion of the results with reference to the relevant literature.

8. Chapter 8: Summary and Conclusions

This chapter draws together the study findings and presents concluding remarks. It begins with a summary of the major findings. The final conclusions, strengths and limitations of the research, and future research are then presented.

Chapter 2: Literature Review

This chapter begins with clarifying terminology, followed by a description of the *Optometry Framework* and a review of the literature on the implementation of Indigenous health curricula and pedagogical approaches. Australian studies are prioritised; however, studies from other countries with a similar history of colonisation, such as Aotearoa New Zealand are also included. The final section of this chapter highlights implications from the literature review and gaps in the field.

Terminology

Aboriginal and Torres Strait Islander health describes the subject area or field of education focused on improving healthcare service provision for Aboriginal and Torres Strait Islander Peoples (Ma Rhea & Russell, 2012). Notably, Aboriginal and Torres Strait Islander health extends beyond the biomedical definition of physical health and is viewed in a holistic context that encompasses mental, physical, cultural and spiritual health (Dudgeon et al., 2014). Therefore, part of Aboriginal and Torres Strait Islander health education requires an understanding of Aboriginal and Torres Strait Islander cultures and histories (e.g., Aboriginal and Torres Strait Islander studies) (Ma Rhea & Russell, 2012). However, focusing solely on knowledge of characteristics, cultural beliefs, and practices of the patient is aligned to cultural competency (Kumagai & Lypton, 2009) and is not contemporary practice. Instead, cultural safety is a core component of Aboriginal and Torres Strait Islander health education. Cultural safety involves shifting the focus from the patient to the health practitioner and health system, where health practitioners are required

to critically reflect on their knowledge, skills, attitudes, practising behaviours, biases, assumptions, stereotypes, and prejudices that promote power differentials between Aboriginal and Torres Strait Islander individuals, families and communities, as well as attributes that sustain health inequities (Australian Health Practitioner Regulation Agency, 2020). This reflective practice should be a lifelong commitment, which is a further distinction between the concept of cultural safety and cultural competency (Jones et al., 2019). The concept of lifelong learning addresses the criticism of cultural competency that suggests a static level of achievement is possible (Kumagai & Lyson, 2009). Lastly, cultural capabilities are described in the *National Framework* as five interconnected core attributes (respect, communication, safety and quality, reflection and advocacy), which through lifelong learning, contribute to the provision of culturally safe care (Department of Health, 2014).

The *Optometry Framework* provides guidance on the content that should be taught, rather than the pedagogy or how the curriculum should be taught. The Information Literacy Group (n.d.) defines pedagogy as the underlying values and principles that influence learning, teaching and assessment approaches. One prominent pedagogy in Aboriginal and Torres Strait Islander health education is embedding Aboriginal and Torres Strait Islander perspectives (Drummond, 2020). Aboriginal and Torres Strait Islander perspectives are the personal beliefs, opinions and experiences of Aboriginal and Torres Strait Islander people on particular topics or issues (Martin, 2020). By definition, cultural safety is determined by Aboriginal and Torres Strait Islander individuals, families and communities (Australian Health Practitioner Regulation Agency, 2020) and therefore, Aboriginal and Torres Strait Islander

perspectives are integral to Aboriginal and Torres Strait Islander health education.

Aboriginal and Torres Strait Islander perspectives differ from Aboriginal and Torres Strait Islander knowledges, which is another pedagogy used in Aboriginal and Torres Strait Islander health education. Aboriginal and Torres Strait Islander knowledges are the fixed intellectual traditions derived of Country and cosmology (Martin, 2020). Embedding Aboriginal and Torres Strait Islander knowledges has been driven at a sector level (Universities Australia, 2022) underpinned by the responsibility of universities to uphold Indigenous Peoples rights to education, specifically in relation to article 15 that outlines the right to have Indigenous Peoples cultures, traditions, histories and aspirations appropriately reflected in education (United Nations, 2007). Although these rights pertain to Indigenous Peoples, Universities Australia (2022) highlights the powerful opportunity embedding Aboriginal and Torres Strait Islander knowledges has in dispelling myths and misunderstandings held by non-Indigenous people.

Given Aboriginal and Torres Strait Islander knowledges is derived of Country (Martin, 2020), examples of Aboriginal and Torres Strait Islander pedagogies (Reser et al., 2021; Yunkaporta, 2009) have centred on the local contexts (Martin & Mirraboopa, 2003). However not all applications of embedding Indigenous knowledge into programs including in optometry (McKivett et al., 2020; Schmid et al., 2021) have referred to the local context or local community involvement. Using Aboriginal and Torres Strait Islander knowledges by non-Indigenous people is not appropriate unless a partnership approach with Aboriginal and Torres Strait Islander Peoples local to the area

is used (Anderson & Ma Rhea, 2018; Duthie, 2019). This is due to the fact that Aboriginal and Torres Strait Islander ways of teaching knowledge cannot be replicated by non-Indigenous people (Department of Health, 2014). It is important to emphasise that no single person or entity possesses all knowledge (Martin & Mirraboopa, 2003) nor is there such thing as a pan-Indigenous knowledge. Instead, local knowledge holders and Elders should be consulted (Kennedy et al., 2019). Failure to adhere to guiding principles when working with Aboriginal and Torres Strait Islander knowledges (Yunkaporta, 2009), risks perpetuating the dominant Eurocentric worldview (Nakata, 2002). Educators therefore require training and support to effectively engage with Aboriginal and Torres Strait Islander knowledges.

Other pedagogy used in this field of education, are discussed in the Lessons on Indigenous Health Curriculum Implementation section below.

Optometry Framework

The *Optometry Framework* (Optometry Council of Australia and New Zealand, 2018) was developed with the intention of supporting programs to meet the cultural competence criterion required for accreditation (Optometry Council of Australia and New Zealand, 2016).³ The optometry program accreditation standards were updated in 2021 and cultural safety is now a category of its own with seven related criteria (Optometry Council of Australia New Zealand, 2021). In the updated accreditation standards, the *Optometry*

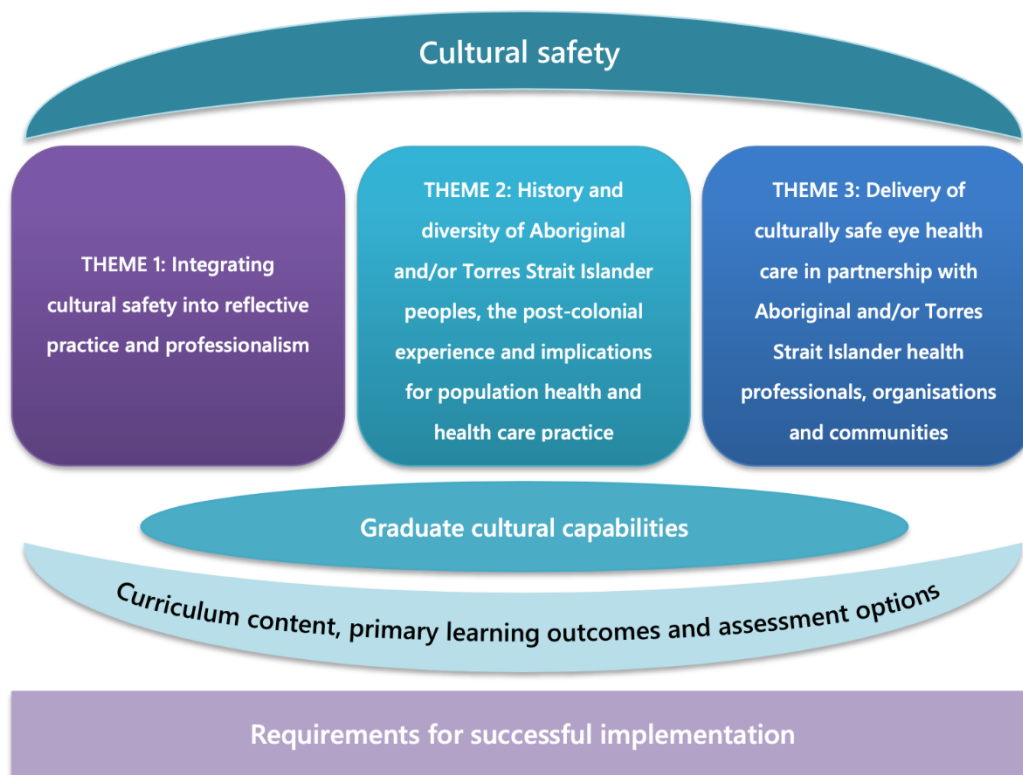
³ Standards in place at the time of the study. The Entry-Level Competency Standards for Optometry 2022 are the current operational standards.

Framework is specifically listed as a resource to assist optometry programs meet the cultural safety standard.

The components of the *Optometry Framework* (Optometry Council of Australia and New Zealand, 2018) are illustrated in Figure 1 and comprise:

- Cultural safety as the overarching concept.
- Three content themes drawn from the original 17 themes in the *National Framework*.
- Five graduate cultural capabilities (respect, communication, safety and quality, reflection and advocacy) that link to the three themes.
- Suggested curriculum content, learning outcomes and assessment options that support implementation of the three themes.
- Suggested requirements for successful framework implementation.

Figure 1
Components of the Optometry Framework



Note: Reprinted with permission from "Optometry Aboriginal and Torres Strait Islander Health Curriculum Framework" by Optometry Council of Australia and New Zealand, 2018, Optometry Council of Australia and New Zealand, p.11.

The *Optometry Framework* differs from the *National Framework* in several ways. One major difference is that it consolidates 17 areas of curriculum content and 51 learning outcomes into three areas of curriculum content (or themes) and 25 learning outcomes (or subthemes). Although this simplification has made the *Optometry Framework* more manageable, it does not fully replace the original framework. Consequently, relying solely on the *Optometry Framework* may result in overlooking some important details included in the *National Framework*. A further point of difference is the

discipline-specific nature of the *Optometry Framework*, with five subthemes specifically referencing optometry; eye health services or population health programs; and/or eye conditions. Lastly, the *Optometry Framework* places far greater emphasis on cultural safety than the *National Framework*, recommending that it is taught as a foundational concept, with all subsequent material designed to develop the graduate cultural capabilities required for creating culturally safe experiences for Aboriginal and/or Torres Strait Islander clients, families, and colleagues.

The *Optometry Framework* presents a detailed educational design supported by theory and research, which can promote learning if implemented successfully (Angelo, 2013). The *Optometry Framework* learning outcomes reflect three progressive thinking and skill development stages (novice, intermediate and entry to practice) adapted from six cognitive process dimensions described in Bloom's revised teaching taxonomy (remember, understand, apply, analyse, evaluate and create) (Anderson & Krathwohl, 2001). These levels are intended to be vertically aligned throughout the optometry program, thereby ensuring that students have the foundational stages of thinking and skill development (novice and intermediate) to support the higher order thinking required when on clinical placement, typically later in the program (entry to practice) (Optometry Council of Australia and New Zealand, 2018). Further, the *Optometry Framework* highlights the importance of constructive alignment. Constructive alignment is a form of outcomes-based learning and teaching where the teaching activity and assessment task directly address the intended learning outcomes (Biggs & Tang, 2007; Department of Health, 2014). However, to achieve constructive alignment, consideration of

the pedagogy is required, moving beyond focussing on the curriculum (Biggs, 2011).

Lessons on Indigenous Health Curriculum Implementation

Educator and Student Perspectives

Considering Indigenous health education has been largely driven by external factors such as accreditation (Pitama et al., 2018), it is important to explore the educator perspective. In a survey of 135 Aotearoa New Zealand medical clinical educators, there was a lack of clear understanding about Māori health learning outcomes and educators did not feel well prepared to assess students (Jones et al., 2013). These findings were attributed to lack of institutional commitment and support (Jones et al., 2013). Similar findings were reported in a small qualitative study of 12 Australian general practitioner educators teaching the reflection learning domain of the *National Framework* (Vass & Adams, 2020). Educators generally felt a lack of confidence and expertise, reporting significant levels of discomfort teaching racism, white privilege, and cultural self-reflexivity, with a preference for delegating teaching to Aboriginal and Torres Strait Islander people. In contrast, a study by Lewis and Prunuske (2017) involving 29 American medical program stakeholders, including educators, students and community members, acknowledged the importance of authentic collaboration between medical programs and Indigenous people, recommending that Indigenous community members guide the education of students in Indigenous health.

Educators need training and support, as having unskilled educators can lead to the minimisation of content and even do harm by reinforcing colonialism (Vass & Adams, 2020). For example, both Wilson et al. (2015) and Forsyth et

al. (2019) in their interviews with nine nutrition and dietetics academics and 13 dentistry and oral health academics, highlighted the risk of stereotyping within this field of education. Lu et al. (2014), in their interviews with Taiwanese medical educators, also highlight the influential role that educators' subject knowledge plays in shaping students learning through modelling of attitudes.

Wilson et al. (2015) and Forsyth et al. (2019) explicitly acknowledged the role training plays in counteracting deficit teaching practice. In comparison, Forsyth et al. (2019) found that some educators believed it was the responsibility of Aboriginal and Torres Strait Islander academics, and even more concerningly, the students within the faculty, to increase academic staff and student knowledge and understanding of Aboriginal and Torres Strait Islander culture.

In addition to understanding the views of educators, it is important to understand the views of those learning the curricula. There is a growing body of literature related to embedding Indigenous health curricula, which has resulted in the recent publication of two systematic reviews of Indigenous health curricula for entry-level health professional students (Francis-Cracknell et al., 2019; Pitama et al., 2018). In the systematic review by Francis-Cracknell et al. (2019), the overall findings from 17 studies (15 from medicine and nursing/midwifery) suggested that student attitudes, learning environment, educator skill, pedagogy and opportunities for placement in Indigenous health services contribute to positive student experiences (Francis-Cracknell et al., 2019). Findings from 23 studies (19 from medicine and nursing) in the review of Pitama et al. (2018), also highlighted the learning environment. Studies have found that students want to feel safe within the learning environment,

particularly when exploring content from a decolonised perspective and when developing skills for reflexive practice and Indigenous health advocacy (Pitama et al., 2018). Factors contributing to positive student experiences are further discussed below.

Learning Environment. Several studies have highlighted the importance of the learning environment in Indigenous health education. Actions that promoted a supportive learning environment have included a welcoming environment and positive relationships between the educators and students (Bennett et al., 2013; Newbury et al., 2005). A respectful learning environment was created by setting clear student expectations, where students were required to give speakers their full attention by looking at speakers, listening actively, asking thoughtful questions and not using electronic devices (Thackrah & Thompson, 2013). Educators played a role by employing an inclusive approach and ensuring all students had a voice (Thackrah & Thompson, 2013). However, student participation and group dynamics, specifically the dominance of several group members and varying levels of group work exposure between disciplines observed in interprofessional education, were reported as barriers to the learning environment (Horsburgh & Lamdin, 2004; Thackrah & Thompson, 2013). Strengthening constructive alignment through assessment of teamwork and communication, in addition to vertical alignment of these skills is required to support student participation and group dynamics (Horsburgh & Lamdin, 2004).

Authentic Learning. A number of studies have found that immersion experiences, clinical placement and simulated patient sessions are more

likely to influence transformative clinician behaviours than other learning methods (Francis-Cracknell et al., 2019; Pitama et al., 2018). Such authentic learning environments are student-centred and informed by constructivist theory in which learning and teaching are active (Matthews, 2021).

Where studies did not include clinical placement with Indigenous patients, this was identified as a missed opportunity, as this teaching activity would strengthen attainment of learning outcomes (Doucette et al., 2015; Hunt et al., 2015; Ramjan et al., 2016). Authentic learning extends beyond clinical placement to other activities including cultural immersion experience (Bennett et al., 2013; Dowell et al., 2001; Horsburgh & Lamdin, 2004; Kline et al., 2013; Newbury et al., 2005) and service-learning immersion (non-clinical placements developed based on the needs of the community, such as wood chopping and cleaning) (Roche, 2014). These experiences facilitate a shift in power and control from the university and students to the community, a fundamental principle of cultural safety (Kline et al., 2013).

Role Modelling. Exemplary clinical and community role models can enhance student learning and contribute to achieving learning outcomes (Bennett et al., 2013; Kline et al., 2013; Newbury et al., 2005; Roche, 2014). Educator willingness to teach students, openness to share knowledge (clinical and non-clinical), commitment, enthusiasm, skill and experience have been identified as promoting a good learning experience (Bennett et al., 2013; Horsburgh & Lamdin, 2004; Paul et al., 2006). These positive traits have been frequently reported important for both non-Indigenous and Indigenous guest educators (Horsburgh & Lamdin, 2004; Hunt et al., 2015; Ramjan et al., 2016; Roche, 2014; Thackrah & Thompson, 2013). In addition

to role modelling, students valued observing strengths-based community examples (Kline et al., 2013; Roche, 2014), which was consistent with Ramjan et al. (2016) who found a need for a strengths-based approach for Aboriginal and Torres Strait Islander health curriculum.

Partnerships

Non-Indigenous academics have described feeling they do not have the right to speak on issues that explore Indigenous cultures and perspectives on health (Delany et al., 2017). This finding may in part explain non-Indigenous educators' preference for delegating teaching to Aboriginal and Torres Strait Islander people (Vass & Adams, 2020). Although using Aboriginal and Torres Strait Islander knowledges by non-Indigenous people is not appropriate (Anderson & Ma Rhea, 2018; Duthie, 2019), it does not absolve non-Indigenous educators from their responsibility to actively participate in meaningful partnerships when engaging with Aboriginal and Torres Strait Islander knowledges.

An extreme burden is placed on Aboriginal and Torres Strait Islander academics to embed Aboriginal and Torres Strait Islander knowledges and perspectives, which can lead to emotional, intellectual and physical burnout (Bond, 2020). With few Aboriginal and Torres Strait Islander optometrists, even fewer Aboriginal and Torres Strait Islander optometry academics (Ahpra and the National Boards, 2023; Bentley et al., 2021), and the small number of Aboriginal and Torres Strait Islander students currently enrolled in optometry programs in Australia and Aotearoa New Zealand (Bentley et al., 2021), workforce restraints will continue to be a challenge for some time. Regardless,

Aboriginal and Torres Strait Islander health education needs to be a shared responsibility (Universities Australia, 2017; West et al., 2019).

This shared responsibility and partnership approach of non-Indigenous and Indigenous educators in the planning and provision of learning and teaching has been modelled in studies and recognised as a strategy in achieving learning outcomes (Horsburgh & Lamdin, 2004; Hunt et al., 2015; Kline et al., 2013; Paul et al., 2006; Thackrah & Thompson, 2013). For sustainability of partnerships, institutional investment in professional development opportunities for non-Indigenous educators is required. Additionally, Aboriginal and Torres Strait Islander people involved must be appropriately remunerated for their contributions (Bond, 2020).

Curriculum Design

As part of a project to improve assessment of Indigenous health (Delany et al., 2017), 41 academics (both Indigenous and non-Indigenous) from a variety of health disciplines (including public health, medicine, nursing, social work, dentistry, physiotherapy, speech pathology, neuroscience and psychiatry) were interviewed. The main findings were as follows: a discrepancy or pedagogical gap exists between the desired learning outcomes of Indigenous health education and the assessment tasks set to achieve them; the complex sociocultural nature of learning and teaching Indigenous health; and that intended learning outcomes should be more aligned with higher order thinking required when building cultural capability rather than limited to attitudes, skills and knowledge associated with the concept of cultural competence (Kumagai & Lyson, 2009). This was consistent with Horsburgh

and Lamdin (2004) and Paul et al. (2006) who identified incorporating learning outcomes as a strategy for improving curriculum integration.

Although some studies reported on assessment tasks, alignment with learning outcomes and teaching activities was unclear (Dowell et al., 2001; Thackrah & Thompson, 2013). In addition to adding an assessment task to support constructive alignment identified by continuous quality improvement measures, Newbury et al. (2005) drew attention to the importance of vertically integrated learning outcomes across the program.

Addressing Student Resistance, Disengagement and Discomfort

To address student and institutional resistance and disengagement with Indigenous health curricula, a Department of Education program of work developed a variety of resources as outlined in, *Having the Hard Conversations: A guide to good practice in Indigenous health education* (McDermott et al., 2020). The program drew on work that discusses a spectrum of responses, ranging from accepting and keen for more, through to hostile and rejecting when confronted with challenging material. McDermott et al. (2020) suggest that a critical strategy to support students experiencing discomfort is creating a safe space in the classroom by establishing ground rules that support trust, active listening and suspension of judgement and censorship (McDermott et al., 2020).

Problem-based learning (PBL) can be used to create a space to “make the uncomfortable comfortable” (McDermott et al., 2020, p. 3) through a student-centred approach that uses authentic, reflective, critical and active learning (Mackinlay & Barney, 2012b). Mackinlay and Barney (2012a) explored the use of PBL in Aboriginal and Torres Strait Islander studies across

five universities, with cohorts ranging from 7 to 150 Indigenous and non-Indigenous students. An outcome of the study was a change in terminology, given the colonial underpinnings and deficit-based language associated with the term “problem” in PBL. Instead of PBL the acronym PEARL (political, embodied, active, reflective and lifelong learning) was coined. This finding highlights how educators must look to challenge established power inequalities in higher education to ensure their practice does not reinforce colonialism. Additionally, findings suggest that PEARL is a vehicle for transformative education, a concept aligned with cultural safety (Mackinlay & Barney, 2012b). Transformative education involves (Mackinlay & Barney, 2012b):

- A deep structural shift in the basic premises of thought, feelings and actions.
- A shift of consciousness that alters our way of being in the world.
- Understanding ourselves, our self-locations, and our relationships with others in the world.
- Understanding relations of power in interlocking structures of race, class and gender.
- Envisioning alternative approaches and possibilities for social justice.

Teaching Racism

Another strategy of creating a safe space for predominantly non-Indigenous students to engage in hard conversations is the deconstruction exercise informed by Ngarrindjeri and Malak Malak perspectives (Sjorberg & McDermott, 2016). This exercise can form a learning and teaching activity through a classroom discussion, a written assessment task or both. The

exercise involves analysing questions about Aboriginal and Torres Strait Islander Peoples and does not require an answer. Modelling the principles of cultural safety through critical reflection and underpinned by critical pedagogy principles (Burbules & Berk, 1999), students must identify the socially constructed position from which the questions were asked and articulate the impact that the dominant discourse entrenched in the questions has on the social determinants of health and in sustaining health inequity. Questions are anonymous and drawn from other cohorts to avoid unproductive “blaming and shaming” (Sjorberg & McDermott, 2016, p. 31). Anonymity also facilitates a learning environment free from judgement. Additionally, emotive or combative discussions are minimised by shifting the focus to the question rather than the answer. This approach was designed to address overt racist commentary that problematises Aboriginal and Torres Strait Islander Peoples.

Teaching White Privilege and Other Social Privileges

A model that has been developed to support educators teach white privilege and other social privileges is the coin model of privilege and critical allyship (Nixon, 2019). Critical allyship attempts to shift the focus from the paternalistic desire to save or fix a group of people to understanding the role of power in upholding systems of oppression that create health inequities (Nixon, 2019). This model highlights social structures that produce and maintain inequality, such as ableism, sexism and classism, using these to draw attention to the unearned advantages afforded to the people that find themselves in a position of privilege within these systems of inequalities. The *National Framework* explicitly differentiates not white/racialised identity from non-Indigenous (settler) identity in the context of colonialism. This distinction

is important, as teaching the concept of white privilege will look different for students with not white/racialised identity. Unique to cultural safety education is non-Indigenous (settler) privilege in the context of colonialism and the need for non-Indigenous students, who form the majority of optometry cohorts, to unpack the ways their actions reflect and thereby reinforce the coin of settler colonialism (Nixon, 2019). Currently, no studies about applying the model of privilege and critical allyship exist and the effects of its application have not been examined.

Summary and Implications

Having a framework on Aboriginal and Torres Strait Islander health with guidelines on core elements of curricula alone is insufficient to improve graduate capabilities or address health disparity (Pitama et al., 2018). Implementation requires consideration of the pedagogy, contextual issues impacting the curriculum and institutional investment. However, there is a lack of research on the pedagogy and other factors related to successful implementation of Aboriginal and Torres Strait Islander health in optometry. Previous studies from medicine and other disciplines provide optometry with limited guidance. Existing pedagogical tools remain largely untested, and research is required to determine if they have a transformative learning effect.

To inform future improvements in optometry, there is a need to understand the current state of implementation of Aboriginal and Torres Strait Islander health curricula, and to understand educator and student perspectives.

Chapter 3: Research Design and Methodology

This chapter presents the aims and objectives of the research, followed by the research design and an overview of the methodologies used for each study of the research. Detailed methods are presented in subsequent chapters on each study of the research.

Research Aims and Objectives

The main aims of this research were to investigate progress and advance Aboriginal and Torres Strait Islander health curricula in optometry programs.

The objectives were to:

1. Comprehensively map the Aboriginal and Torres Strait Islander health curriculum in Australian optometry programs, assessing alignment with the *Optometry Framework* and identifying future needs in the curricula.
2. Explore the contextual issues, preparedness and experiences of educators involved in implementing Aboriginal and Torres Strait Islander health curricula into optometry programs, and from their perspectives, identify enablers and barriers to graduating optometrists who provide culturally safe care.
3. Explore student experiences and perspectives of Aboriginal and Torres Strait Islander health learning and teaching in the QUT optometry program.
4. Informed by the outcomes of the first three objectives, develop consensus-based guidelines for the creation of an online

repository of educational resources on Aboriginal and Torres Strait Islander health for use in optometry curricula.

Each objective was addressed by a separate study, with the first three studies informing the fourth study. The main outcomes of this research were recommendations and guidelines for advancing the implementation of the *Optometry Framework* that could be applied in Australia.

Research Design

The following four studies were conducted:

1. Aboriginal and Torres Strait Islander health curriculum mapping in optometry.
2. Educator perspectives on Aboriginal and Torres Strait Islander health curriculum.
3. Student perspectives on Aboriginal and Torres Strait Islander health curriculum.
4. The development of guidelines for an online repository of Aboriginal and Torres Strait Islander health educational resources in optometry.

Table 1 shows each study of the research, the related objective, research questions, and methods.

Table 1
Research Design Matrix

Study	Objective	Research questions	Methods	Type of analysis
1. Curriculum mapping	Comprehensively map the Aboriginal and Torres Strait Islander health curriculum in Australian optometry programs, assessing alignment with the <i>Optometry Framework</i> and identifying future needs in the curricula.	1. What Aboriginal and Torres Strait Islander health curriculum is currently being taught in Australian optometry programs? 2. How does Aboriginal and Torres Strait Islander health curriculum vary between programs and to what extent does it align with the <i>Optometry Framework</i> ?	Curriculum mapping	Qualitative: qualitative content analysis
2. Educator perspectives	Explore the contextual issues, preparedness and experiences of educators involved in implementing Aboriginal and Torres Strait Islander health curricula into optometry programs, and from their perspectives, identify enablers and barriers to graduating optometrists who provide culturally safe care.	3. What Aboriginal and Torres Strait Islander health curricula do educators think is effective versus ineffective in enabling graduating optometrists to provide culturally safe care? 4. How should Aboriginal and Torres Strait Islander health curricula be taught and assessed in optometry programs?	Survey and interviews of optometry programs leaders and educators	Quantitative: descriptive statistics Qualitative: constructivist grounded theory
3. Student perspectives	Explore student experiences and perspectives of Aboriginal and Torres Strait Islander health learning and teaching in the QUT optometry program.	5. What aspects of Aboriginal and Torres Strait Islander health curricula do students think contribute positively and negatively to their learning?	Survey of QUT optometry students	Quantitative: descriptive statistics Qualitative: qualitative content analysis
4. Online repository of educational resources	Informed by the outcomes of the first three objectives, develop consensus-based guidelines for the creation of an online repository of educational resources on Aboriginal and Torres Strait Islander health for use in optometry curricula.	6. How should an online repository be structured and what types of resources should be included? 7. What criteria should guide the selection of educational resources to support Aboriginal and Torres Strait Islander health curricula in optometry?	Delphi technique ⁴ of optometry educators and key stakeholders	Quantitative: descriptive statistics Qualitative: Delphi process ⁵ and qualitative content analysis

⁴ Delphi technique is used to refer to the method.

⁵ Delphi process covers the overall process of consensus building during a Delphi study.

Methodology

Mixed methods (Creswell, 2015) were chosen for pragmatic reasons and to optimise the robustness of the data. The pools of potential participants were a small number of educators, stakeholders and students with competing work/study time demands, as well as other priorities. By giving options with regard to format (online surveys and/or interviews/workshop) and level of involvement at different time periods, the goal was to maximise participation and obtain rich responses. Although the research team members (SB, SH, KRB) were involved in teaching Aboriginal and Torres Strait Islander health, they were excluded from contributing as participants in this study.

Study One: Aboriginal and Torres Strait Islander Health Curriculum Mapping in Optometry

A curriculum mapping template was provided to participating optometry programs. Data were in the form of text describing the curricula and were summarised using qualitative content analysis (Schreier, 2012). Qualitative content analysis is a qualitative method for systematically describing the meaning of qualitative material requiring some degree of interpretation (Schreier, 2012). This is achieved through categorising data to form a coding frame that contains categories, which describe key areas of interest within the data, and subcategories that provide detailed insights into what the data conveys within each category (Schreier, 2014). Qualitative content analysis is characterised as being a flexible and systematic way to reduce data, and comprises the following steps:

1. Deciding on the research question.
2. Selecting the material.

3. Building a coding frame.
4. Dividing the material into units of coding.
5. Testing the coding frame.
6. Evaluating and modifying the coding frame.
7. Main analysis.
8. Interpreting and presenting the findings (Schreier, 2012, p. 6).

The presentation of findings offers flexibility and could include presenting the coding frame, reporting results qualitatively through continuous text or tables, reporting results quantitatively by presenting coding frequencies or using the findings as a starting point for further data exploration (Schreier, 2014). Qualitative content analysis was chosen for this study because of the nature of the data to be analysed and because reporting the frequencies of codes/categories of data was considered useful.

Study Two: Educator Perspectives on Aboriginal and Torres Strait Islander Health Curriculum

First, an online survey with closed and open questions was conducted to obtain educator perspectives. Second, interviews were conducted using a semi-structured interview guide. Descriptive statistics were used to analyse the quantitative survey data. The design, methods and analysis of the qualitative component of study two was underpinned by the principles of constructivist grounded theory methodology (Charmaz, 2014). Constructivist grounded theory takes the position that social reality is multiple, processual and constructed (rather than discovered) (Charmaz, 2014). It recognises that data and analysis are co-constructed by the interrelationship between the researcher and the research participant (Charmaz, 2017; Charmaz &

Belgrave, 2018). Further, it locates the historical, social, and situational conditions in the research process and acknowledges the researchers' influence, privileges, and priorities on data and analysis (Charmaz, 2017; Charmaz & Belgrave, 2018).

Acknowledging that the position of the researchers in theorising is a fundamental principle of constructivist grounded theory, understanding and describing the role of experience, standpoints and the interaction of the researchers is imperative (Charmaz, 2014). The following positionality statements are provided to situate the reader with the position from which the research team writes, designs, undertakes and analyses this research (Savin-Baden & Major, 2013):

Ms Kate Pecar MOptom BVisSci AFANZAHPE AFHEA (Indigenous Knowledges). Ms Pecar is a non-Indigenous Higher Degree Research Student, QUT. She is also an early career registered optometrist and educator with experience in Aboriginal and Torres Strait Islander eye health service delivery and education. Ms Pecar is a member of Optometry Australia's Aboriginal and Torres Strait Islander Eye Health Advisory Group and past member of the Australian College of Optometry's Reconciliation Action Plan Working Group.

Professor Peter Anderson PhD BA PGCAP SFHEA. External supervisor Professor Anderson is a Warlpiri and Murinpatha man and Director of the Indigenous Research Unit at Griffith University. He is also the immediate past Executive Director of Carumba Institute, QUT and immediate past Director of the National Indigenous Research and Knowledges Network.

Professor Anderson's area of research is Rights Based Indigenous education.

Professor Sharon Bentley PhD MPH MOptom BScOptom GradDipSpecEd AFHEA (Indigenous Knowledges). Principal supervisor

Professor Bentley is Deputy Dean Faculty of Health, Director of the Centre for Vision and Eye Research, immediate past Head of the School of Optometry and Vision Science (now Optometry and Vision Science discipline, School of Clinical Sciences) QUT and a registered optometrist. Professor Bentley established and co-Chairs the Leaders in Indigenous Optometry Education Network (LIOEN). She has over ten years of experience designing optometry curricula, with extensive clinical and leadership expertise providing eye care services to Aboriginal and Torres Strait Islander communities and is directly involved in teaching the Aboriginal and Torres Strait Islander health curriculum at QUT.

Dr Shelley Hopkins PhD BOptom PGDipAdvClinOpt FHEA AFHEA (Indigenous Knowledges). Associate supervisor Dr Hopkins is a Senior Lecturer and Academic Lead Indigenous Health in the Optometry and Vision Science discipline, School of Clinical Sciences, QUT. In this role she teaches the Aboriginal and Torres Strait Islander health curriculum. Additionally, she provides outreach optometry services to regional communities in Queensland and conducts research in Aboriginal and Torres Strait Islander children's vision. Dr Hopkins is a member of OCANZ Indigenous Strategy Taskforce.

Adjunct Associate Professor Kristopher Ramon David Rallah-Baker B. MED FRANZCO. External supervisor Associate Professor Rallah-Baker is a Yuggera, Warangoo and Wiradjuri man and Australia's first and currently only Indigenous ophthalmologist. Associate Professor Rallah-Baker

holds an Adjunct Associate Professorship at QUT and is an Honorary Associate Professor at the University of Melbourne. He is also a Director on the Board of Vision 2020 Australia, Board member of the First Nations Eye Health Alliance, technical advisor to the Fred Hollows Foundation, advisory board member of The University of Melbourne's Indigenous Eye Health Unit, a founding member and former President of the Australian Indigenous Doctors Association, and former Director on the Federal Board of the Royal Flying Doctors Service. He has considerable experience advising on cultural safety and Indigenous perspectives training in medicine.

The following strategies are used in constructivist grounded theory (Charmaz, 2014):

1. Data collection and analysis are conducted simultaneously in an iterative process.
2. Analysis of actions and processes (rather than themes and structure).
3. Comparative methods.
4. The data are drawn upon to develop new conceptual categories.
5. Inductive abstract analytic categories are developed through systematic data analysis.
6. Theory construction is emphasised (rather than application of current theories).
7. Engagement in theoretical sampling to elaborate and refine preliminary categories (e.g., asking additional interview questions

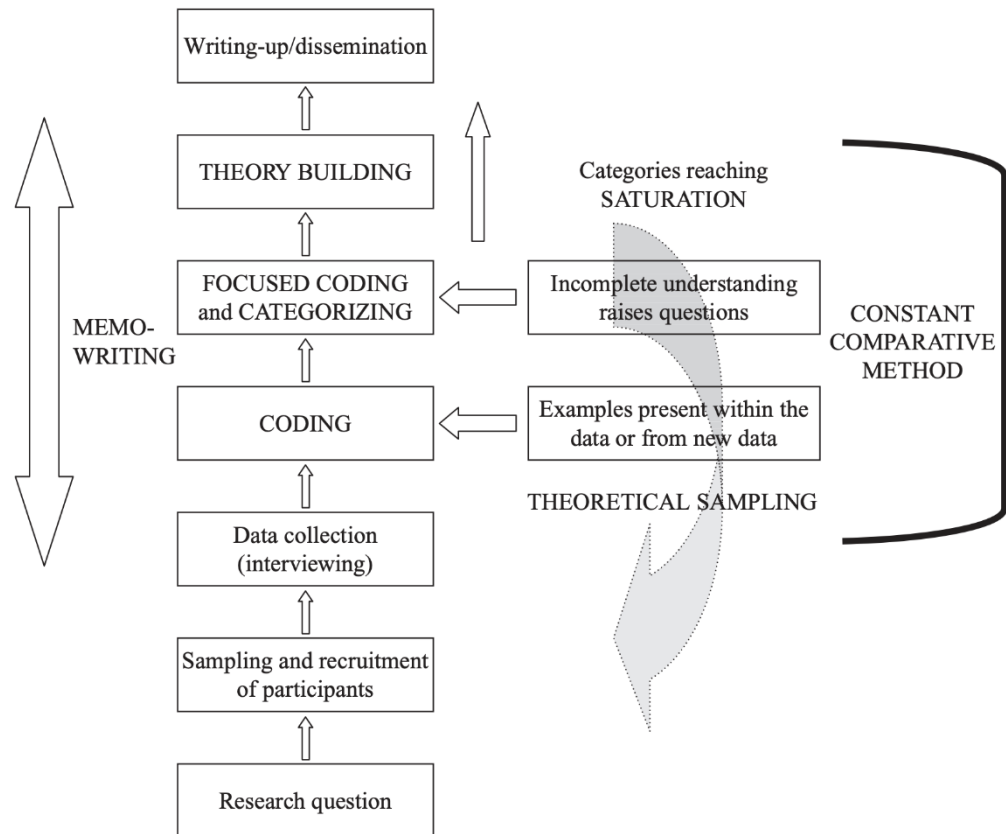
or broadening the scope of existing questions, recruiting additional participants with more diverse attributes, adding new a type of participant group, and expanding the research settings).

8. Searching for variation in the studied categories or process.
9. The pursuit of developing a category, not covering a specific empirical topic.

A visual representation of a grounded theory process is given in Figure

2.

Figure 2
Visual Representation of Grounded Theory



Note: Reprinted with permission from "Grounded theory methods for mental health practitioners" by Tweed and Charmaz (2012), *Qualitative research methods in mental health and psychotherapy*, p. 133.

Study Three: Student Perspectives on Aboriginal and Torres Strait Islander Health Curriculum

An online survey with both closed and open questions was used to obtain student perspectives. Descriptive statistics were used to analyse quantitative data. Qualitative content analysis was used to analyse qualitative data (as described for Study One: Aboriginal and Torres Strait Islander Health Curriculum Mapping in Optometry above).

Study Four: The Development of Guidelines for an Online Repository of Aboriginal and Torres Strait Islander Health Educational Resources in Optometry

A modified Delphi study was used to develop consensus-based guidelines for an online repository of educational resources. The Delphi technique is a systematic process of developing consensus where incomplete evidence exists for decision-making (Humphrey-Murto et al., 2017). The Delphi technique has the following characteristics that distinguish the process from the traditional survey: iterations (a series of rounds allowing for revisions of responses), anonymity (minimising yielding to group pressure and allowing for a geographically dispersed sample), controlled feedback process (reducing noise or communication that is unrelated to the purpose of the study), and statistical analysis (objective analysis and summary of the data collected) (Hsu & Sandford, 2007).

A defining characteristic of the Delphi technique is the use of a panel of experts. There is no guidance on the optimal number of panellists nor a universally agreed definition of an expert, with expertise often not described beyond a dictionary definition (Keeney et al., 2006). If defined, qualifications, authorship and presentations are often cited requirements (Chalmers et al., 2014; Nicolson et al., 2017). Given that Indigenous health education is an emerging discipline (Pitama et al., 2018), relying solely on these academic values would be limiting. Alternative ways of knowing, such as behaviours and wisdom recognised by the community (Bison, 2001) may also be excluded.

The Delphi technique usually has a series of rounds of anonymous Delphi surveys⁶ on a topic. Following advice from community, defined in this context as those working to advance Aboriginal and Torres Strait Islander health education in optometry, a modified Delphi study was used by providing participants the opportunity to discuss findings in a final workshop, differing from the classical approach where anonymity is maintained (Okoli & Pawlowski, 2004). There is no universally agreed-upon required number of rounds, with the literature reporting studies with between one and five rounds (Jünger et al., 2017). However, poor response rates and respondent fatigue are characteristics of ongoing rounds (Keeney et al., 2001). To maximise the response rate in each round and encourage project ownership and loyalty among participants (Keeney et al., 2006), participants were given the option to be recognised by name in any public acknowledgements at the completion of each round.

There are no universally accepted criteria for determining consensus of the topic of discussion. The predefined cut-off points used in this study were based on a range of suggested levels of consensus (Keeney et al., 2006). In this study, the criterion for group consensus was set at 75% or more participants rating an idea as very or extremely important (or agreed or strongly agreed) and the absence of any comments offering alternative views.

⁶ Delphi survey relates to the actual survey (rounds) conducted as part of the Delphi technique.

Reporting and Ethics

Where applicable, the design and reporting followed the *Consolidated Criteria for Reporting Qualitative Research* (Tong et al., 2007), the *Consolidated Criteria for Strengthening Reporting of Health Research Involving Indigenous Peoples: The Consider Statement* (Huria et al., 2019) and the *Conducting and Reporting of Delphi Studies guidelines* (Jünger et al., 2017). This research also adhered to the tenets of the *Declaration of Helsinki* and the National Health and Medical Research Council, *Ethical conduct in research with Aboriginal and Torres Strait Islander Peoples and communities* (National Health Medical Research Council, 2018). Informed consent was obtained prior to participation. QUT Human Research Ethics Committee granted ethical approval on 3 March 2021 for studies one to three of this research (approval number 2000001134 of the original study and 3838 for variation application) and on 28 July 2023 for study four (approval number 6460).

Chapter 4: Aboriginal and Torres Strait Islander Health Curriculum Mapping in Optometry

This chapter presents the first study, a mapping of the Aboriginal and Torres Strait Islander health curriculum in Australian optometry programs. The chapter begins with an introduction describing what curriculum mapping is, followed by an overview of the relevant curriculum mapping literature. The next section describes the methods used in this study, followed by the results. The last section contains a discussion of the results with reference to the relevant literature. The study addresses research question one and two: What Aboriginal and Torres Strait Islander health curriculum is currently being taught in Australian optometry programs? (RQ1) and How does Aboriginal and Torres Strait Islander health curriculum vary between programs and to what extent does it align with the *Optometry Framework*? (RQ2).

Introduction

To ensure successful implementation of the *Optometry Framework*, it is important to evaluate progress (Optometry Council of Australia and New Zealand, 2018). A first step of evaluation is curriculum mapping, a systematic process that provides a multi-dimensional overview of the curriculum, including what, how, and when it is taught and assessed (Harden, 2001). Curriculum mapping also helps to establish the interrelationships between different curriculum elements, including constructive and vertical alignment across the program and against standards. Analysis of curriculum maps facilitates the identification of gaps and redundancies that need to be addressed to enhance the quality of education. The resulting visual representation of the curriculum

also enhances transparency to a range of stakeholders, such as curriculum planners, educators, students, administrators and accrediting organisations.

The only relevant mapping study in optometry was conducted prior to the introduction of the *Optometry Framework* and focused on cultural competency, rather than cultural safety, in Australian and Aotearoa New Zealand optometry programs. Curriculum structure and content, as well as teaching methods, teaching team, hours of didactic teaching, student assessment and feedback, and industry relationships were explored (Truong et al., 2014). The curriculum questionnaire used in the study was constructed from the questionnaire for medical programs from Lie (2006), and a questionnaire for Australian paramedic programs from Spencer et al. (2009), which was based on the National Health Medical Research Council (2006) guide, *Cultural Competency in Health: a Guide for Policy, Partnerships and Participation*. There were no specific questions about Aboriginal and Torres Strait Islander or Māori Peoples. The study found that cultural competency education was included in some of the four programs that responded (out of the six that existed at the time), to varying degrees in terms of structure, content, teaching method and hours of teaching.

In comparison, all Australian medical programs already had explicit Aboriginal and Torres Strait Islander health content prior to the publication of their discipline specific Aboriginal and Torres Strait Islander health curriculum framework, *CDAMS⁷ Indigenous Health Curriculum Framework* (Phillips, 2004a; Phillips, 2004b). Following the publication of the *CDAMS Indigenous*

⁷ Committee of Deans of Australian Medical Schools (now Medical Deans Australia and New Zealand).

Health Curriculum Framework in 2004, a comprehensive audit of 19 Australian medical programs found the majority had implemented considerably more Aboriginal and Torres Strait Islander health content than the 12 medical programs audited seven years prior (Cavanagh, 2011). Despite this progress, the latest audit indicated that few medical programs were achieving best practice (Cavanagh, 2011), where best practice was considered to be having community partnerships, adequate staff capacity, sufficient resources, practicum placements in an Aboriginal and Torres Strait Islander health setting, cultural immersion programs, reflective learning activities, and integration of Aboriginal and Torres Strait Islander health content within the core medical content.

Other studies investigating Aboriginal and Torres Strait Islander health curriculum vary in scale, including cross sectional studies of all Australian nutrition and dietetics programs, (Wilson et al., 2015), and two Australian university health promotion degrees (Lower, 2001) as well as single institution studies in nursing (Zimmerman et al., 2019), nutrition and dietetics (Wilson et al., 2015), occupational therapy (Melchert et al., 2016), and radiation therapy (Naidoo et al., 2023). How information on Aboriginal and Torres Strait Islander health curriculum was collected in these studies also varied. One study conducted an internal review of unit (or subject) outlines and unit guides (Zimmerman et al., 2019). Other data collection methods have included reviewing online information (Lower, 2001; Wilson et al., 2015), self-audits (Wilson et al., 2015) and surveys/interviews (Zimmerman et al., 2019). The proportion of units in the above health professional programs that had any Aboriginal and Torres Strait Islander health content ranged from 13-47%.

However, the amount of content within units was mostly limited to a single learning experience (e.g., a one-to-three-hour lecture, workshop or tutorial). Furthermore, one study found that some nursing units were related to the University Graduate Attribute of being, “culturally capable when working with First Australians” (Zimmerman et al., 2019, p. 442). However, on further examination, these units were found to lack sufficient content to meet the requirements of the *National Framework*, containing only foundational content and lacking any advanced material. Additionally, there was concern about the distribution of content across the program, as it was limited to the first year and final semester (Zimmerman et al., 2019).

Many mapping studies in health, including those in optometry, are outdated due to the introduction of new regulations and frameworks to guide the curriculum. Furthermore, findings from other disciplines are not necessarily applicable to optometry. The objective of this study was to comprehensively map the Aboriginal and Torres Strait Islander health curriculum in Australian optometry programs, assessing alignment with the *Optometry Framework* and identifying future needs.

Methods

Participants

Program leads from all seven Australian optometry programs (Deakin University, Flinders University, QUT, The University of Melbourne, University of Canberra, University of New South Wales and University of Western Australia) were invited to participate.

Curriculum Mapping

There is no gold standard curriculum mapping template. However, OCANZ developed a template to support programs map their Aboriginal and Torres Strait Islander health content against the *Optometry Framework*. The publicly available OCANZ mapping template was adapted from the *Indigenous Health Curriculum Mapping Tool: Academic* (Leaders in Indigenous Medical Education Network, 2018), which was created for Australian medical programs to map their curricula against their *CDAMS Indigenous Health Curriculum Framework* (Phillips, 2004b). The Leaders in Indigenous Medical Education Secretariat worked in collaboration with the Leaders in Indigenous Medical Education Reference Group, comprising of predominantly Indigenous representatives from each Australian and Aotearoa New Zealand medical program, to develop the tool (Mazel & Ewen, 2015).

The OCANZ mapping template (Optometry Council of Australia and New Zealand, 2021) has sections for each of the three themes of the *Optometry Framework* (Optometry Council of Australia and New Zealand, 2018). Briefly, the themes in the *Optometry Framework* are as follows:

1. Integrating cultural safety into reflective practice and professionalism.
2. History and diversity of Aboriginal and/or Torres Strait Islander Peoples, the post-colonial experience and implications for population health and health care practice.
3. Delivery of culturally safe eye health care in partnership with Aboriginal and/or Torres Strait Islander health professionals, organisations and

communities (Optometry Council of Australia and New Zealand, 2018, p. 10).

The mapping template is further sub-divided into sections for 17 of the 25 *Optometry Framework* subthemes, noting that eight subthemes were combined with similar subthemes by the designers of the tool. Further details about the themes and subthemes of the *Optometry Framework*, were provided in the *Optometry Framework* section of Chapter 2.

To comprehensively map the curricula and obtain rich data, the OCANZ mapping template was modified to include the year level in which the content was delivered, whether a unit learning outcome was explicit or implicit, and a description for all entries. These additions were based on similar empirically derived generic curriculum mapping templates (Arafeh, 2014; Cuevas et al., 2010; Kertesz, 2015; Veltri et al., 2011). The final version of the curriculum mapping template used in this study is provided in Appendix A.

Pretesting. The mapping template was subjected to pretesting by five participants. Due to the relatively small pool of potential participants for this research, the pretest sample was distantly representative of study participants, and included either optometry clinical educators (60%) or optometry academics (40%), with only one participant involved in embedding Aboriginal and Torres Strait Islander health curriculum in an optometry program. Participants were asked to review and critique the wording, language, comprehension and format of the instructions, questions and response options to ensure the curriculum mapping template would be

readily understood and not too burdensome for participants to complete (Ruel et al., 2016).

Fourteen items of feedback were received. Comments and subsequent revisions are presented in Table 2. Pretesting feedback was first discussed between the student researcher (KP) and principal supervisor (SB), with one item requiring associate supervisor (SH) input due to their in-depth knowledge of the curriculum mapping template used. All final changes were discussed and agreed by the full research group (PA, SB, SH, KP and KRB).

Table 2*Summary of Curriculum Mapping Pretesting Feedback*

Comments	Revisions	n	%
Lack of preamble	Preamble added	2	14%
Ambiguous instructions	Editing of instructions including example provided	1	7%
Questions not concise	Rewording of two questions to improve comprehension and the addition of three definitions ^a	4	29%
Response options not exhaustive	Response option added to three demographic questions	2	14%
Demographic questions not exhaustive	Demographic question added	1	7%
Other minor comments	None	4	29%

Note. n = 5.

^a Self-reflexivity, affirmative action approaches and social determinants of health.

Protocol

An email was sent from the student researcher (KP) to the program leads of each Australian optometry program inviting them or a suitably experienced staff member to complete the curriculum mapping template. The invitation included the mapping template and demographic questions (see Appendix A). Participants had four weeks to complete the mapping between May 2021 and June 2021. Three programs requested an extension and were granted up to nine-weeks. For completeness, and where publicly available, current unit outlines and/or guides were reviewed by the student researcher (KP) to verify and supplement data provided by participating programs.

Data Analysis

Curriculum maps were summarised using qualitative content analysis (Schreier, 2012) and followed the method outlined by Schreier (2014). An overview of the coding frame is provided in Table 3. The main categories were deductively determined by two researchers (SB and KP) using a concept-driven approach where the categories were primarily derived from the headings used in the mapping template.

Table 3
Coding Frame

Categories	Codes/description
University	University name
<i>Optometry Framework</i> theme ^a	Theme one, theme two, theme three
<i>Optometry Framework</i> subtheme ^a	1a, 1b, 1c, 1d, 1e, 1f, 2a, 2b, 2c, 2d, 3a, 3b, 3c, 3d, 3e, 3f, 3g
<i>Optometry Framework</i> learning level	Novice, intermediate, entry to practice
Unit code	Unit code and name
Year level	Year level of unit
Unit learning outcome	Explicit, implicit, none, unclear/unspecified or N/A
Content ^b	Explicit, implicit, none, unclear/unspecified or N/A
Content description	Text description
Content type	Tutorial/seminar/group discussion/project group work, practical lab, workshop, module/online exercise, immersion/field trip, PBL/CBL ^c , clinic observation, clinic practice, clinic unspecified, N/A
Content duration	Explicit hours, implicit hours, unclear/unspecified or N/A
Lesson ^d	Unique lesson, repeat lesson or N/A
Assessment	Explicit, implicit, none, unclear/unspecified or N/A
Assessment description	Text description, unclear/unspecified or N/A
Assessment type	Quiz, exam, reflective journal, clinical skills, case study, critique of literature, presentation, participation/attendance/completion, case report, oral exam, unclear/unspecified, N/A
Comments	Text

Note. ^a For more details see the curriculum mapping template in Appendix A.

^b Content directly related to the *Optometry Framework* (i.e., used key words associated with the *Optometry Framework* subtheme), was coded “explicit”. Content indirectly related to the *Optometry Framework* was coded “implicit”.

^c Case-based learning.

^d Where a lesson covered multiple *Optometry Framework* subthemes, the code “unique lesson” denotes its initial occurrence, and “repeated lesson” refers to subsequent mentions in the completed mapping template.

Codes within each category were then inductively determined using a data-driven approach by the researchers (SB and KP) independently and guided by the following subsumption processes (Schreier, 2014):

1. Reading a curriculum map until a relevant concept was encountered.
2. Checking whether a code that covered this concept had already been created.
3. If so, mentally subsuming this under the respective code.
4. If not, creating a new code that covered this concept.
5. Continuing to read until the next relevant concept/passage was encountered.

The process was iterative in nature, until no additional new concepts were found, as agreed through discussion between the researchers (KP and SB) (Schreier, 2014). Segmentation was not necessary given the data had already been divided into parts (i.e., the columns and rows of the curriculum mapping template).

The coding frame was then pilot tested on two of the five curriculum maps, where two researchers (KP and SB) independently coded a single curriculum map, discussed, and resolved any discrepancies. This process was repeated for a second map.

The outcomes of discussion included:

- Completing missing unit information/amending any discrepancies using information listed in publicly available unit outlines/guides.

-
- Determining if there was a unit learning outcome associated with a lesson and/or the explicitness of the unit learning outcome (explicit/implicit) using publicly available unit outlines/guides. If the unit outline/guide stated a unit learning outcome directly related to the *Optometry Framework* (i.e., used key words associated with the *Optometry Framework* subtheme), it was deemed explicit. If the unit learning outcome was indirectly related to the *Optometry Framework* subtheme under investigation, it was deemed implicit (Arafeh, 2014).
 - Assessing whether content was explicit or implicit using three concepts: through the application of definitions outlined above (explicit/implicit) (Arafeh, 2014), consideration of the principles of constructive alignment (e.g. a lesson with an explicit unit learning outcome was more likely to be considered explicit), and examination of the unit name (e.g. a professional/communication unit was more likely to be considered an explicit lesson compared with a pharmacology unit).
 - Interpreting delivery modes carefully based on the other terminology used in the curriculum map (i.e., some programs refer to an interactive class as a seminar, whereas others use the term tutorial).
 - Assigning the more interactive methods of delivery over non-interactive methods when multiple modes of delivery were stated (i.e., if lecture/workshop was stated, workshop was used to code the delivery mode).
 - Treating each different mode of delivery as a separate lesson and dividing content hours evenly for lessons with multiple components

(e.g., an 8-hour module and cultural immersion experience would be treated as two 4-hour lessons [module and cultural immersion]).

- Assigning content duration, when information was not specified or unclear, based on the stated duration of delivery mode in the unit outlines/guides (e.g., if a lecture was stated but not assigned a duration, and the unit outline stated that there was a one-hour weekly lecture then one-hour was assigned).
- Designating the code “unique lesson” to the initial occurrence of a lesson in the mapping template (e.g., associating it with the first relevant theme in the *Optometry Framework*, considered in order from theme one to three). Subsequent entries of the same lesson were assigned the code “repeated lesson”.
- Identifying repeated lessons by comparing exact matches. In cases where minor discrepancies were present (e.g., a single word/phrase difference or lack of content description), a decision was made through discussion between the two coders (KP and SB), using publicly available information (unit outlines/guides, publications and information found on university websites).

If a decision could not be made using the above criteria, the code unclear/unspecified was assigned. In particular, coders encountered missing information for feedback/assessment in some curriculum maps and in the available unit outlines, resulting in codes of unclear or unspecified.

The remaining two-thirds of curriculum maps were independently coded by one researcher (KP). The results were then discussed with the second

coder (SB), followed by the full research group (PA, SB, SH, KP and KRB) until consensus was reached.

Demographic and coding data were then analysed using descriptive statistics in Microsoft Excel (Microsoft Office 2019, Version 2104).

Results

Five of the seven Australian optometry programs responded to the invitation, representing an overall response rate of 71%. Characteristics of the participants who completed the mapping are given in Table 4.

For two of the five programs, 100% of the content in their curriculum map was able to be verified with information available online. For the remaining programs, between 88% and 91% of the content could be verified. The information available online varied from a brief overview (e.g., unit outline or equivalent) of the unit learning outcomes, modes of delivery and assessment types, to detailed information about the unit (e.g., unit guide or equivalent), including but not limited to relationships between unit learning outcomes and graduate attributes, schedule and structure of teaching activities, type of assessment and assessment weighting.

Table 4*Characteristics of Participants who Completed the Curriculum Mapping*

Characteristic	n	%
Age group, years		
20 – 30	2	40%
31 – 40	2	40%
41 – 50	1	20%
Gender		
Female	2	40%
Male	3	60%
Identifies as of Aboriginal and/or Torres Strait Islander descent		
No	5	100%
Yes	0	0%
University program, years established		
<5	1	20%
10-15	1	20%
>50	3	60%
Completed by		
Program Lead	1	20%
Representative	4	80%
Level of appointment		
Associate Professor	2	40%
Senior Lecturer	1	20%
Lecturer	1	20%
Professional staff	1	20%
Role ^a		
Academic Lead	3	60%
Program Lead	1	20%
Research Assistant	1	20%
Unit Coordinator	3	60%
Teaching experience ^b	Mean	Range
Years	9	4–14

Note. n = 5 except ^b where n = 4, as one respondent was not involved in higher education teaching.

^a Participants were able to choose more than one response option.

Coverage of Optometry Framework Themes and Subthemes

Programs varied in type of qualification (Bachelor's and Master's programs vs Doctoral program), duration (3 to 5 years) and unit credit points

(4.5 to 100). Although the length of programs varies, all programs must demonstrate evidence that the Accreditation Standards set by the Optometry Council of Australia New Zealand (Optometry Council of Australia and New Zealand, 2021) are covered. It should be noted that the shorter programs accommodate more teaching in a year than longer programs through a trimester-based timetable rather than a semester-based timetable. None of the programs had a standalone unit (e.g., 13 weeks, 12 credit point unit) entirely dedicated to Aboriginal and Torres Strait Islander health, rather all programs were integrating this content into the curriculum across core (compulsory) units in the program.

On average, programs included 18 unique lessons related to Aboriginal and Torres Strait Islander health, with a range of 11 to 36 lessons. These lessons often addressed multiple *Optometry Framework* themes, subthemes and learning levels (novice, intermediate, and/or entry to practice) and were either directly and clearly related to Aboriginal and Torres Strait Islander health (explicit content) or indirectly related (implicit content). Table 5 provides examples of explicit and implicit content.

Table 5
Examples of Explicit and Implicit Content

Subtheme	Explicit lesson examples	Implicit lesson examples
Culture (1a)	Personal cultural identity	Legal, ethics and professionalism
Racism and white privilege (1b)	Racism and privilege	Clinical placement in a mainstream healthcare setting
Culturally safe interactions (1d)	Clinical placement in an Aboriginal and Torres Strait Islander health care setting	Communicating with a wide variety of patients
Self-reflexivity (1e)	Impact of personal cultural identity on practice	History taking
Colonisation (2b)	Historical overview	Appreciation of the effect of differences in culture, language, and migration experience on health promotion programs
Epidemiology (2c)	Health status of Aboriginal and Torres Strait Islander Peoples	Epidemiology of population health
Population health and health workforce policy (2d)	Subsidised spectacle schemes for Aboriginal and Torres Strait Islander Peoples	Public Health
Aboriginal and/or Torres Strait Islander health professionals and organisations (3b)	Local Community Controlled Health Service case study	Clinical placement in a mainstream health care setting

Note. Numbers and letters represent *Optometry Framework* themes and subthemes, respectively. The curriculum mapping template combines eight of the *Optometry Framework* subthemes with similar subthemes, giving a total of 17 subthemes. Therefore, the numbers and letters used in the curriculum mapping template differ from those used in the *Optometry Framework*. For a full description of the subthemes used in the curriculum mapping template, see Appendix A.

The five programs showed considerable variability in their coverage of the *Optometry Framework* themes and subthemes, as well as the proportion of explicit and implicit content. Out of all unique lessons in a program, the proportion of explicit lessons ranged from 17% to 100%. Mapping of explicit content and assessment related to each of the *Optometry Framework* themes and subthemes for each optometry program is given in Table 6. Entry to practice learning was least covered, particularly subthemes 1f (Provide opportunities for students to incorporate anti-racist, social justice and affirmative action approaches in health care practice that addresses the social determinants of health for Aboriginal and/or Torres Strait Islander Peoples); 2d (Provide students with opportunities to incorporate strategies for delivering health care and designing population health and health workforce policy that builds trust and relationships with Aboriginal and/or Torres Strait Islander people); 3f (Provide opportunities for students to apply principles and practices of cultural safety in the clinical training program); and 3g (Offer opportunities for students to demonstrate strategies for personal and professional leadership, lifelong learning and resilience in working with health system challenges to cultural safety, including in partnership with Aboriginal and/or Torres Strait Islander health professionals and leaders). Only one program explicitly covered these subthemes.

The number of programs that had at least some explicit and/or implicit content and assessment related to each of the *Optometry Framework* themes and subthemes, is given in Table 7. All programs had at least some content (explicit and/or implicit) related to each of the three *Optometry Framework* themes, and most programs (60% to 100%) covered each of the *Optometry*

Framework subthemes. There was one exception. Subtheme 2d (Provide students with opportunities to incorporate strategies for delivering health care and designing population health and health workforce policy that builds trust and relationships with Aboriginal and/or Torres Strait Islander people), which was addressed by only two (40%) programs. Additionally, all programs included content related to novice and intermediate levels subthemes, and four of the five programs had content addressing some or all entry to practice level learning subthemes. Although all programs included some form of assessment related to each of the *Optometry Framework* themes, assessment of subthemes was less well covered than content. The proportion of programs with assessment related to each *Optometry Framework* subtheme ranged from 40% to 80%. It should be noted that some programs did not provide any information about assessment.

Table 6

Mapping of Explicit Content and Assessment related to Optometry Framework Themes and Subthemes for Each Optometry Program

Theme	Subtheme	Level ^a	University A		University B		University C		University D		University E	
			Content	Assessment	Content	Assessment	Content	Assessment	Content	Assessment	Content	Assessment
Theme 1:	Culture (1a)	N										
Reflective	Racism (1b)	N										
practice and	White privilege (1c)	I										
professionalism	Cultural safety theory (1d)	E										
	Self-reflexivity (1e)	E										
	Anti-racist/social justice approaches (1f)	E										
Theme 2:	Diversity (2a)	N										
History,	Colonisation (2b)	N/I										
diversity and	Epidemiology (2c)	N										
colonisation	Health workforce policy (2d)	E										
Theme 3:	Dominant paradigm (3a)	N										
Cultural safety	Indigenous ^b professionals/	N/I										
and partnership	Organisations (3b)	N/I										
	Clinical management (3c)	N/I										
	Organisational culture (3d)	I										
	Partnerships (3e)	I										
	Cultural safety application (3f)	E										
	Lifelong learning (3g)	E										

Note. Light grey indicates yes, black indicates no and dark grey indicates unknown due to missing or inadequately described entries.

^a N = novice, I = intermediate and E = entry to practice.

^b Indigenous is respectfully used to refer to Aboriginal and Torres Strait Islander Peoples.

Table 7

Number of Optometry Programs Covering Each Optometry Framework Subtheme to any Extent (Explicit and Implicit)

Theme	Subtheme	Learning Level ^a	Number (%) of programs with content		Number (%) of programs with assessment	
			n	%	n ^b	%
Theme 1: Reflective practice and professionalism	Culture (1a)	N	5/5	100%	2/3	67%
	Racism (1b)	N	5/5	100%	2/4	50%
	White privilege (1c)	I	4/5	80%	2/4	50%
	Cultural safety theory (1d)	E	4/5	80%	2/4	50%
	Self-reflexivity (1e)	E	4/5	80%	3/4	75%
	Anti-racist/social justice approaches (1f)	E	3/5	60%	2/4	50%
Theme 2: History, diversity and colonisation	Diversity (2a)	N	5/5	100%	3/5	60%
	Colonisation (2b)	N/I	5/5	100%	3/5	60%
	Epidemiology (2c)	N	5/5	100%	3/5	60%
	Health workforce policy (2d)	E	2/5	40%	2/5	40%
Theme 3: Cultural safety and partnership	Dominant paradigm (3a)	N	4/5	80%	3/5	60%
	Indigenous ^c professionals/organisations (3b)	N/I	5/5	100%	2/5	40%
	Clinical management (3c)	N/I	5/5	100%	3/5	60%
	Organisational culture (3d)	I	4/5	80%	4/5	80%
	Partnerships (3e)	I	5/5	100%	2/5	40%
	Cultural safety application (3f)	E	4/5	80%	3/5	60%
	Lifelong learning (3g)	E	4/5	80%	3/4	75%

Note. ^a N = novice, I = intermediate and E = entry to practice.

^b Where denominator does not equal 5, this is due to missing information from programs.

^c Indigenous is respectfully used to refer to Aboriginal and Torres Strait Islander Peoples.

Table 8 shows the number of any (unique and repeat) explicit versus implicit lessons across all programs that address each *Optometry Framework* subtheme.

Table 8*Median and Total Number of Lessons (Explicit and Implicit) Across all Programs by Subtheme*

Theme	Subtheme	Learning Level ^a	Number (n) of explicit lessons				Number (n) of implicit lessons			
			Median	Minimum	Maximum	Total	Median	Minimum	Maximum	Total
Theme 1: Reflective practice and professionalism	Culture (1a)	N	4	2	13	28	0	0	3	6
	Racism (1b)	N	1	0	4	9	1	0	3	7
	White privilege (1c)	I	5	0	5	15	0	0	3	4
	Cultural safety theory (1d)	E	0	0	1	2	1	0	15	18
	Self-reflexivity (1e)	E	1	0	4	7	0	0	17	20
	Anti-racist/social justice approaches (1f)	E	0	0	1	1	0	0	2	4
Theme 2: History, diversity and colonisation	Diversity (2a)	N	2	1	3	9	0	0	15	17
	Colonisation (2b)	N/I	1	1	2	7	0	0	6	8
	Epidemiology (2c)	N	1	0	2	5	0	0	6	11
	Health workforce policy (2d)	E	0	0	1	1	0	0	1	1
Theme 3: Cultural safety and partnership	Dominant paradigm (3a)	N	1	0	5	9	1	0	7	10
	Indigenous ^b professionals/	N/I	1	0	2	5	1	0	2	4
	Organisations (3b)									
	Clinical management (3c)	N/I	2	1	5	14	0	0	1	1
	Organisational culture (3d)	I	1	0	2	5	0	0	5	5
	Partnerships (3e)	I	1	0	2	5	1	0	5	8
	Cultural safety application (3f)	E	0	0	1	1	1	0	17	20
	Lifelong learning (3g)	E	0	0	0	1	2	1	0	10

Note. A single lesson may cover multiple *Optometry Framework* subthemes.

^a N = novice, I = intermediate and E = entry to practice.

^b Indigenous is respectfully used to refer to Aboriginal and Torres Strait Islander Peoples.

Four out of the five programs had content in every year level, with the other program having no content in the first two years. The distribution of *Optometry Framework* theme one content was widespread throughout the different year levels of programs, while the majority of theme three was taught in the later years. Due to the varying lengths of programs, it was challenging to determine a pattern for theme two, but it was generally taught across multiple year levels.

Contact Hours

The average total duration of explicit content (excluding variable clinical placements hours) in programs was 18 hours (range 12 to 27). Lessons (excluding clinical placement) varied from a one-hour lecture to a two-day cultural immersion experience. Fewer hours were typically dedicated to explicit clinical placement curriculum. Three programs had an Aboriginal and Torres Strait Islander health setting placement. These placements varied in approach, including student observation only, where students observed qualified optometrists providing optometric care (n = 1 program); student assisted consultation, where students provided assistance to qualified optometrists (n = 1 program); and/or student led consultation, where students provided clinical care under the supervision of qualified optometrists (n = 2 programs). There were also different proportions of students in the cohort attending placement (~70% [n = 2 programs] to 100% [n = 1 program]). A range of placement durations were also reported, from one day (n = 2 programs) to up to two weeks (n = 1 program). Four programs claimed that any clinical placement experience counted as being related to the topic; however, these hours were deemed implicit and therefore not included in the analysis.

Unit Learning Outcomes

Programs had between none and three explicit unit learning outcomes. Keywords used in explicit unit learning outcomes included cultural safety, Aboriginal and Torres Strait Islander Peoples and cultures, racism, privilege, and social determinants of health. An example of an explicit unit learning outcome was: "Evaluate the social determinants of health for Aboriginal and Torres Strait Islanders, and critically examine different forms of racism and the concept of white privilege". Across all five programs there were 32 units with content on Aboriginal and Torres Strait Islander health education, eight of which had an associated explicit learning outcome. All programs also had implicit unit learning outcomes, which covered indirect concepts, such as legal and ethical considerations, professionalism, public and population health, as well as skills, such as communication and critical thinking. An example of an implicit unit learning outcome was: "Provide advice to patients in a caring and ethical manner".

Format

All programs used several formats to deliver the Aboriginal and Torres Strait Islander health curriculum (see Table 9). Frequency of mode of delivery is shown in Figure 3 and calculated as a percentage of the total number of unique lessons across all programs. Lectures (28/88) and tutorials (16/88) together accounted for 50% of the 88 unique lessons in total, noting that a single lesson could contribute to multiple *Optometry Framework* subthemes.

Table 9

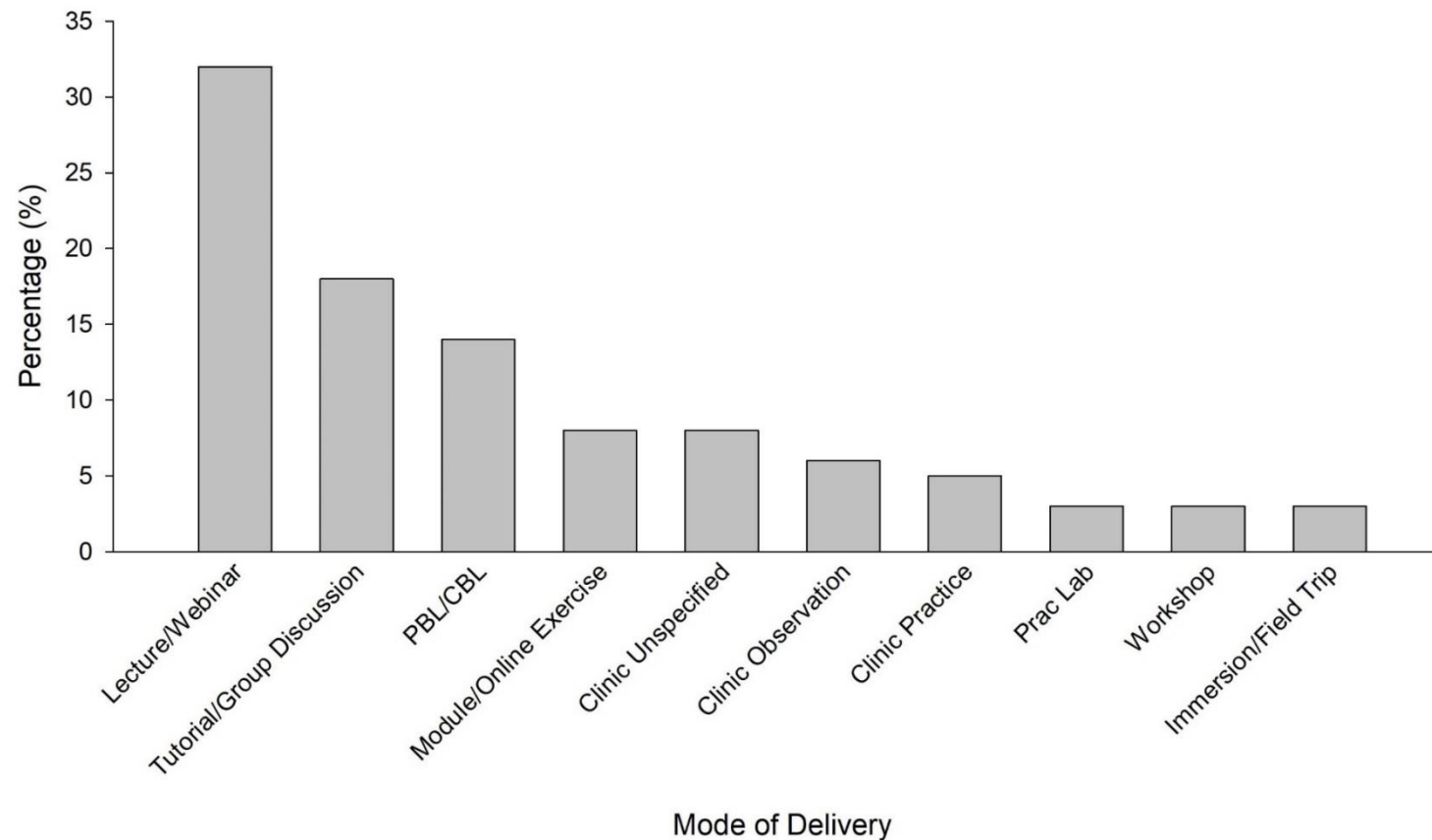
Median and Total Number of Lessons (Explicit and Implicit) Across all Programs by Mode of Delivery

Mode of delivery	Median number of unique lessons	Minimum number of unique lessons	Maximum number of unique lessons	Total number of unique lessons
Lecture/webinar	6	2	9	28/88
Tutorial/seminar/group discussion/project group work	3	0	8	16/88
PBL/CBL	1	0	8	12/88
Clinical unspecified ^a	2	0	2	7/88
Module/online exercise	1	1	2	7/88
Clinical observation	0	0	5	5/88
Clinical practice	0	0	4	4/88
Immersion/field trip	0	0	2	3/88
Practical lab	0	0	1	3/88
Workshop	0	0	2	3/88

Note. ^a Clinic unspecified = the approach (observation, student led etc) was not specified.

Figure 3

Frequency of Delivery Mode for Lessons (Calculated as the Percentage of Total Lessons Across all Programs)



Assessment

All programs used several methods to assess the Aboriginal and Torres Strait Islander health content (see Table 10). Frequency of assessment type is shown in Figure 4 and calculated as a percentage of the total assessments across all programs. Reflective journals (6/21) and exams (5/21) together account for over 50% of the 21 unique assessments in total, noting that a single assessment could contribute to multiple *Optometry Framework* subthemes. It should be noted that some programs did not provide any information about assessment for some lessons (n = 1 program) or stated there was assessment without providing further details (n = 2 programs).

Table 10

Median and Total Number of Assessments (Explicit and Implicit) Across all Programs by Assessment Type

Assessment type	Median number of unique assessments	Minimum number of unique assessments	Maximum number of unique assessments	Total number of unique assessments
Reflective journal	2	0	3	6/21
Exam	1	0	4	5/21
Quiz	1	0	3	4/21
Clinical skills	1	0	1	2/21
Critique of literature	1	0	1	2/21
Case study	0	0	1	1/21
Participation/attendance/completion	0	0	1	1/21

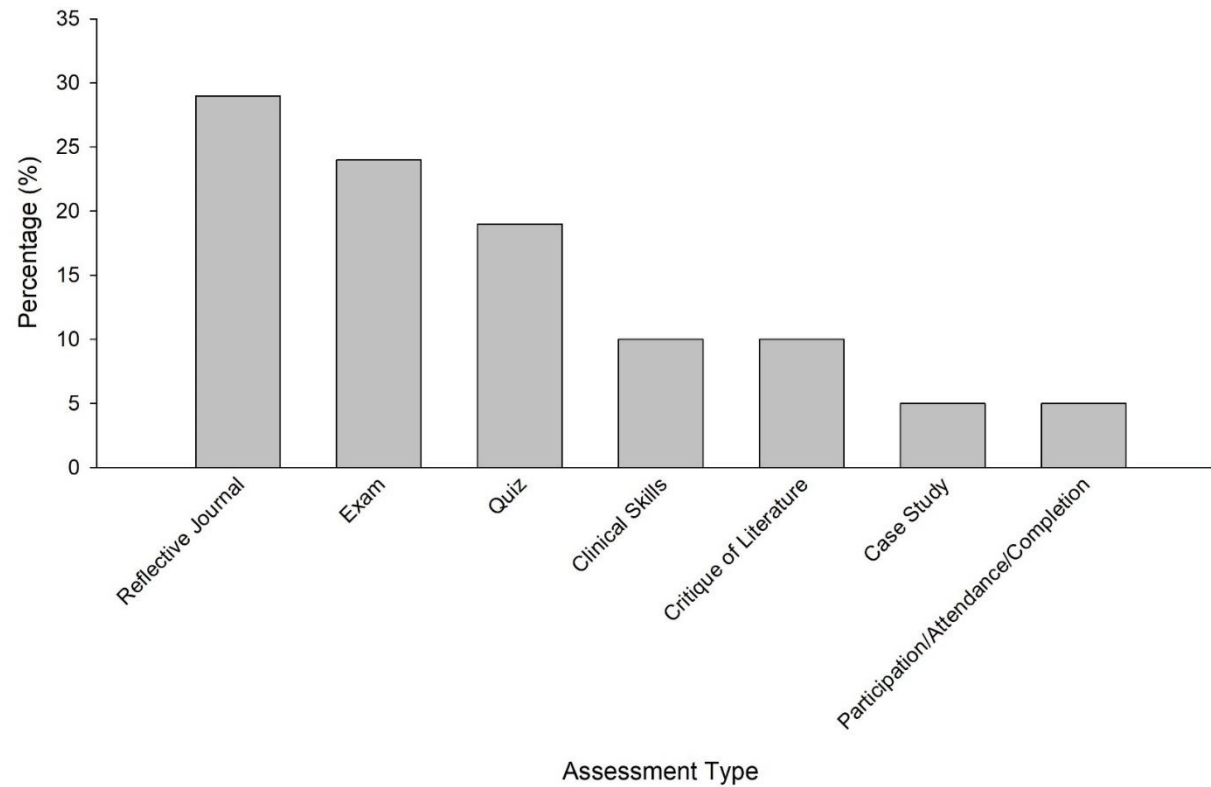
Note. A single assessment could contribute to multiple *Optometry Framework* subthemes.

n = 4, as one program was excluded from analysis due to missing information.

Responses may not sum to 100% due to rounding.

Figure 4

Frequency of Assessment Type (Calculated as a Percentage of Total Assessments Across all Programs)



Note. n = 4, as one program was excluded from analysis due to missing information.

Assessments were classified as either explicit or implicit. An example of an explicit assessment was an Aboriginal and Torres Strait Islander case study where students would focus on a case with an Aboriginal and/or Torres Strait Islander patient and provide recommendations, or answer questions about what actions they should take, whereas an example of an implicit assessment was a reflective journal of clinical experiences not in an Aboriginal and Torres Strait Islander healthcare setting or with an Aboriginal and Torres Strait Islander patient. Of the total 21 unique assessments across four programs (noting that one program was excluded from analysis due to missing information), 11 (52%) assessments were explicit and 10 (48%) were implicit, noting that a single assessment could contribute to multiple *Optometry Framework* subthemes. Additionally, assessments were classified as either discrete (e.g., 30% weighting unit assessment) or integrated (e.g., a single question within a 100-question multiple-choice exam or one criterion carrying a 5% weight, within a criterion-referenced assessment comprising five criteria). Programs had between none ($n = 1$) and two ($n = 1$) discrete assessments, with the majority of assessment tasks being integrated within a larger assessment.

Discussion

The objective of this study was to map the Aboriginal and Torres Strait Islander health curriculum in Australian optometry programs, 18 months after the mandatory implementation of the *Optometry Framework*. The study found all programs had at least some content and assessment related to each of the three *Optometry Framework* themes. Despite these positive results, there are large variations in the extent to which the *Optometry Framework* is being

covered and how the content is being assessed in programs. Analysis indicated that there are several areas that could be improved, including more explicit unit learning outcomes, content related to theme two and entry to practice level of learning, clinical placement experiences, and assessment.

Best practice is to have content embedded in core non-elective units and to have a standalone foundational first year unit followed by vertical and horizontal integration (Cavanagh, 2011; Department of Health, 2014). In this study, all optometry programs had embedded Aboriginal and Torres Strait Islander health content into core, non-elective units. However, none of the participating programs had a standalone unit dedicated to Aboriginal and Torres Strait Islander health. Instead, the content was integrated across several units, much like medical programs in the early years of implementation (Phillips, 2004a). A concern is that in the absence of a standalone unit, students may not develop the necessary cultural capabilities or be adequately prepared for clinical placement if they are able to pass a unit based on having learned other content. This is especially problematic where there is no specific assessment on Aboriginal and Torres Islander health or the assessment has low weighting (Cavanagh, 2011; Congress of Aboriginal and Torres Strait Islander Nurses and Midwives, 2018).

The Department of Health (2014) suggests an interprofessional approach to a standalone unit, to ensure a collaborative effort in closing the gap in Aboriginal and Torres Strait Islander health. Successful implementation of an interprofessional Aboriginal and Torres Strait Islander health unit has been demonstrated in health science faculties at some Australian universities (Kickett et al., 2014; Thackrah & Thompson, 2013). To facilitate an

interprofessional standalone unit, substantial faculty-level support is critical. Institutional support is recognised as a requirement for successful curriculum framework implementation in the *Optometry Framework* (Optometry Council of Australia and New Zealand, 2018). Although incorporating an interprofessional standalone unit can make efficient use of limited resources, there is still a need for programs to supplement this content with discipline-specific content (Phillips, 2004) and for scaffolding throughout the program (Jones et al., 2019). In the interim, effective integration of the Aboriginal and Torres Strait Islander health curriculum can still be achieved without a standalone unit by carefully mapping unit learning outcomes, content and assessments ((Department of Health, 2014). In accordance with the *Optometry Framework's* recommendations, the pre-clinical curriculum should incorporate the *Optometry Framework's* novice and preferably intermediate subthemes, presenting novice material before intermediate and teaching themes sequentially (Optometry Council of Australia and New Zealand, 2018).

In this study, the cumulative number of lessons (explicit and implicit) across all programs was highest in theme one. This finding was expected, as theme one explores the foundational principles of cultural safety. Notably, theme one was the only theme where the total number of explicit lessons across all programs surpassed implicit ones. Although it is possible that programs intentionally incorporated implicit content to align with the *Optometry Framework*, much of the reported content appears to have been in the programs prior to the introduction of the *Optometry Framework*. Additionally, of the 25 subthemes in the *Optometry Framework*, 20 explicitly are related to Aboriginal and/or Torres Strait Islander clients, colleagues, communities, and

cultures. Consequently, relying solely on implicit content seems unlikely to adequately address the distinctive health rights of Aboriginal and Torres Strait Islander Peoples, including coverage of aspects like Australia's colonial history and the ongoing impact of colonisation (Australian Health Practitioner Regulation Agency, 2020; Kumagai & Lypson, 2009; Lie et al., 2006; National Health Medical Research Council, 2006; Ramjan et al., 2016; Spencer et al., 2009). Therefore, the explicit content in a program offers a more accurate reflection of progress in implementing the *Optometry Framework*. Conversely, theme two had the lowest total number of associated lessons compared to theme one and three. This finding is likely attributed to theme two requiring the highest level of Aboriginal and Torres Strait Islander perspectives and knowledges, which is challenging with few Aboriginal and Torres Strait Islander academics involved in optometry programs (Bentley et al., 2021). As the themes are intended to be delivered sequentially, theme three relating to the application of cultural safety unsurprisingly exhibited a lower total number of explicit and implicit lessons across all programs compared to theme one. Similarly, as the *Optometry Framework* subthemes reflect three progressive levels of cognitive application, also requiring scaffolding, the entry to practice subthemes, had the lowest number of explicit lessons within themes across all programs, further underscoring the early efforts of programs to implement the *Optometry Framework*.

Some programs offered as few as 12 hours of explicit content and others as many as 27 hours. The maximum number of hours devoted to the curriculum in each year level in this study exceeded the maximum number of

hours reported in 2013 (Truong et al., 2014). The true difference is likely to be more pronounced, as 2013 data included mostly implicit content hours.

In this study, programs reported considerably fewer clinical hours compared to non-clinical hours, with only three programs reporting any explicit clinical placement. This finding is notable, considering the widely recognised importance of clinical placements in Aboriginal and Torres Strait Islander health settings, as highlighted by both educators and students (Cavanagh, 2011). However, Nelson et al. (2013) noted that some students felt overwhelmed by the complexity of medical conditions encountered during student-led placements at an Aboriginal Community Controlled Health Organisation, which prompts an exploration into alternative placement experiences. Studies have reported Aboriginal and Torres Strait Islander health settings offer valuable learning environments beyond clinical care, including administrative tasks (Benson et al., 2015; Nelson et al., 2013), and health promotion and preventative health initiatives (Benson et al., 2015; Lalloo et al., 2013). Other studies have highlighted the non-clinical and often non-medical aspects of placement, with students engaging in community life and activities, such as setting up a football carnival (Bennett et al., 2013; Benson et al., 2015; Young et al., 2011). The John Flynn Placement Program allocates approximately 70% of a student's placement to clinical activities and the remaining 30% to community engagements (Young et al., 2011). Engaging in placement experiences beyond clinical care not only allows students to deepen their comprehension of the practical implications of social determinants of health, but such experiences can also alleviate the possible stress associated with complex clinical care.

A notable finding in this study was the variation in the proportion of students who were able to experience clinical placement in an Aboriginal and Torres Strait Islander health care setting. Such variability has been observed in other healthcare disciplines, including medicine, dentistry, midwifery, nursing, occupational therapy, podiatry, and speech pathology (Bird et al., 2022; Carriage et al., 2017; Laloo et al., 2013; Power et al., 2020; Thackrah & Thompson, 2018; West et al., 2021a). In cases where clinical experience was provided to all students, it was reported to be for program funding requirements (Carriage et al., 2017), where commonwealth-supported medical students are required to undertake at least four weeks of structured placement in regional/remote areas (Mason, 2013), or to provide health care to an underserviced community (Bird et al., 2022; Laloo et al., 2013).

In studies where only some students participated in a clinical experience, some form of opt-in process was required. This included submission of an expression of interest (Bird et al., 2022; Thackrah & Thompson, 2018), volunteering (Benson et al., 2015; West et al., 2021a), or selecting an elective unit (Power et al., 2020). Selection criteria for opt-in processes have included self-confidence, resilience in an unfamiliar environment, prior consistent performance on placement, experience working with Aboriginal and Torres Strait Islander people and a desire to work in this setting in the future (Anderson et al., 2019; Bird et al., 2022). Anderson et al. (2019) suggest that the student selection process should extend beyond an expression of interest and include a written application and interview. An interview is arguably more reliable in the current era of widespread use of artificial intelligence. Two programs provided justifications for limiting placement numbers, including

scarcity of available clinical placements (Power et al., 2020) and to minimise potential difficulties arising for both students in relation to remote travel and community members with regard to the traditional community practices versus Western practices (Thackrah & Thompson, 2018). A review of Australian Government health workforce programs suggests that mandating all students undertake a rural placement, regardless of interest in rural health, is counterproductive and strains resources unnecessarily (Mason, 2013).

The actual number of students attending placements should be determined by community. However, it is expected that programs would accommodate no more than around 90-95% of students to allow for the exclusion of approximately 5-10% of students who are unlikely to be unsuitable (Ward, C. et al., 2014, as cited in McDermott et al., 2020, p. 34). These would be students who may have previously displayed disengagement, hostility, rigidity, and defensiveness towards Aboriginal and Torres Strait Islander health education during the earlier stages of the program (McDermott et al., 2020).

In this study, placements in an Aboriginal and Torres Strait Islander health setting lasted one day at two programs and up to two weeks at another program. Although there is no consensus on the ideal duration for placements, there are few studies reporting placements of less than one week (Benson et al., 2015; West et al., 2021a). Placement lengths in these studies were based on the availability of the services, occurring either weekly (West et al., 2021a) or monthly (Benson et al., 2015). Both studies found that short placements from two to five days proved to be satisfactory for developing students' knowledge of the social determinants of health and confidence in delivering culturally safe care to Aboriginal and Torres Strait Islander people. Conversely,

Bennett et al. (2013) attributes students' lack of confidence and skills in addressing health inequities among Aboriginal and Torres Strait Islander patients to short placement (defined as two to three weeks). Lockhart et al. (2003) and Benson et al. (2015) highlight the risk of overwhelming students in brief, isolated placements.

A systematic review of fourteen studies examining placements of at least one week duration in Aboriginal and Torres Strait Islander health settings found the average duration of placements to be four weeks, with some extending up to 24 weeks (McDonald et al., 2018). Most of these studies lack justification for their chosen placement durations (Abuzar et al., 2009; Abuzar & Owen, 2016; Hart et al., 2015; Jamrozik, 1995; Mak et al., 2006; Morrissey & Ball, 2014; Thackrah et al., 2014). However, some comments provide insights into potential contributing factors. For instance, one study highlights that the specifics of placement arrangements, likely encompassing the duration, were outlined in a Memorandum of Understanding between a midwifery program and placement provider (Thackrah et al., 2014), implying a level of mutual decision making. Bennett et al. (2013), provided some insight into placement providers priorities, indicating dissatisfaction among community nursing staff with frequent student turnover, voicing their limited ability to influence students on short duration placements. Other studies suggest program structures, such as existing placement lengths requirements and semester breaks, influence the placement duration (Kamien, 1975; Lockhart et al., 2003; Prout et al., 2014). Student financial constraints were identified as a barrier to longer placements, even when transport and accommodation were covered by the programs (Webster et al., 2010). Conversely, reported barriers

to extending one-week placements from the program perspective include accommodation availability and increased workload for supervising clinicians (Thackrah et al., 2014), indeed availability of accommodation was a key factor in determining dates of a placement in very remote Australia (Bird et al., 2022).⁸

The length of placement should ultimately be determined by the community (Congress of Aboriginal and Torres Strait Islander Nurses and Midwives, 2018). To foster meaningful relationships with patients, staff and the community and promote a positive learning experience for students, brief placement experiences should be avoided unless complemented by longer placements to build on initial experience. This is especially important to minimise the unintended consequences of “colonial tourism” (Wilson et al., 2020) or “education tourism” (Anderson et al., 2019) and maximise workforce development in these health settings.

Programs varied in the number of explicit unit learning outcomes they had, with the majority of units across all five programs with Aboriginal and Torres Strait Islander health content lacking an associated explicit learning outcome. Despite the *Optometry Framework's* emphasis on cultural safety (Optometry Council of Australia and New Zealand, 2018), only three programs explicitly included cultural safety in their unit learning outcomes, and one program used an outdated term (cultural competency)⁹ (Curtis et al., 2019).

⁸ Please be aware that the focus of the placement discussion is primarily on regional and remote areas. However, it's important to recognise that the majority of Aboriginal and Torres Strait Islander people reside in non-remote areas.

⁹ At the time of the study, the current 2017 Accreditation Standards and Evidence Guide for Entry-Level Optometry Programs stated the need for cultural competence to be clearly articulated in a disciplinary learning outcome.

Furthermore, despite the emphasis on the significance of racism-free healthcare within the principles, definition, and guidelines of cultural safety outlined in the National scheme's *Aboriginal and Torres Strait Islander health and cultural safety strategy 2020-2025*, the *Optometry Framework* only addressed racism in two out of the 25 subthemes, with anti-racism mentioned just once. Consequently, it is unsurprising that only one program explicitly integrated racism into a unit learning outcome. This lack of emphasis is consistent with the limited attention given to racism in unit learning outcomes in other health disciplines (Laccos-Barrett et al., 2022). Although curriculum frameworks, such as the *Optometry Framework*, offer suggested wording for learning outcomes, Laccos-Barrett et al. (2022) suggest that currently available curriculum frameworks require a comprehensive review, to ensure that the learning outcomes are actively challenging and dismantling racism. Hall et al. (2023) supported this view, identifying the need to further develop the *National Framework* with a heightened emphasis on cultural safety, leading to the revision of the *National Framework's* 51 learning outcomes to four that align with the principles of cultural safety:

1. Respect: Reflect on Australia's shared history including the evolution of cultural safety initiatives and analyse its contribution to the current healthcare and health practitioner workforce inequities experienced by Aboriginal and Torres Strait Islander Peoples.
2. Advocacy: Propose evidence-based strategies to affirm human rights in Australia's health system.

3. Reflection: Critically analyse the causes of everyday inequity and illuminate power structures in Australia's health system.
4. Safety and quality and communication: Design respectful strategies based on a shared language to design and deliver a health system free of racism (Hall et al., 2023, p. 6).

Adopting the wording of these four unit learning outcomes throughout a program would be consistent with the *Optometry Framework's* overarching concept of cultural safety and overcomes any challenges programs are having with the quantity of learning outcomes presented in the *Optometry Framework* (see Chapter 5: Educator Perspectives on Aboriginal and Torres Strait Islander Health Curriculum). When designing learning outcomes optometry programs should be guided by the Racial Segregation Audit Tool, which prompts those designing unit learning outcomes to consider the authorship of learning outcomes, the reinforcement of white superiority and dominance, the identification of health inequities as an inherent part of race, the minimisation of racist legacies, and the perpetuation of oppressive segregation (Laccos-Barrett et al., 2022).

Well-constructed unit learning outcomes are integral in shaping unit assessments. All programs reported formally assessing Aboriginal and Torres Strait Islander health to some degree. In contrast, in 2013 only two programs reported formally assessing cultural competency curricula (Truong et al., 2014). Assessment has been previously identified as a challenging area that requires considerable attention (Jones, 2012). Indeed, Cavanagh (2011) found that even seven years after the publication of the *CDAMS Indigenous Health*

Curriculum Framework, assessment of Aboriginal and Torres Strait Islander health content was not embedded within the majority of Australian medical programs. In this study, few explicit assessments were reported across programs and even fewer as discrete Aboriginal and Torres Strait Islander health assessments. Three programs reported implicitly assessing reflective practice, specifically in relation to reflecting on clinical encounters in mainstream settings. However, it is important to note that reflection skills in the context of cultural safety is vastly different from general reflection skills required of optometry/university graduates. Although optometry graduates should be able to reflect on clinical challenges or experiences and all university graduates should have broad reflection skills in order to critically analyse complex information, problems, concepts and theories (Australian Qualifications Framework Council, 2013; Optometry Australia, 2022), graduates who can provide culturally safe care should also be able to critically reflect on how their culture and dominant cultural paradigms influence Aboriginal and Torres Strait Islander health (Australian Health Practitioner Regulation Agency, 2020; Department of Health, 2014; Optometry Council of Australia and New Zealand, 2018). For example, one program in this study required students to reflect on their strengths, weaknesses and intentions for further learning. In comparison, Power et al. (2020) required students to:

Reflect on what you think the clinical placement in this subject will be like? Do you think your own cultural worldview will be challenged? If so, how do you intend to monitor your internal and external responses to cultural and social differences? (Appendix A, Component 3, p. 1)

This reflective question associated with clinical placement is a small component of a larger assessment, an essay. Given the aforementioned recommendation that placements be voluntary, it is important to explore reflective assessments that do not involve a clinical placement. One example of such assessment could involve students identifying and critiquing issues of contention within a policy, journal article, or other form of media, while reflecting on how this issue of contention aligned with or challenged their beliefs (Delany et al., 2016).

Although it is promising that all programs in the current study reported conducting formal assessments of Aboriginal and Torres Strait Islander health to some extent, careful attention must be paid to whether tasks are adequately assessing the intended learning outcomes. This is particularly important before students start the clinical component of their degree. Increasing the number and weighting of assessments is also important to convey the importance of the topic to students and drive student learning (Cavanagh, 2011).

Although this was the first study to map the state of Aboriginal and Torres Strait Islander health education in Australian optometry programs following the publication of the *Optometry Framework*, several limitations should be considered. Firstly, there was wide variation between optometry programs with regard to length, level, unit credit points, and number of years the program has been established. This made some comparisons difficult. Missing data were also an issue, and although some missing data were addressed through publicly available online data, this was not always possible. Consequently, it is possible for some level of misinterpretation. Another limitation was that the mapping was completed by program leads and educators within programs

themselves, which could have led to biases and inaccuracies. An independent review or audit of actual artifacts (e.g., teaching material and assessment etc.), would be more rigorous, but was not feasible. Notably, the data collected provided only a snapshot in time so further evaluations are needed to assess the impact of progress. This is particularly relevant given the recent publication of the *Optometry Framework* and expected gradual implementation. Indeed, a very recent study reporting on Indigenous health education practices in optometry programs across Australia and Aotearoa New Zealand suggest additional progress has been made in some areas (Anstice et al., 2023). For example, there was the inclusion of online modules in one program and a cultural immersion experience in two programs (Anstice et al., 2023). Importantly, the reported curriculum may differ from the actual curriculum that is taught and learned (Arafeh, 2014). Future studies should consider collection of behaviour-based data (e.g., class observations of lectures) to explore the enacted curricula and administer the Ganngaleh nga Yagaleh tool (formerly the Cultural Capability Measurement Tool) (West et al., 2021b) to understand the learned curricula (Arafeh, 2014). Future studies may also benefit from evaluating assessment weighting when there is more assessment implemented.

Conclusion

This study comprehensively mapped and analysed the Aboriginal and Torres Strait Islander health curriculum in Australian optometry programs. There has been considerable progress integrating Aboriginal and Torres Strait Islander health content and assessment since the introduction of the *Optometry Framework*. Programs are incorporating this subject into core units

across various year levels, with a concentration of content within theme one and lower order learning outcomes. Some programs have a considerable portion of content and/or assessment indirectly addressing the *Optometry Framework*, which raises concerns about their effectiveness in developing and determining students' cultural capabilities. Programs primarily rely on lectures and tutorials when delivering content, with not all programs offering placements in an Aboriginal and Torres Strait Islander health setting. For programs with placements, student experiences, durations and quotas vary. Although most programs had an explicit unit learning outcome, the majority of units with Aboriginal and Torres Strait Islander health content lack an associated explicit learning outcome. Assessment methods primarily involve reflective journals and exams, but overall, there are few explicit assessments and even fewer discrete Aboriginal and Torres Strait Islander health assessments. These findings indicate that the implementation of the *Optometry Framework* by programs is still in its early stages.

To advance the incorporation of theme two of the *Optometry Framework*, which of the three themes has the greatest emphasis on embedding Aboriginal and Torres Strait Islander perspectives and knowledges into the curriculum, programs must establish and sustain meaningful partnerships with Aboriginal and Torres Strait Islander people and communities. Simultaneously, to progress the attainment of entry to practice level learning, which focuses largely on the application of knowledge in a clinical setting, programs need to cultivate reciprocal partnerships with Aboriginal and Torres Strait Islander health organisations. Enhancing current reflective assessments is crucial, as at present these largely target general reflection skills rather than the specific

critical reflection required to deliver care that is considered culturally safe by Aboriginal and Torres Strait Islander individuals, families and communities. There is an opportunity to address the general lack of assessments through increasing the number of explicit unit learning outcomes. These changes are required to provide a more comprehensive learning experience that adequately prepares students to be able to provide care that is deemed culturally safe by Aboriginal and Torres Strait Islander Peoples.

Chapter 5: Educator Perspectives on Aboriginal and Torres Strait Islander Health Curriculum

This chapter presents the second study, educator perspectives on Aboriginal and Torres Strait Islander health curriculum in optometry. It begins with a review of the literature on educator perspectives. The next section describes the methods used in this study, expanding on constructivist grounded theory described in the Methodology section of Chapter 3. This is followed by the results of the study and a discussion of the results with reference to the relevant literature. This study addresses research questions three and four: What Aboriginal and Torres Strait Islander health curricula do educators think is effective versus ineffective in enabling graduating optometrists to provide culturally safe care? (RQ3) and How should Aboriginal and Torres Strait Islander health curricula be taught and assessed in optometry programs? (RQ4).

Introduction

To evaluate progress with implementation of Aboriginal and Torres Strait Islander health curriculum, it is essential to understand the perspectives of the educators who are delivering the curriculum. Anecdotally, it has been reported that optometry educators lack experience and confidence with this field of education (Bentley et al., 2021). However, to date, there have been no in-depth studies that have explored the experiences of optometry educators.

Some studies have explored the perspectives of educators delivering Aboriginal and Torres Strait Islander health content in other health degrees.

Wolfe et al. (2018) surveyed educators from ten health disciplines in the Faculty of Health Sciences at a single institution. Sixty per cent of the 35 mostly non-Indigenous educators responded they felt awkward or unsure, or avoided teaching Aboriginal and Torres Strait Islander health content. Major contributing factors were uncertainty about what and how to teach (worry about getting it wrong), lack of experience, a perception of not having the right to teach the content and difficulties in addressing student racism in the classroom. The perception of not having the right to teach the content, particularly Aboriginal and Torres Strait Islander cultures and perspectives, was also found in a study of eight health disciplines from 22 institutions (Delany et al., 2016). Other factors contributing to lack of confidence by educators in the study by Wolfe et al. (2018) were lack of knowledge about diversity within Aboriginal and Torres Strait Islander groups, Aboriginal and Torres Strait Islander ways of learning and cultural values, how to describe the link between the historical loss of land, family and cultural identity, and dealing with health issues in a sensitive manner. Although the majority of educators had undergone some form of recent professional development, further training, curriculum development and resources were identified as key needs. Additionally, educators wanted greater involvement from Aboriginal and Torres Strait Islander community for advice and governance.

Although the requirement to embed Aboriginal and Torres Strait Islander health curriculum into medicine and nursing programs has been established for some time, the perspectives from educators in these disciplines to date is similar to other health disciplines. Vass and Adams (2020) interviewed 12 Australian general practitioner educators from a single program and found

there were varying levels of confidence, expertise and skill teaching racism, white privilege and critical self-reflection. Vass and Adams (2020) call for active research on educator preparedness, evidence-based teaching models and accountable curriculum accreditation. They also recommended that a stronger anti-racism approach in the curricula is needed, which is supported by Bond (2020) who highlights the need for educators to “build their critical race consciousness” (p. 18). Critical race consciousness is the reflective awareness of power and privilege (Kumagai & Lyson, 2009) and a foundational principle of critical pedagogy (Burbules & Berk, 1999), which is concerned with social justice and involves recognising the social, economic and political factors upholding power structures of society and sustaining inequalities (Brooks & Brooks, 1999). Developing educators’ critical race consciousness could increase their ability to engage in decolonising practices and challenge established power inequalities in higher education (Fialho, 2012). Vass and Adams (2020) note that the combination of inadequate pedagogical expertise, educator discomfort and educator devaluing of the curriculum, perpetuates colonialism and will negatively impact student learning, as well as Aboriginal and Torres Strait Islander student engagement and retention.

Although there has been considerable investment in addressing educators’ concerns with not knowing what to teach through the various Aboriginal and Torres Strait Islander curriculum frameworks (Congress of Aboriginal and Torres Strait Islander Nurses and Midwives, 2017; Department of Health, 2014; Dudgeon et al., 2016; Genat et al., 2008; Phillips, 2004b; Zubrzycki et al., 2014), persistently low confidence levels suggest these frameworks are not widely known, not easily implemented and/or insufficient

by themselves. Previous studies also point to systemic issues compounding individual educator issues, where institutions are not adequately presenting Aboriginal and Torres Strait Islander health as a legitimate and important area of health professional education (Ewen et al., 2012; Jones et al., 2013). The solutions will need to be multi-layered.

Given the requirement for Australian optometry programs to integrate Aboriginal and Torres Strait Islander health curriculum, understanding educators' experiences is imperative to ensure success. The objective of this study was to explore the contextual issues, preparedness and experiences of educators involved in implementing Aboriginal and Torres Strait Islander health curricula into optometry programs, and from their perspectives, identify enablers and barriers to graduating optometrists who provide culturally safe care.

Methods

The study was a mixed methods design using surveys and semi-structured interviews.

Participants

The seven Australian optometry program leads, and 36 educators involved in Aboriginal and Torres Strait Islander health curriculum at Australian optometry programs were invited to participate in an online survey. The educators were also invited to participate in a semi-structured interview. The sample was determined through pre-existing relationships with the research team (SB and SH). To ensure the sample was as inclusive as possible, a key representative of each optometry program was consulted. However, there were no restrictions to accessing the survey, allowing participants to share

invitations with colleagues through the snowball technique. Each program had between two and ten internal and/or visiting educators. QUT optometry educators who were part of the research team (SB, SH and KRB) were excluded from being participants in this research.

Survey

There was no validated survey appropriate for capturing the views of optometry educators on Aboriginal and Torres Strait Islander health curriculum. Therefore, two surveys were developed for the purpose of this research, one appropriate for the program leads and one for educators (see Appendix B and Appendix C respectively for final versions). The structure of the surveys used in this research was based on the requirements listed in the *Optometry Framework* for successful implementation, with questions related to leadership and strategy; embedding community partnerships in governance and practice; staff capacity; Aboriginal and/or Torres Strait Islander student support needs; the allocation of sufficient resources; integrated and discrete curriculum content (pedagogy); and continuous quality improvement (Optometry Council of Australia and New Zealand, 2018). Survey questions within each section were mainly drawn from two existing tools that were generously shared with the research team by the Leaders in Indigenous Medical Education network, the *Critical Reflection Tool* (Medical Deans Australia and New Zealand, 2007), and the complementary *Periodic Systematic Review of Indigenous Health* (Leaders in Indigenous Medical Education Network, 2018). Both tools were developed for Australian medical schools to examine broad contextual issues such as resource allocation and cover the *CDAMS Indigenous Health Curriculum Framework* and relevant

Australian Medical Council standards (Leaders in Indigenous Medical Education Network, 2018; Medical Deans Australia and New Zealand, 2007). For this research, the term “medical” in questions was replaced with “optometry”. High-level questions related to institutional and program issues were only included in the survey for program leads. To reduce participant burden, multiple-choice or multi-select response options were used for most questions, however four open-ended questions were also included as follows:

- What do you see as the main barriers to the development and implementation of optometry Aboriginal and Torres Strait Islander health and cultural safety curriculum?
- How should we address these barriers?
- What do you see as the main enablers to the development and implementation of optometry Aboriginal and Torres Strait Islander health and cultural safety curriculum?
- What resources are required?

A fifth open-ended question, “If you could change anything about the Optometry Aboriginal and Torres Strait Islander health and cultural safety curriculum in your school to improve graduating optometrists who provide culturally safe care what would it be?” was added to the educator survey.

Pretesting. The educator survey, in the format of an electronic Microsoft Word (Microsoft Office 2019, Version 2104) document, was subjected to pretesting by the same five participants as described in the Pretesting section of Chapter 4. Twelve items of feedback were received. Comments and the revisions made based on this feedback are presented in Table 11.

Table 11
Summary of Educator Survey Pretesting Feedback

Comments	Revisions	n	%
Formatting concerns	Not applicable/redundant when administered in Qualtrics	4	34%
Lack of preamble and ambiguous instructions	Editing of instructions/preamble added	2	17%
Response options not exhaustive	Response option added to one question	2	17%
Demographic questions not exhaustive	Demographic question added	1	8%
Double-barrelled question	Question split into two	1	8%
Question not concise	Rewording of question to improve comprehension	1	8%
Terminology query	No action	1	8%

Note. n = 5.

Pretesting feedback was first discussed between the student researcher (KP) and principal supervisor (SB). All final changes were then discussed and agreed with the research group (PA, SB, SH, KP and KRB). Where relevant, the changes were also applied to the survey for program leads. Considering the minor feedback received and the overlap between the two surveys, separate pretesting of the program leads survey was not conducted.

Pilot Testing. Following pretesting, the surveys were pilot tested in Qualtrics (Qualtrics XM, Version 05.2021). Nine participants were recruited, including four optometrists (44%), two members of the research group involved in embedding Aboriginal and Torres Strait Islander health curriculum (SB and SH) (22%), two educators external to the research group (22%), and an optometry clinical educator (11%). Participants were instructed to review and critique the survey format, identify any technical errors, and provide any additional comments or feedback.

Pilot testing feedback was first discussed between the student researcher (KP) and principal supervisor (SB). All final changes were then discussed and agreed with the research group (PA, SB, SH, KP and KRB). Forty-five items of feedback were received. Comments and the revisions made are presented in Table 12. The final phase of pilot testing involved exporting and reviewing the pilot data generated. There were no technical errors during the pilot testing or problems identified with exporting and reviewing the pilot data generated.

Table 12
Summary of Survey Pilot Testing Feedback

Comments		Revisions		Program lead survey		Educator survey		Both surveys	
				n	% ^a	n	%	n	% ^a
Formatting concerns	Reformatting			1	13%	2	40%	19	59%
Validations onerous	Removal of forced response requirements			-	-	-	-	3	9%
Ambiguous instructions	Editing of instructions			3	38%	1	20%	2	6%
Question not concise	Rewording of two questions to improve comprehension			-	-	-	-	2	6%
Suggestions	No action			2	25%	1	20%	2	6%
Terminology query	Addition of a synonym			-	-	-	-	2	6%
Inconsistencies between questions	Response options made consistent throughout the survey			-	-	-	-	1	3%
Options not exhaustive	Response option added to one question			-	-	-	-	1	3%
Validations needed	Custom validation added to two questions			2	25%	-	-	-	-
Response option redundant	Removal of a response option to one question			-	-	1	20%	-	-

Note. n = 9.

^a Responses do not sum to 100%, this is due to rounding.

Semi-Structured Interviews

A broad interview guide was developed, based on the survey questions and/or interview guides used in previous studies on educator perspectives (Forsyth et al., 2019; Jones et al., 2013; Lewis & Prunuske, 2017; Lu et al., 2014; Vass & Adams, 2020; Wilson et al., 2015), covering pedagogy, contextual issues impacting Aboriginal and Torres Strait Islander health, curriculum development, and quality improvement. Consistent with theoretical sampling used in constructivist grounded theory (Charmaz, 2014; Plano Clark & Ivankova, 2016), following survey data analysis the interview guide was modified to elaborate and refine the categories constituting the constructed theory from survey data analysis. This included expanding questions to elicit responses for teaching activities and assessments in the classrooms and during community placements. In addition, several questions were added addressing the scope of practice of non-Indigenous educators, the involvement of all optometry staff, sharing resources between optometry programs and the nature and benefits of partnerships. See Appendix D for demographic and interview questions.

Pilot Testing. The interview guide was pilot tested via Zoom (Zoom cloud meetings, Version 5.9.3) on three participants, a member of the research group involved in embedding Aboriginal and Torres Strait Islander health curriculum (SH), an academic external to the research group, and an optometry clinical educator. Pilot participants were instructed to critique the comprehension, appropriateness and order of questions, as well as identify any technical errors. Participant feedback was first discussed between the student researcher (KP) and principal supervisor (SB). All final changes were

then discussed and agreed with the research group (PA, SB, SH, KP and KRB).

Thirty items of feedback were received. Comments and the revisions made are presented in Table 13. There were no technical errors during the pilot testing or problems identified with exporting the pilot data generated.

Table 13*Summary of Interview Guide Pilot Testing Feedback*

Comments	Revisions	n	%
Questions not concise	Rewording of 17 questions to improve comprehension	24	80%
Questions do not flow	Reordering of three questions	3	10%
Question unclear	Deletion of question	2	7%
Terminology query	No action	1	3%

Note. n = 4.

Protocol

Online Survey. An invitation was emailed from the student researcher (KP) to potential participants that included a link to the online survey conducted using Qualtrics (Qualtrics XM, Version 05.2021). Participants had four weeks to complete the survey between May 2021 and June 2021, with one email reminder sent one week before the survey closed. Two program leads were granted an extension up to three-weeks. See Appendix B and Appendix C for participant demographics questions.

Semi-Structured Interviews. Educators were also offered a one-to-one video conference interview conducted by the student researcher (KP) during December 2021. The interview guide was sent to participants in advance. Interviews were audio recorded and professionally transcribed verbatim. Consistent with the research paradigm, member checking of transcripts was not undertaken.

Data Analysis

Demographic data and closed survey questions were analysed using descriptive statistics in Microsoft Excel (Microsoft Office 2019, Version 2104). Qualitative data were managed using NVivo (NVivo 13, Version R1) and analysed by one researcher (KP), guided by a three-stage coding process (initial, focused and theoretical) (Charmaz, 2014). First, the student researcher (KP) read and coded the textual data from the open-ended survey responses. Initial codes were derived from line-by-line coding and were provisional, comparative and grounded in data (inductive) (Charmaz, 2014). Focused coding was then used to synthesise, analyse and conceptualise larger segments of data from initial codes that appeared more frequently or had more

theoretical reach, direction and centrality to form preliminary categories and theories (Charmaz, 2014). Subsequent interviews were responsive, with further consideration given to participant recruitment and data collection, so as to elaborate and refine preliminary categories and theories (Charmaz, 2017). This was an iterative process that occurred until categories appeared to manage new data without requiring further modifications (theoretical sufficiency) (Dey, 1999) and the final categories were reached (theoretical coding). Employing the guidelines developed by Charmaz and Thornberg (2021) to improve the quality, credibility, trustworthiness, and rigour of this study, the researchers engaged in memoing, methodological self-consciousness and reflexive discussions with the whole research group (PA, SB, SH, KP and KRB) to reflect more deeply on the meaning of the constructed categories (Charmaz, 2017; Charmaz & Belgrave, 2018). The purpose of the study, sample specificity, quality of dialogue and analysis strategy informed the information power of the sample to determine it was sufficient (Malterud et al., 2016).

Results

Five of the seven program leads responded to the survey invitation representing an overall response rate of 71%. Of the five program leads who participated, three were from programs that had been established for more than 50 years, one between 10-15 years ago and the other less than five years. All five program leads completed at least 94% of closed questions (n = 4 completed 100%) and provided textual data for all open-ended questions. The mean years of teaching experience for program leads was 17 (SD, 7 years). Participant characteristics are given in Table 14.

Twenty-five of the 36 educators responded to the survey invitation. However, three participants had automatic replies indicating they were on extended leave, and two respondents were excluded from the analysis as they did not answer any questions beyond demographics, leaving 20 participants representing an overall response rate of 56%. All participants completed at least 88% of closed responses, apart from one who only completed two multi-select (12.5%) questions (n = 17 completed 100%). Additionally, participants provided textual data in response to at least 60% of open-ended questions (n = 17 completed 100%; note, not necessarily the same 17 who completed all closed questions). Participants represented all seven Australian optometry programs and the position descriptions of educators who participated were representative of those reported by program leads as contributing to implementing the *Optometry Framework*. The largest category of educator respondents was non-Aboriginal and/or Torres Strait Islander academics internal to the program (55%). The mean years of teaching experience for educators was 12 (SD, 9 years). Participant characteristics are given in Table 14 and response rate by university program is given in Table 15.

Eight of 36 educators responded to the invitation to participate in an interview. One participant provided consent to an interview but did not respond to the email invitation to schedule an interview, leaving seven participants representing an overall response rate of 19%. Four out of the seven participants were non-Aboriginal and/or Torres Strait Islander academics internal to an optometry program, while the remaining three were non-Aboriginal and/or Torres Strait Islander academics external to an optometry program but working within the university. Four were female, and three were

male. Higher education teaching experience ranged from less than 10 years to more than 31 years. Educators interviewed were from four of the seven optometry programs. One participant taught at a recently established (<5 years) program, four at an established (10-15 years) program and two at a well-established (>50 years) program.

Table 14
Participant Characteristics

Characteristic	Program lead survey		Educator survey	
	n	%	n	%
Age group, years				
20 – 30	0	0%	4	20%
31 – 40	1	20%	7	35%
41 – 50	3	60%	5	25%
51 – 60	1	20%	3	15%
61+	0	0%	1	5%
Gender				
Female	2	40%	12	60%
Male	3	60%	8	40%
Of Aboriginal and/or Torres Strait Islander descent				
No	5	100%	18	90%
Yes	0	0%	2	10%
Position description				
Non-Aboriginal and/or Torres Strait Islander academic internal to program	5	100%	11	55%
Non-Aboriginal and/or Torres Strait Islander visiting educator	0	0%	5	25%
Non-Aboriginal and/or Torres Strait Islander academic external to program, internal to university	0	0%	2	10%
Aboriginal and/or Torres Strait Islander academic external to program, internal to university	0	0%	1	5%
Aboriginal and/or Torres Strait Islander visiting educator	0	0%	1	5%

Table 15
Educator Response Rate by University

University	Invited	Responded	Response rate
	n	n	%
University A	9	5	56%
University B	2	3	150% ^a
University C	9	7	78%
University D	9	1	11%
University E	2	1	50%
University F	3	1	33%
University G	2	1	50%
Prefer not to say	-	1	-
Total	36	20	56%

Note. ^aResponse rate greater than 100% due to snowball sampling.

Quantitative Survey Data

Most programs had at least partially implemented required components of the *Optometry Framework*. Progress with implementation of the *Optometry Framework* is shown in Table 16.

Table 16
Progress with Implementing the Optometry Framework

Factor/category	Achieved fully		Achieved partially		Opportunity		Not planned	
	n	%	n	%	n	%	n	%
Community partnerships								
Aboriginal and/or Torres Strait Islander community representation on university committees	1	20%	4	80%	0	0%	0	0%
Partnership has been established between optometry program and local communities/organisations	1	20%	3	60%	1	20%	0	0%
Aboriginal and/or Torres Strait Islander people are involved in the development and management of optometry program	2	40%	2	40%	1	20%	0	0%
Clinical training partnerships with Aboriginal and Torres Strait Islander health services have been established	1	20%	3	60%	1	20%	0	0%
Staff capacity								
Cultural safety training is part of staff induction	1	20%	2	40%	2	40%	0	0%
Resources								
The <i>Optometry Framework</i> is allocated appropriate time and location in the curriculum and size of the teaching groups that allow it to meet its learning outcomes	2	40%	3	60%	0	0%	0	0%
The <i>Optometry Framework</i> is allocated teaching resources that allow it to meet its learning outcomes	2	40%	3	60%	0	0%	0	0%

Factor/category	Achieved		Opportunity		Not planned	
	n	%	n	%	n	%
Leadership and strategy						
Commitment to Aboriginal and Torres Strait Islander health and cultural safety curriculum in strategic documents	4	80%	1	20%	0	0%
Staff capacity						
A professional development program in the area of Aboriginal and Torres Strait Islander health and cultural safety is available for educators ^a	0	0%	3	75%	1	25%
An Aboriginal and Torres Strait Islander employment strategy is in place ^a	3	75%	1	25%	0	0%
Student support needs						
There are defined targets for recruiting Aboriginal and Torres Strait Islander students	2	40%	2	40%	1	20%
There is an alternative entry program for recruiting Aboriginal and Torres Strait Islander students	2	40%	3	60%	0	0%
Support services within the institution are available to Aboriginal and Torres Strait Islander students	5	100%	0	0%	0	0%
Support services within the program are available to Aboriginal and Torres Strait Islander students	1	20%	3	60%	1	20%
Pedagogy						
Curriculum mapping against the <i>Optometry Framework</i> has been conducted	4	80%	1	20%	0	0%

Note. n = 5 participants responded to each factor/category question, except ^a where n = 4 responded.

Frequencies of perceived enablers/barriers to embedding curricula are shown in Table 17. Partnership was the most frequently endorsed enabler to embedding Aboriginal and Torres Strait Islander health curricula. Program leads and educators differed slightly in their perception of staffing and resourcing, with only educators perceiving these to be barriers (staffing = 37% of educators and resources = 26% of educators). A lower percentage of educators (63%) than program leads (100%) considered leadership and strategy an enabler to embedding curricula.

Table 17

Perceived Enablers/Barriers to Implementing the Optometry Aboriginal and Torres Strait Islander Health Curriculum

Factor/category	Enabler				Barrier				Neutral				Unsure			
	Program leads		Educators		Program leads		Educators		Program leads		Educators		Program leads		Educators	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Leadership and strategy	5	100%	12	63%	0	0%	4	21%	0	0%	3	16%	0	0%	0	0%
Community partnerships ^{ab}	5	100%	16	89%	0	0%	0	0%	0	0%	1	6%	0	0%	1	6%
Staffing ^b	1	20%	6	32%	0	0%	7	37%	4	80%	4	21%	0	0%	2	11%
Student support services ^b	2	40%	12	63%	0	0%	1	5%	3	60%	1	5%	0	0%	5	26%
Resources ^b	3	60%	9	47%	0	0%	5	26%	2	40%	0	0%	0	0%	5	26%
Curriculum delivery	-	-	15	79%	-	-	0	0%	-	-	1	5%	-	-	3	16%
Curriculum assessment ^b	-	-	10	53%	-	-	4	21%	-	-	3	16%	-	-	2	11%
Delivery mode	4	80%	-	-	0	0%	-	-	1	20%	-	-	0	0%	-	-
Quality improvement ^b	4	80%	13	68%	0	0%	1	5%	1	20%	1	5%	0	0%	4	21%

Note. n = 5 program leads; n = 19 educators, except ^a where n = 18.

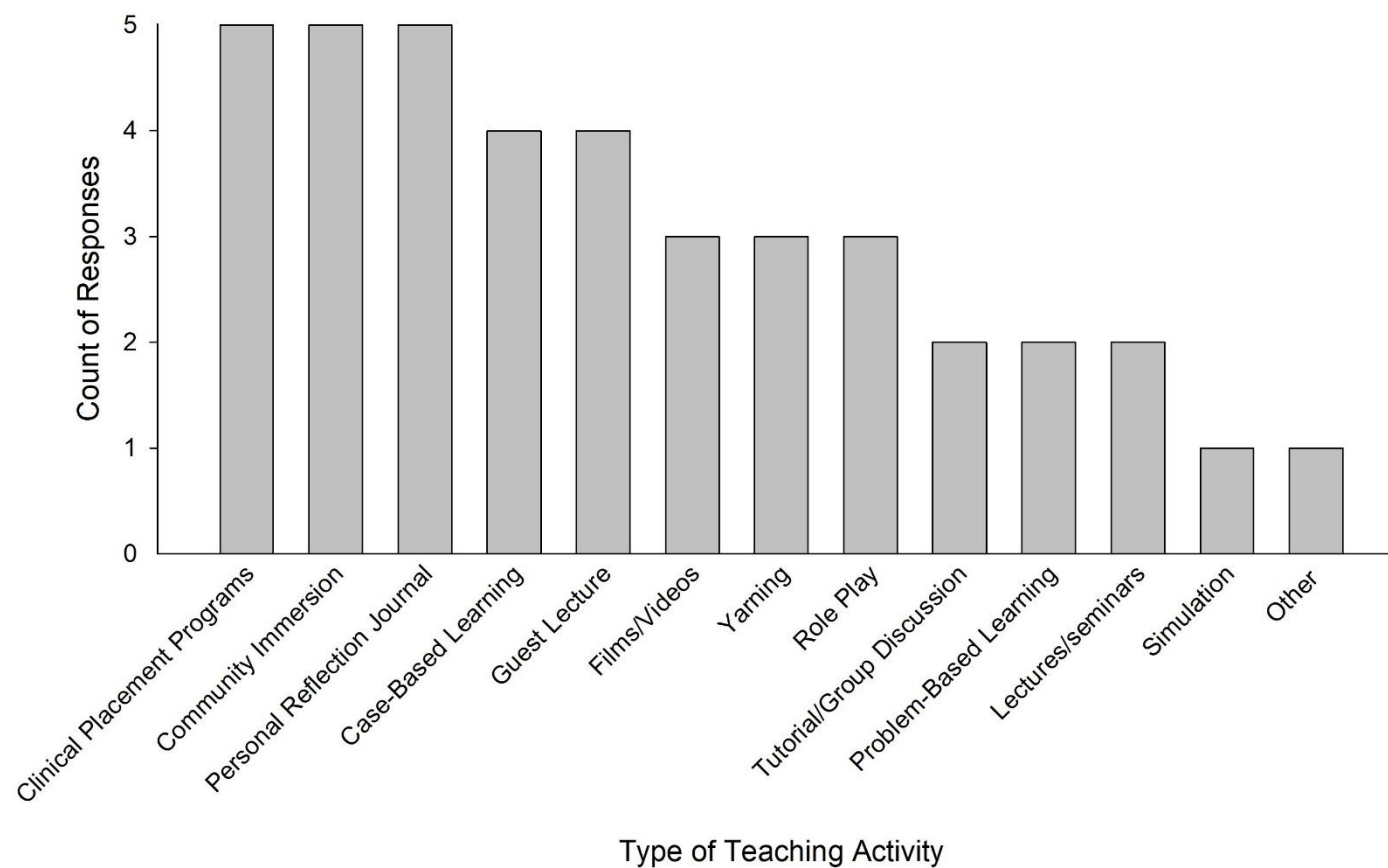
^b Responses do not sum to 100% due to rounding.

Hyphen used where question not asked.

When educators were surveyed about the presence of an Aboriginal and Torres Strait Islander staff support program, 18 responded. Among them, 61% expressed uncertainty, while 33% confirmed the existence of such a program. The remaining 5% indicated its absence. Teaching and assessment tasks considered most useful were authentic and experiential (see Figure 5 to Figure 8). No program reported providing all students with a learning experience in an Aboriginal and Torres Strait Islander health care setting, with two (40%) reporting none of their students had this opportunity. For programs that did have a placement, one program indicated that most students were involved compared to some students at the other two programs.

Figure 5

Teaching Activities Considered Most Effective for Teaching Aboriginal and Torres Strait Islander Health – Program Leads

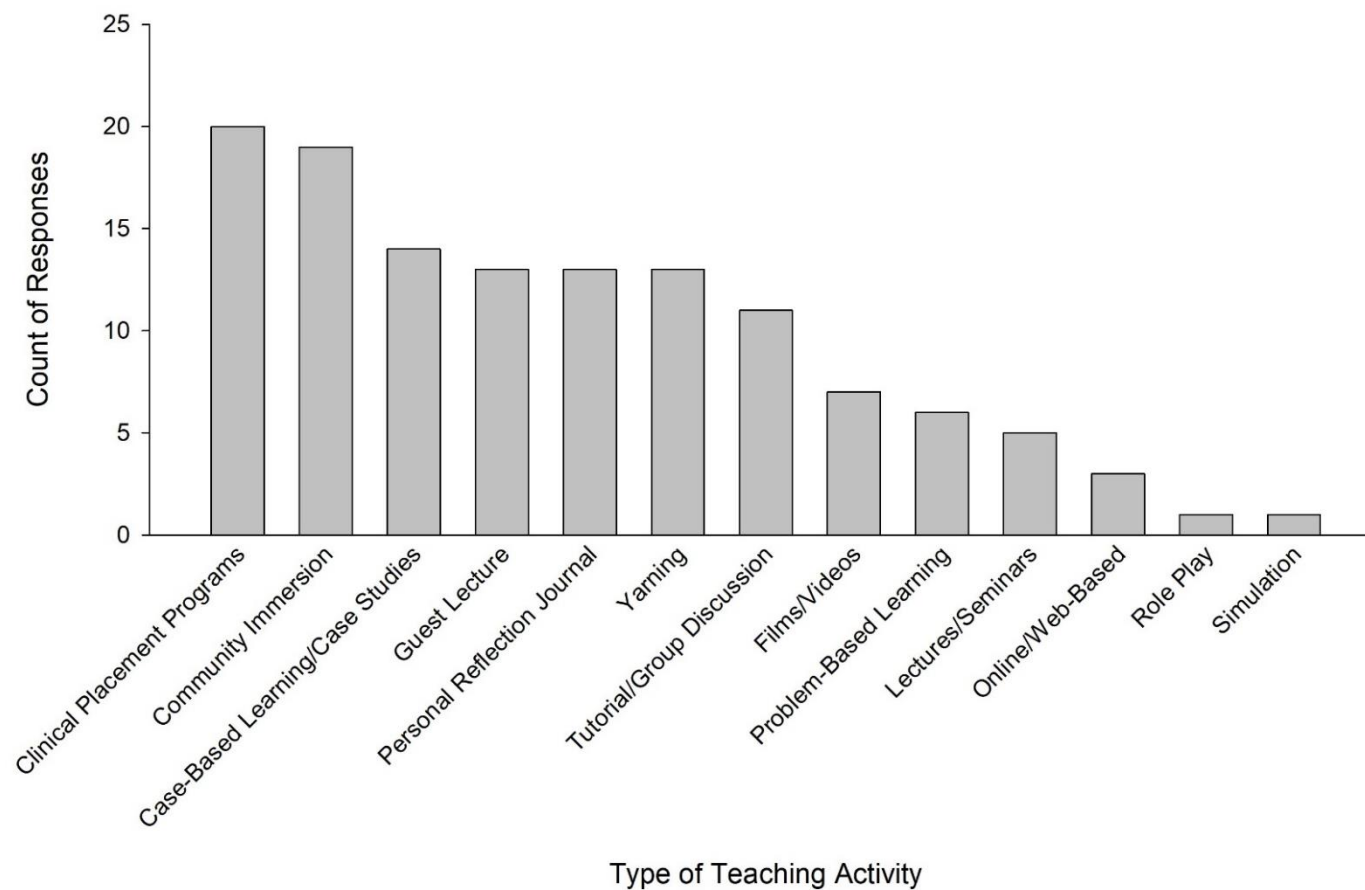


Note. n = 5 optometry programs.

Participants were able to choose more than one response option.

Figure 6

Teaching Activities Considered Most Effective for Teaching Aboriginal and Torres Strait Islander Health – Educators

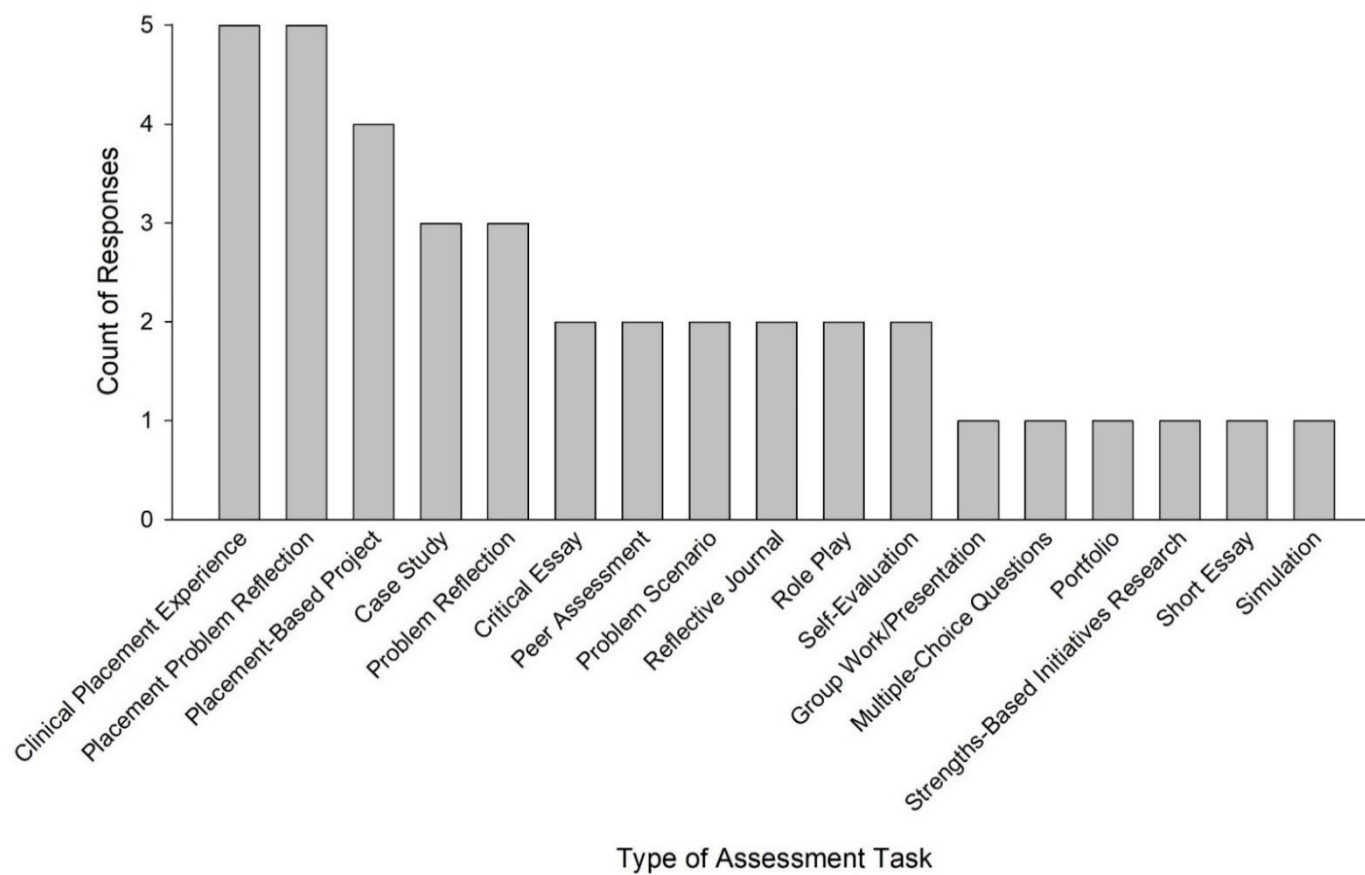


Note. n = 20.

Participants were able to choose more than one response option.

Figure 7

Assessment Tasks Considered Most Effective for Assessing Aboriginal and Torres Strait Islander Health – Program Leads

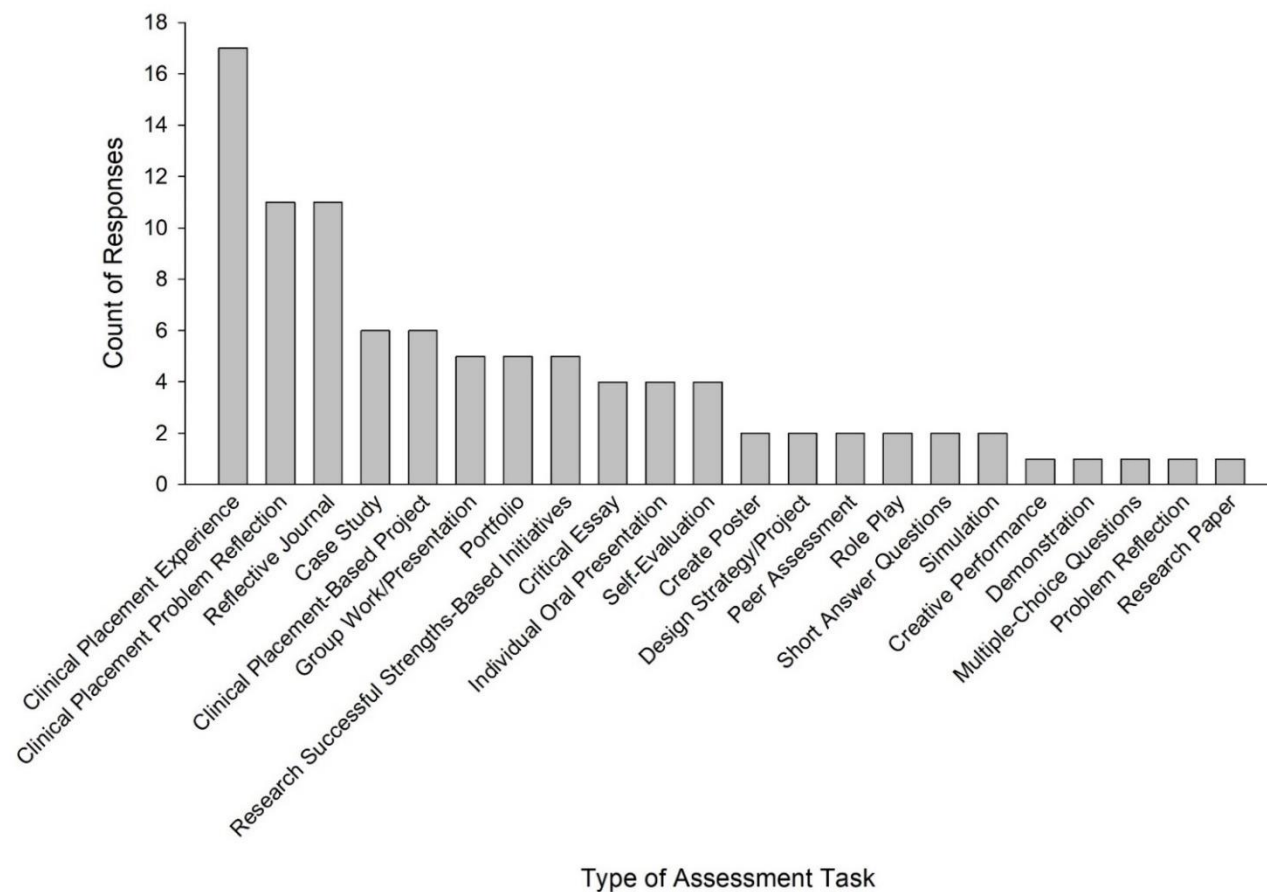


Note. n = 5 optometry programs.

Participants were able to choose more than one response option.

Figure 8

Assessment Tasks Considered Most Effective for Assessing Aboriginal and Torres Strait Islander Health – Educators



Note. n = 20.

Participants were able to choose more than one response option.

Continuous quality improvement measures were used within all programs. Systematic monitoring, review and improvement process were most frequently reported (n = 4), followed by student evaluations (n = 3) and internal academic peer review (n = 2). One program reported using external academic peer review and another stated they used committee, working group and OCANZ accreditation as methods of evaluation.

Most programs rely on non-Aboriginal and/or Torres Strait Islander internal academics and Aboriginal and/or Torres Strait Islander academics from other programs within the university. There were no Aboriginal and/or Torres Strait Islander academics internal to optometry programs (see Table 18).

Table 18*Position Description of Educators Delivering the Aboriginal and Torres Strait Islander Health Curricula*

Position Description	Count of Responses
Non-Indigenous Academic internal to the Program	4
Indigenous ^a Academic External to the Program but Internal to the University	4
Program Lead	2
Indigenous External Visiting Educator	2
Non-Indigenous Academic External to the Program but Internal to the University	1
Non-Indigenous External Visiting Educator	1
Indigenous Academic Internal to the Program	0
Aboriginal and Torres Strait Islander Student Support Centre Representative	0

Note. n = 5 optometry programs.

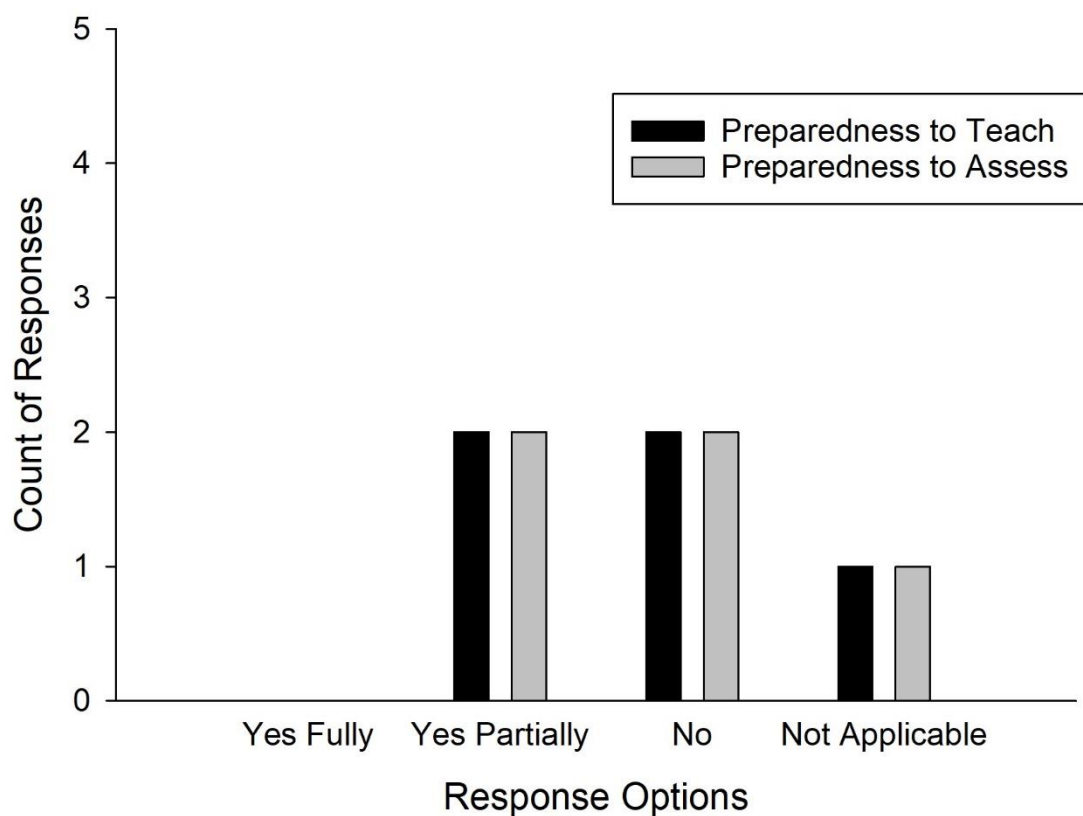
Participants were able to choose more than one response option.

^a Indigenous is respectfully used to refer to Aboriginal and Torres Strait Islander Peoples.

No program lead felt fully prepared to teach or assess Aboriginal and Torres Strait Islander health (see Figure 9). Only 37% of educators felt fully prepared to teach and only one (6%) felt fully prepared to assess Aboriginal and Torres Strait Islander health curricula (see Figure 10).

Figure 9

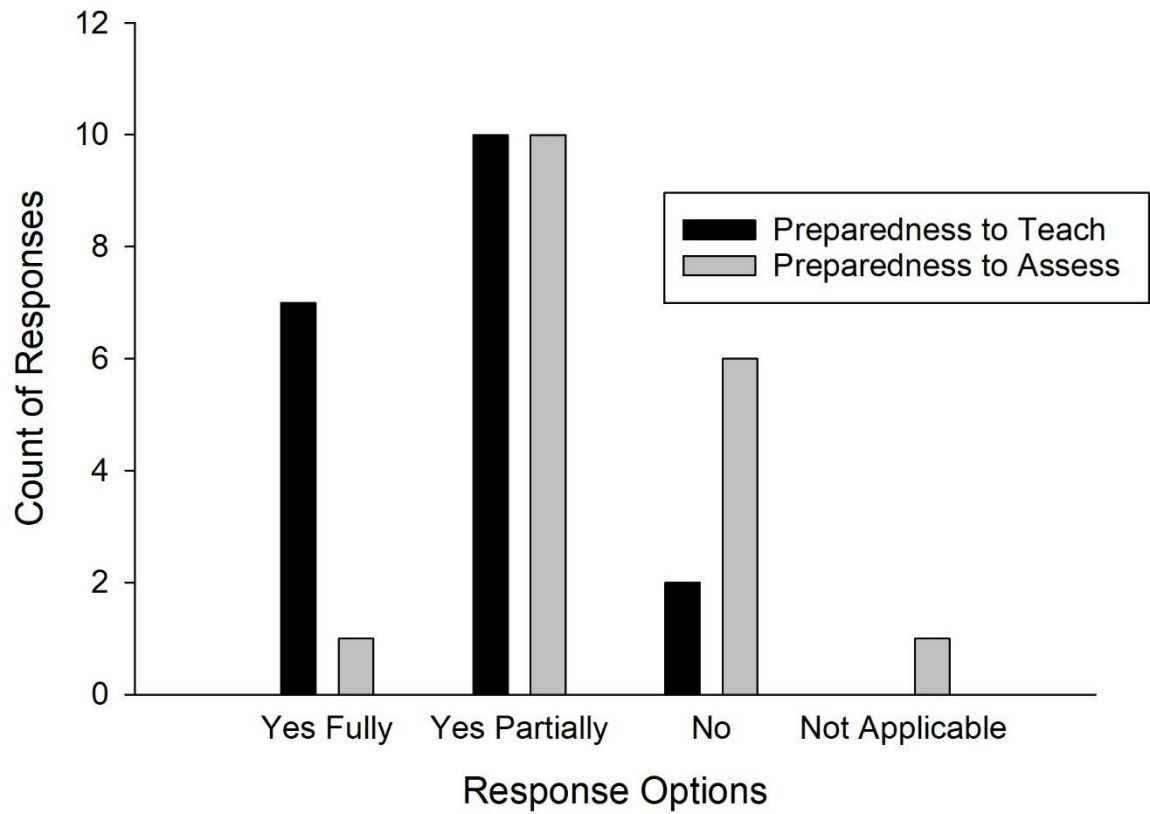
Preparedness to Teach and Assess Aboriginal and Torres Strait Islander Health Curriculum – Program Leads



Note. n = 5.

Figure 10

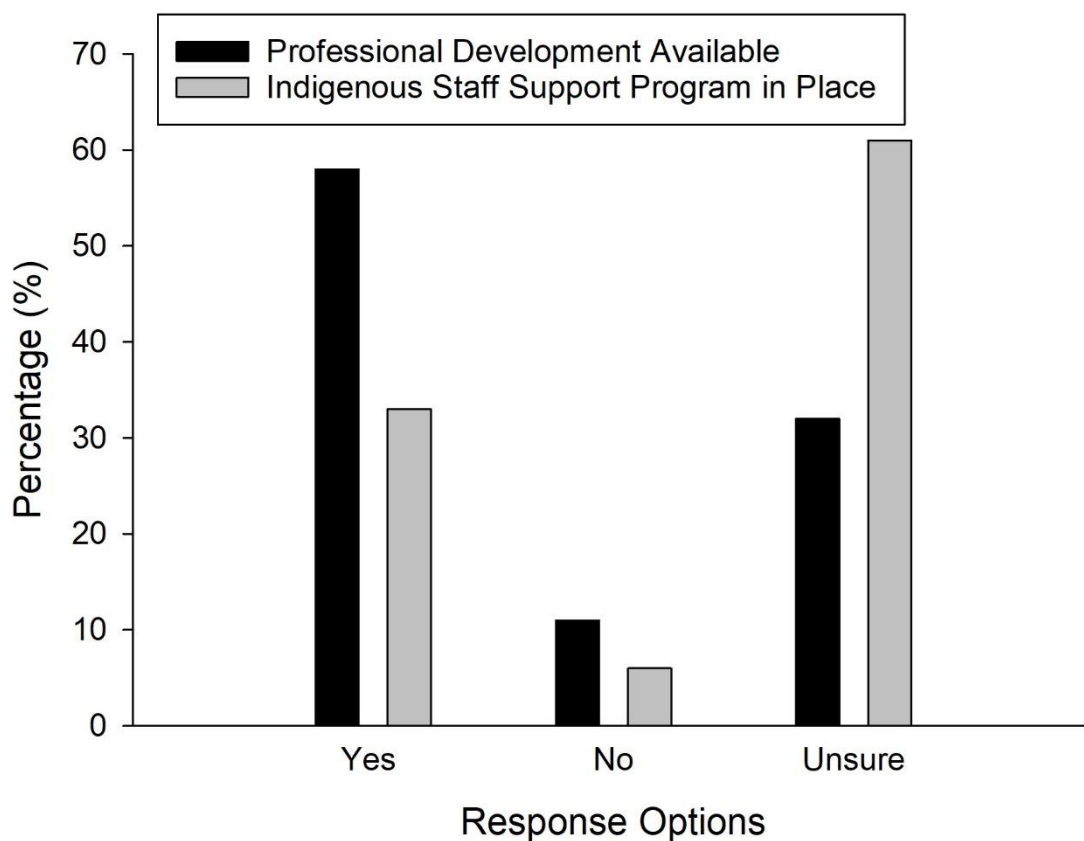
Preparedness to Teach and Assess Aboriginal and Torres Strait Islander Health Curriculum – Educators



Note. n = 19 participants responded to preparedness to teach question and n = 18 responded to preparedness to assess question.

Staff cultural safety training was not a consistent feature of programs induction. See Figure 11 for strategies in place to support staff.

Figure 11
Strategies Available to Support Educators



Note. n = 19 educators responded to professional development question and n = 18 responded to staff support program question.

When asked if the Aboriginal and Torres Strait Islander health curriculum was allocated teaching resources that allowed it to meet the related learning outcome, 50% of the 18 respondents responded “yes” and 28% “no”. Of the 22% who responded “unsure”, all were educators external to the program. When asked about the sufficiency of the timetabling for the Aboriginal and Torres Strait Islander health curriculum, considering factors such as allocated time and location within the program and size of the teaching groups, only 5%

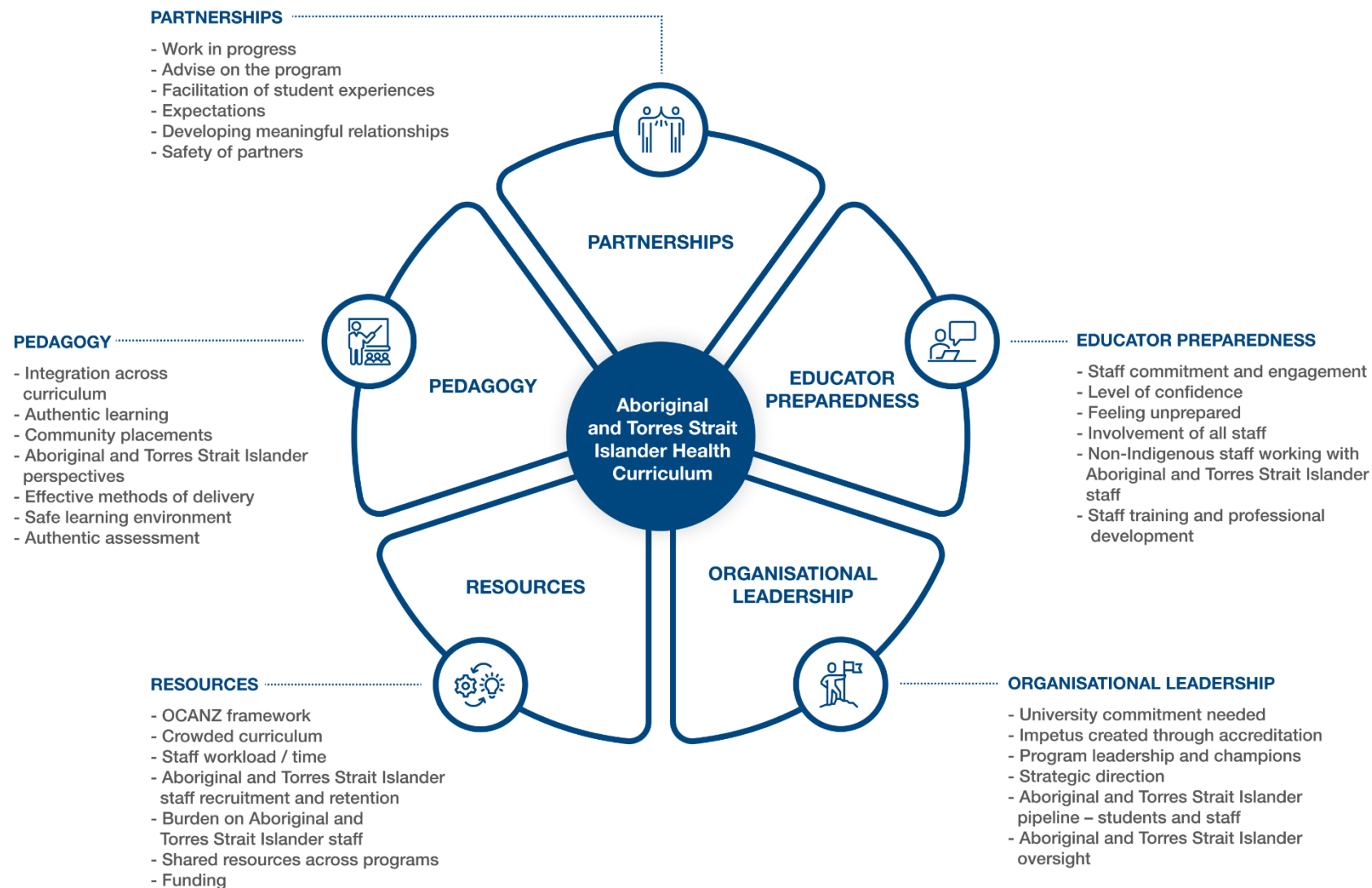
of the 18 participants responded “yes fully”. A third of respondent felt this was partially true however, 28% disagreed. The remaining third were unsure.

Textual Survey and Interview data

A total of 53 comments from program leads and 81 from educators were provided in response to the open-ended questions in the surveys. Five individual interviews and one with two participants were conducted resulting in 329 minutes of interview transcripts, each interview lasting on average 59 minutes. Textual data from the surveys and interviews were grouped into the following five categories: partnerships, pedagogy, educator preparedness, resources, and organisational leadership (see Figure 12). Where participant quotations are featured, each quote is accompanied with a unique participant identifier composed of two letters and one number. The initial letter, either “S” or “I”, indicates whether the quote was derived from a survey or interview, respectively. The subsequent letter designates whether the quote was provided by a program lead (“L”) or an educator (“E”). The accompanying number is assigned based on the order of survey completion or interview date.

Figure 12

Categorisation of Educators' Perspectives on Aboriginal and Torres Strait Islander Health Curricula in Optometry



Partnerships. Partnerships with Aboriginal and Torres Strait Islander stakeholders were considered key for all stages of curriculum development and implementation, with elements of the need for community partnerships reflected in all other categories. Without exception, partnerships were recognised as a work in progress with a long way to go. There was wide variation in the number and depth of partnerships among optometry programs. Partnerships were mostly with Aboriginal Community Controlled Health Organisations and Aboriginal and Torres Strait Islander Centres/Units within the university. Partnerships were recognised as a strategy to address the lack of Aboriginal and Torres Strait Islander educators within optometry programs where individuals, communities, and leaders could advise on the development of teaching resources, content and assessments; provide input on what should be covered in staff training; give direction on how to support Aboriginal and Torres Strait Islander students; facilitate establishing community partnerships; and clarify the scope that non-Indigenous staff should be teaching.

Community partnerships were also recognised as instrumental for establishing experiential learning opportunities, particularly clinical placement and cultural immersion opportunities. Where programs had existing clinical placement partnerships with the community, they were limited due to insufficient opportunities to involve all students and the length of placements being considered too brief. Other programs reported not having had success or were in the process of establishing a partnership with their local Aboriginal Community Controlled Health Organisation. Some described setting up clinical services for the purpose of placement as challenging due to COVID-19, lack

of optometric equipment, unsuitable spectacle subsidy scheme arrangements, and long wait times for ophthalmology services, compounded by the difficulties in organising visiting ophthalmologists.

In some cases, there seemed to be an expectation that communities should support programs without considering what the communities needed or wanted. One participant, an experienced educator, described the misalignment between expectation and reality regarding community partnerships as:

Schools [optometry programs] complain about not being able to get Aboriginal people to come in and teach, but their expectation is that they should just be able to... look up a directory ... and then magically...there'll be these Aboriginal people who will appear ...that's just nuts... So investing in meaningful relationships with, whether it's the NACCHO [National Aboriginal Community Controlled Health Organisation] affiliate or the local clinic [Aboriginal Community Controlled Health Organisation] or the local land council, ...it matters not, and then my view would be that if that's done properly, then over the long-term the schools [optometry program] will have respected relationships with Aboriginal people and organisations ... and it is from there that they can begin to explore whatever opportunities ...might be there. (IE_1)

In some cases, participants recognised the importance of consultation with communities, and when modelled, it was considered central to the success of the partnership, with one educator sharing:

[University name] has a fortnightly community placement at one of the Aboriginal Controlled Health Organisations [*sic*] ... and that works really

well because it was done in consultation with the Health Organisation [Aboriginal Community Controlled Health Organisation], ... it was really ... going and saying what do you need from us? And then setting the service up so it worked for them...and what works really well is because it's what the community needed. (IE_7)

Others stressed the significance of reciprocity in a partnership and suggested focusing on where agendas might cross or how Aboriginal Community Controlled Health Organisations might benefit from partnering with optometry programs. Benefits identified included the immediate impact through service provision and the long-term implications for eye health and the Aboriginal and Torres Strait Islander optometry workforce. However, in some cases, there was an undertone of a benevolent or saviour notion, with one educator recommending that “all students get experience working with Aboriginal and Torres Strait Islander communities so that they can see the difference they will be able to make as culturally safe optometrist[s]” (SE_4).

Program leads and educators acknowledged that they needed support in how to develop clinical placement opportunities with communities and, more broadly, community relationships. When referring to making connections with the community, one educator disclosed, “I don’t feel at this point, that I’m empowered enough or ... wouldn’t even know where to start” (IE_6). Others outlined the investment required, with “... little ...recognition given for how long it takes to set up those community partnerships,” (IE_7) and “... how hard it is to set up those clinics ... and sometimes they just don’t work” (IE_7).

Furthermore, some were mindful of the need to ensure the cultural safety of community members involved in partnerships, acknowledging the risk of experiencing resistance from students, re-traumatisation if sharing personal accounts and possible exposure to a culturally unsafe clinical encounter or culturally unsafe workplace environment.

Pedagogy. Descriptions of current Aboriginal and Torres Strait Islander health curriculum within optometry programs indicated a range of stages of progress. The majority aimed to integrate the curriculum across the program, with some advocating for inclusion in every unit. Most reported gradually introducing some content in each year level, with each new cohort having greater exposure than the previous. However, there was a clear need for additional content and for content to be “purpose built-in” rather than “bolted on”. Attention to scaffolding so students could build on prior knowledge and move toward a deeper understanding was also highlighted and identified as an essential strategy to best support students’ community placement experiences.

Clinical placement was considered the ultimate authentic learning for students, and essential for students to perceive the curriculum as relevant to their future work in clinical practice. One recommendation was there be a low student to staff ratio to ensure more oversight and reduce time pressures on the students and supervisor. However, surprisingly little was mentioned about other supports for students on placement or de-briefing afterwards.

It may be that student-led comprehensive eye examinations are not necessary or even ideal during community placements, with one participant suggesting,

So long as there are...optometric elements involved in that placement then it's probably appropriate, because that is what the community has decided is an appropriate placement for our students...And I can imagine placements...don't necessarily have to be doing a full clinical work up, it can be... just engaging and providing support to community, ...where you are developing your communication skills in that environment. (IE_3)

Other participants spoke of the benefits of the environment at an Aboriginal Community Controlled Health Organisation, referencing Aboriginal and Torres Strait Islander signage and health promotion materials. An alternative proposed placement experience was to involve students in meeting community needs around eye health promotion, which “allows the students to be engaging with Aboriginal people out of the clinical optometry consultation setting that would give insight and understanding to that Aboriginal community” (IE_1).

It was also felt that immersing students in a community or a cultural experience would be beneficial. One participant described lessons in understanding power differentials in such an environment,

It was so impactful for ... participants [optometry staff]... having to go and find a new place that they were unfamiliar with, enter a building that they didn't know who the people were, ...how to find the way to the ... room, sit down in a space that they didn't control, weren't in charge of, weren't familiar with, and then the ... teachers [cultural safety training provider] came in and ... that was their space, ... they were comfortable, but the audience was not... That was really powerful about shifting ... the ownership of the environment ... to someone else and was a beautiful

example of... this sense of how, ... challenging it is for Aboriginal people to engage in the Western system ... of eye care where all the power is in the ...control of the others and it is really unsettling to go into [a] new unfamiliar space where you don't know what's going on and the power all resides with the other person. (IE_1)

Ultimately, it was recommended that the community determine the nature of the student experience for community placement, not the universities.

Other suggestions made included moving away from a biomedical model of approaching Aboriginal and Torres Strait Islander health and decolonising the curriculum by incorporating Aboriginal and Torres Strait Islander perspectives through guest lectures sharing their knowledge, lived experience and telling their stories, an “experience...which ... in ... conventional ... health practitioner training just hasn’t happened until relatively recently” (IE_4). It was suggested programs prioritise “valuing Indigenous knowledge as Indigenous knowledge and not trying to frame it in Western society” (IE_7). Embedded Aboriginal and Torres Strait Islander perspectives were viewed as a powerful learning experience for students but also for non-Indigenous educators, with one participant sharing,

When I’ve sat and listened to... a local Aboriginal person talk about what it means to them to be Aboriginal and what they’ve experienced ... it hooks me in and I’m like, we ... need to do more in this space. And yet, I don’t get that if I read a textbook that’s written by some white academics, or ...if we just read about it. It’s ... that voice, that authenticity. (IE_6)

Several teaching activities and methods of delivering the curriculum were thought to be effective. Case studies were frequently proposed, especially

ones that are more realistic and strengths-based; one educator insisting that programs “stop portraying ATSI [sic] in such an exaggerated manner, and convey realistic situations” (SE_18). Additionally, formative online modules with flipped classrooms for deeper learning, small group learning and teaching activities requiring students to reflect were also suggested. Although some considered face-to-face teaching and learning more effective, due to COVID-19 several planned face-to-face teaching activities had to be delivered online. Educators were surprised at how well students received and learned in this environment. The benefits and convenience of using online teaching were also recognised given limited resources; “...particularly since over COVID we’ve been running cultural immersion online, which is contradictory... because cultural immersion for us was meant to all be about being on Country and...connecting with local people” (IE_5). Additionally, some viewed interprofessional education, where optometry students learned with other health students or observed a multidisciplinary team at Aboriginal Community Controlled Health Organisations, as applicable and valuable. One educator suggested that Aboriginal and Torres Strait Islander pedagogical methods should be used in course delivery; but no specifics were provided.

The importance of having staff role model cultural safety in the classroom, on placements and in the workplace was repeatedly identified: “if the expectation is that our students are culturally safe, then the program needs to also walk the same talk” (IE_3). Some spoke of how they role model cultural safety through their commitment to ongoing training, acknowledging their responsibility to address biases in language and their choice of materials disseminated to students.

Associated with having strong role models was the need to create a culturally safe learning environment. It was observed that many optometry students are from diverse cultural backgrounds and have variable experience with this type of content. On the other hand, some “students from overseas, or maybe first or second-generation Australians, actually have ... in their own cultural history, have experiences of colonisation” (IE_7). Regardless, it was thought that “[students] don’t understand how it [colonisation] pervades into the healthcare space and social inequities” (IE_6). Furthermore, it was noted that some Aboriginal and Torres Strait Islander health curricula involve emotive and sensitive topics. Most alarmingly, a student had disclosed to an educator that they had experienced considerable racism within the optometry program, increasing the need for a safe learning environment.

Assessment was described as a complex area, more challenging than content development at this time, with some not yet at the stage of student assessment. Even so, it was acknowledged that assessment is not only required to determine cultural capabilities but has a key role in student engagement and perceived value of the curriculum, with one educator arguing that “without [sic] assessment the learners may devalue the content, making the attempt tokenistic” (SE_19). Several educators felt there was a need to think differently and move away from multiple-choice questions and exams; although, multiple-choice questions might have a place in formative assessment and recall of facts. Assessment tasks requiring students to reflect, including on an experience such as a portfolio with a reflective dimension or journals, and critical reflective essays, were thought to be more appropriate for this curriculum. One educator suggested extended essays could be used to

mitigate students writing what they think an assessor wants to hear, because "it's quite hard for students to write an extended essay where their authentic self doesn't come through at some point" (IE_7). Additionally, assessments should require students to source and cite credible and relevant information, with attention paid to the authors and perspectives included.

There was great uncertainty about how to assess theme three of the *Optometry Framework* (culturally safe practice in service delivery). Like learning, participants felt that assessment needs to be authentic and involve students seeing patients. However, this was very complex. Educators strongly felt "ultimately, cultural safety can only be truly assessed by the community in which care is being provided" (SE_4) and that non-Indigenous educators or clinicians should not assess cultural safety:

I think the final stage of the assessment is probably going to be the toughest one, because in order to ... tick off that a student is culturally safe, ... that needs to be done by the community, not necessarily by ... non-Indigenous optometric academics, because ... it's not appropriate for us to say whether somebody is culturally safe. (IE_3)

Some educators were grappling with how to assess students in this area through simulated (Aboriginal and Torres Strait Islander people portraying the role of a patient) or standardised (an actor trained to provide a consistent clinical encounter) patients. These options were fraught with concern that simulated patients might be exposed to unsafe practices and engaging non-Indigenous actors was not authentic. Further, as these are simulated environments, students who pass may fail once exposed to the additional

stressors of an actual patient encounter, again putting the patient at risk of an unsafe encounter:

We may be exposing Indigenous Australians to culturally unsafe practitioners, because they're [optometry students] yet to be deemed to be culturally safe. So ... it's trying to find a stepping stone between a student that has demonstrated enough culturally safe behaviours that we would expect them to be able to demonstrate culturally safe practice within the community...the unfortunate thing is, some students may have been able to do it in a university setting, but once you add it to a community-based setting, plus all of the weight of almost being an optometrist, they may not be able to do both things at the same time, and therefore, ...may not always provide culturally safe care. And I think that... presents ... a problem. (IE_3)

Implementing a hurdle requirement was one suggested “stepping stone”, where a minimum level of proficiency was set as a condition before seeing patients. This meant “students can’t escape not demonstrating these competencies just by doing well in other one’s to mask their lack of engagement with that side of the curriculum” (IE_3).

Educator Preparedness. Staff commitment and willingness were considered key enablers to implementing the *Optometry Framework*. Currently, there was commitment and willingness among educators involved, however, some expressed that not all educators in the program shared these views. Participants' involvement in Aboriginal and Torres Strait Islander health education in their program varied from a requirement to a passion and desire. The work was described as “enjoyable”, “interesting” and viewed as a

“privilege” and “responsibility”, with one educator describing it as their “contribution to... help deal with the inequities” (IE_4).

The standpoint of those involved in teaching Aboriginal and Torres Strait Islander health also varied from educator, researcher, clinician and lived experience. Although some had a stronger affinity for one identity, it is probably more accurate to say they taught from a combination of roles. Some reported feeling very comfortable teaching in this area, but others reported “reluctance”, “nervousness”, “sheepishness”, “hesitation” and “doubt”, either personally or among their colleagues. One viewed teaching Aboriginal and Torres Strait Islander health the same as any other area in which they might be asked to teach, explaining that:

I don't see this [Aboriginal and Torres Strait Islander health] as being any different to any other area of... teaching. For.. me, I think I know a little bit, but I don't know it all. ... I would assess... that ...[it is] not dissimilar to any other areas that I might be trying to teach as well, so I don't claim world expertise in anything that I try and teach, ... I claim and use my lived experience, my knowledge ... in order to exchange with people and ... people take that for what it is. (IE_1)

Feeling unprepared was attributed to a lack of experience with Aboriginal and Torres Strait Islander people and a lack of awareness, knowledge and experience embedding Aboriginal and Torres Strait Islander health curricula. In addition, some felt reluctant to teach in this area because they are non-Indigenous:

I doubt myself when it comes to teaching cultural safety, because...there is a fine line of being respectful to others but then also [a] fine line of knowing when not to teach certain things because you're not qualified, you haven't been through that journey... Just out of respect because I think ...I can do as much research as I want, it could take me 20-30 years, but I would never understand the impact of colonisation truly, ... and I would never truly understand how they [Aboriginal and Torres Strait Islander Peoples] feel... because of the generational trauma and how that impacts their [Aboriginal and Torres Strait Islander Peoples] interactions with people. (IE_2)

Others advocated that "being non-Indigenous shouldn't stop you if you have a desire to teach well in this space" (IE_7), with one educator highlighting that there are a "whole lot of different resources out there now ...that even as a non-Indigenous practitioner, you can incorporate Indigenous perspectives and voices into your curriculum" (IE_5). There were some cases where non-Indigenous staff confidence was positively influenced when working with Aboriginal and Torres Strait Islander colleagues, with some commenting that team-teaching is ideal:

For the most part, I feel like we should be teaching it [Aboriginal and Torres Strait Islander health] together [non-Indigenous and Aboriginal and Torres Strait Islander educators]. It shouldn't necessarily be ... one group, one does one bit, and another group does a different bit ... I feel that most of this stuff should be team taught in order to provide that wide perspective and representation. But having said that, there are elements of ... the Indigenous Australian experience that should only come from

Indigenous Australians, around their own history, around their own culture... I guess my role in that sort of space is just to facilitate the discussion between students and what they're learning. (IE_3)

Some non-Indigenous educators agreed that they could not teach the lived experience. Still, they felt they should contribute because "it's not fair to put all of the responsibility on ... so few people to teach in that area" (IE_7). In these circumstances, when Aboriginal and Torres Strait Islander educators were teaching, non-Indigenous educators saw their role as "facilitators", "supporters" and "allies". There are some good examples of programs with considerable input from Aboriginal and Torres Strait Islander people. Where this exists, their leadership, advice and involvement, including team teaching, were much respected and valued. In some cases, it was transformative. For example,

I think ... my whole revolution really started when I got to work with [academic name] when she first started at [university name] and just having those casual conversations around ... where our current curriculum has come from. So me sharing its history, and her asking a lot of key questions, and that conversation just evolving into the bigger conversations of where knowledge comes from generally and what we value as something that is valid and what is invalid. Those conversations for me were revolutionary ... because they weren't necessarily about ... specific knowledge, it was more about ways of thinking. And she really influenced the way I approached things a lot. (IE_3)

However, few programs are in this position, with educators from other programs wanting guidance on "what can be done and what cannot be done. And what can be discussed with respect and how it can be communicated as well" (IE_2). Others felt that this information would need to be determined by the community and would be guided accordingly, "I would teach what Indigenous people wanted me to share, teach and contribute to" (IE_1).

It was acknowledged that there would likely be varying levels of involvement of optometry program staff. One participant described the necessity of having "a unified voice" (IE_6) when communicating with students. Another suggested,

We should all be incorporating elements whether they be small or large, that work towards culturally safe optometrists. So, I think that everybody should be involved, but I think the level of involvement would be different, depending on what's been taught. (IE_3)

Addressing educators' lack of knowledge and confidence is essential before this recommendation is possible, with one educator capturing the disparity between ideals and reality:

Ideally all staff would emphasise putting cultural safety into all aspects in their teaching, learning and practice but this is rarely achieved due to a hole in their own training and a lack of confidence in delivering, perhaps a lack of interest – altho [sic] more frequently it may be a lack of knowing how to present from a strength-based [sic], rather than from a deficit perspective and spreading a sense of hopelessness instead of recognising possibility. (SE_11)

Others considered it was more of a specialist area of teaching and that damage can be done by having someone who is not engaged in this area forced to teach it:

Although we have these training sessions ... some people are just not passionate about it. I think this is something that needs to be done rightly and the first step would be that it's done by the right people ... And if you involve everyone in it, ... in something that has already not been done well, you're potentially opening a door to a mess up ... It only takes one person to communicate one wrong thing to upset the community ... So, I think having designated people at this point is good ... Cultural safety ... in my opinion is ... almost like a sub-specialty. Because you won't have a person that is not passionate about RGPs [speciality contact lens/field of optometry] fitting RGP's. (IE_2)

It was strongly suggested that training on cultural safety and how to develop and deliver the curriculum should be mandatory for all staff, with one educator stressing that "if the weakest link doesn't [sic] find Indigenisation [sic] etc important, then it won't [sic] be implemented properly" (SE_18). It was also suggested that training and professional development for all staff should be ongoing because this could lead to "normalising" cultural safety. However, it was noted that this is difficult in some cases, such as external educators who influence students on placement but who the university has little control over. It was also noted that not all staff are interested or motivated to participate in training. It was felt that previous bad training experiences might have put some off. Others were "hungry" for more training; but, where available, training was described as ad hoc and insufficient, with educators stating that training is

either not specific to optometry or not in-depth and that it needs "to be a little more explicit and move beyond simple ... awareness of culture" (SE_14). Aboriginal and Torres Strait Islander led training held in a space outside the workplace was reported to be enriching. Others appreciated the individual perspectives that people bring to training programs,

If you do get a chance to do and listen to someone from the Northern Territory do cultural competence training, or someone from Tassie do cultural competence [training] or say someone from the West talk about it, it is different. And for me, ... the exposure to ... the layers of the individual story, the local geography, the local cultures and things like that, that ... just enriches or adds layers to ... my understanding of this stuff. (IE_1)

Some identified the need for targeted training to reflect the various stages programs and individuals are at. Suggested topics included how to present from a strengths-based position, working with Aboriginal and Torres Strait Islander people and organisations, understanding the *Optometry Framework* and appropriate delivery and assessment of the curriculum; including concrete examples linking assessment to learning outcomes. One participant thought a more formal qualification on implementing Aboriginal and Torres Strait Islander health curriculum would be worthwhile.

Resources. The *Optometry Framework* was perceived as a valuable and enabling resource. However, one participant commented that the "OCANZ framework [*Optometry Framework*] is visionary ... rather than realistic ... and ... we should all keep trying, but I don't think anyone is aware of how long that will really take ... if it's being implemented without resources

by individual optometrists, then even longer” (IE_5). Specifically, there were concerns about the number of learning outcomes and difficulties finding space in an already crowded curriculum.

Although some spoke of academic staff in positions devoted to this work, many reported no allocated time in their workload despite involvement. Regardless, allocating sufficient time in workloads to set up community partnerships, undertake curriculum mapping and embed the *Optometry Framework* is required. In addition, there is a demand for educators who have experience and expertise in this area.

One of the most significant issues raised was the lack of Aboriginal and Torres Strait Islander educators, especially in optometry. Although educators highlighted the importance of Aboriginal and Torres Strait Islander staff recruitment and retention programs, program leads reported uncertainty about the existence and effectiveness of recruitment programs and questioned the success of Aboriginal and Torres Strait Islander staff support programs. There is already a considerable burden on all Aboriginal and Torres Strait Islander staff and a need to be “mindful of not taxing these individual staff members/guest lecturers who are likely spread thin across multiple units/disciplines” (SE_12). It was also important to realise that Aboriginal and Torres Strait Islander educators should not be excluded from teaching other parts of the course. Again, there were some high expectations of involvement in the program, without consideration of the burden or appropriate remuneration:

I think it's ... easy to have input from Indigenous academics. If the person is not available ... in our optometry program we can probably reach out to another school [optometry program] and say would you [sic] person be willing to look through this and see if it's okay ... or could I have a one-hour zoom ... call with them just to run them through what I'm doing and how I can do it differently. I think it's ... very easy to do. (IE_2)

It was also proposed that optometry could consult with other more advanced disciplines in this space, and another suggesting there be "ATSI [sic] representatives who travel around Australia" (SH_4).

To be efficient in this area, where expertise and resources are limited, many educators called for shared resources across programs, expressing that "greater value would be achieved if all schools [optometry programs] were able and prepared to work together and share resources and experiences" (SE_9). However, it was recognised that sharing resources could be problematic for several reasons related to competition among programs, unequal contributions, intellectual property issues and the need for local knowledge. Educators suggested one possibility could be to co-develop and share some foundational aspects of the curriculum that programs could then build upon and tailor to local needs. There was also a suggestion for a coordinated approach to community clinical placements programs. It was noted that sharing and coordination might not be needed forever. As one participant pointed out, "I think clubbing together and working together in new areas of work makes sense until capacity is created for ... that separation ... of things" (IE_1).

Finally, the requirement for adequate and sustainable funding was frequently mentioned. Specifically funding to recruit staff, including Aboriginal and Torres Strait Islander staff; allocate workload to develop curriculum; appropriately remunerate guest lecturers and community partners; and pay for teaching activities, such as clinical placement and cultural immersion opportunities.

Organisational Leadership. It was felt the optometry profession had demonstrated leadership and commitment through the optometry accreditation organisation mandating Aboriginal and Torres Strait Islander health curriculum. This directive was perceived to have provided a positive impetus, with one educator observing the "push from OCANZ to embed ATSI [sic] Health [sic] and Safety [sic] curriculum into our programs has given the universities the push they need to start creating and embedding curriculum and creating culturally safe graduates" (SE_12). Since then, momentum has steadily increased, and there is "room for growth/interest at the moment" (SE_18).

Program leads and educators described a need for commitment to this agenda at the university level, observing the important role that institutions can play in shaping the curriculum and the culture. For example, by having university graduate attributes dedicated to this field of education and through "more emphasis and awareness overall to cultural safety which makes academics more motivated to implement it in teaching" (SE_7).

Some educators agreed there was strong leadership at the program level, with one educator commenting on the positive effect of this: "optometry

staff up to the Head [program lead] of School [optometry program] ... feel strongly that public and Indigenous health understandings are a critical part of being a competent optometrist. That means that time is found even in a crowded curriculum" (SE_11). In comparison, others cited more pressing priorities and not knowing how to proceed as reasons why program level leadership needed to be much stronger. There was also an aspiration to have Aboriginal and Torres Strait Islander people in leadership roles and senior academic positions, where they could oversee curriculum development and implementation and provide feedback about programs Aboriginal and Torres Strait Islander health curriculum. Others spoke of the importance and value of having champions within the program.

Program leads and educators expressed the need for a clear long-term strategy, both within and across optometry programs, with "realistic milestones and achievable outcomes" (SE_15). Priority areas that programs must address include Aboriginal and Torres Strait Islander staff and student recruitment and retention, including ensuring "students are not disadvantaged by engaging in their culture, that may be different to how the university was set up" (IE_3). Further, recruitment needs to address the lack of diversity within the university staff, and rigid hiring processes must accommodate alternative knowledge systems, such as removing the requirement to hold a higher degree. There was also a suggestion that each program considers developing a Reconciliation Action Plan.

Discussion

The objective of this study was to explore the preparedness and experiences of educators involved in implementing Aboriginal and Torres Strait

Islander health curricula into optometry programs. Educator experiences and perspectives were grouped into five interrelated categories: partnerships, pedagogy, educator preparedness, resources, and organisational leadership. Partnerships were considered central to all stages of curriculum development and implementation and were a feature of all other categories. However, in some cases, there was a level of expectation that Aboriginal and Torres Strait Islander staff and placement providers would bear the responsibility to carry the load of implementing the Aboriginal and Torres Strait Islander health curriculum. Further, some programs were struggling to develop reciprocal or mutual relationships built on community needs rather than prioritising their own needs. Programs require strategies to facilitate initiating relationships with community and guidance on establishing clear roles and responsibilities of all parties before, during and after any experiential learning experience.

Ma Rhea (2012) recommends a proactive approach to engagement is needed, suggesting Aboriginal and Torres Strait Islander Peoples are waiting for non-Indigenous people to engage in interactive, mutually relational partnerships. A proactive approach was demonstrated in medicine by Duffy et al. (2013), who convened an Indigenous Reference Group with Indigenous health leaders, Elders and community representatives to develop a protocol for setting up partnerships between a medical school and an Aboriginal community. The six core values listed in the *Ethical Conduct in Research with Aboriginal and Torres Strait Islander Peoples and Communities: Guidelines for Researchers and Stakeholders* (National Health Medical Research Council, 2018) were used to guide engagement and negotiate a reciprocal sustainable partnership with the Indigenous Reference Group. Facilitated by flexibility in

staff workloads to successfully establish and sustain partnerships, the developed protocol led to increased student placements in Aboriginal Community Controlled Health Organisations. Optometry programs could adopt the values listed in the *Ethical Conduct in Research with Aboriginal and Torres Strait Islander Peoples and Communities: Guidelines for Researchers and Stakeholders* to mitigate exploitative partnerships skewed to benefit the programs.

Partnerships were particularly perceived to be necessary for authentic learning experiences. Authentic learning experiences were considered the most effective activities for teaching Aboriginal and Torres Strait Islander health. However, surprisingly little was mentioned about the role of programs in preparing, supporting and debriefing students in relation to these learning experiences. Recognising the need for sustainable placements for school teachers in training, a three-stage framework has been co-developed with teacher educators and experts as part of the Partnering for Remote Education Experience project¹⁰ (Anderson et al., 2019). In the first stage, the framework provides pre-placement support, offering guidelines on establishing and building a relationship with placement providers, co-developing student induction packages and the student selection process. The second stage focuses on supporting students during their placement, including mentoring and the third stage is dedicated to maintaining and sustaining partnerships with the placement provider through exploring the post-placement experience, including reflection and assessment (Anderson et al., 2019).

¹⁰ Formerly known as Improving Teacher Education for Better Indigenous Outcomes.

Case studies were another frequently mentioned learning and teaching activity, however, some felt those used were repetitive and some could perpetuate negative stereotyping. To address the deficit discourse in a large bank of case studies used in American medical programs, Krishnan et al. (2019) have developed and proposed an evidence-based guide. Guidelines involve educators reflecting on how the patients and clinicians are portrayed, the language in the clinician–student dialogues, discussions of disease aetiology, choice of literature cited, and images used within the case. The guide also includes exemplar edited cases. Although the proposed guide is not specific to Aboriginal and Torres Strait Islander health and remains unvalidated, it could be used as a starting point to review existing case studies and develop new case studies in optometry. Systematically reviewing case studies for the presence of deficit discourse including stereotyping is imperative given students value learning from a strengths-based perspective (Huria et al., 2017; Sivertsen et al., 2017). Like previous studies where educators' feared perpetuating stereotypes or negative images of Aboriginal and Torres Strait Islander Peoples (Wilson et al., 2015), educators of this study were conscious of the need to present from a strengths-based perspective but felt they needed training. In addition to training, educators thought they would benefit from co-developing resources. Co-developing case studies with Aboriginal and Torres Strait Islander people and organisations has been reported by Bennett et al. (2018a), and although these case studies have yet to be formally evaluated, co-construction contributes to decolonising the curriculum (Bennett et al., 2018b).

Consistent with the literature, assessment was described as a complex and challenging area, with some programs in the current study not yet assessing Aboriginal and Torres Strait Islander health. Several considered assessment tasks requiring reflection more appropriate than traditional medical education assessments, such as multiple-choice exams. In a study of medical education inclusive of but not specific to Aboriginal and Torres Strait Islander health, reflective writing was not popular with students as most students did not see the relevance to their learning or clinical practice and that reflective pieces were excessive, unnecessary, and boring (Preston et al., 2020). Moreover, the grading of reflective writing pieces was perceived as subjective and unfair, and students felt this type of assessment should be a hurdle requirement rather than contribute to their grades. If reflection is to form part of an assessment, a validated questionnaire or rubric should be used (see Tsingos et al., 2015 for a review of strategies for assessing reflective activities in health education) to address students' concerns with this form of assessment. Power et al. (2020) provides example criteria wording, grading and weighting of a validated reflective practice rubric used in nursing to inform the marking guide of a reflective essay assessment on a clinical placement experience in an urban Aboriginal health setting. The rubric requires the demonstration of tasks beyond generic reflection (e.g., recounting events and experiences), to align with reflective practices essential for cultural safety (e.g., describing, building upon, and challenging previous knowledge). This example of criterion referenced assessment aligns with Brumpton et al.'s (2022) suggestion that the principles of cultural safety should guide the design of cultural safety assessments.

Participants in the current study strongly felt that assessment needs to involve clinical encounters and that only the community can assess cultural safety. This understanding that cultural safety is determined by the recipient of care was lacking among nursing, midwifery, physiotherapy and occupational therapy educators involved in Aboriginal and Torres Strait Islander health learning and teaching at an Australian university (Francis-Cracknell et al., 2022). However, clinical assessments were not found to be frequently used to assess Indigenous health in a study of eight health disciplines from 22 institutions (Delany et al., 2017). One possible explanation for this trend may be the variability of student numbers engaging in clinical placements in Aboriginal and Torres Strait Islander settings (see the Discussion section of Chapter 4), which may limit the opportunities for unit assessments within these specific learning contexts. An alternative assessment proposed by the educators in the current study was to simulate a consultation with actors, rather than engaging with “real” patients. Simulated patients have been perceived as authentic by students who valued the opportunity to apply their learning before interacting with patients (Huria et al., 2017). However, there were reservations in the current study about the safety of using Aboriginal and Torres Strait Islander participants and the appropriateness of having non-Indigenous people act as Aboriginal and Torres Strait Islander patients. Delbridge et al. (2022) reports mitigating these concerns through training and debriefing simulated Aboriginal and Torres Strait Islander patients by an expert Aboriginal partner. Further strategies that could be employed include developing patient scripts in consultation with Aboriginal and Torres Strait Islander people, targeted

learning and teaching preceding assessments, and minimising deficit discourse imbued in these learning activities.

Ewen et al. (2011) reported using simulated patient assessments in medical programs in Australia, United States, and Aotearoa New Zealand, with students, Indigenous simulated patients and markers/facilitators/preceptors reporting this to be a useful and meaningful teaching tool. Nevertheless, challenges were reported that posed a threat to the sustainability of the program, including recruiting and compensating Indigenous people to be simulated patients, as well as developing authentic cases that avoided negative stereotyping of Indigenous patients. Strategies to address challenges associated with case development involved creating cases based on real-life events (Ewen et al., 2011). Ryder et al. (2013) who incorporated role play into standardised patient sessions for medical students, also reported developing cases based on actual events and as well as through community consultation. In Ryder et al.'s (2013) study, role playing occurred in the presence of a facilitator in sessions involving groups of seven to nine students, where an Indigenous tutor assumed the role of the simulated patient. If a culturally unsafe incident occurred during role play and student peers failed to intervene with alternative approaches, the tutor or facilitator stepped in, facilitating a group discussion. Sessions concluded with a demonstration of a model response. These examples underscore the importance of cultivating meaningful relationships with Aboriginal and Torres Strait Islander stakeholders, as well as the need for experienced educators with expert facilitation skills.

Overall, the educators interviewed in the current study were enthusiastic about Aboriginal and Torres Strait Islander health, which students perceive as important for creating a positive learning environment (Francis-Cracknell et al., 2019). However, several educators in the current study identified a lack of exposure to Aboriginal and Torres Strait Islander people, with only a few reportedly teaching through lived experience. This lack of experience limits educators ability to develop cases based on actual events and is a barrier to students learning as students value educators who show how they model cultural safety in their own clinical practice (Huria et al., 2017). Further, unlike Huria et al. (2017) where both Māori and non-Māori clinicians demonstrated role modelling, most optometry program educators are non-Indigenous, limiting the perspectives transmitted to students through this strategy. To address the lack of diversity of optometry educators, programs can embed Aboriginal and Torres Strait Islander perspectives through other means, such as authors and presenters. Strategies to diversify the curriculum will also progress Aboriginal and Torres Strait Islander staff and student recruitment and retention, as staff and students need to see themselves reflected and valued throughout the university (Universities Australia, 2022). These efforts should be complemented by simultaneously investing in increasing Aboriginal and Torres Strait Islander staff capacity.

As Indigenous health is still emerging as a discipline (Pitama et al., 2018), many educators are unlikely to have been adequately prepared during their professional training. Further, although curriculum frameworks provide much-needed guidance on content, they do not address educator preparedness (Vass & Adams, 2020). Most optometry programs rely on internal non-

Aboriginal and/or Torres Strait Islander academics, with most educators in this study reporting they did not feel fully prepared to teach and even less so assess Aboriginal and Torres Strait Islander health.

Kickett et al. (2014) found educator experience and expertise influenced student satisfaction scores, with the overall student satisfaction dropping from 94% (n = 147) to 76% (n = 598) when the teaching team changed from those with considerable experience with Aboriginal and Torres Strait Islander health to casual tutors who lacked experience (Kickett et al., 2014). Similarly, a difference in nursing and midwifery student unit satisfaction scores between two campuses with identical Aboriginal and Torres Strait Islander health curricula was attributed to variations in the teaching team (Wilson et al., 2020). Beyond affecting student engagement, the absence of educator preparedness can do harm by perpetuating racism (Vass & Adams, 2020), or even result in a failure to incorporate Aboriginal and Torres Strait Islander perspectives (Manton & Williams, 2021) and health curricula all together (Wolfe et al., 2018). There is a clear need to improve and support the preparedness of optometry educators to teach and, even more so, their preparedness to assess Aboriginal and Torres Strait Islander health, a finding consistent with previous studies in medicine (Jones et al., 2013).

One way to address educator preparedness is through training and professional development programs, however, most optometry educators in this study reported having little or no professional development in this area, with cultural safety training not a consistent feature of staff induction. Inadequate educator preparedness has been attributed to a lack of institutional commitment (Jones et al., 2013) and therefore optometry programs require

institutional investment in addressing staff capabilities through training and professional development.

Non-Indigenous involvement in teaching Aboriginal and Torres Strait Islander health has been contested. Consistent with the findings of a study of multiple health disciplines (Delany et al., 2017), most non-Indigenous educators in the current study strongly felt they could not teach the lived experiences of Aboriginal and Torres Strait Islander people (e.g., Indigenous perspectives). Other studies have suggested non-Indigenous educators should not speak on behalf of Aboriginal and Torres Strait Islander people (Francis-Cracknell et al., 2022), teach about culture, including language (Anderson & Ma Rhea, 2018; Delany et al., 2017; Wolfe et al., 2018), or teach Aboriginal and Torres Strait Islander knowledges (Anderson & Ma Rhea, 2018; Duthie, 2019). However, unlike previously reported avoidance behaviours (such as delegation) stemming from fear and unpreparedness (Bennett et al., 2018a; Vass & Adams, 2020), in the current study, non-Indigenous educators acknowledged their responsibility and active role when students are learning Aboriginal and Torres Strait Islander knowledges and perspectives, despite not directly teaching. This shared responsibility and partnership approach in the planning and provision of learning and teaching has been modelled in studies and recognised as a strategy to affect positive outcomes for learners (Delbridge et al., 2022; Horsburgh & Lamdin, 2004; Huria et al., 2017; Kline et al., 2013; Thackrah & Thompson, 2013), as well as address non-Indigenous staff capabilities (Delbridge et al., 2022). However, few optometry programs are in this situation.

There was a considerable expectation to increase the number of Aboriginal and Torres Strait Islander staff despite highlighting the limited pool and effectiveness of Aboriginal and Torres Strait Islander staff recruitment and retention policies. Suggestions in this study to address the limited number of Aboriginal and Torres Strait Islander educators in optometry included having Aboriginal and Torres Strait Islander educators travel around Australia or record lectures that all programs would use. One study proposed that having all programs use pre-recorded lectures by Aboriginal and Torres Strait Islander educators enables students to be exposed to a broader range of perspectives (Bennett et al., 2018a), which is important given that graduates can practice nationally. If pre-recorded lectures were pursued by optometry programs, negotiating recording conditions, such as how long the recording is made available and remuneration (Bennett et al., 2018a) would be necessary.

At this stage of implementation, given the few Aboriginal and Torres Strait Islander academics across the higher education sector, increasing Aboriginal and Torres Strait Islander educators in optometry is likely to be a slow process. In instances where optometry programs are successful in recruiting Aboriginal and Torres Strait Islander staff to support Aboriginal and Torres Strait Islander health curriculum, this field of education is under resourced in terms of teaching material, time and location within the program and size of the teaching groups. Additionally, only a third of programs have established formal staff support structures in place, and cultural safety training is not consistently included in staff induction. Consequently, Aboriginal and Torres Strait Islander staff are susceptible to burnout and instances of structural and personal racism. An interim suggestion is fostering partnerships (Manton & Williams,

2021) while simultaneously investing in strategies to increase capacity. This approach was modelled by Delbridge et al. (2022) as no Aboriginal and Torres Strait academics were employed in the health disciplines (dietetics, nursing, occupational therapy, physiotherapy and psychology) involved in the study. Conscious of the workload of few Aboriginal and Torres Strait staff, Delbridge et al. (2022) engaged three Aboriginal and Torres Strait Islander expert partners to ensure Aboriginal and Torres Strait Islander perspectives were included in designing and delivering the Aboriginal and Torres Strait Islander health curriculum. This awareness of not over-burdening Aboriginal and Torres Strait Islander staff is essential given the known emotional, intellectual and physical burden placed on Aboriginal and Torres Strait Islander educators to embed Aboriginal and Torres Strait Islander knowledges (Bond, 2020). Weenthunga Health Network rightly frames this burden as the “colonial load”, given the burden or load of the colonial project, in this case embedding Aboriginal and Torres Strait Islander health curriculum, is placed by institutions through exploitative and racist actions on Aboriginal and Torres Strait Islander people (Weenthunga Health Network, 2023). Colonial load is exacerbated by tokenism, white supremacy, racist and culturally unsafe workplaces and processes, and inappropriate remuneration (Weenthunga Health Network, 2023). Until the colonial load is addressed, programs will continue to face difficulties with recruitment and retention of Aboriginal and Torres Strait Islander staff.

Despite an educator in the current study acknowledging the availability of online materials featuring Aboriginal and Torres Strait Islander perspectives, there is insufficient workload allocation to curate and evaluate these resources,

let alone make iterations to existing curriculum. So, although all programs in the current study reported having some form of quality improvement measure in place and acknowledged the importance of updating curriculum, the extent to which this is occurring is unknown given the continued reported concerns of lack of time allocated to workloads to progress this field of education. In a comparable study implementing the *National Framework*, educators made several improvements to the curriculum following a review process involving reflecting on student feedback and ways to improve learning and teaching of the unit (Wilson et al., 2020). This review process was facilitated by institutional resource allocation and Aboriginal and Torres Strait Islander leadership.

Educators in this study proposed sharing resources across programs to address limited optometry specific resources. Although optometry programs might struggle with this suggestion due to concerns about competition among programs, unequal contributions, and intellectual property issues, it has been recognised by the LIOEN as a strategy to successfully embed the *Optometry Framework* into curricula (Bentley et al., 2021). Online platforms to support this field of education have been established in medicine and nursing; however, these are government-funded and well-resourced (Congress of Aboriginal and Torres Strait Islander Nurses and Midwives, n.d.; Leaders in Indigenous Medical Education Network, 2022a). In comparison, the equivalent network in optometry relies largely on in-kind resourcing and therefore is unlikely to be able to develop a sharing platform to the extent of these much larger disciplines (Ahpra and the National Boards, 2023). Further, resources produced as an output from projects linked to external funding may prove unsustainable due to the limited accessibility of resources post-project completion (Anderson et

al., 2019; Congress of Aboriginal and Torres Strait Islander Nurses and Midwives, n.d.; Mackinlay & Barney, 2012b; McDermott et al., 2020; University of South Australia, 2013). Therefore, programs should allocate and rely on internal support to fund regular, fixed expenses required for any sharing platform and view external funding streams as supplementary.

Despite all programs in the current study being from a university that is a member of Universities Australia and therefore committed to the targets set in the *Indigenous Strategy 2017-2020*¹¹ (Universities Australia, 2017), only two programs reported having defined targets for recruiting Aboriginal and Torres Strait Islander students. This highlights either a discrepancy between strategy and program-level leadership or a lack of awareness. Although there were several calls to increase Aboriginal and Torres Strait Islander student recruitment, suggested strategies to support future Aboriginal and Torres Strait Islander students in the program were reactive rather than prepared, founded on having no or few identified Aboriginal and Torres Strait Islander students in programs. Several participants proposed that individual tailored student support determined by the student would be required. However, the majority indicated they would rely on the Aboriginal and Torres Strait Islander student support services available at the university. Universities Australia has identified the need to share the responsibility of supporting students more equitably across the university and suggests that faculties provide student support (Universities Australia, 2022). Similarly, Bullen et al. (2021) recommends that Aboriginal and Torres Strait Islander student equity is the responsibility of all

¹¹ Strategy in place at the time of the study. The Indigenous Strategy 2022-25 is the current operational strategy.

educators. Having strategies in place also reduces the responsibility or burden placed on students to actively seek assistance (Bullen et al., 2021).

Although there were some examples where institutional culture and values positively shaped staff motivation, awareness and curriculum, (e.g., graduate attributes), there was a clear need and call to decolonise curricula and, more broadly, universities. Specifically, there is a need to remove barriers in Aboriginal and Torres Strait Islander staff recruitment and retention policies and formally acknowledge and accommodate cultural commitments in student academic concessions policies. Decolonising universities will be facilitated by Aboriginal and Torres Strait Islander leadership and by ensuring that Aboriginal and Torres Strait knowledge systems are accurately represented and valued rather than framed through a Western lens (Nakata, 2002).

Although this was the first study to explore the contextual issues, preparedness and experiences of educators involved in implementing Aboriginal and Torres Strait Islander health curricula into optometry programs, several limitations should be considered. It is important to note that the research supervisors SB and SH are the primary educators involved in teaching Aboriginal and Torres Strait Islander health at QUT and were excluded from participation, along with KRB, who is a guest lecturer in the program. Therefore, important perspectives about the QUT program were not fully captured. Additionally, we sought perspectives from all Australian optometry programs, including those with their inaugural cohort yet to graduate. Therefore, responses may be limited because some programs are still in the early phases of establishment. Further, we sought perspectives of only educators involved in embedding Aboriginal and Torres Strait Islander

health curriculum in an optometry program and therefore the experiences and views may not represent all staff members within the program. It is also important to consider that social desirability bias (Callegaro, 2008) may have resulted in underreporting of barriers and/or overreporting of enablers, rather than participants' actual beliefs. In addition, there were no negative comments or overt signs of resistance, as reported in previous studies (Jones et al., 2013).

Conclusion

This study explored the preparedness and experiences of educators involved in integrating Aboriginal and Torres Strait Islander health curricula into optometry programs. Overall, there was a strong commitment and willingness to achieve progress among programs and optometry educators. However, there are several opportunities to enhance the Aboriginal and Torres Strait Islander health curriculum in optometry. Educators are primarily non-Indigenous, feel unprepared and need more training and professional development; factors that can in part be addressed through partnerships and institutional investment. Developing sustainable partnerships where there is reciprocity between optometry programs and Aboriginal and Torres Strait Islander educators and communities is critical to effectively implementing Aboriginal and Torres Strait Islander perspectives, knowledges and placement learning experiences. Although programs have made a good start with embedding the *Optometry Framework* with examples of team teaching, more focus is required on strengths-based case studies and assessment. Given the scarcity of program resources and expertise in this area, consideration must be given to shared resources between optometry programs.

Although the *Optometry Framework* has been perceived as a valuable guide, it has also been described as aspirational, acknowledging that successful implementation will take time and only occur with significant institutional commitment and leadership. Focusing on these key areas will contribute to building capacity of non-Indigenous educators to effectively embed Aboriginal and Torres Strait Islander health curriculum, reducing the colonial load of Aboriginal and Torres Strait Islander staff and enhance the learning experience of students.

Chapter 6: Student Perspectives on Aboriginal and Torres Strait Islander Health Curriculum

This chapter presents the third study, student perspectives on Aboriginal and Torres Strait Islander health curriculum. The chapter begins with an introduction presenting the relevant literature on student perspectives of Aboriginal and Torres Strait Islander health curriculum. The next section describes the methods used in this study, followed by the results and a discussion of the results compared with previous studies. The study addresses research question five: What aspects of Aboriginal and Torres Strait Islander health curricula do students think contribute positively and negatively to their learning? (RQ5).

Introduction

To support the achievement of learning outcomes and inform improvements, it is important to understand the student perspective of the curriculum. This is particularly needed in Aboriginal and Torres Strait Islander health education, given it is an emerging discipline (Pitama et al., 2018), where the goal is to ensure that health professional students are capable of providing healthcare services deemed culturally safe by Aboriginal and Torres Strait Islander individuals, families and communities (Department of Health, 2014).

There is only one relevant Australian study in optometry that considers student perspectives and it predates the *Optometry Framework*. Truong et al. (2014) examined cultural competency of sixty-three second year students in Australian and Aotearoa New Zealand optometry programs using the *Cultural*

Awareness and Sensitivity Tool (Pasricha, 2012). The study was focused on culture in its broadest sense and was not specific to Aboriginal and Torres Strait Islander health or cultural safety. Mean cultural awareness and sensitivity score, which measures students' awareness and sensitivity to various aspects of patient culture, was not found to be associated with individual optometry programs. However, cultural awareness and sensitivity score was significantly correlated with prior cultural competency training ($r = 0.33$, $p = 0.01$). Although this suggests training can increase the cultural awareness and sensitivity of optometry students, it was unclear whether cultural competency training provided prior to or during the optometry program might have contributed to higher scores. Importantly, Truong et al. (2014) did not investigate student perspectives of learning such as curriculum organisation; delivery; assessments; feedback; teachers; and overall quality of the learning experience.

The learning experiences of optometry students has been investigated in a recent Canadian study (Christian et al., 2023). Using an anonymous online survey, perspectives were sought from first and second year students at one program on their understanding of cultural safety, comfort with self reflective activities, evaluation of teaching effectiveness, and suggested improvements. Overall, the 33 students who responded found the curriculum to be effective and valuable, with both cohorts demonstrating a significant improvement in their comfort with self reflection (Wilcoxon-Pratt first year: $Z = -2.442$, $p = 0.015$; second-year: $Z = -2.449$, $p = 0.014$). To enhance the curriculum, students suggested increasing clinical opportunities, anti-racism content, guest speakers with lived experience, Indigenous community involvement in

course design and the addition of a standalone unit specific to Indigenous health education.

Several larger studies have been conducted in other health professional programs. Huria et al. (2017) examined medical students' evaluations of a Māori health clinical orientation program. Their analysis of 602 student evaluations from eight teaching periods highlighted key aspects of the program, including teaching attributes; the learning environment; curriculum shaped by Indigenous knowledge; and teaching methodologies. Students appreciated learning from Māori and non-Māori educators who were enthusiastic and passionate about Māori health and were able to role model working with Māori patients and families. Additionally, having an authentic learning environment (a site of cultural significance) improved students' understanding of the existing connection between Māori Peoples and their Land. Additionally, the incorporation of Māori health frameworks, coupled with hands-on application through small group workshops and simulated patient interview, proved instrumental in supporting learner engagement and skill development, ultimately leading to increase student confidence.

Mills and Creedy (2019) analysed 82 critical reflective essays from non-Indigenous year three students across 11 health disciplines undertaking an Aboriginal and Torres Strait Islander health unit. They found that students entered the unit with preconceived views, holding stereotypical beliefs about Aboriginal and Torres Strait Islander Peoples and questioning the relevance and value of the unit. Ramjan et al. (2016) found similar views among 65 out of 249 second year nursing students, who considered undertaking an Aboriginal and Torres Strait Islander health unit was a waste of time, irrelevant

and lacking consideration of other cultures. Ramjan et al. (2016) attributed these negative perceptions to the absence of Aboriginal and Torres Strait Islander input in developing the teaching material. Mills and Creedy (2019) emphasise that emotions integral to Aboriginal and Torres Strait Islander history, such as anger, sadness, grief, loss, hope, and resilience, are often excluded from historical narratives presented by the dominant perspective. In comparison, in the study by Mills and Creedy (2019), the Aboriginal and Torres Strait Islander health unit was taught by Aboriginal and Torres Strait Islander academics and health professionals. Students in the Mills and Creedy (2019) study also reported emotional reactions during their engagement with the unit, including feeling challenged, confronted, confused, disappointed, hopeless, ignorant, overwhelmed, ashamed, shocked, upset, worried and/or sick. Mills and Creedy (2019) propose that these emotional reactions may contribute to shifts in perspectives, when established systems of privilege are challenged.

Student perspectives are required to inform program changes that enhance student engagement and student learning. The objective of this study was to explore student perspectives of Aboriginal and Torres Strait Islander health curriculum in the QUT optometry program.

Methods

Participants

A convenience sample of 132 QUT year two and three Bachelor of Vision Science students, 132 QUT Master of Optometry students and 55 QUT Master of Optometry alumni who graduated the previous year were invited to participate in an online survey.

QUT Optometry Program Overview

The QUT optometry program comprises five years: a three-year Bachelor of Vision Science degree followed by a two-year clinical Master of Optometry degree. Following the mandatory requirement to implement the *Optometry Framework* in 2019, a considered attempt was made to include Aboriginal and Torres Strait Islander health throughout the QUT optometry program. By semester 1, 2021, there were 17.5 hours of content on Aboriginal and Torres Strait Islander health across seven of the thirty-eight units in the program, excluding clinical hours which vary between students.

In semester two of year one, students were introduced to Aboriginal and Torres Strait Islander health through a one-hour lecture and a two-hour workshop on cultural safety. In year two, students were required to complete a two-hour self-directed online educational module developed by the state public health service. The module comprised five sections covering Welcome to Country, cultural respect and recognition, communication, relationships and partnership, and capacity building with Aboriginal and Torres Strait Islander people. Modules mostly cover theme two of the *Optometry Framework*. The modules had text, interactive infographics, videos and quizzes with formative feedback. Restrictions were in place to prevent students generating a certificate of completion without working through the module, including requiring videos to play in full, having to scroll until the end of the material, having to click on all elements of an interactive infographic, and having a minimum amount of time pass before being able to move to the next slide. At the end of each section, a 100% grade was required to pass the quiz and progress to the next section. QUT optometry students completed this online

program as a mandatory prerequisite for clinical placement. They were instructed by QUT Work Integrated Learning professional staff (separate to the Optometry and Vision Science discipline, School of Clinical Sciences) to complete the program at the same time as other requirements (e.g., vaccinations and first aid training). To complete the Bachelor program, in year three Aboriginal and Torres Strait Islander health was indirectly covered during a lecture on trachoma in semester one and during a lecture on diabetic eye disease in semester two.

In year four, the first year of the Master of Optometry program, there were three two-hour lectures on racism and privilege, history, and an Aboriginal Community Controlled Health Service, and a one-hour lecture on cultural safety. In final year, there were three one-hour lectures on Aboriginal and Torres Strait Islander self-identification, racism, and public health including health promotion, the Closing the Gap strategy, the National Indigenous Eye Health Survey, and subsidised spectacle schemes. There was also a 15-minute lecture covering cultural safety and Aboriginal Community Controlled Health Services. Additionally, in year four, students could express their interest in undertaking a three to five-day placement during their final year. There were placements available in Aboriginal and Torres Strait Islander health settings in regional Queensland, Western Australia and Northern Territory. Placements were predominantly student assisted consultations, where students provided assistance to qualified optometrists and in some cases, student led consultations, where students provided clinical care under the supervision of qualified optometrists. There were enough places to accommodate approximately 70% of the cohort.

The teaching team of this field of education included non-Indigenous internal optometry staff, as well as university staff external to the optometry program (e.g., from public health) and guest lecturers who were both non-Indigenous and of Aboriginal and Torres Strait Islander descent.

All teaching activities were aligned to an assessment, with exam questions (multiple choice and short/long answer) the most common type of assessment. Case studies and a clinical practice reflective portfolio were also used.

All *Optometry Framework* learning outcomes were reflected in the QUT optometry program. Since the time of data collection, additional material has been introduced into the program.

Due to the distribution of the curriculum and the timing of data collection, first-year students were excluded from participation and immediate graduates were included to seek perspectives of the entire program.

Survey

Griffith University's Student Experience of Courses survey, modified by West et al. (2019) to evaluate an Aboriginal and Torres Strait Islander health unit, was administered. The only modification in this study was that the word "course" was replaced with "Aboriginal and Torres Strait Islander health and cultural safety curriculum". One open-ended question, "if you could change anything about the QUT Optometry Aboriginal and Torres Strait Islander health and cultural safety curriculum, what would it be?" was also added. Thus, the student survey consisted of 10 questions in total, nine questions with a five-point Likert response scale (where a numerical value from 1 [strongly disagree]

to 5 [strongly agree] was assigned for the purpose of statistical analyses), and one open-ended question (see Appendix E). All questions had the option for participants to provide comments. In addition, five demographic questions were included (Aboriginal and/or Torres Strait Islander status, age, ethnic background, gender and year level).

Pretesting and Pilot Testing. Pretesting was deemed unnecessary given the survey used in this study was primarily a well-established survey. The survey was subjected to pilot testing by eight participants: two (25%) QUT optometry alumni, one (13%) QUT Master of Optometry student, three (38%) optometrists, and two (25%) academic members of the research group involved in embedding Aboriginal and Torres Strait Islander health curriculum (SB and SH). The survey was administered via Qualtrics (Qualtrics XM, Version 05.2021). Participants were asked to critique the format and clarity of each question, the response options and instructions, as well as to note any technical issues and provide any additional feedback.

Thirty-seven items of feedback were received. Comments and revisions based on this feedback are presented in Table 19. Pilot testing feedback was first discussed between the student researcher (KP) and principal supervisor (SB). All final changes were discussed and agreed by the full research group (PA, SB, SH, KP and KRB). The final phase of pilot testing involved exporting and reviewing the pilot data generated. There were no technical errors during the pilot testing, no problems exporting the data or with the pilot data generated.

Table 19
Summary of Student Survey Pilot Testing Feedback

Comments	Revisions	n	%
Survey instructions not concise	One word added	5	14%
Demographic question not clear	Demographic question and corresponding response options modified	3	8%
Question instructions not concise	Reworded	3	8%
Question not concise	No action as using questions from the Student Experience of Courses survey	19	51%
Ordering of questions queried	No action as using questions from the Student Experience of Courses survey	1	3%
Response options not exhaustive	“N/A” and optional free text added as response options to Likert scale questions	2	5%
Response requirements needed	Forced response requirements added to Likert scale questions	1	3%
Presentation not appealing	Reformatted	2	5%
Technical query	Instructions repeated	1	3%

Note. n = 8.

Protocol

An invitation from the student researcher (KP) was emailed to the QUT email of all potential participants with a link to the survey in Qualtrics (Qualtrics XM, Version 05.2021). The invitation was also posted on the Queensland Optometry Student Society closed Facebook page for each year level and on the Early Career Optometrists Queensland Northern Territory closed Facebook page (on the assumption that most alumni were members). Additionally, a flyer was circulated to students in class by the researcher (KP) and emailed to the personal email of alumni via Optometry Queensland Northern Territory (professional organisation).

The survey was open for eight weeks during semester 1, 2022 (teaching weeks three to nine of thirteen including during the mid-semester break), with one email reminder from the student researcher (KP) one week prior to the closing date. To recognise contributions, participants were offered the chance to win a \$100 Coles-Myer gift voucher upon completion of the survey.

Where participant quotations are featured, each quote is accompanied by a unique participant identifier composed of two numbers. The first number was assigned based on the order of survey completion. The subsequent number represents the student's year level. For example, 2 denotes a student from year two, while 6 denotes an alum.

Data Analysis

Demographic data and closed survey questions were analysed using descriptive statistics. Qualitative content analysis (Schreier, 2014) was used to analyse textual responses to the open-ended question and additional comments provided. A coding frame was developed through an iterative

process until no additional concepts were found, as agreed through discussion between the researchers (KP and SB) (Schreier, 2014). The main categories were deductively determined by two researchers (SB and KP) using a concept-driven approach (see Table 24 for coding frame categories). Codes within each category were then inductively determined using a data-driven approach by the researchers (SB and KP) independently and guided by the following subsumption processes (Schreier, 2014):

1. Reading a response to a question until a relevant concept was encountered.
2. Checking whether a code that covered this concept had already been created.
3. If so, mentally subsuming this under the respective code.
4. If not, creating a new code that covered this concept.
5. Continuing to read until the next relevant concept/passage was encountered.

The process was iterative in nature, until no additional new concepts were found, as agreed through discussion between the researchers (KP and SB) (Schreier, 2014). Findings were discussed and agreed with the whole research group (PA, SB, SH, KP and KRB).

Results

Of 319 potential participants sent an invitation, 24 responded. Data from eight participants were excluded as they did not answer any survey questions beyond the demographic questions, leaving 16 participants representing an

overall response rate of 5%. All 16 participants completed the nine closed questions, eight (50%) offered optional additional comments, and ten (63%) provided textual data to the open-ended question. Students from all invited year levels participated in the survey; however, none of the alumni completed the survey. Participant characteristics are shown in Table 20 and response rates by year level are shown in Table 21.

Table 20
Participant Characteristics

Characteristic	n	%
Age group, years		
18 – 24	14	88%
25 – 29	1	6%
30 – 39	1	6%
Gender		
Female	11	69%
Male	5	31%
Identifies as of Aboriginal and/or Torres Strait Islander decent		
No	16	100%
Yes	0	0%
Year level ^a		
Two	2	13%
Three	3	19%
Four	3	19%
Five	8	50%
2021 alumni	0	0%
Ethnic background ^b		
Australian	3	19%
Chinese	4	25%
English	1	6%
Indian	1	6%
Korean	1	6%
Thai	1	6%
Vietnamese	3	19%
Inadequately described ^c	3	19%
Prefer not to say	2	13%

Note. n = 16.

^a Responses do not sum to 100% due to rounding.

^b Response options not mutually exclusive.

^c Asian (n = 1, 6%), Caucasian (n = 2, 13%), and White (n = 1, 6%) used as a proxy for ethnic background.

Table 21
Response Rate by Year Level

Year level	Invited (n)	Responded (n)	Response rate (%)
Two	76	2	3%
Three	56	3	5%
Four	65	3	5%
Five	67	8	12%
2021 alumni	55	0	0%
Total	319	16	5%

Quantitative Survey Data

Sixty-three per cent of all participants who responded to the survey agreed or strongly agreed that overall, they were satisfied with the quality of the Aboriginal and Torres Strait Islander health learning and teaching. There was strong agreement that the curriculum increased awareness and respect for the values and knowledges of Aboriginal and Torres Strait Islander Peoples, with 76% of participants agreeing or strongly agreeing with this statement. There was moderate agreement that the curriculum developed participants' sense of social responsibility, with 62% of participants agreeing or strongly agreeing with this statement. In comparison, there was divided opinion that the curriculum emphasised the importance of ongoing learning and professional development, with 50% of participants agreeing or strongly agreeing with this statement. Twenty-five per cent of participants disagreed or strongly disagreed that they had received helpful feedback on assessments, with only 38% of participants agreeing or strongly agreeing that they receive helpful feedback on assessments. The degree of agreement among

participants regarding receiving helpful feedback, engagement with the curriculum and appreciation of the importance of ongoing learning and professional development exhibited higher variability (SD 1.05-1.22) than the other six questions (SD < 1) (see Table 22 and Figure 13).

Table 22*Student Perspectives of the QUT Optometry Aboriginal and Torres Strait Islander Health Curriculum*

Question	Mean (SD)	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	N/A
The Aboriginal and Torres Strait Islander health and cultural safety curriculum was well-organised	3.93 (0.96)	31%	25%	25%	6%	0%	13%
The Aboriginal and Torres Strait Islander health and cultural safety assessment was clear and fair	3.86 (0.83)	19%	44%	19%	6%	0%	13%
I received helpful feedback on my Aboriginal and Torres Strait Islander health and cultural safety assessments	3.29 (1.22)	19%	19%	25%	19%	6%	13%
The Aboriginal and Torres Strait Islander health and cultural safety curriculum engaged me in learning	3.86 (1.19)	38%	19%	13%	19%	0%	13%
The teaching (lecturers, tutors, online etc.) on Aboriginal and Torres Strait Islander health and cultural safety curricula was effective in helping me to learn	3.86 (0.99)	25%	38%	13%	13%	0%	13%
The Aboriginal and Torres Strait Islander health and cultural safety curriculum developed my sense of social responsibility (e.g., social and civic responsibilities, human rights or sustainability)	4.00 (0.93)	31%	31%	19%	6%	0%	13%
The Aboriginal and Torres Strait Islander health and cultural safety curricula increased my appreciation of the importance of further learning and professional development throughout life	3.57 (1.05)	19%	31%	19%	19%	0%	13%
The Aboriginal and Torres Strait Islander health and cultural safety curriculum increased my awareness of and respect for the values and knowledges of Aboriginal and Torres Strait Islander Peoples	4.29 (0.70)	38%	38%	13%	0%	0%	13%
Overall, I am satisfied with the quality of the Aboriginal and Torres Strait Islander health and cultural safety curriculum	4.07 (0.96)	38%	25%	19%	6%	0%	13%

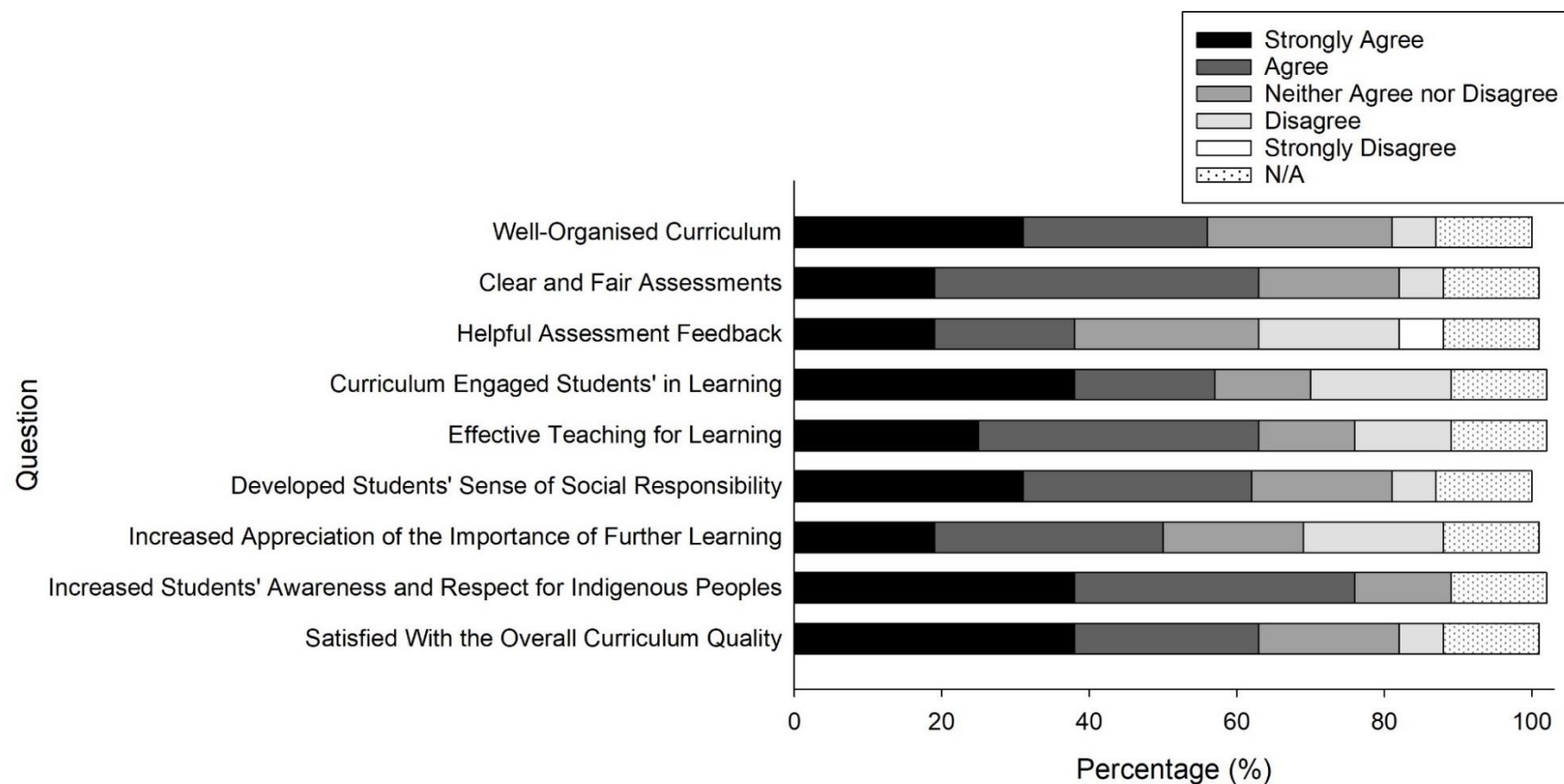
Note. n = 16.

Five-point Likert scale where 1 = strongly disagree and 5 = strongly agree.

Responses do not sum to 100% due to rounding.

Figure 13

Student Perspectives of the QUT Optometry Aboriginal and Torres Strait Islander Health Curriculum



Note. n = 16.

Responses do not sum to 100% due to rounding.

Indigenous is respectfully used to refer to Aboriginal and Torres Strait Islander Peoples.

Results for each year level are described below and shown in Table 23.

No second-year students agreed or strongly agreed that they were overall satisfied with the curriculum. Of the two second-year participants, one exclusively responded neither agree nor disagree to all questions, and the other student reported all questions were not applicable.

All three third-year students either agreed or strongly agreed that they were overall satisfied with the curriculum. All students also agreed that assessments were clear and fair, and that the curriculum increased their awareness of and respect for Aboriginal and Torres Strait Islander Peoples values and knowledges. There was high variability when asked if students received helpful feedback on their assessments (SD 1.25) and if the curriculum engaged their learning (SD 1.25). One student disagreed with five of the possible nine statements; the other two third year students did not disagree with any statement.

No fourth-year student agreed or strongly agreed that they were overall satisfied with the curriculum; responding neutral, disagreeing, or reporting the question was not applicable. Of the three fourth-year participants, one exclusively responded not applicable to all questions. There was high consistency among the other two participants, disagreeing that the curriculum was engaging or that the teaching was effective and responding neutrally about the curriculum organisation and clarity as well as the fairness of the assessments. Year-four students agreed that the curriculum increased their awareness of and respect for Aboriginal and Torres Strait Islander Peoples

values and knowledges. The remaining responses to questions on assessment feedback, appreciation of lifelong learning and development of social responsibilities varied either as neutral or agreed.

Eighty-eight per cent of fifth-year students agreed or strongly agreed that they were overall satisfied with the curriculum. One year-five participant was the only participant in the study who strongly opposed any statement, strongly disagreeing that they received helpful feedback on their assessment. This question about feedback had the highest variability among fifth-year participants (SD 1.39), with two participants giving a neutral response. One participant disagreed that they received helpful feedback on their assessments or that the assessment was clear and fair, and another disagreed that the curriculum increased their appreciation of lifelong learning. Engaging curriculum, increased appreciation for lifelong learning and increased awareness of and respect for Aboriginal and Torres Strait Islander Peoples values and knowledges each received a single neutral response.

Table 23*Student Perspectives of the QUT Optometry Aboriginal and Torres Strait Islander Health Curriculum by Year Level*

Question	Year level	Mean (SD)	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	N/A
The Aboriginal and Torres Strait Islander health and cultural safety curriculum was well-organised	2	3 (0.00)	0%	0%	50%	0%	0%	50%
	3	3 (0.82)	0%	33%	33%	33%	0%	0%
	4	3 (0.00)	0%	0%	67%	0%	0%	33%
	5	5 (0.49)	62%	38%	0%	0%	0%	0%
The Aboriginal and Torres Strait Islander health and cultural safety assessment was clear and fair	2	3 (0.00)	0%	0%	50%	0%	0%	50%
	3	4 (0.00)	0%	100%	0%	0%	0%	0%
	4	3 (0.00)	0%	0%	67%	0%	0%	33%
	5	4 (0.93)	38%	50%	0%	13%	0%	0%
I received helpful feedback on my Aboriginal and Torres Strait Islander health and cultural safety assessments	2	3 (0.00)	0%	0%	50%	0%	0%	50%
	3	4 (1.25)	33%	33%	0%	33%	0%	0%
	4	4 (0.50)	0%	33%	33%	0%	0%	33%
	5	3 (1.39)	25%	13%	25%	25%	13%	0%
The Aboriginal and Torres Strait Islander health and cultural safety curriculum engaged me in learning	2	3 (0.00)	0%	0%	50%	0%	0%	50%
	3	4 (1.25)	33%	33%	0%	33%	0%	0%
	4	2 (0.00)	0%	0%	0%	67%	0%	33%
	5	4 (0.73)	62%	25%	13%	0%	0%	0%
The teaching (lecturers, tutors, online etc.) on Aboriginal and Torres Strait Islander health and cultural safety curricula was effective in helping me to learn	2	3 (0.00)	0%	0%	50%	0%	0%	50%
	3	4 (0.82)	33%	33%	33%	0%	0%	0%
	4	2 (0.00)	0%	0%	0%	67%	0%	33%
	5	4 (0.45)	38%	62%	0%	0%	0%	0%
The Aboriginal and Torres Strait Islander health and cultural safety curriculum developed my sense of social responsibility (e.g., social and civic responsibilities, human rights or sustainability)	2	3 (0.00)	0%	0%	50%	0%	0%	50%
	3	3 (0.94)	0%	67%	0%	33%	0%	0%
	4	4 (0.50)	0%	33%	33%	0%	0%	33%
	5	5 (0.45)	62%	25%	13%	0%	0%	0%
The Aboriginal and Torres Strait Islander health and cultural safety curricula increased my appreciation of the importance of further learning and professional development throughout life	2	3 (0.00)	0%	0%	50%	0%	0%	50%
	3	3 (0.94)	0%	67%	0%	33%	0%	0%
	4	4 (0.50)	0%	33%	33%	0%	0%	33%
	5	4 (1.07)	38%	25%	13%	25%	0%	0%
The Aboriginal and Torres Strait Islander health and cultural safety curriculum increased my awareness of and respect for the values and knowledges of Aboriginal and Torres Strait Islander Peoples	2	3 (0.00)	0%	0%	50%	0%	0%	50%
	3	4 (0.00)	0%	100%	0%	0%	0%	0%
	4	4 (0.00)	0%	67%	0%	0%	0%	33%
	5	5 (0.73)	75%	13%	13%	0%	0%	0%
Overall, I am satisfied with the quality of the Aboriginal and Torres Strait Islander health and cultural safety curriculum	2	3 (0.00)	0%	0%	50%	0%	0%	50%
	3	4 (0.47)	33%	67%	0%	0%	0%	0%
	4	3 (0.50)	0%	0%	33%	33%	0%	33%
	5	4 (0.73)	62%	25%	13%	0%	0%	0%

Note. n = 2 (year 2), n = 3 (years 3 and 4), n = 8 (year 5).

Five-point Likert scale, where 1 = strongly disagree and 5 = strongly agree.

Responses do not sum to 100% due to rounding.

Qualitative Survey Data

A total of 29 optional additional comments or responses to the one open-ended question were provided. Comments were coded and grouped into the following six categories: content insufficient, important topic, experiential learning valued, direct learning from Aboriginal and Torres Strait Islander people needed, strengths-based content, and feedback on assessment (see Table 24).

Table 24

Frequencies of Comments by Categories and Codes with Illustrative Examples

Category	Codes	n	%	Illustrative examples
Content insufficient				
	No curriculum	9	24%	Have not had any [curriculum] yet. (11_4)
	Minimal curriculum	7	19%	It [curriculum] has been incredibly minimal. (7_4)
	Sufficient	2	5%	It [curriculum] was well thoroughly covered. (2_5)
	Tokenistic	2	5%	Try to incorporate it a bit better, at the moment it's a bit of an add-on, like an afterthought. (13_3)
	Total	22	58%	
Important topic				
	Suggested topics	3	8%	A greater understating (sic) of culture, traditions and attitudes may be of more benefit and utility for students. (10_5)
	Valued topics	3	8%	Topics focused on the tragic history and current struggles of Aboriginal and Torres Strait Islander communities, and how these impact health outcomes ... are necessary and in many ways fundamental. (10_5)
	Curriculum necessary	2	5%	It [curriculum] has been incredibly minimal. Especially given the disparate proportion of A/TSI (sic) affected by ocular disease. (7_4)
	Total	6	16%	
Experiential learning valued				
	Clinical placement	3	8%	Where possible, provide as many opportunities to go out to regional or rural placements as possible. (3_5)
	Immersion	1	3%	If possible, more excursion trips. (14_5)
	Total	4	11%	
Direct learning from Aboriginal and Torres Strait Islander people needed				
	Indigenous ^a teachers	3	8%	Include more talks/presentations by people who identify as Aboriginal and Torres Strait Islander. (3_5)
	Total	3	8%	
Strengths-based content				
	Strengths-based	1	3%	The majority of the related course topics focused on the tragic history and current struggles of Aboriginal and Torres Strait Islander communities, and how these impact health outcomes...I think future courses could put some more focus on the positive and celebrated aspects of Aboriginal and Torres Strait [sic] culture. This would fall under the 'strengths-based' approach of supporting these communities. Viewing patients as primarily victims may limit the ability of optometrists to relate to them as individuals and provide optimal health care. (10_5)
	Total	1	3%	
Feedback on assessment				
	Feedback	1	3%	[Helpful feedback on assessments] difficult as exam feedback isn't provided, but discussion was encouraged in lectures. (15_5)
	Total	1	3%	

Note. n = 13.

Responses do not sum to 100% due to rounding.

^a Indigenous is respectfully used to refer to Aboriginal and Torres Strait Islander Peoples.

Content Insufficient. The majority of students felt the Aboriginal and Torres Strait Islander health content in the Bachelor of Vision Science program was “incredibly minimal”; reportedly, being largely isolated to “a single module... [which] was not engaging” (11_4). Interestingly, two fourth-year students did not consider completing the online external module (see QUT Optometry Program Overview for more details) as part of the “formal teaching”. One fourth-year student regarded all survey questions as not applicable and reported they “ha[d] not had any [curriculum] yet” (11_4). Another student perceived the inclusion of the online external module as incorporated for the “sole purpose of ticking a ‘culturally competent’ box” (7_4). Others expressed a desire for more “in-course content” which is embedded rather than “add[ed]-on, like an afterthought” (13_3). Conversely, one final-year student commented on the value of having a clinical experience supported by pre-clinical material, noting their placement was a “valuable experience in connecting learning material” (14_5).

Important Topic. Students recognised the relevance and value of Aboriginal and Torres Strait Islander health curriculum by highlighting topics that deserved attention. Additionally, the perceived importance of this area of learning was reinforced by drawing connections to population health, observing that the curriculum “has been incredibly minimal. Especially given the disparate proportion of A/TSI (*sic*) affected by ocular disease (7_4).

Experiential Learning Valued. There was a strong desire for “as many opportunities to go out to regional or rural placements as possible” (3_5). One student also requested more field trips within community. However,

students reported the curriculum lacked clinical/practical skills they could apply to a consultation with Aboriginal and Torres Strait Islander patients.

Direct Learning From Aboriginal and Torres Strait Islander People Needed. Although students felt there needed to be “more hands-on opportunities to see and experience for ourselves not only through lectures and modules” (14_5), “more talks/presentations by people who identify as Aboriginal and Torres Strait Islander” (3_5) were also requested and regarded as “extremely eye-opening and educational” (14_5). One student asked for these to be greater in frequency but shorter in duration (noting that no lectures go longer than two hours (see section QUT Optometry Program Overview).

Strengths-Based Content. One student felt the present curriculum delivery “may limit the ability of optometrists to relate to them [patients] as individuals and provide optimal health care” (10_5), proposing that delivery needed to be more “strengths-based”, focusing more “on the positive and celebrat[ing] aspects of Aboriginal and Torres Strait [sic] culture” (10_5).

Feedback on Assessment. Attention was drawn to the opportunity to strengthen feedback on assessments.

Discussion

The objective of this study was to explore student perspectives of Aboriginal and Torres Strait Islander health curriculum in the QUT optometry program. It is difficult to draw conclusions about the student perspectives at each stage of the program due to the small number of students representing

each year level (zero to eight) and therefore, program rather than year level findings are discussed.

Sixty-three per cent of students who responded to the survey agreed or strongly agreed that overall, they were satisfied with the quality of the Aboriginal and Torres Strait Islander health learning and teaching. The overall satisfaction reported in this study was below the average of 77% for individual QUT units in the same teaching period (Queensland University of Technology, 2022). Although no studies have evaluated student satisfaction of Aboriginal and Torres Strait Islander health curricula embedded across a health discipline program, several report overall student satisfaction of individual units on this subject (Flavell et al., 2013; Kickett et al., 2014; Ranzijn et al., 2008; West et al., 2019; Wilson et al., 2020). Of the total 19 student evaluations ($n = 2625$ student respondents in total) from these studies, the percentage agreement for overall satisfaction ranged from 51 to 94% (mean = 81%, SD = 12%) (Flavell et al., 2013; Kickett et al., 2014; Ranzijn et al., 2008; West et al., 2019; Wilson et al., 2020).

Based on the survey findings of this current study, strong positive aspects of the Aboriginal and Torres Strait Islander health curriculum in the QUT optometry program were increased awareness of and respect for the values and knowledges of Aboriginal and Torres Strait Islander Peoples (76% of students agreed or strongly agreed) and development of sense of social responsibility (62% of students agreed or strongly agreed). Areas needing improvement were communicating the importance of ongoing learning and professional development (50% of students agreed or strongly agreed) and

receiving helpful feedback on Aboriginal and Torres Strait Islander health assessments (38% of students agreed or strongly agreed).

Increases in awareness and knowledge are the most common outcomes reported by health professional students undertaking Aboriginal and Torres Strait Islander health curriculum (Mills et al., 2018; West et al., 2019). However, knowledge acquisition equates to the lowest level of Bloom's taxonomy of learning (Anderson & Krathwohl, 2001), which corresponds to novice level learning outcomes in the *Optometry Framework* (Optometry Council of Australia and New Zealand, 2018). It is critical that higher levels of learning, meeting intermediate and entry to practice outcomes, are also achieved.

Similarly, a positive change in respect for Aboriginal and Torres Strait Islander values and knowledges was consistent with other studies (Hunt et al., 2015; Kickett et al., 2014; McCartan et al., 2021; West et al., 2019). Respect is one of five cultural capabilities listed in the *National Framework*, with the other four being communication, safety and quality, reflection, and advocacy (Department of Health, 2014). West et al. (2019) and McCartan et al. (2021) found that of the five cultural capabilities, items in the respect domain (i.e. in relation to historical context, cultural knowledge, diversity, humility and lifelong learning) had the most statistically significant change from baseline to post Aboriginal and Torres Strait Islander health curricula scores ($p < 0.05$ and $p < 0.005$ respectively). McCartan et al. (2021) attributed this finding to respect being a more tangible concept, aligned with more novice levels of learning compared to other learning outcomes requiring application to practice, such as safety and quality.

The concerns about feedback on assessment in this study are consistent with other studies of health professional students (West et al., 2019; Wilson et al., 2020). In the QUT program, this finding is most likely to be due to the lack of assessments on Aboriginal and Torres Strait Islander health. However, it could also be due to the high proportion of summative assessments, specifically invigilated written examinations (see section QUT Optometry Program Overview), which are known for not providing satisfactory opportunities for feedback (Blair & McGinty, 2013).

The comments made in this study provide additional insights into the student perspectives of Aboriginal and Torres Strait Islander health curricula in the QUT optometry program. Student perspectives were grouped into five categories: content insufficient, important topic, experiential learning valued, direct learning from Aboriginal and Torres Strait Islander people needed, strengths-based content, and feedback on assessment.

Of all the comments received, the largest number related to the amount of content. Although a few students considered the content was sufficient, more considered additional curriculum was required. The lack of content reported, particularly within the undergraduate component of the QUT optometry program, corroborated by earlier curriculum mapping undertaken as part of this research (see section QUT Optometry Program Overview), is problematic. Additional content should be introduced early in the program to ensure students have the foundations to support their learning experiences in the clinically-oriented components later in the program (Department of Health, 2014), and to provide care that is deemed culturally safe (Rasmussen, 2001). One way to include more content in the earlier years and ensure the

foundations are in place (Bullen & Roberts, 2019), is to deliver the novice and preferably intermediate *Optometry Framework* learning outcomes in a standalone unit. In nursing and midwifery programs, a standalone unit is an accreditation requirement (Australian Nursing and Midwifery Accreditation Council, 2019, 2021), and studies on standalone units predominantly come from these disciplines (Flavell et al., 2013; Thackrah & Thompson, 2018; West et al., 2019; Wilson et al., 2020; Zimmerman et al., 2019). However, Ranzijn et al. (2008) cautions against having a standalone unit without also having integrated content to avoid the unit appearing as “some kind of curiosity” (p. 133), proposing a blend of integrated material and a standalone unit. This is in agreement with the current recommendation in the *Optometry Framework* (Optometry Council of Australia and New Zealand, 2018). The *International Consensus Statement on Educating for Indigenous Health Equity* also recommends that Indigenous health curriculum be explicit, rigorously developed and consistently reinforced across all educational settings (Jones et al., 2019). Failure to meet these recommendations, particularly when compared with other areas of learning, risks Aboriginal and Torres Strait Islander health curricula having minimal impact and students perceiving the topic as inconsequential (Rasmussen, 2001). These unintended consequences speak to the hidden curriculum by communicating to students what programs really value (Ewen et al., 2012).

Findings from this study also suggest that the placement of content within the program influences the hidden curriculum, with some perceiving that a self-directed online module not attached to a unit (see section QUT Optometry Program Overview) as a tokenistic add-on. Reports of material perceived as

tokenistic are again not isolated to optometry and may lead to students devaluing content (Ramjan et al., 2016). Aspects that lead to tokenistic association include lack of vertical alignment, failure to make connections to professional practice, isolated content (Ranzijn et al., 2008) and content that is “an aberration from students’ main learning experiences” (Rasmussen, 2001, p. 102). Strategies to minimise tokenistic association include not placing Aboriginal and Torres Strait Islander health content in the final week of the semester, imposing a hurdle requirement and having an associated assessment (Jenkins & Saul, n.d; Maloney et al., 2013). Strategically placing content is also important for effective learning. The process of developing critical consciousness and unlearning of dominant knowledge, values, and beliefs (Hall et al., 2023) takes time. Additionally, some content is known to trigger resistance and disengagement among students, such as when encountering alternative worldviews, uncovering taken-for-granted prejudices and learning history from Aboriginal and Torres Strait Islander perspectives (McDermott et al., 2020). In such instances, it may be more appropriate to spread content across several weeks to provide the necessary time for the development of these concepts. Melchert et al. (2016) also suggests distributing content to minimise students becoming unnecessarily overwhelmed with the confronting nature of the subject. For the QUT program, moving the external module into a QUT optometry unit, rather than attaching it to requirements for clinical placements may minimise any unintended impression of tokenism or perception that the content is less important. This change may also support students in the early years of the program who often lack the organisational and time management skills (Kohan et al., 2017;

Maloney et al., 2013) and higher order thinking skills (Kohan et al., 2017) required to engage in a self-directed online learning environment (Hung et al., 2010). Programs should also carefully consider the possible negative perceptions of tokenism before including externally developed and branded content.

In addition to an increase in the overall quantity of Aboriginal and Torres Strait Islander health curricula, there were specific aspects of the program students wanted to see expanded. Students wanted an increase in skills that could be applied to clinical practice. These findings are consistent with studies of health professional students who wanted real-life connections to future professional practice with case-specific examples incorporated into lectures on health conditions (Leung et al., 2022) and role modelling through educators sharing personal anecdotes, showing how they incorporate theory into their clinical practice and exploring the outcomes of their decision-making process (Huria et al., 2017).

Students would also like more clinical placement opportunities and cultural field trip learning experiences. However, this request by students may not be attainable, as placements are limited at this time. QUT students wishing to attend a placement in an Aboriginal and Torres Strait Islander health care setting in their final year must submit an expression of interest in their penultimate year, with submissions assessed in conjunction with students' grade point average. Most of the cohort apply, so applications outnumber available places. Having selection criteria in place supports the recommendation that only students who are the right fit should participate in placement, rather than make the learning experience compulsory (Anderson

et al., 2019). Although strong, longstanding partnerships have enabled the large number of placement opportunities available to QUT students (Anstice et al., 2023), increasing the number of these learning experiences is challenged by funding related to student travel, accommodation, local training and supervisor remuneration. To ensure patient safety and quality student learning, the level of student involvement in clinical care should depend on the complexities of the clinical requirements, the amount of clinical supervision available, and the needs of the community.

Students in the present study also wanted more of the curriculum to be delivered by Aboriginal and Torres Strait Islander people. This is consistent with previous studies (Christian et al., 2023; Harvey et al., 2021) and, when in place, has been linked to higher student satisfaction of Aboriginal and Torres Strait Islander health units (Flavell et al., 2013; Kickett et al., 2014; Ranzijn et al., 2008). Until the Aboriginal and Torres Strait Islander workforce in optometry significantly increases (see Chapter 5: Educator Perspectives on Aboriginal and Torres Strait Islander Health Curriculum), an interim strategy to avoid overburdening the small pool of Aboriginal and Torres Strait Islander academics in other disciplines, is incorporating Aboriginal and Torres Strait Islander perspectives in other ways, such as using material from Aboriginal and Torres Strait Islander authors/presenters. However, to ensure that these alternate strategies are not perceived by students as tokenistic, it is important to prepare students with the skills required to engage in any self-directed learning and provide teaching support around any learning activity.

Concerningly, one student in this study perceived there was deficit discourse in the QUT optometry program, which is consistent with Francis-

Cracknell et al. (2022) who found health professional educators teaching Aboriginal Torres Strait Islander health continue to promote negative stereotypes (Francis-Cracknell et al., 2022). Examples that promote strengths-based teaching include highlighting models of health care that are Aboriginal and Torres Strait Islander led (Manton & Williams, 2021), focusing on success stories in Aboriginal and Torres Strait Islander health (Sivertsen et al., 2017), highlighting the resilience of Aboriginal and Torres Strait Islander Peoples (Hunt et al., 2015), shifting deficit-based language to strength-based language (Leung et al., 2022), and prioritising Aboriginal and Torres Strait Islander voices (Manton & Williams, 2021). Although these changes contribute to decolonising the curriculum, identifying the need to make changes and addressing them requires skilled educators, with meaningful transformation only possible through a whole of program and university approaches. The *International Consensus Statement on Educating for Indigenous Health Equity* supports this approach, recommending that institutions have a framework for understanding and addressing racism and privilege at institutional and curricular levels (Jones et al., 2019). This strategy should include training educators to present from a strengths-based perspective.

Although this was the first study to obtain feedback from optometry students on Aboriginal and Torres Strait Islander health curricula, several limitations should be considered. First is the low response rate in this study (5%) compared with similar studies (10-29.3%) (Christian et al., 2023; Truong et al., 2014; West et al., 2019) and the School of Optometry and Vision Science (now Optometry and Vision Science discipline, School of Clinical Sciences) response rate to the university's student evaluation survey during the same

teaching period (15.3%). Student evaluations of learning and teaching typically have low response rates, as students tend to feel overburdened and have survey fatigue (Fass-Holmes, 2022). These factors have only intensified during COVID-19. However, it is also possible that students lacked interest in the subject matter or perceived the survey as irrelevant given the curriculum's reported limited visibility. To provide context, the usual student unit evaluation surveys collect feedback on the preceding thirteen weeks, comprising approximately 150 hours of study. In contrast, this study sought feedback on three to 17.50 hours of content throughout the entirety of their optometry program.

Notably, no alumni participated in the study and therefore, perspectives of the final year level, which included 18% of the Aboriginal and Torres Strait Islander health curricula (see section QUT Optometry Program Overview), were not captured. This was despite multiple attempts at recruitment. It is possible that the low response rate reflects that alumni have moved on and are busy in the workforce, or lack of engagement and/or perceived importance with this emerging area of learning and teaching. Also, no students who responded to the survey identified as being of Aboriginal and/or Torres Strait Islander descent, noting that there were very few known Aboriginal and/or Torres Strait Islander students enrolled in the program at the time. However, if non-Indigenous students perceived the curriculum as deficit-based, it is highly likely that Aboriginal and/or Torres Strait Islander students would perceive it as even more deficit-based. Nevertheless, Aboriginal and Torres Strait Islander student perspectives have not been explored.

Additionally, the study may have been subject to social desirability (Callegaro, 2008) biases, which could have resulted in underreporting of disagreement and overreporting of agreement, rather than actual beliefs. Therefore, it is possible true evaluation scores may be lower and critical perspectives not captured, including student feedback suggestive of resistance that has been reported elsewhere (Harvey et al., 2021; Ramjan et al., 2016; Thackrah & Thompson, 2013). Although drawing conclusions from a limited sample size presents challenges, it is important to acknowledge the potential influence of positive selection biases (Goos & Salomons, 2017), whereby students with a pre-existing positive interest in the topic may have been overrepresented. This probability is further supported by the absence of comments suggestive of overt racism and student resistance, as has been the case in previous studies (McDermott et al., 2020).

It is also important to note that this study used a sample of students from one optometry program in Australia, and the results may not be generalisable to other optometry and health professional programs with different curricula and enablers/barriers. Additionally, this study only provides a snapshot in time of students' perspectives. More content has since been added to the QUT optometry program (e.g., an optional one-day cultural immersion learning experience for approximately half of fourth-year students (Anstice et al., 2023). Given the *Optometry Framework's* recency, this trend will likely continue, and re-evaluation will be required.

To gain deeper insights from students and to explore other cultural capabilities, noting that the questionnaire used in this study was limited to only some aspects of the five cultural capabilities, interviews and/or focus groups

should be conducted. Students in the current study were invited to participate in a focus group, however these did not proceed due to lack of uptake, with only one student responding to the invitation. Recruiting students to participate in interviews and/or focus groups in the future may be more fruitful as the Aboriginal and Torres Strait Islander health content increases throughout the program.

Conclusion

This study explored students' early perspectives of the Aboriginal and Torres Strait Islander health curriculum in the QUT optometry program. This study found the level of satisfaction with the Aboriginal and Torres Strait Islander health learning and teaching to be below the university average and comparable studies of other health professional programs, highlighting an opportunity to improve students' learning experience. Increasing the amount of Aboriginal and Torres Strait Islander health content is desired by students and needed to develop students' cultural capabilities and transmit the message that this topic is a priority for the program, university and profession. When actioning this, pedagogical rather than pragmatic placement of content in the program should be prioritised to minimise tokenistic association and to ensure that students have the skills to support clinical and self-directed learning environments.

Although students valued learning directly from Aboriginal and Torres Strait Islander people and placement opportunities, practicalities limit increasing these learning experiences and alternative ways to embed Aboriginal and Torres Strait Islander perspectives and provide authentic

learning experiences should be explored. Strengths-based teaching, more assessment and feedback on assessments are areas requiring attention but will only be addressed through educator training facilitated by institutional support.

By acting on this student feedback, there is the potential to engage students more in this field of education, leading to improved student satisfaction and the development of students' cultural capabilities. Addressing the learning environment through strengths-based teaching will also contribute to decolonising the curriculum, which may create a safer learning environment for current and future Aboriginal and Torres Strait Islander staff and students. The findings of this study provide insights and lessons that other optometry and health professional programs embedding Aboriginal and Torres Strait Islander health curricula should consider when designing and improving their curriculum.

Chapter 7: The Development of Guidelines for an Online Repository of Aboriginal and Torres Strait Islander Health Educational Resources in Optometry

This chapter presents the fourth and final study of research, development of guidelines for an online repository of educational resources on Aboriginal and Torres Strait Islander health for use in optometry programs. It begins with a summary of the study design followed by background information of existing online repositories and a review of the relevant literature on guidelines for evaluating and selecting resources. The next section describes the methods used in this study, expanding on the Delphi study described in the Methodology section of Chapter 3. This is followed by the results of the study and a discussion of the results with reference to the relevant literature. This study addresses research questions six and seven: How should an online repository be structured and what types of resources should be included? (RQ6) and What criteria should guide the selection of educational resources to support Aboriginal and Torres Strait Islander health curricula in optometry? (RQ7).

Introduction

The final study of this research was informed by the findings of the three preceding studies: nationwide curriculum mapping of optometry programs, educator perspectives, and student perspectives. Findings from the curriculum mapping indicated a need for additional Aboriginal and Torres Strait Islander health content and assessment. These findings were corroborated by feedback from educators and students who provided specific insights on the

need for Aboriginal and Torres Strait Islander perspectives and strengths-based content. A key theme that emerged from the survey and interviews with educators was the need for shared resources to help address the program resource constraints and increase non-Indigenous educators' knowledge and confidence in this field.

One way to provide shared resources for educators is through an online repository. Several online repositories of resources currently exist. However, the usefulness of these repositories in optometry is limited due to the lack of targeted content and more specifically to the *Optometry Framework*. In some cases, the existing repositories are impractical, due to the overwhelming volume of general resources. For example, the Australian Indigenous HealthInfoNet is a repository comprising over forty thousand entries, including policy documents, existing resources (articles, videos etc), publications developed by Australian Indigenous HealthInfoNet, information about clinical services, funding schemes, research and advocacy and over eighty thousand links to other online materials, with numerous sections and portals (Australian Indigenous HealthInfoNet, 2023). The section on eye health has about one thousand entries. However, given the Australian Indigenous HealthInfoNet target audience is health professionals and policy makers, eye health resources are primarily related to health promotion or practical resources for clinicians (Australian Indigenous HealthInfoNet, n.d.-b). The portal for health educators is even more limited, with only seventeen general and eleven optometry-specific resources. Therefore, the content does not sufficiently address all content areas of the *Optometry Framework*. Further, the majority

of resources are journal articles, and other formats optometry educators have requested such as case studies and examples of assessment, are lacking

Several internal documents guide Australian Indigenous HealthInfoNet's staff to determine whether existing resources are included in the database. Consideration is given to various criteria, including whether the resource is for or is about Aboriginal and Torres Strait Islander Peoples, recency, as well as prioritisation of Australian resources, materials from Aboriginal Community Controlled Health Organisations, and peer-reviewed journal articles (M. Poynton, personal communication, May 05, 2022). For resources that Australian Indigenous HealthInfoNet develops, quality assurance measures include a peer review process and oversight by a board of primarily Aboriginal and Torres Strait Islander representatives from key stakeholder organisations (Australian Indigenous HealthInfoNet, n.d.-a).

A second repository is the Leaders in Indigenous Medical Education website which has been primarily designed for Australian and Aotearoa New Zealand medical educators and has more than 800 Indigenous health resources (Leaders in Indigenous Medical Education Network, 2022a). The website comprises existing resources (e.g., publications, videos, reports, online training modules, books etc.) and materials developed by the Leaders in Indigenous Medical Education (e.g., good practice case studies, seminar recordings, newsletters, accreditation tools and policy and protocol documents). There are currently 24 topics that can broadly be categorised as either pedagogy (lesson plans, assessment etc), content/areas of learning and teaching (history and culture, social determinants of health, etc.) and structural (recruitment and student support, partnering with Indigenous communities,

etc.) (Leaders in Indigenous Medical Education Network, 2022b). Although some resources could be applied to health programs more broadly, the focus is very much on medical programs and their standards. Details about how resources were selected, and the quality assurance processes are not provided.

A comparable website has been developed for Australian teacher educators (University of South Australia, 2013). The website, Respect, Relationships, Reconciliation, provides reading lists and lesson plans detailing learning objectives, teaching activities and assessment tasks. Indigenous teacher educators were involved in developing the website, which is very clearly structured around Australian teaching professional standards (Australian Council of Deans of Education, n.d). Despite detailed and targeted resources to support classroom teaching, many teachers report being unaware of the website or lack the skills to engage with and effectively use it (White et al., 2019). In comparison, the Engaging and Partnering with Aboriginal and Torres Strait Islander Parents and Caregivers project created an interactive professional development website that positions educators as potentially influential agents of change through an iterative, inquiry-based learning approach (White et al., 2019). The website is centred around five areas of learning that serve as the foundations of establishing, building, and sustaining partnerships with Aboriginal and Torres Strait Islander parents and community: relationality, togetherness, critical discernment, pro-activity, and community. Although the website still houses a wide range of resources, its distinguishing feature is its focus on building the capacity of teacher educators through the pedagogical practice of storytelling, inquiry, and reflection.

Another repository is the Australian Institute of Aboriginal and Torres Strait Islander Studies (AIATSIS) website, which is home to the most extensive collection of materials related to Aboriginal and Torres Strait Islander cultures and histories, with over one million items (Australian Institute of Aboriginal and Torres Strait Islander Studies, n.d.). However, Aboriginal and Torres Strait Islander cultures and histories or the field of Aboriginal and Torres Strait Islander studies (Ma Rhea & Russell, 2012) is only one of three overarching themes of the *Optometry Framework*. Despite the extensiveness of the website it does not provide the targeted disciplinary content required to improve health services for Indigenous communities (Ma Rhea & Russell, 2012).

Aboriginal and Torres Strait Islander health and Aboriginal and Torres Strait Islander health education repositories are highly used (Australian Indigenous HealthInfoNet, 2023; Mazel & Ewen, 2015) and well regarded by users (Australian Indigenous HealthInfoNet, 2023; Leaders in Indigenous Medical Education Network, 2020). Importantly, these repositories have gained recognition for their ability to provide access to relevant, high-quality materials (Holden et al., 2015; Leaders in Indigenous Medical Education Network, 2020; Mazel & Ewen, 2015), with 91% of Australian Indigenous HealthInfoNet users (n = 388) considering the information they had accessed to be of high quality (Australian Indigenous HealthInfoNet, 2023). Notably, 93% of Aboriginal and/or Torres Strait Islander respondents (n = 163) in the 2022 Australian Indigenous HealthInfoNet User Survey strongly agreed that the Australian Indigenous HealthInfoNet website was culturally safe. This finding is likely attributed to the cultural governance and guidance of primarily

Aboriginal and/or Torres Strait Islander board members as well as the quality assurance measures reported above.

Given the limited program resources available in optometry, it is essential to balance what can be effectively managed at this point in time with what will advance future strategies as support increases. Development of shared resources requires expertise, time and funding, and careful management of intellectual property. Instead, a simple pragmatic approach to establishing a well-structured online repository for optometry educators is to curate and share *existing* resources related to the *Optometry Framework*. However, it is essential to have clear guidelines for selecting existing resources, given the many unsuitable materials that reinforce racist and stereotypical views (Anderson & Ma Rhea, 2018).

Seminal guidelines were published in 1995 to support teachers embedding Aboriginal and Torres Strait Islander studies in schools (Cranney, 1995; National Aboriginal Studies and Torres Strait Islander Studies Project, 1995; Oliver, 1995). The user-friendly *Resource Guide for Aboriginal Studies and Torres Strait Islander Studies* has five main criteria for evaluating resources: authenticity, balanced nature of the presentation, Aboriginal and/or Torres Strait Islander participation, accuracy and support (endorsement from community), and exclusion of content of a secret or sacred nature. Each section includes questions to consider about a resource, examples of items to avoid or use with caution, and strategies for managing inappropriate material (National Aboriginal Studies and Torres Strait Islander Studies Project, 1995). Importantly, it avoids dichotomous thinking; for example, not all material by Aboriginal and/or Torres Strait Islander authors will be suitable, nor will all

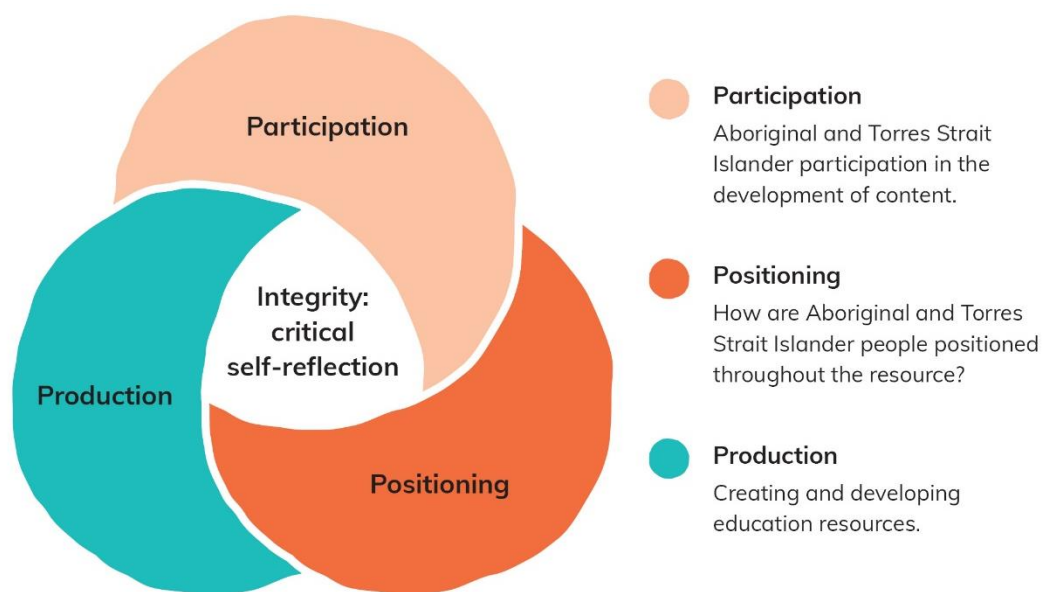
material by non-Indigenous authors be unsuitable. Given the diversity of Aboriginal and/or Torres Strait Islander Peoples and cultures, local community involvement in resource selection and delivery is reiterated throughout the guidelines; however, equally, there is emphasis that material endorsed by an Aboriginal and/or Torres Strait Islander group does not necessarily mean consensus across all Aboriginal and/or Torres Strait Islander individuals, groups and communities (National Aboriginal Studies and Torres Strait Islander Studies Project, 1995).

In 2007, the original hard-copy selection guidelines were reproduced in electronic format with minor adaptations (Craven, 2007). One recent case study that applied the 2007 guidelines to books in a primary school library found the guidelines were user-friendly; however, some parts needed to be updated and required revision, in particular around what is considered acceptable with regard to recency (Klimm & Robertson, 2021). Several organisations have since created revised guidelines for evaluating and selecting resources to support teachers (Aboriginal Studies Team et al., 2003; Narragunnawali, 2016; University of South Australia, 2013), with the most recent being from AIATSIS (Australian Institute of Aboriginal and Torres Strait Islander Studies, 2022).

The *AIATSIS Guide to Evaluating and Selecting Education Resources* (*AIATSIS Guide*), like its predecessors (Craven, 2007; National Aboriginal Studies and Torres Strait Islander Studies Project, 1995; University of South Australia, 2013), was designed to support teachers select culturally appropriate resources for teaching Aboriginal and Torres Strait Islander studies. It was not intended to be prescriptive but rather a tool to facilitate a

conscious and deliberate decision-making process by predominantly non-Indigenous teachers. An overview of the AIATSIS Resource Evaluation Framework drawn from the *AIATSIS Guide* is shown below in Figure 14.

Figure 14
The AIATSIS Resource Evaluation Framework



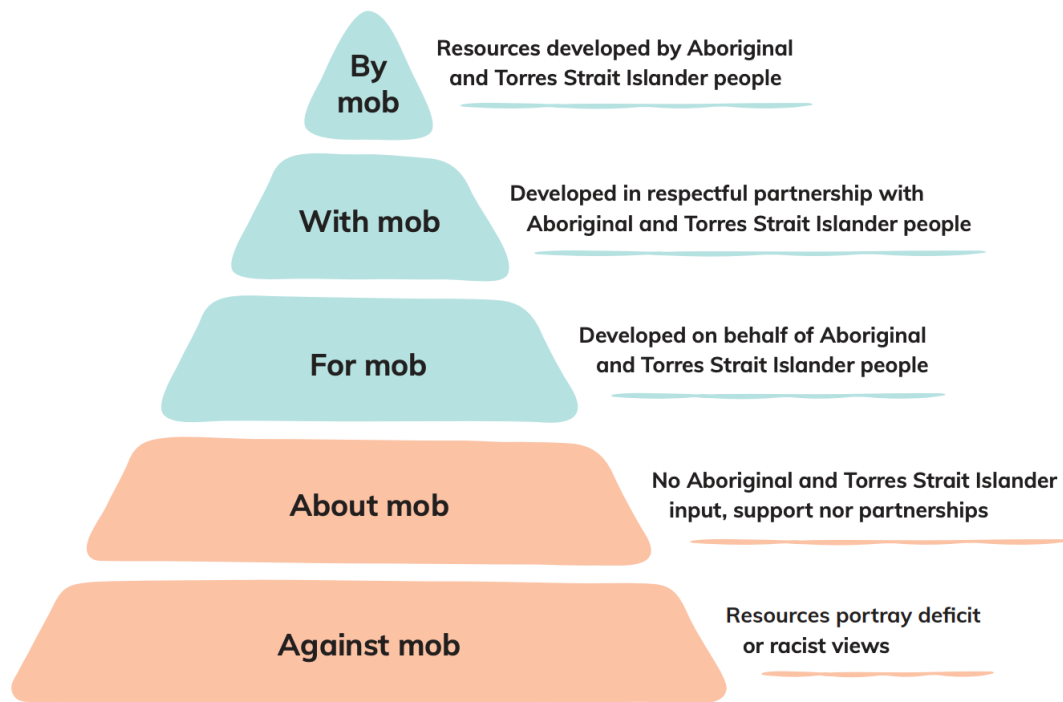
Note: Reprinted with permission from "AIATSIS Guide to evaluating and selecting education resources" by Australian Institute of Aboriginal and Torres Strait Islander Studies, 2022, Australian Institute of Aboriginal and Torres Strait Islander Studies, p.5.

Given that the current scope of the proposed online repository at this stage is to provide access to a collection of existing resources only, two key criteria for selecting resources are relevant: how Aboriginal and Torres Strait Islander people are positioned throughout the resource (which covers two of the main criteria in the original guidelines, authenticity and balanced nature of

the presentation) and Aboriginal and Torres Strait Islander participation in the development of content (which covers the remaining criteria in the original guidelines, Aboriginal and/or Torres Strait Islander participation, accuracy and support, and exclusion of content of a secret or sacred nature). The *AIATSIS Guide* also proposes a spectrum or hierarchy of resources based on cultural appropriateness and educational quality (see Figure 15). The pyramid emphasises prioritising resources that have been developed by or involved Aboriginal and Torres Strait Islander people (which relates to participation in Figure 14), as well as promoting a strengths-based approach (which aligns to positioning in Figure 14). Importantly, it is emphasised that the decision-making process when evaluating resources must be underpinned by integrity, defined as “acting in the right spirit, with respect for Country, and upholding Aboriginal and Torres Strait Islander Peoples as self-determining communities, and rights holders, whose knowledge and contributions must be recognised, respected, and valued” (Australian Institute of Aboriginal and Torres Strait Islander Studies, 2022, p. 6). This guiding principle empowers non-Indigenous educators to evaluate resources.

Figure 15

Cultural Appropriateness and Educational Quality Resource Pyramid



Note: Reprinted with permission from "AIATSIS Guide to evaluating and selecting education resources" by Australian Institute of Aboriginal and Torres Strait Islander Studies, 2022, Australian Institute of Aboriginal and Torres Strait Islander Studies, p.3.

Recognising the importance of selecting culturally appropriate resources and teaching strategies from appropriate sources is a central principle within the Engaging and Partnering with Aboriginal and Torres Strait Islander Parents and Caregivers project (White et al., 2019). To facilitate this process, teacher educators are encouraged to use the Reflect-Inquire-Reflect learning approach. This process begins with reflecting on statements required to make deliberate and informed choices about the use of resources. This is followed by a series of reflective inquiries that aim to identify areas requiring further learning as well as further reflective questions, content, resources, and

strategies for supplementary learning. Finally, the learning approach concludes with other reflective questions that focus on identifying changes that can be made to improve the selection of culturally appropriate resources and sources. Although one of the aforementioned guidelines for evaluating and selecting resources (University of South Australia, 2013) is listed as a resource for inquiry, it forms only a small component of the process. There is far greater emphasis on providing an inquiry-based learning model to support teacher educators in building their capabilities to make meaningful and sustainable change.

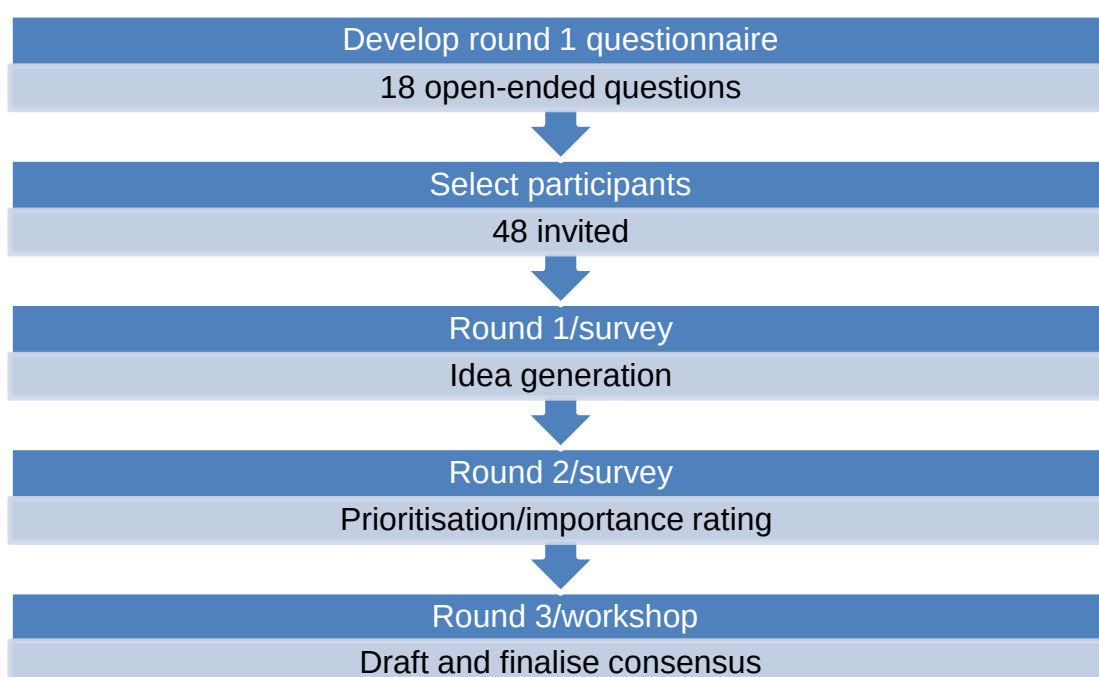
In summary, a repository of resources could be used to support primarily non-Indigenous educators in optometry programs to incorporate more strengths-based content and effectively integrate Aboriginal and Torres Strait Islander perspectives into curricula, as per the *Optometry Framework*. Although repositories have been created for health practitioners, policymakers, medical educators, and teacher educators, these can be overwhelming and lack the specificity and structure needed to cover all topics in the *Optometry Framework* to adequately support optometry educators. To establish a repository, clear guidelines are needed on the structure, process of resource selection, and the governance of the repository. The objective of this study was to develop consensus-based guidelines for creating an online repository of educational resources on Aboriginal and Torres Strait Islander health education for use in optometry curricula.

Methods

A modified Delphi study as described in the Methodology section of Chapter 3 was used. In this study, the Delphi technique involved three rounds

(two surveys and one workshop), where each round informed the next in an effort to reach agreement about guidelines to create an online repository of educational resources on Aboriginal and Torres Strait Islander health for use in optometry curricula (see Figure 16).

Figure 16
Delphi Technique Used in This Study



Consultation and Partnership with Community

Several key stakeholders were consulted and engaged to ensure the objectives and methodologies of this study were aligned with the priorities and interests of the community. Community was defined as those working to advance Aboriginal and Torres Strait Islander health education in optometry programs. Key organisations in the optometry sector that support Aboriginal and Torres Strait Islander health education are OCANZ (optometry

professional accreditation organisation), Optometry Australia (peak professional organisation) and LIOEN. The Leaders in Indigenous Medical Education Network was also consulted to understand lessons learned from their experience developing a website of resources for medical education. Each of these groups includes individuals who are Indigenous, as well as Indigenous partner organisations (Indigenous Allied Health Australia and Ngā Pou Mana). Aboriginal and Torres Strait Islander voices were prioritised.

All key stakeholders endorsed the development of an online repository of resources. In addition, the importance of having a suitable set of guidelines for selecting resources was emphasised. It was suggested that the repository include curated existing resources to begin, and that new co-developed resources could be added later. All key stakeholder groups were receptive to using a consensus-based online survey methodology to develop guidelines. Although stakeholders agreed that using an online survey methodology would be practical, efficient and facilitate the inclusion of participants spread across Australia, it was decided that the survey rounds should conclude with a facilitated workshop to provide the opportunity for open discussion and reach final consensus. It was strongly recommended that the workshop be facilitated by an expert who is Aboriginal and/or Torres Strait Islander. Waanyi and Jaruman, Professor Gregory Phillips was suggested (see <https://abstarr.com/> for a full biography). Professor Phillips is a consultant with extensive experience in Aboriginal and Torres Strait Islander health education, including developing an accredited Indigenous health curriculum for medicine, founding the Leaders in Indigenous Medical Education Network and taking a lead role in the development of the *National Scheme's Aboriginal and Torres Strait Islander*

Health and Cultural Safety Strategy 2020-2025 (Australian Health Practitioner Regulation Agency, 2020). Consultation with Professor Phillips resulted in his support for the study objectives and methodologies, and his willingness to provide advice and facilitate the workshop. An agreement with Professor Phillips was entered.

Participants

Forty-eight educators with involvement in Aboriginal and Torres Strait Islander health education at Australian optometry programs and stakeholders were invited to participate in rounds of surveys and/or workshop. The purposive sample was determined through pre-existing relationships with the research team (SB, SH and KP) and publicly available information. To ensure the sample was as inclusive as possible, the program leads and the chair/CEO of each stakeholder group were consulted. The snowball technique was also utilised, where participants were requested to forward the study invitation to Aboriginal and Torres Strait Islander colleagues who support them in Aboriginal and Torres Strait Islander health curricula in optometry. Basic demographic information about age, gender, Aboriginal and/or Torres Strait Islander identity, role in relation to this project, teaching experience, Aboriginal and Torres Strait Islander health education experience and university affiliation, was collected from participants in each survey round.

Survey

Round One. The round one survey consisted of 18 open-ended questions categorised into content, structure, processes, infrastructure and management, governance, and terminology. To ensure effective responses, participants were presented with existing options/examples where available,

an acceptable and common modification of the Delphi technique (Hsu & Sanford, 2007). An opportunity to provide additional comments and suggestions was also provided. No questions beyond the demographic questions were mandatory.

The round one survey was subjected to pretesting by six participants (see Table 1 of Appendix F) following the methods described in Chapter 4. Forty items of feedback were received. Comments and subsequent revisions are presented in Table 2 of Appendix F. The survey (see Appendix G) was then administered in Qualtrics (Qualtrics XM, Version 05.2021) for pilot testing following the methods described in Chapter 5. Four participants were recruited for the pilot (see Table 3 of Appendix F) and twenty-three items of feedback were received. Comments and the revisions made based on this feedback are presented in Table 4 of Appendix F. Comments from pre and pilot testing were minor mostly relating to wording, language and comprehension of the instructions.

Round Two. Responses from round one informed the round two survey, and modifications were made based on pre (n = 5) and pilot (n = 4) testing feedback (see Table 5 and 6 of Appendix F, respectively). The final round two survey (see Appendix H) consisted of 13 questions. For eight questions participants were asked to rate the importance of ideas/suggestions on a five-point Likert-type scale (where 1 = not at all important, 2 = slightly important, 3 = moderately important, 4 = very important, and 5 = extremely important), for three questions participants were asked to rate their level of agreement with ideas/suggestions on a five-point Likert rating scale (where 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 =

agree, and 5 = strongly agree), for one question participants were asked to rank idea/suggestions in order of preference (where 1 = first preference, 2 = second preference, and 3 = third preference), and for one open-ended question participants were asked for additional comments or suggestions. All questions had the option of no opinion and space for additional comments. Other than those about demographics, questions were not mandatory.

Round Three. A document providing a summary of round one and two survey results was created. Results were organised into twelve topics with a total of 66 statements. Statements were classified into three categories: those that achieved consensus, those that warranted further discussion, and those that did not reach consensus. Thirty-one statements reached consensus in round two, defined as 75% or more of participants responding agree or strongly agree (or important or very important) to a statement. Twenty-eight statements did not meet the pre-set criteria for consensus (defined as 69% or less of participants responded agree or strongly agree, or important or very important). Seven statements that did not quite reach consensus (defined as if 70-74% of participants responded agree or strongly agree, or important or very important), were highlighted as needing further discussion to clarify the position of the group.

Protocol

Potential participants were sent an invitation and consent form via email. It was possible to participate in any, all or none of the three rounds. Written informed consent to participate was obtained and participants could indicate whether they wished to be recognised by name in any public acknowledgements (see Appendix I for list of contributors).

Online Surveys. For rounds one and two, participants who provided consent were sent a link to the online survey regardless of their participation in previous rounds. Each survey remained open for two weeks, and a reminder email was sent one week before the survey closed. Round one was conducted in April/May 2023, and round two took place in July 2023.

Online Workshop. The final round was conducted as a one-hour online workshop, during August 2023. A calendar invitation containing the Zoom link to the workshop was sent from the student researcher (KP) to all participants one month prior to the workshop. The background information and results from the surveys (see Appendix J) to be discussed during the workshop were then circulated to those who had RSVP'd one week prior to the workshop.

The student researcher (KP) presented all findings at the workshop and discussion was facilitated by Professor Phillips of ABoriginal Straight Talking About Responsibility and Respect (ABSTARR) Consulting. ABSTARR director (SL) and two research members (SB & SH) were also present during the workshop for administrative purposes, including to monitor time, attendance, chat and reactions functions, record discussion outcomes and provide input to ABSTARR (SL & GP) if attendee discussion was out of the scope of the project (SB, SH & KP only). The workshop was not audio recorded to encourage open discussion.

Attendees were instructed by the facilitator (GP) that unless there were any comments or questions, the presentation would proceed on the basis that agreement or consensus had been reached on that issue. The workshop focused on borderline responses (where 70-74% of participants

agreed/strongly agreed or rated items as very important/extremely important), to clarify the group's position. The facilitator (GP) provided a final opportunity for attendees to make any further comments or suggestions before providing a summary of the outcomes of the workshop discussion to the group.

A one-hour debrief was held immediately after the workshop with the external consultants (SL & GP) and research team members (SB, SH & KP) to further discuss the outcomes of the workshop and confirm interpretation was consistent. Following consultation with the remaining research team members (PA & KRB), recommended guidelines were drafted and sent to all study participants two and a half weeks after the workshop. Participants were given one week to make any optional final comments. ABSTARR also reviewed the resulting guidelines as part of external validation recommended in Guidance on Conducting and Reporting Delphi Studies Checklist (Jünger et al., 2017).

Data Analysis

Quantitative Analysis. Demographic data, agreement ratings, importance ratings and rankings were analysed using descriptive statistics.

Qualitative Analysis. The answers to the open-ended questions in round one and two were analysed using content analysis (Schreier, 2012) as described in Chapter 3. The purpose was to synthesise participant responses for consideration in subsequent rounds, and ultimately to develop and reach agreement on guidelines for an online repository. First, categories were deductively derived from the concepts within each open-ended question in round one. For example, question one of round one was, "What content do you think should be included in the repository?" and was assigned the category "content type". Subcategories were then inductively determined by

applying a data-driven approach guided by the following subsumption processes (Schreier, 2014):

- Reading a response until a relevant idea was encountered.
- Checking whether a code that covered this idea had already been created.
- If so, mentally subsuming this under the respective code.
- If not, creating a new code that covered this unique idea.
- Continuing to read responses until the next relevant idea was encountered.

For example, responses or subcategories for the category “resource format” included “journal articles”, “books”, “conference abstracts” etc. Segmentation was not necessary given the data had already been divided into units (i.e., survey questions).

Responses to eight of the eighteen round one questions were independently coded by two researchers (SB and KP) and then discussed. The outcomes of discussion included:

- Responses that better addressed a different survey question were moved and analysed under the appropriate new question. For instance, responses related to formats initially listed under question one concerning content were moved to question two, which specifically inquired about formats.
- Responses that were outside the scope of this study (e.g., resource development) or indicated a misinterpretation of the

question or project (e.g., who were the intended users of the repository) were excluded but addressed in the wording of the round two survey. For suggestions outside the scope of this study, a memo was also created for future project considerations.

The remaining ten round one questions, and all round two questions were coded by one researcher (KP). The responses or subcategories within their respective categories were then synthesised into a structured survey (round 2) or document (round 3).

The results were first discussed with the second coder (SB), followed by the full research group (PA, SB, SH, KP and KRB) until consensus was reached about the synthesis of the data. Advice from ABSTARR Consulting led by Professor Phillips was also sought following each round.

Results

Forty-eight professionals involved in Aboriginal and Torres Strait Islander health education in optometry were invited to participate. Twenty-seven provided consent to participate in the surveys (56% response rate). Of the 27 who agreed, 26 responded to the round one survey. Four were excluded from the analysis as they did not answer any questions beyond the demographics, leaving 22 participants representing an overall round one response rate of 46% of the invited sample. This sample had an average of six years of Aboriginal and Torres Strait Islander health education experience (SD 7) and an average of 16 years of teaching experience (SD 9). Twenty-two of the 27 who consented responded to the round two survey invitation. However, data from two respondents were excluded from the analysis as one did not answer any questions beyond the demographics and the other did not submit their

responses, leaving 18 participants, representing an overall response rate of 38%. This sample had an average of six years of Aboriginal and Torres Strait Islander health education experience (SD 5) and an average of 17 years of teaching experience (SD 11). Participant characteristics are provided in Table 25. Thirty-one provided consent to participate in the workshop (65% response rate) however, a total of 19 participated in the workshop, resulting in an overall response rate of 35%. Demographic data was not collected in round three in an effort to encourage open, unbiased participation noting that a modified Delphi study was used and, in this case, meant anonymity was compromised.

Table 25
Participant Characteristics

Characteristic	Round One		Round Two	
	(n = 22)		(n = 18)	
	n	%	n	%
Age group, years				
20 – 30	1	5%	1	6%
31 – 40	7	32%	4	22%
41 – 50	5	23%	5	28%
51 – 60	5	23%	6	33%
61+	4	18%	2	11%
Gender				
Female	16	73%	11	61%
Male	6	27%	7	39%
Self-identifies as Aboriginal and/or Torres Strait Islander				
Yes, Aboriginal	1	5%	1	6%
No	21	95%	17	94%
Position description				

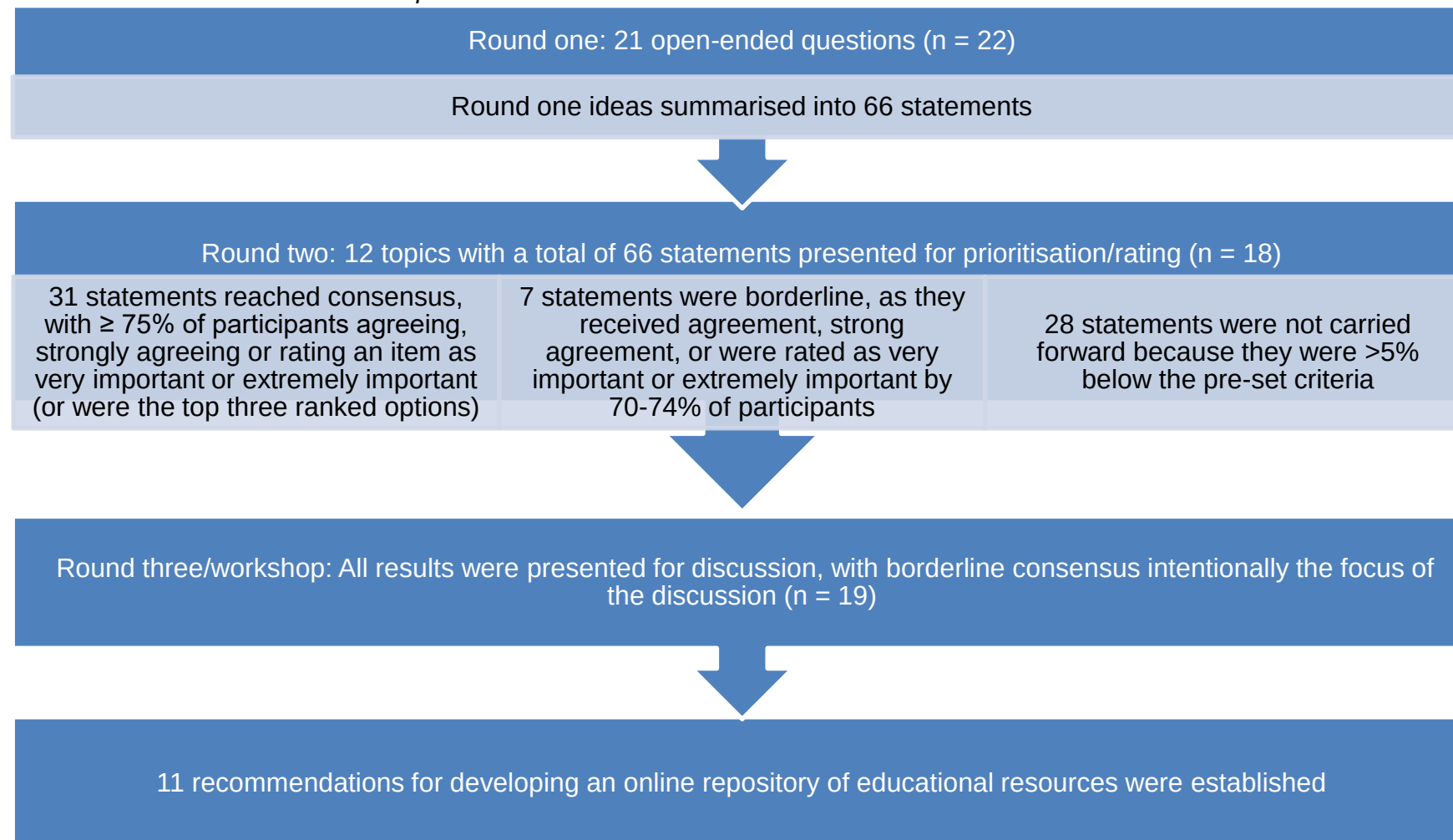
Characteristic	Round One		Round Two	
	(n = 22)		(n = 18)	
	n	%	n	%
Academic internal to an optometry program (e.g., Lecturer in School/Department/Discipline of Optometry)	15	68%	11	61%
Academic external to an optometry program but internal to the university (e.g., Lecturer in another School/Department/Discipline)	2	9%	2	11%
External visiting educator (e.g., Guest Lecturer)	2	9%	3	17%
Stakeholder group representative (e.g., OCANZ, Indigenous Allied Health Australia)	3	14%	2	12%
University affiliation				
Deakin University	3	14%	2	11%
Flinders University	1	5%	2	11%
QUT	5	23%	4	22%
The University of Melbourne	3	14%	2	11%
University of Canberra	3	14%	3	17%
University of New South Wales	1	5%	1	6%
University of Western Australia	2	9%	1	6%
N/A	4	18%	3	17%

Note. Where % does not sum to 100% this is due to rounding.

Results are described below and summarised in Figure 17.

Figure 17

Overview of the Results of the Delphi Process¹²



¹² See Appendix J for statements and corresponding percentage agreements or importance levels.

Repository Content

There was clear consensus that resources should align with the *Optometry Framework*, draw on multiple disciplines and be primarily developed by Aboriginal and Torres Strait Islander people (see Table 26). Additionally, there was consensus that the repository should include many types of resources (e.g., case studies, examples of lived experience, examples of assessment, links to websites, resources supporting Aboriginal and Torres Strait Islander students, resources on developing partnerships, information on Aboriginal and Torres Strait Islander pedagogy and a list of key Aboriginal and Torres Strait Islander health organisations), in a variety of formats (e.g., journal articles, books, video) (see Table 27).

Table 26
Format and Coverage of Resources

Statement	% of participants responding 'agree' or 'strongly agree'	Mean agreement rating (SD)
Appropriate resources in any format should be considered	100%	5.0 (0.5)
Resources should cover and align with the <i>Optometry Framework</i> themes	100%	4.4 (0.5)
Resources should draw on multiple disciplines, including, anthropology, education, law etc.	94%	4.2 (0.7)
Resources should have been primarily developed by Aboriginal and Torres Strait Islander people	78%	3.9 (0.9)
The repository should provide a limited number of quality resources	61%	3.6 (0.7)
Resources should be optometry-specific ^a	47%	3.1 (1.0)
The repository should provide as many resources as possible	39%	2.9 (1.0)

Note. n = 18 except ^a where 17 responded.

Statements shaded indicate consensus (defined as > 75%).

Agreement scale from 1 'strongly disagree' to 5 'strongly agree'.

Table 27
Types of Resources

Resource	% of participants responding 'very' or 'extremely important'	Mean importance rating (SD)
Examples of lived experience	94%	4.7 (0.6)
Links to websites that have been developed by or involve Aboriginal and Torres Strait Islander people	94%	4.4 (0.6)
Guidelines on how to support Aboriginal and Torres Strait Islander students	94%	4.4 (0.6)
Guidelines on how to develop partnerships and work with communities	94%	4.3 (0.6)
Resources covering the <i>Optometry Framework</i> themes	89%	4.5 (0.9)
Information on Aboriginal and Torres Strait Islander pedagogy and theory	89%	4.3 (0.7)
Examples of case studies	89%	4.1 (0.8)
The <i>AIATSIS Guide</i>	83%	4.3 (0.8)
List of key Aboriginal and Torres Strait Islander health organisations in each state and territory	83%	4.1 (0.8)
Resources on appropriate terminology	78%	4.2 (0.8)
Examples of assessment	78%	3.9 (0.9)
Optometry accreditation standards	61%	3.7 (1.1)
Examples of lesson plans	44%	3.6 (0.9)
Examples of role plays	44%	3.3 (1.1)

Note. n = 18 responded.

Statements shaded indicate consensus (defined as > 75%).

Importance scale from 1 'not at all important' to 5 'extremely important'.

Architecture/Structure

How the repository should be structured was less clear. Although there was agreement that the categories should be based on *Optometry Framework* themes, categorisation by Aboriginal and Torres Strait Islander ways of knowing, being and doing was also supported by 71% of round two participants (see Table 28). In round two it was suggested that Aboriginal and Torres Strait Islander input and leadership would be required if using Aboriginal and Torres Strait Islander categorisation. Additionally, given the nature of the repository, it was acknowledged that most of the resources are likely to focus on the development of knowledge, whereas understanding of ways of knowing, being and doing is also about actions and practice. Ultimately, it was agreed that the structure of the repository is likely to evolve and that categories based on the *Optometry Framework* themes would be the most easily understood and useful at this time. It was agreed that in the future, it might be ideal for the repository to use categories based on the *Optometry Framework* themes and Aboriginal and Torres Strait Islander ways of knowing, being and doing.

Table 28
Structure of the Repository

Statement	% of participants responding 'very' or 'extremely important'	Mean importance rating (SD)
Categories should be based on the <i>Optometry Framework</i> themes ^a	76%	4.1 (0.9)
Categories should be based on Aboriginal and Torres Strait Islander ways of knowing, being and doing	71%	3.9 (1.2)
Sub-categories should be based on the <i>Optometry Framework</i> sub-themes/learning outcomes ^a	71%	3.8 (0.8)
Sub-categories should be based on the <i>Optometry Framework</i> learning levels ^a	53%	3.3 (1.0)
Sub-categories should be based on the type of resource	39%	2.9 (1.2)

Note. n = 18 except ^a where 17 responded.

Statements shaded indicate consensus (defined as > 75%).

Importance scale from 1 'not at all important' to 5 'extremely important'.

Guidelines and Process

There was clear consensus that LIOEN should form a Working Group to evaluate resources submitted for inclusion in the repository (see Table 29). LIOEN is an unfunded initiative established in 2020 by the Australian and Aotearoa New Zealand optometry program leads to support Indigenous health education.

Table 29
Evaluators

Evaluators	% of participants responding 'agree' or 'strongly agree'	Mean agreement rating (SD)
The LIOEN should form a Working Group	83%	4.1 (0.7)
An appointed administrator/researcher	67%	3.6 (1.0)
Nominees from each optometry program should form a Working Group ^a	47%	3.5 (0.7)

Note. n = 18 except ^a where 17 responded.
Statements shaded indicate consensus (defined as > 75%).
Agreement scale from 1 'strongly disagree' to 5 'strongly agree'.

There was consensus that there needs to be a disclaimer to acknowledge the diverse range of Aboriginal and Torres Strait Islander Peoples, cultures, and perspectives. What was a little less clear and needed discussion was whether resources “against Aboriginal and Torres Strait Islander Peoples, portraying deficit or racist views” could be included in the repository (see Table 30). Following round three, it was agreed that resources that portray deficit or racist views could be included if their purpose is contextualised (e.g., used to illustrate racism).

The *AIATSIS Guide* was introduced in round one as a possible resource to help guide the evaluation process. The *AIATSIS Guide* was well-received as a practical tool by participants and no alternative guidelines were suggested. However, it was noted that the *AIATSIS Guide* does not specifically address other aspects of culture (e.g., gender identity, Indigenous resources from other parts of the world, etc) and that the term ‘mob’ might not be appropriate. Minor modifications to the guide were suggested in round two (see Appendix F); however, there was some discomfort expressed about modifying the *AIATSIS Guide* wording in any way. Following round three it was established that the repository governance group should further consider removing the term ‘mob’, after seeking advice from the wider community of Aboriginal and Torres Strait Islander educators involved in health curricula.

Table 30*Application of the AIATSIS Guide to Selecting Resources*

Statement	% of participants responding 'agree' or 'strongly agree'	Mean agreement rating (SD)
A disclaimer is necessary to acknowledge that even if a resource is evaluated and categorised in the "top levels of the pyramid," it may not be universally suitable due to the diverse range of Aboriginal and Torres Strait Islander Peoples, cultures, and perspectives	94%	4.4 (0.6)
All resources should be identified with the relevant classification from the <i>AIATSIS Guide</i>	89%	4.2 (0.6)
Resources "against Aboriginal and Torres Strait Islander Peoples, portraying deficit or racist views" should not be included under any circumstances, and instead a strengths-based approach should be adopted using "resources developed by Aboriginal and Torres Strait Islander people" and resources "developed in meaningful and respectful partnership with Aboriginal and Torres Strait Islander people"	72%	3.9 (1.2)
Resources "about Aboriginal and Torres Strait Islander Peoples, with no input, support or partnerships" should only be included if no other suitable resources meeting higher criteria are available	67%	3.8 (0.9)
Resources "against Aboriginal and Torres Strait Islander Peoples, portraying deficit or racist views" could be included if they are clearly identified and their purpose explained (e.g., used to illustrate racism)	67%	3.7 (1.0)

Note. n = 18.

Statements shaded indicate consensus (defined as > 75%).

Agreement scale from 1 'strongly disagree' to 5 'strongly agree'.

There was consensus that evaluators should have cultural safety training and Aboriginal and Torres Strait Islander evaluators should be remunerated. What required discussion was whether resources to be included in the repository should be determined by consensus of the evaluation Working Group (see Table 31). Following round three it was agreed that resources to be included in the repository should be determined through consensus of at least three members of the evaluation Working Group.

Table 31*Resource Evaluation Process*

Statement	% of participant responding 'agree' or 'strongly agree'	Mean agreement rating (SD)
If Aboriginal and Torres Strait Islander people are to be involved, they need to be remunerated for their time, knowledge, and expertise	100%	4.7 (0.5)
Demonstrating suitable cultural safety training should be an essential requirement before assessing materials	94%	4.6 (0.6)
Resources should be determined through group consensus	72%	3.7 (0.7)

Note. n = 18.

Statements shaded indicate consensus (defined as > 75%).

Agreement scale from 1 'strongly disagree' to 5 'strongly agree'.

Infrastructure and Management

Consensus was not reached on where the repository should be hosted (see Table 32). Notably, not all participants responded to the question. Comments on this question indicated that lack of consensus was due to participants not feeling they had sufficient technical understanding of the systems listed and the potential influence of practical considerations such as funding and copyright issues. Of the possibilities listed, the Australian Indigenous HealthInfoNet was ranked highest. It was proposed at the workshop that the repository site be left to the governing group, and this was agreed as the best way forward.

Table 32
Repository Host Site

Host site	% of participants responding 'agree' or 'strongly agree'	Mean agreement rating (SD)
The online repository should be hosted on Australian Indigenous HealthInfoNet ^a	60%	3.7 (0.8)
The online repository should use the cloud storage system, OneDrive ^b	42%	3.3 (1.0)
The online repository should use the open-source content management system WordPress ^c	36%	3.5 (0.7)
The online repository should use the learning management system, Canvas (or similar) ^c	36%	3.4 (0.8)
The online repository should use the open-source content management system Pressbook ^d	30%	3.3 (0.5)
The online repository should use the communication platform, Teams ^b	25%	3.0 (0.7)

Note. ^a 15 participants responded, ^b 12 responded, ^c 11 responded, ^d 10 responded.
Agreement scale from 1 'strongly disagree' to 5 'strongly agree'.

There was consensus that the repository should be funded through grants, philanthropy, government, and/or shared between optometry programs, and that it should not be funded through user subscription fees (see Table 33). However, important concerns were raised about the feasibility of some options and the long-term sustainability of funding models, which, again, it was proposed and agreed that the governance group will need to consider.

Table 33
Funding

Funding source	% of participants responding 'agree' or 'strongly agree'	Mean agreement rating (SD)
Grants or philanthropy ^a	88%	3.9 (1.0)
Government funding	78%	4.0 (0.8)
Shared between optometry programs ^b	75%	3.8 (0.9)
Subscription fee from users ^a	29%	2.9 (1.0)

Note. n = 18, except ^a where 17 responded and ^c where 16 responded.
Statements shaded indicate consensus (defined as > 75%).
Agreement scale from 1 'strongly disagree' to 5 'strongly agree'.

There was clear consensus that the LIOEN Reference Group should be the governing body and take responsibility for overall decision making (see Table 34).

Table 34*Governance: Who has Overall Decision-Making Authority for the Repository*

Group	% of participants responding 'agree' or 'strongly agree'	Mean agreement rating (SD)
LIOEN Reference Group	78%	3.9 (0.6)
A specifically convened governance group	53%	3.3 (0.9)
The same Working Group evaluating the resources ^a	53%	3.2 (1.1)

Note. n = 18 except ^a where 17 responded.

Statements shaded indicate consensus (defined as > 75%).

Agreement scale from 1 'strongly disagree' to 5 'strongly agree'.

There was consensus that the governance group should include members with teaching skills, cultural safety training and who are Aboriginal and Torres Strait Islander (see Table 35). Whether members with information literacy, academic skills, and governance experience should be included as a requirement needed discussion. These latter skills were considered desirable, but not essential.

Table 35
Skills Required of Decision-Makers

Attributes	% of participants responding 'very' or 'extremely important'	Mean importance rating (SD)
Teaching skills	94%	4.3 (0.6)
Aboriginal and/or Torres Strait Islander person/s ^a	88%	4.6 (0.9)
Cultural safety training	89%	4.6 (0.7)
Information literacy	72%	4.1 (0.8)
Academic skills	72%	4.0 (0.9)
Governance experience	72%	4.0 (0.8)
Optometrist ^a	53%	3.6 (0.9)
Librarian ^c	44%	3.3 (1.0)
Other health care provider ^a	35%	2.8 (1.0)
Non-Aboriginal and/or Torres Strait Islander person/s ^a	18%	2.7 (0.9)

Note. n = 18 except ^a where 17 responded and ^c where 15 responded.
 Statements shaded indicate consensus (defined as > 75%).
 Importance scales from 1 'not at all important' to 5 'extremely important'.

Name of the Repository

Relatively few names for the repository were suggested. Of the possibilities listed, LIOEN repository, the LIOEN's Den ROIR (repository of optometry Indigenous resources) and the LIOEN's Den RIOT (resources for Indigenous optometry teaching) were ranked highest in order of preference. Other suggested names included: IOPTER (Indigenous OPTometry Teaching Education Resources) and DIOPTER (Dissemination of Indigenous OPTometry Teaching Education Resources). There was also interest in naming the repository with a relevant Aboriginal or Torres Strait Islander word; however, selection of which language/Traditional Owner group would be appropriate given the national scope of the project was raised. Other comments were cautioned against acronyms which can be confusing and consideration of including cultural safety and/or Aboriginal and Torres Strait Islander perspectives in the title. It was suggested and agreed that the naming of the repository be left to the governing group.

The outcomes from the three rounds were synthesised into recommended repository guidelines (see Table 36), which were circulated to all consenting participants (survey and/or workshop) for member checking.

Table 36*Final Recommendations for Developing an Online Repository of Educational Resources*

Content	1. Resources should align with the <i>Optometry Framework</i>, draw on multiple disciplines and have been primarily developed by Aboriginal and Torres Strait Islander people. 2. The repository should include many types of resources (e.g., case studies, examples of lived experience, examples of assessment, links to websites, resources supporting Aboriginal and Torres Strait Islander students, resources on developing partnerships, information on Aboriginal and Torres Strait Islander pedagogy and a list of key Aboriginal and Torres Strait Islander health organisations), in a variety of formats (e.g., journal articles, books, video).
Structure	3. The structure should be simple and initially, categories should be based on the <i>Optometry Framework</i>.
Evaluation of resources	4. LIOEN should convene a Working Group to evaluate resources submitted for inclusion in the repository. Members of the LIOEN Working Group should have undertaken cultural safety training. Aboriginal and Torres Strait Islander members should be offered remuneration. 5. The <i>AIATSIS Guide</i> should be used to evaluate resources. However, the governance group should consider removing the term 'mob' after seeking advice from the community of Aboriginal and Torres Strait Islander educators involved in health curricula. 6. Resources should be evaluated against the <i>AIATSIS Guide</i> and agreed by at least three members of the LIOEN Working Group. 7. Resources that portray deficit or racist views could be included if their purpose is contextualised (e.g., used to illustrate racism).
Name and location	8. The name of the repository and where the repository is hosted should be decided by the governance group.
Funding	9. The repository should be funded through grants or philanthropy, government, and/or shared between optometry programs; there should not be subscription fees.
Governance	10. The LIOEN Reference Group should be the governing body for the repository and take responsibility for overall decision making. 11. It is essential for the governance group to include Aboriginal and Torres Strait Islander members, and members with teaching skills and cultural safety training. Information literacy, academic skills and governance experience are also desirable.

Discussion

The objective of this study was to develop consensus-based guidelines for creating an online repository of educational resources on Aboriginal and Torres Strait Islander health for use in optometry curricula. Consensus was reached through a modified Delphi study involving two survey rounds followed by a workshop. In response to 18 open-ended questions in the first round, 66 statements were generated and refined in subsequent rounds. A final set of eleven recommendations were made that related to the content and structure of the repository, resources evaluation processes, the name and location, funding, and governance of the repository.

To provide support to optometry educators implementing Aboriginal and Torres Strait Islander health curricula, there was consensus that the repository resources should cover the *Optometry Framework*. In addition, that resources should be drawn from multiple disciplines beyond optometry and have been primarily developed by Aboriginal and Torres Strait Islander people. These recommendations are not only necessary because this is an emerging field with few existing resources in optometry and even fewer resources with Aboriginal and Torres Strait Islander input, but because the *Optometry Framework* includes themes that are relevant to all disciplines. There is great benefit in learning from others and leveraging existing examples of best practice. Furthermore, using materials primarily developed by Aboriginal and Torres Strait Islander people aligns with the position of “nothing about Indigenous peoples, without Indigenous peoples” (Lock et al., 2022, p. 6).

In this study, participants agreed that, at this early stage of implementing Aboriginal and Torres Strait Islander health curricula, the repository should

include many types of resources (e.g., case studies, examples of lived experience, examples of assessment and a list of key Aboriginal and Torres Strait Islander health organisations), in a variety of formats (e.g., journal articles, books, video). However, some types of resources were not endorsed, such as lesson plans and role plays. Relying on lesson plans poses a risk of diminished educator engagement with the content. Further, in the field of teacher education, White et al. (2019) observed that providing detailed lesson plans on Aboriginal and Torres Strait Islander education does not facilitate meaningful change if the user does not have the skills to critically engage with the material. A repository should provide content that is a starting point for educators to do the work and develop their own safe, high quality teaching material, to encourage ongoing participation in critical self-reflection and professional development. This advice is consistent with disclaimers in existing repositories (Congress of Aboriginal and Torres Strait Islander Nurses and Midwives, n.d.; Leaders in Indigenous Nursing and Midwifery Education Network, 2018b). For example:

CATSINaM makes this material available on the understanding that users exercise their own skill and care with respect to its use. Before relying on the material in any important matter users should carefully evaluate the accuracy completeness and relevance of the information for their purposes and should obtain appropriate professional advice relevant to their particular circumstances (Leaders in Indigenous Nursing and Midwifery Education Network, 2018b, Terms & Condition section).

The lack of endorsement of role play resources was not unexpected, given that role play was identified by optometry educators as the least effective method for teaching Aboriginal and Torres Strait Islander health in an earlier part of this research (see Figure 5 of Chapter 5). The widely recognised student resistance to learning through role play (Nestel & Tierney, 2007) may have contributed to this perspective. Additionally, this attitude could have been heightened by concerns regarding the possibility of non-Indigenous individuals portraying Aboriginal and Torres Strait Islander people in role play exercises, or the safety of Aboriginal and Torres Strait Islander individuals playing the role of patients (as expressed earlier in this research; see the Quantitative Survey Data section in Chapter 5).

To support the mostly non-Indigenous educators working in the field, participants agreed the repository should have categories of resources structured according to the *Optometry Framework*, which they are required to embed. A structure based on the Aboriginal and Torres Strait Islander ways of knowing, being and doing framework was also discussed. The Aboriginal and Torres Strait Islander ways of knowing, being and doing framework is a worldview described from a Quandamook perspective as having been transmitted from ancestors who were originally granted this wisdom by a divine source (Martin & Mirraboopa, 2003). Ways of knowing refers to what is known and how it is known and informs ways of being, which refers to the appropriate and respectful conduct amongst self, Country and others. Ways of doing are informed by ways of knowing and ways of being and are expressed in “languages, art, imagery, technology, traditions and ceremonies, land management practices, social organisation and social control” (Martin &

Mirraboopa, 2003, p. 210). It was felt that using the ways of knowing, being and doing framework would be difficult at this time because of unfamiliarity and lack of confidence with this framework and the need for Aboriginal and Torres Strait Islander leadership.

The ways of knowing, being and doing framework was used in national accreditation standards for entry-level social work programs (Australian Association of Social Workers, 2012) and in cultural safety training (Indigenous Allied Health Australia, n.d) to categorise Aboriginal and Torres Strait Islander health content. For example to be culturally responsive, specific knowledge areas were listed within ways of knowing, relevant attitudes and values under ways of being and skills needed were aligned to ways of doing (Australian Association of Social Workers, 2012; Indigenous Allied Health Australia, n.d). Both these examples of using ways of knowing, being and doing to categorise content have extensive Aboriginal and Torres Strait Islander involvement. Given the low number of Aboriginal and Torres Strait Islander educators currently involved in optometry programs to help guide culturally appropriate solutions, it was decided that for now, the repository should be structured around the more familiar, mandatory *Optometry Framework*. However, there should be consideration of an Aboriginal and Torres Strait Islander framework in future when appropriate Aboriginal and Torres Strait Islander stakeholders can be involved. This decision reflects an understanding of the requirements to involve Aboriginal and Torres Strait Islander people if engaging with Aboriginal and Torres Strait Islander knowledges (Bennett et al., 2019; United Nations, 2007; Universities Australia, 2022).

It was agreed that LIOEN should convene a Working Group to evaluate resources submitted by any stakeholder for inclusion in the repository. Working Group members should have appropriate expertise and training, including cultural safety training and Aboriginal and Torres Strait Islander members should be remunerated. Recognition of the expertise and time invested in Aboriginal and Torres Strait Islander contributions is increasingly gaining acknowledgment within the higher education sector. The National Tertiary Education Union, which represents academics and professional services staff at universities, is calling for Aboriginal and Torres Strait Islander employees at universities to be compensated for unpaid additional work they perform at universities as a result of their cultural identity (Ward, 2022). Menzel (2022) provided examples, such as conducting Acknowledgement of Country or providing pronunciations and wording for Acknowledgement of Country, serving as the Aboriginal and/or Torres Strait representative on committees, acting as a cultural educator, capacity builder or cultural interpreter for staff, and engaging with Aboriginal and Torres Strait Islander students, clients, and families. This added workload has been termed “cultural load”, but culture and cultural practices are inherent strengths of Aboriginal and Torres Strait Islander Peoples and not burdens (Weenthunga Health Network, 2023). Weenthunga Health Network (2023) proposes a reframing where the burden lies correctly with those imposing it, the “colonial load”. Similarly, Day et al. (2023) assert that burdening Aboriginal and Torres Strait Islander people with workloads unrelated to their job descriptions is not indicative of cultural load but rather constitutes racial exploitation. Laycock et al. (2009) highlight the limitations of existing pay guidelines that were based on educational qualifications and failed

to account for Aboriginal and Torres Strait Islander knowledge. Watego (2021) advocates compensating Aboriginal and Torres Strait Islander guest lecturers at an expert rate. Similarly, Ryder et al. (2013) emphasise the importance of recognising the expertise of community members involved in Aboriginal and Torres Strait Islander health teaching by compensating them at the highest pay scale for tutoring. LIOEN should therefore incorporate these considerations into its budgeting process.

With regard to how resources for inclusion should be evaluated, the *AIATSIS Guide* was recommended. However, there were two concerns, the intent of the *AIATSIS Guide* and its use of the term “mob”. The *AIATSIS Guide* was intended to be used by school teachers to select resources on Aboriginal and Torres Strait Islander Peoples and cultures, and not for the many other resources relevant to the *Optometry Framework* (e.g., learning outcomes referencing optometry, eye health services and population health programs, and eye conditions). However, the principles of the *AIATSIS Guide*, including integrity and critical self-reflection, could be applied to other resources. This would involve the user critically assessing their implicit biases and assumptions when engaging with resources on a given topic (Australian Institute of Aboriginal and Torres Strait Islander Studies, 2022). Indeed, without such a commitment to continuous self-reflection privileging the dominant cultural perspectives will persist.

The second concern with the *AIATSIS Guide* was the term ‘mob’, an Aboriginal English word referring to a group of people associated with a particular Country, community, and/or an organisational group (Craven, 1996; University of Wollongong, 2019). It was suggested that the term is

inappropriate in an academic setting and that it should not be used by those who are non-Indigenous. These perspectives led to the proposal to replace the word mob with Aboriginal and Torres Strait Islander. However, some participants expressed discomfort with adapting the *AIATSIS Guide* in any way due to it having been developed and promoted by AIATSIS. The complexities of using appropriate terminology have become increasingly apparent throughout this study, which is consistent with the literature. Some universities have taken the position that it is not appropriate for non-Indigenous people to use the term mob, unless they have community acceptance (Queensland University of Technology, 2021; Universities of South Australia, 2021; University of Wollongong, 2019). Indeed, in the context of health, there are examples of mob being used in health promotion that have been co-created with community (Australian Indigenous HealthInfoNet, 2022). Navigating terminology presents challenges not only for non-Indigenous individuals (McGloin & Carlson, 2013) but also for Aboriginal and Torres Strait Islander Peoples, who hold differing opinions on whether Aboriginal and Torres Strait Islander people should use the term mob (Carlson et al., 2014; University of Wollongong, 2019), emphasising the need to consult local Aboriginal and Torres Strait Islander people or community groups about preferred terminology. Ultimately, the decision about whether to modify the term mob in the guide was deferred to the governing body through consultation following advice from the wider community of Aboriginal and Torres Strait Islander educators involved in health curricula.

Some participants advocated for excluding racist material in favour of adopting a strengths-based approach, and others argued that such

perspectives could serve as a valuable learning opportunity. Both positions have been reported in the literature. Lambert and Fadel (2022) recommend removing racist stereotypes from curriculum materials and teaching experiences to reduce experiences of marginalisation by students who identify with the depicted identity in the material, in addition to upholding ethical standards. Others propose the inclusion of such material, provided that the deficit or racist perspective is explicitly addressed, such as through explanations, disclosures and/or definitions (Craven, 1996, 2007; Green, 2021; Public Health Association Australia, n.d; Queensland University of Technology, 2021; Reconciliation Australia, 2021; Universities of South Australia, 2021; University of Wollongong, 2019). Sjorberg and McDermott (2016) also support the inclusion of stereotypes and racialised language as part of classroom discussions and written assessment activities if adopting an anti-racist approach where students are required to critically analyse and deconstruct questions containing deficit discourse. Dries and Good (2013, as cited in Sjorberg & McDermott, 2016, p.31) report that Indigenous medical students support this classroom and assessment activity, but the ability for the session to remain noncombative and productive is highly dependent on the skills of the facilitator or tutor. Participants in this study decided there is benefit in including racist resources if the resources are contextualised. Although it was agreed the repository would contain signposting of resources that contained offensive content, how educators contextualise the resources would be at their discretion. Given the responsibility lies with the educator, using resources with negative or racist undertones could be problematic if educators lack the necessary skills to present such content effectively. Therefore, this

risk and responsibility needs to be communicated to repository users, for example, through disclaimers.

In retrospect, seeking opinions on the repository's name may have been premature during this early phase of development, particularly given the uncertainty of factors such as the governance group. Nevertheless, exploring potential names revealed complexities around using Aboriginal or Torres Strait Islander words or phrases. In Janke's (2021) seminal work *True Tracks: Respecting Indigenous Knowledge and Culture*, she recommends considering the appropriateness and respectfulness of using Aboriginal or Torres Strait Islander words or phrases to name a project, emphasising a need for a genuine connection with the local Aboriginal or Torres Strait Islander Peoples and history of the place. In the context of this project, naming is complicated by the national scope and a community that is not defined by geographical location but rather professional identity.

Participants raised valid concerns about the need to consider various standards, policies, and legislation about copyright, metadata, and accessibility. Integrating the optometry repository into the Australian Indigenous HealthInfoNet would be a pragmatic approach to address such concerns given its established reputation and its mechanisms for managing the legal aspects of a public website. Nevertheless, options like this and many others require ongoing financial support. Suggestions for funding included government funding, grants, philanthropy, and/or sharing the funding among optometry programs. However, there were concerns about the sustainability of the project if relying on external sources of funding. Currently, LIOEN does not receive government funding and all work has been largely in-kind. In

comparison, the equivalent groups in medicine and nursing received \$1.75 million (National Indigenous Australians Agency, n.d) and \$2.51 million (National Indigenous Australians Agency, n.d.) respectively over a two-year period. Optometry comprises just 0.8% of the 15 regulated health disciplines workforce. Nurses and medical practitioners represent 54.7% and 15.6% of the health workforce, respectively (Ahpra and the National Boards, 2023). Given the significant differences, securing government funding seems unlikely, with health education grant proposals favouring multiple health professions over single disciplines in the past (Australian & New Zealand Association for Health Professional Educators, n.d.). Given the resource constraints in the field of Aboriginal and Torres Strait Islander health education, perhaps the way forward is for optometry to form an alliance with other allied health professions to secure funding for a joint repository. The disadvantage is that optometry would like a repository tailored to its discipline needs, specifically the *Optometry Framework*.

Consistent with existing repositories (Leaders in Indigenous Medical Education Network, 2022a; Leaders in Indigenous Nursing and Midwifery Education Network, 2018a), it was decided that LIOEN should take responsibility for the repository. It was recommended the governance group collectively comprise of Aboriginal and Torres Strait Islander members, and members with teaching skills and cultural safety training. Importantly, they did not necessarily have to be optometrists. This decision mirrors the composition of the Leaders in Indigenous Medical Education Network Reference Group, where only approximately 30% of members are medical practitioners (Leaders in Indigenous Medical Education Network, 2022a). The decision to have

Aboriginal and Torres Strait Islander people govern the project reflects an understanding of the rights of this community to participate in decision-making in education (United Nations, 2007). However, the reality is that there are very few Aboriginal and Torres Strait Islander educators working in Aboriginal and Torres Strait Islander health education. Nevertheless, it is important to continue to try to advance the field until ideal solutions can be implemented.

This research is the first to develop guidelines for the development of a repository of educational resources on Aboriginal and Torres Strait Islander health education for use in optometry curricula. However, this research has several limitations that need to be considered. One recognised limitation to the Delphi technique is the absence of a universally agreed definition of an expert (Keeney et al., 2006). In this study, expertise was further complicated due to the emerging nature of the field (Pitama et al., 2018) and predominantly non-Indigenous involvement. Although facilitated by an Aboriginal leader in the field, the predominantly non-Indigenous composition of the group limited the discussion of matters pertaining to Aboriginal and Torres Strait Islander knowledges and likely was a contributing factor to a number of decisions being deferred to community. Additionally, a modified Delphi study that included an online workshop as the final round was used, and therefore, the traditional benefit of anonymity was not maintained. This could have led to some participants being influenced by group dynamics, resulting in aligning with group consensus rather than expressing their own beliefs. However, efforts were made to mitigate this, including sharing ground rules beforehand, engaging a highly skilled and qualified Aboriginal facilitator, and allowing

participants a final opportunity to provide comments on the recommendations after the workshop.

Conclusion

This study developed guidelines for creating an online repository of educational resources on Aboriginal and Torres Strait Islander health for use in optometry curricula. These guidelines comprise eleven recommendations on content, structure, resource evaluation process, naming, location, funding, and governance of the repository. Participants who were predominantly non-Indigenous reached a clear consensus on matters related to the types of repository content, funding mechanism and the essential attributes of the governance group. However, when it came to decisions that involved Aboriginal and Torres Strait Islander culture, such as the repository structure and terminology, the group was less certain, preferring to defer these decisions to Aboriginal and Torres Strait Islander community at a later date.

The resulting recommendations reveal a nuanced balance between upholding self-determination, fostering allyship and moving the field forward. In alignment with the principles of cultural safety, this study intentionally prioritised Aboriginal and Torres Strait Islander perspectives, partnerships, reflection, and the facilitation of respectful discussions throughout its design and implementation. This was achieved by incorporating Aboriginal and Torres Strait Islander authored and/or governed options, fostering partnerships between non-Indigenous and Indigenous stakeholders through the composition of the research team, Delphi participants and external consultants, and mandating reflection by both participants and researchers, facilitated by the methodology and resource evaluation process. These

elements, perspectives, partnership, and reflection were crucial in fostering trust, agreement, and commitment not just towards the study itself, but also towards engaging with a future repository based on the study's recommendations.

Although there are clear ethical and professional frameworks supporting the engagement of Aboriginal and Torres Strait Islander Peoples when working with Aboriginal and Torres Strait Islander knowledges, deferring unresolved matters and subsequent workload to Aboriginal and Torres Strait Islander individuals will not yield the required progress until the predominantly non-Indigenous group involved in Aboriginal and Torres Strait Islander health education in optometry first address their capacity to work with Aboriginal and Torres Strait Islander knowledges and establish and sustain meaningful reciprocal partnerships.

Chapter 8: Summary and Conclusions

This chapter presents the conclusion of this thesis. It begins with a summary of the major findings, which address the research questions outlined in the Research Design section of Chapter 3. The final conclusions, strengths and limitations of the research, and future research are then presented. The chapter ends with the concluding remarks.

Summary of Major Findings

The main aim of this research was to investigate progress and advance Aboriginal and Torres Strait Islander health curricula in optometry programs. Four studies were undertaken and the major findings of each are summarised below (see Table 37).

Table 37
Summary of Major Findings

Study	Objective	Research questions	Methods	Major findings
1. Curriculum mapping	Comprehensively map the Aboriginal and Torres Strait Islander health curriculum in Australian optometry programs, assessing alignment with the <i>Optometry Framework</i> and identifying future needs in the curricula.	1. What Aboriginal and Torres Strait Islander health curriculum is currently being taught in Australian optometry programs? 2. How does Aboriginal and Torres Strait Islander health curriculum vary between programs and to what extent does it align with the <i>Optometry Framework</i>?	Curriculum mapping	The implementation of the <i>Optometry Framework</i> into curricula by programs is still in its early stages, as reflected in the limited progress made in the areas of theme two content, intermediate and entry to practice levels of learning, clinical placements, unit learning outcomes and assessment. To advance the integration of theme two content, progress the attainment of entry to practice level learning and increase clinical placements, programs need to develop reciprocal partnerships with Aboriginal and Torres Strait Islander people, communities, and health organisations. Increasing the number of explicit unit learning outcomes will result in increased assessments, which is particularly important in the pre-clinical curriculum to ensure students are adequately prepared for clinical learning experiences in Aboriginal and Torres Strait Islander health settings.
2. Educator perspectives	Explore the contextual issues, preparedness and experiences of educators involved in implementing Aboriginal and Torres Strait Islander health curricula into optometry programs, and from their perspectives, identify enablers and barriers to graduating optometrists who provide culturally safe care.	3. What Aboriginal and Torres Strait Islander health curricula do educators think is effective versus ineffective in enabling graduating optometrists to provide culturally safe care? 4. How should Aboriginal and Torres Strait Islander health curricula be taught and assessed in optometry programs?	Survey and interviews of optometry program lead and educators	There is a strong commitment and willingness to achieve progress among programs and optometry educators. However, educators mostly feel unprepared and need more training, professional development and resources; factors than can in part be addressed through partnerships and institutional investment. Given the scarcity of program resources and expertise in this area, consideration should be given to developing shared resources between optometry programs. Building capacity of non-Indigenous educators to effectively integrate Aboriginal and Torres Strait Islander health curriculum reduces the colonial load of Aboriginal and Torres Strait Islander partners.

3. Student perspectives	Explore student experiences and perspectives of Aboriginal and Torres Strait Islander health learning and teaching in the QUT optometry program.	5. What aspects of Aboriginal and Torres Strait Islander health curricula do students think contribute positively and negatively to their learning?	Survey of QUT optometry students	Students valued the inclusion of Aboriginal and Torres Strait Islander health curriculum in the program. However, there was a perception that the Aboriginal and Torres Strait Islander health content was minimal, tokenistic and at times, deficit-based. Authentic learning experiences were highly valued, specifically clinical placements, cultural immersion experiences and learning directly from Aboriginal and Torres Strait Islander people. Attention was drawn to the need for feedback on assessments. More Aboriginal and Torres Strait Islander health content is expected by students and needed to develop students' cultural capabilities and transmit the message that this topic is a priority for the program, university and profession. When actioning this, pedagogical rather than pragmatic placement of content in the program should be prioritised to minimise tokenistic association and to ensure that students have the skills to support clinical and self-directed learning environments. To engage students, programs should ensure that there are adequate opportunities for authentic learning experiences from Aboriginal and Torres Strait Islander people and communities.
4. Online repository of educational resources	Informed by the outcomes of the first three objectives, develop consensus-based guidelines for the creation of an online repository of educational resources on Aboriginal and Torres Strait Islander health for use in optometry curricula.	6. How should an online repository be structured and what types of resources should be included? 7. What criteria should guide the selection of educational resources to support Aboriginal and Torres Strait Islander health curricula in optometry?	Delphi technique of optometry educators and key stakeholders	The study generated eleven recommendations for creating an online repository of educational resources on Aboriginal and Torres Strait Islander health for use in optometry curricula. A key recommendation was that the structure of the repository should align with the <i>Optometry Framework</i>. To evaluate quality of resources, the <i>AIATSIS Guide</i> was recommended. Although predominantly strengths-based resources involving Aboriginal and Torres Strait Islander people should be used, it was agreed that deficit-based resources could be important to include, provided the purpose is contextualised (e.g., to illustrate racism). It was recommended the governance group collectively comprise of Aboriginal and Torres Strait Islander members, and members with teaching skills and cultural safety training. The process of non-Indigenous and Aboriginal and Torres Strait Islander educators and stakeholders working together in this study, with a commitment to prioritising Aboriginal and Torres Strait Islander voices was critical in establishing trust, agreement and commitment.

Study One: Aboriginal and Torres Strait Islander Health Curriculum Mapping in Optometry

The objective of this study was to map the current Aboriginal and Torres Strait Islander health curriculum in Australian optometry programs. Curriculum mapping was completed for five of seven Australian optometry programs using the OCANZ mapping template, supplemented with publicly available online information. Qualitative content analysis was applied to the data.

No program reported having a standalone Aboriginal and Torres Strait Islander health unit. Instead, programs were integrating content into core units across the year levels. Some programs offered as few as 12 hours of explicit content related to Aboriginal and Torres Strait Islander health and others up to 27 hours. There was an emphasis on theme one content, which focuses on the foundational principles of cultural safety. Conversely, theme two, which involves Aboriginal and Torres Strait Islander perspectives and knowledges, was the least well covered theme. Of all reported Aboriginal and Torres Strait Islander content, most was at the novice level of learning, with intermediate and entry to practice learning not well addressed. Not all programs offered a clinical placement opportunity in an Aboriginal and Torres Strait Islander health setting. Where placements were available, there was variation in the proportion of students who could be provided with a placement opportunity, the type of clinical experience (e.g., observation, student involvement in the consultation, student-led consultation), and the duration of placement.

Programs had zero to three unit learning outcomes explicitly related to Aboriginal and Torres Strait Islander health. Although all programs included at least some assessment related to each of the *Optometry Framework* themes,

assessment was minimal and mostly limited to non-critical reflection journaling and questions comprising part of a written examination.

The study findings suggest there has been considerable progress in the amount of Aboriginal and Torres Strait Islander health content and assessment since the mandatory requirement for programs to integrate this curriculum was introduced by the accreditation organisation in 2019 (Optometry Council of Australia and New Zealand, 2018; Truong et al., 2014). However, this study also highlights that the implementation of the *Optometry Framework* into curricula by programs is still in its early stages. Although programs have made progress, there is more work required from all programs, particularly in the areas of theme two content, intermediate and entry to practice levels of learning, clinical placements, unit learning outcomes and assessment. To advance the integration of theme two content, progress the attainment of entry to practice level learning and clinical placements, programs need to develop reciprocal partnerships with Aboriginal and Torres Strait Islander people, communities, and health organisations, grounded in self-determination. Increasing the number of explicit unit learning outcomes will result in increased assessments, which is particularly important in the pre-clinical curriculum to ensure students are adequately prepared for clinical learning experiences in Aboriginal and Torres Strait Islander health settings.

Study Two: Educator Perspectives on Aboriginal and Torres Strait Islander Health Curriculum

The objective of this study was to explore the experiences of educators involved in implementing Aboriginal and Torres Strait Islander health curriculum and, from their perspectives, what is and what is not working. A

mixed methods study design was used. Five program leads of Australian optometry programs participated in an online survey based on the *Critical Reflection Tool* (Medical Deans Australia and New Zealand, 2007) and the complementary *Periodic Systematic Review of Indigenous Health* (Leaders in Indigenous Medical Education Network, 2018). Twenty educators involved in Aboriginal and Torres Strait Islander health education in Australian optometry programs also participated in the survey and a sub-sample of seven were interviewed. Quantitative data were analysed using descriptive statistics and qualitative data using constructivist grounded theory.

Most program leads reported that the requirements outlined in the *Optometry Framework* for successful implementation of Aboriginal and Torres Strait Islander health curriculum (including community partnership and staff capacity), had only been partially achieved. Staffing and resources were perceived barriers to progress. Teaching and assessment tasks considered most useful were authentic and experiential, in particular clinical placement opportunities. There were no internal Aboriginal and/or Torres Strait Islander academics within any optometry program. Most educators only felt partially prepared for teaching the curriculum.

Program lead and educator experiences and perspectives were grouped into five interrelated categories (see Figure 12 in Chapter 5): partnerships, pedagogy, educator preparedness, resources, and organisational leadership. Partnerships were considered central to all stages of curriculum development and implementation, particularly clinical placements. However, partnerships were recognised as a work in progress with a long way to go. Some educators simply expected the support of Aboriginal and Torres Strait Islander

communities, and others understood the importance of consultation with communities and the concept of reciprocity. Program leads and educators acknowledged that they needed support in how to develop partnerships with communities.

The pedagogy category included the perspective that further content needed to be integrated. Also, attention to scaffolding was identified as an essential strategy for preparing students to undertake community clinical placement experiences. Although clinical placement was considered the ultimate learning experience for students, educators also considered that cultural immersion experiences, Aboriginal and Torres Strait Islander perspectives, strengths-based case studies and staff who role model cultural safety were effective. Assessment was thought to be complex.

The category educator preparedness was about the strong commitment and willingness to achieve progress among programs and optometry educators involved in this field of education. However, it was recognised that not all optometry educators in programs shared this dedication. In optometry, Aboriginal and Torres Strait Islander health was mostly being taught by a small number of non-Aboriginal and/or Torres Strait Islander optometry academics and a smaller number of guest academics employed in larger Schools/Units/Centres within the universities, as well as external Aboriginal and Torres Strait Islander stakeholders who give guest lectures and workshops. The primarily non-Indigenous educators in the field lacked confidence, felt unprepared and needed more training and professional development.

The resource category was about the considerable undertaking needed to implement the *Optometry Framework* and the lack of resources to do so. There was a lack of time allocated in individual workloads, concerns about the lack of Aboriginal and Torres Strait Islander educators and the burden on the few working in the field. To be efficient in this area, where expertise and resources are limited, many educators called for shared resources across programs.

The organisational leadership category included recognition and valuing of the accreditation organisation providing the impetus for progress by mandating the integration of Aboriginal and Torres Strait Islander health curriculum. Although the *Optometry Framework* was perceived as a valuable guide, it was also described as aspirational, acknowledging that successful implementation will take time and only occur with significant institutional commitment and leadership. The limited progress of universities in implementing strategies to support the recruitment and retention of Aboriginal and Torres Strait Islander staff and students was a concern.

Overall, the study indicates a strong commitment and willingness to achieve progress among programs and optometry educators. However, there are several opportunities to enhance the Aboriginal and Torres Strait Islander health curriculum in optometry. Currently, educators are primarily non-Indigenous, feel unprepared, need more training and professional development, and need more resources; factors that can in part be addressed through partnerships and institutional investment. Developing sustainable partnerships where there is reciprocity between optometry programs and Aboriginal and Torres Strait Islander educators and communities is critical to

progress. Given the scarcity of program resources and expertise in this area, consideration should be given to developing shared resources between optometry programs. Focusing on these key areas will contribute to building the capacity of non-Indigenous educators to effectively embed Aboriginal and Torres Strait Islander health curriculum, reducing the colonial load of Aboriginal and Torres Strait Islander educators and partners. In addition, it will contribute to creating a safer workplace for Aboriginal and Torres Strait Islander educators and partners and a safer learning environment for Aboriginal and Torres Strait Islander students.

Study Three: Student Perspectives on Aboriginal and Torres Strait Islander Health Curriculum

The objective of this study was to explore student perspectives of the Aboriginal and Torres Strait Islander health curriculum in the QUT optometry program. The QUT optometry program comprised approximately 20 hours of content on Aboriginal and Torres Strait Islander health, which had been integrated into lectures and modules, with opportunities for clinical placements. Students were asked for their perspectives using a ten-question online survey based on the *Student Experience of Courses Survey* (West et al., 2019), including additional questions on social responsibility, importance of further learning and awareness and respect for Aboriginal and Torres Strait Islander Peoples values and knowledges. Quantitative data were analysed using descriptive statistics and qualitative data using qualitative content analysis.

Sixteen students responded (5%), of which, 63% agreed or strongly agreed that, overall, they were satisfied with the curriculum. There was strong agreement (76% agreed or strongly agreed) that the curriculum had increased

students' awareness of and respect for the values and knowledges of Aboriginal and Torres Strait Islander Peoples, and moderate agreement (62% agreed or strongly agreed) that the curriculum developed their sense of social responsibility. In contrast, there was divided opinion (50% agreed or strongly agreed) on whether the curriculum increased their appreciation of the importance of further learning, and low agreement (38% agreed strongly or agreed) that helpful feedback on assessments was received.

Student written comments were grouped into five categories: amount and position of content, perceived relevance, experiential learning, learning directly from Aboriginal and Torres Strait Islander people, strengths-based content, and feedback. Students valued the inclusion of Aboriginal and Torres Strait Islander health curriculum in the program. However, there was a perception that the Aboriginal and Torres Strait Islander health content was minimal, tokenistic and at times, deficit-based. Authentic learning experiences were highly valued, specifically clinical placements, cultural immersion experiences and learning directly from Aboriginal and Torres Strait Islander people. Attention was drawn to the need for feedback on assessments (likely due to the small amount of related assessment in the program, mostly being questions in written examinations, where feedback was not provided).

The proportion of students (63%) who were overall satisfied with the Aboriginal and Torres Strait Islander health curriculum was lower than the university average satisfaction for individual QUT units in the same teaching period (77%) (Queensland University of Technology, 2022) and the average satisfaction for Aboriginal and Torres Strait Islander health units in comparable studies (81%) (Flavell et al., 2013; Kickett et al., 2014; Ranzijn et al., 2008;

West et al., 2019; Wilson et al., 2020). The lack of substantive content, limited authentic learning experiences, and absence of helpful feedback on assessments, likely contributed to the lower overall satisfaction. Students reported that more Aboriginal and Torres Strait Islander health content is required and needed to develop students' cultural capabilities and transmit the message that this topic is a priority for the program, university, and profession. When actioning this, pedagogical rather than pragmatic placement of content in the program should be prioritised to minimise tokenistic association and to ensure that students have the skills to support clinical and self-directed learning environments. To engage students, programs should ensure that there are adequate opportunities for authentic learning experiences from Aboriginal and Torres Strait Islander people and communities.

Study Four: The Development of Guidelines for an Online Repository of Aboriginal and Torres Strait Islander Health Resources in Optometry

The final study was informed by the findings of the three preceding studies. Findings from the curriculum mapping study indicated a need for additional content and assessment of Aboriginal and Torres Strait Islander health education. These findings were corroborated by feedback from educators and students who provided specific insights on the need for strengths-based content and Aboriginal and Torres Strait Islander perspectives. A key theme that emerged from the survey and interviews with educators, was the need for shared resources to address the resource constraints and to help increase their knowledge and confidence in this emerging field.

To support optometry educators, the objective of the final study was to develop guidelines for an online repository of Aboriginal and Torres Strait Islander health educational resources. In a modified Delphi study, 31 educators and stakeholders involved in Aboriginal and Torres Strait Islander health education in optometry participated in up to three rounds of consensus building over five months. The first two rounds comprised an online survey and the third, a video-conference workshop facilitated by an Aboriginal consultant and expert in the field. Initially, participants were asked to respond to 18 questions about the content, structure, maintenance and governance of a repository. From the first round, 66 unique responses were collated. By the end of the third round, the responses were reduced and refined to eleven agreed recommendations on content, structure, resource evaluation process, naming, location, funding, and governance of the repository.

It was agreed that repository resources should align with the *Optometry Framework*, draw on multiple disciplines and have been primarily developed by Aboriginal and Torres Strait Islander people. It was felt that there should be many types of resources (e.g., case studies, examples of lived experience, examples of assessment, links to websites, resources supporting Aboriginal and Torres Strait Islander students, resources on developing partnerships, information on Aboriginal and Torres Strait Islander pedagogy and a list of key Aboriginal and Torres Strait Islander health organisations), in a variety of formats (e.g., journal articles, books, video). It was recognised that the structure of the repository is likely to evolve but that categories based on the *Optometry Framework* are the simplest way at this time. In the future, it could

be ideal for the repository to use categories based on the ways of knowing, being and doing framework.

To evaluate the quality of resources, it was recommended that LIOEN convene a Working Group of members with cultural safety training, acknowledging that Aboriginal and Torres Strait Islander members should be offered remuneration. Resources should be evaluated against the *AIATSIS Guide* and agreed by at least three members of the LIOEN Working Group. Although predominantly strengths-based resources involving Aboriginal and Torres Strait Islander people should be used, it was agreed that deficit-based resources could be important to include, provided the purpose is contextualised (e.g., to illustrate racism).

It was suggested that the LIOEN Reference Group should be the governing body for the repository and take responsibility for overall decision making. It was recommended the governance group collectively comprise of Aboriginal and Torres Strait Islander members, and members with teaching skills and cultural safety training. Additionally, this group should seek advice from the broader community of Aboriginal and Torres Strait Islander educators engaged in Aboriginal and Torres Strait Islander health education, specifically pertaining to Aboriginal and Torres Strait Islander knowledges relevant to the repository (structure, naming and resource evaluation guide). Although consensus was reached on funding the repository through grants or philanthropy, government, and/or shared between optometry programs; it was acknowledged that the governance group would need to further consider pragmatic and sustainable factors affecting these options.

This study developed guidelines on creating an online repository of educational resources on Aboriginal and Torres Strait Islander health. The process of non-Indigenous and Aboriginal and Torres Strait Islander educators and stakeholders working together, and prioritising Aboriginal and Torres Strait Islander voices, to develop consensus-based guidelines was critical in establishing trust, agreement and commitment to progressing this field of education. The guidelines will facilitate the curation of a repository of appropriate, high-quality resources for use by all optometry educators.

Final Conclusions

Progress has been made by optometry programs integrating curriculum and meeting the requirements outlined in the *Optometry Framework* for successful implementation of Aboriginal and Torres Strait Islander health curriculum. Such progress in a relatively short timeframe underscores the usefulness of the *Optometry Framework* and supports the effectiveness of mandating this curriculum. Nevertheless, it is important to acknowledge that all programs are still in the early stages of implementation; recognising that the successful implementation of the *Optometry Framework* will require both time and significant investment.

Of the content that programs claimed to cover, a considerable proportion was only indirectly related to the required themes in the *Optometry Framework*, rather than direct (explicit) content. Furthermore, it is likely that the indirectly related content (e.g., general patient communication) has been part of the broader curriculum before the *Optometry Framework* was mandated. There needs to be more effort made to include more directly related content. Achieving this goal will require more than just making minor adjustments to a

few case studies, as emphasised by Cahn et al. (2024). Without explicitly addressing the unique history and distinct health rights of Aboriginal and Torres Strait Islander Peoples, programs will fall short in developing the cultural capabilities of students. An explicit approach to addressing the *Optometry Framework*, requires adopting a stronger critical and anti-racism pedagogy. Adopting a critical pedagogy is particularly relevant to assessments, specifically reflective assessments. These changes will not only help ensure that the curriculum is being taught and assessed at the level required for students to develop cultural capabilities but will also communicate the importance of the subject and improve the visibility of the curriculum, which was an issue raised by students (see Chapter 6: Student Perspectives on Aboriginal and Torres Strait Islander Health Curriculum). Ultimately program accreditation is entrusted with the responsibility of ensuring that all programs adhere to a standard conducive to cultivating students' cultural capabilities. This responsibility extends to ensuring that the *Optometry Framework* undergoes regular review and updates as necessary.

The necessity for a more robust anti-racism pedagogy was highlighted through curriculum mapping conducted as part of this research. Analysis revealed that the median number of lessons addressing racism ranked among the lowest, while anti-racism received even less attention. Concerns have been raised by health educators regarding teaching race and racism, citing worries about perpetuating negative stereotypes and creating a politically charged environment (Taylor et al., 2014). However, one of the guiding principles for understanding racism in Diversity Council Australia's *Racism at Work* report emphasises focusing on race and racial injustice rather than on

culture and cultural diversity (Anderson et al., 2022). Bond (2020) suggests that avoiding an examination of personal positions within racialised systems and complicity in reproducing these systems of power may be a form of strategic avoidance. However, a review of anti-racism curriculum and nurse educators within predominantly Canadian nursing education, underscored the need for personal and professional development to effectively implement anti-racist pedagogy (Bell, 2021).

One of the most notable shifts observed over the past decade, compared to the 2014 study by Truong et al. (2014), is the increased engagement of educators. In contrast to reported difficulties in programs participating in this type of research, programs and educators working in this field demonstrated a strong commitment and active participation in this research. However, the responsibility for teaching Aboriginal and Torres Strait Islander health often falls upon one or two internal staff members, without sufficient time allocated for design, implementation, and revision. Furthermore, there is a lack of preparedness and confidence among educators in this field; an expected finding, considering cultural safety training was not consistently included in staff induction or the absence of professional development opportunities (see Chapter 5: Educator Perspectives on Aboriginal and Torres Strait Islander Health Curriculum). Inadequate educator preparedness has been attributed to a lack of institutional commitment (Jones et al., 2013). Without such commitment, educators are unlikely to rely on reputable sources or have the skills to critically analyse readily available material. Indeed, a survey of educators from ten health disciplines at a single institution on practices and attitudes towards teaching Aboriginal and Torres Strait Islander health content,

found that educators were less likely to access specialised media (for example National Indigenous Television) than mainstream sources (Wolfe et al., 2018). This is problematic, considering the overwhelming negative portrayal of Aboriginal and Torres Strait Islander Peoples in the mainstream media (Stoneham et al., 2014). Without the skills to critically analyse such resources, educators risk perpetuating these deficit depictions in the classroom, reinforcing colonialism. The lower reliance on specialised media (Wolfe et al., 2018), suggests that educators may be unaware of the existence of specialised media, further supporting the likelihood that educators lack the skills to avoid reinforcing colonialism.

After educators develop their own cultural capabilities through cultural safety training, they require targeted training in this field of education. Suggested areas of focus include strengths-based teaching, working with Aboriginal and Torres Strait Islander people and organisations, understanding the *Optometry Framework*, and appropriate delivery and assessment of the curriculum; including examples linking assessment to learning outcomes (see Chapter 5: Educator Perspectives on Aboriginal and Torres Strait Islander Health Curriculum). However, in contrast to readily available cultural safety training (Supply Nation, n.d.), such targeted training is currently unavailable, demanding a customised approach, and thus requiring even greater institutional support.

Insufficient institutional investment in training has the potential for educators to inappropriately assign the responsibility of addressing their knowledge gaps to Aboriginal and Torres Strait Islander academics (Forsyth et al., 2019; Wolfe et al., 2018) and even more concerningly Aboriginal and

Torres Strait Islander students (Forsyth et al., 2019). Burdening Aboriginal and Torres Strait Islander people with workloads unrelated to their job descriptions constitutes racial exploitation (Day et al., 2023). Despite recognition and awareness of the importance of not overburdening the already stretched and insufficient Aboriginal and Torres Strait Islander workforce, numerous comments and suggestions from educators indicate they are, or are at risk of, adding to the colonial load borne by Aboriginal and Torres Strait Islander people (Weenthunga Health Network, 2023). This was particularly evident in instances where there were high and impractical expectations regarding Aboriginal and Torres Strait Islander community involvement by educators (see Chapter 5: Educator Perspectives on Aboriginal and Torres Strait Islander Health Curriculum).

Although there are clear ethical and professional frameworks supporting the engagement of Aboriginal and Torres Strait Islander people when working with Aboriginal and Torres Strait Islander knowledges, there is a distinction between respecting cultural protocol and imposing an unnecessary burden on the workload of Aboriginal and Torres Strait Islander individuals. Building the capabilities of the predominantly non-Indigenous workforce can minimise the colonial load borne by Aboriginal and Torres Strait Islander academics. This involves instilling confidence in non-Indigenous allies to make informed decisions when interacting with Aboriginal and Torres Strait Islander people, resources, and knowledges. Importantly, cultivating good allyship is not a goal attainable through a quick-fix or shortcut. It demands a commitment to ongoing learning and a willingness to navigate the complexities of culture, recognising that mistakes will inevitably occur along the way. Indeed, Bundjalung Githabal

and Worimi Saltwater Dubay/Galbaan writer, editor and audio producer advocates that “good allies aren’t necessarily perfect allies. They’re people who are trying to do better and those who learn from their mistakes” (McIlwraith, n.d., Does this sound familiar? section). This perspective provides an opportunity to model cultural safety by engaging in critical reflection and making improvement as necessary. Allyship is vital for building meaningful reciprocal relationships with Aboriginal and Torres Strait Islander educators and community, thereby maximise authentic learning opportunities. Effective allyship must also involve changes to institutional norms and practices. This includes embracing flexibility and adjusting expectations regarding timeframes. Establishing meaningful relationships requires dedicated time and patience, supported by appropriate workload allocations for this field of education. Non-Indigenous optometry educators in this study emphasised that current workload allocations are inadequate to support the time required to establish meaningful of partnerships, despite the critical importance of partnerships that was highlighted across all four studies in this research.

Although this research focused on investigating the formal curriculum outlined in the *Optometry Framework*, it became apparent that areas of the hidden curriculum were sometimes in conflict. The hidden curriculum, defined as the “set of influences that function at the level of organisational structure and culture” that “implicitly convey messages about what is and is not valued by the institution” (Hafferty, 1998, p. 404) was evident in three broad areas: language, policies, and resource allocation. The complexities of language in this field were particularly evident in the study on the development of guidelines for an online repository (see Chapter 7: The Development of Guidelines for an

Online Repository of Aboriginal and Torres Strait Islander Health Educational Resources in Optometry). Additionally, the use of deficit language emerged as an issue, from both educators and students (see Chapter 5: Educator Perspectives on Aboriginal and Torres Strait Islander Health Curriculum and 6: Student Perspectives on Aboriginal and Torres Strait Islander Health Curriculum respectively). The use of deficit language, even among educators deeply committed and engaged in this field, suggests an even greater risk of deficit language among those staff members who are not involved. Nieblas-Bedolla et al. (2020) exemplifies this risk, recounting an incident during a general ophthalmology lecture. In this case, students noticed subtle differences in language pertaining to race as well as inaccuracies. Addressing the hidden curriculum through language, requires a commitment to consistent messaging and a comprehensive, systematic review of all existing content. This could be facilitated by mandating cultural safety training for all staff, with a specific focus on strengths-based language during training.

Students adeptly identified subtle and overt instances of the hidden curriculum through language (see Chapter 6: Student Perspectives on Aboriginal and Torres Strait Islander Health Curriculum). Their engagement in initiatives addressing institutional racism and advocating for the decolonisation of higher education, such as promoting representative curriculum with diverse images of medical conditions, further underscores their awareness of the hidden curriculum (Bhambra et al., 2018; Nieblas-Bedolla et al., 2020). One possible explanation for this heightened awareness could be an increased understanding and respect for Aboriginal and Torres Strait Islander Peoples following the requirement to include Aboriginal and Torres Strait Islander

studies in the Australian school system (Australian Institute for Teaching and School Leadership, 2011). Notably, the age distribution in the 2023 referendum for constitutional recognition of the First Peoples of Australia revealed that individuals aged 18 to 24 demonstrated the highest level of support (Biddle et al., 2023). Given that Australian optometry programs primarily consist of recent school graduates (Duffy et al., 2021), criticism is anticipated to grow if the hidden curriculum, particularly educator preparedness, is not effectively addressed. With the absence of content, rather than its presence (Harvey et al., 2021; Ramjan et al., 2016; Thackrah & Thompson, 2013), increasingly likely to become a subject of discussion.

Resource allocation is another example that provides insights into the values prioritised by programs and their respective universities. This was evident in educator perspectives (see Chapter 5: Educator Perspectives on Aboriginal and Torres Strait Islander Health Curriculum) where the distribution of time within the curriculum devoted to Aboriginal and Torres Strait Islander health reportedly mirrors the programs' priorities, with program leads playing a pivotal role in either prioritising or neglecting this field of education. Concessions made for Aboriginal and Torres Strait Islander students, particularly within recruitment and retention policies, is another example of the hidden curriculum embedded in institutional policies and structures. Despite commitments to increasing the number of Aboriginal and Torres Strait Islander optometrists in the workforce (Bentley et al., 2021), insufficient progress is observed in the absence of defined targets, alternative entry programs, and dedicated support services within some optometry programs. This lack of institutional interventions and investment in student support provides a more

accurate portrayal of the underlying values of the institution. Although achieving optimal success for Aboriginal and Torres Strait Islander students requires structural transformation within institutions (Martin, 2020), programs should proactively explore strategies to contribute to and support students' on their educational journey. This involves enhancing the capacity of educators. However, improving Aboriginal and Torres Strait Islander health education requires expanding beyond the university setting. Optometry programs need to collaborate closely with community and industry stakeholders, especially in placement settings, to ensure learning is scaffolded and reinforced.

Strengths and Limitations of Research

This is the first investigation into Aboriginal and Torres Strait Islander health curricula in optometry programs. Prior to this research, the only curriculum mapping study was conducted before the publication of the *Optometry Framework*, and it did not specifically explore Aboriginal and Torres Strait Islander health or cultural safety curricula. Further, it was only recently that optometry educators' insights were shared in a review authored by lead Indigenous health educators from Australian and Aotearoa New Zealand optometry programs. However, this review offered illustrative examples rather than a comprehensive examination of educators' perspectives. Additionally, the only Australian study that investigated student perspectives focussed on assessing the level of cultural awareness and sensitivity of students, without seeking their evaluation of learning and teaching.

The research features strong representation from optometry programs, educators and Aboriginal stakeholders, and study four benefited from the

guidance of a skilled Aboriginal facilitator. However, it is important to consider several limitations of this research.

Curriculum mapping was conducted by program leads and educators within programs themselves, potentially introducing biases and inaccuracies. Furthermore, not all missing data could be addressed through publicly available online data. It is important to recognise that the data collected only provides a snapshot in time, underscoring the need for further evaluations to assess the impact of ongoing developments. Also, that the reported curriculum may differ from the actual curriculum that is taught and learned (Arafeh, 2014). Additionally, given that the mapping tool focuses on the *Optometry Framework*, it is possible that other important content areas may have been overlooked. For instance, in the National scheme's *Aboriginal and Torres Strait Islander health and cultural safety strategy 2020-2025*, emphasis is placed on fostering a safe working environment for Aboriginal and Torres Strait Islander colleagues. Although theme three of the *Optometry Framework* revolves around partnerships with Aboriginal and/or Torres Strait Islander health professionals and organisations, it does not include implications with regard to psychosocial hazards in the workplace. This is despite Aboriginal and/or Torres Strait Islander workers being twice as likely as non-Indigenous workers to have experienced discrimination and/or harassment at work in the last 12 months (Diversity Council Australia, 2021).

Regarding educator perspectives on Aboriginal and Torres Strait Islander health curriculum, perspectives were sought from all Australian optometry programs, and for some participating programs, the inaugural cohort was yet to graduate. Therefore, responses may be limited because some programs

were still in the early phases of establishment. Importantly, the study focused on educators involved in embedding Aboriginal and Torres Strait Islander health curriculum in an optometry program, so the experiences and views may not represent all staff members within the program. Additionally, social desirability bias (Callegaro, 2008) may have led to underreporting of barriers, overreporting of enablers, and the absence of negative comments or overt signs of resistance reported in previous studies (Jones et al., 2013).

The student response rate was low (5%), possibly because students perceived the survey as irrelevant given the reported limited visibility of the curriculum or because of a lack of interest in the subject matter. Additionally, there may have been positive selection bias (Goos & Salomons, 2017), potentially resulting in critical perspectives not being captured, including student feedback suggestive of resistance that has been reported elsewhere (Harvey et al., 2021; Ramjan et al., 2016; Thackrah & Thompson, 2013). Furthermore, the study provides only a snapshot in time of students' perspectives, and ongoing changes in the QUT optometry program may influence future evaluations. Lastly, the study used a sample of students from one optometry program in Australia, limiting the generalisability of results to other optometry and health professional programs with different curricula and enablers/barriers.

The development of guidelines for an online repository of Aboriginal and Torres Strait Islander health educational resources in optometry involved a modified Delphi study, with an online workshop as the final round. Therefore, the traditional benefit of anonymity was not maintained, potentially leading to some participants being influenced by group dynamics rather than expressing

their own beliefs. Although the findings of this research are limited to a single discipline, they may have relevance in other health disciplines with similar commitments to Aboriginal and Torres Strait Islander health education (Australian Health Practitioner Regulation Agency, 2020), who are at similar stages of implementation. Furthermore, given that all Australian public universities, as members of Universities Australia, are committed to embedding Aboriginal and Torres Strait Islander knowledges and perspectives (Australian Health Practitioner Regulation Agency, 2020), the outcomes of this research may hold relevance beyond health-related disciplines.

Future Research

As revisions and improvements are made to the Aboriginal and Torres Strait Islander health curriculum in optometry programs, further curriculum mapping should be conducted. Furthermore, this field of education is continually evolving. With over a decade since the publication of the *National Framework* from which the *Optometry Framework* is derived, efforts to improve various aspects have already been initiated (Hall et al., 2023). It is therefore anticipated that the *Optometry Framework* will undergo updates over time. Consequently, future curriculum mapping studies should capture any additional relevant content that might not be currently covered within the latest framework.

Additionally, gaining a more comprehensive understanding of the student experience is crucial. As noted previously, Aboriginal and Torres Strait Islander student perspectives were not captured in this research. To mitigate any deductive disclosure risk, future research should consider national studies on Aboriginal and Torres Strait Islander student perspectives. There is limited

research utilising validated tools to assess the impact of Aboriginal and Torres Strait Islander health curricula on developing cultural capabilities among health professional students (West et al., 2021), and fewer examining if Aboriginal and Torres Strait Islander health curricula lead to behavioural changes (Francis-Cracknell et al., 2019). Future studies should explore the effectiveness of Aboriginal and Torres Strait Islander health curricula on learning using validated tools such as the Ganngaleh nga Yagaleh tool (formerly the Cultural Capability Measurement Tool) (West et al., 2021). Furthermore, as cultural safety is determined by Aboriginal and Torres Strait Islander individuals, families and communities, it is important that these stakeholders are actively involved in future research evaluating the effectiveness of Aboriginal and Torres Strait Islander health education. Not only will these perspectives inform curriculum improvements, but it would also help determine whether Aboriginal and Torres Strait Islander health curriculum contributes to improved access to eyecare and enhanced perceptions of cultural safety. Despite this study not encountering overt resistance from stakeholders, it is acknowledged that some students and academics may not fully appreciate the value of Aboriginal and Torres Strait Islander education. Further research on whether the curriculum drives actual changes in behaviour would also help external stakeholders and students realise the value and importance of the curriculum. Currently, the implementation of the guidelines developed in study four is underway. Once the repository is established, the next phase of research will involve evaluating its usefulness for optometry educators. Ensuring the sustainability of the repository longer term is an important issue to consider and demands considerable effort and resourcing.

Long term sustainability will need funding support from government, similar to the Leaders in Indigenous Medical Education Network; however, it may be more practical to begin with funding and resourcing commitments from the optometry programs and the professional organisation.

Concluding Remarks

This research advances our understanding of the current state of Aboriginal and Torres Strait Islander health curricula in optometry programs. The insights gained not only contribute new knowledge but also identify areas for future curricular enhancements, providing essential support to educators in delivering engaging and effective best practice curricula.

Beyond its contribution to new knowledge, this research has played a pivotal role in cultivating relationships across various optometry programs, fostering ongoing partnerships in this specialised field of education. Partnerships were deemed central to all stages of curriculum development and implementation, becoming a key aspect of many recommendations. To ensure that partnerships are meaningful and reciprocal, it is essential for non-Indigenous educators to enhance their readiness for ongoing learning and willingness to embrace mistakes.

Successful implementation of Aboriginal and Torres Strait Islander health curriculum is complex and multifactorial. It is crucial to actively drive progress by utilising available resources, rather than adopting a passive stance and waiting for factors beyond individual or program control to grow.

The endeavours undertaken in this research contribute to the progression of Aboriginal and Torres Strait Islander health curricula within

optometry programs. Ultimately, this work aims to enhance the development of students' cultural capabilities. Such an achievement is essential for upholding Indigenous Peoples right to the highest attainable standard of health, a goal only achievable only through access to health services without discrimination (United Nations, 2007).

Bibliography

- Aboriginal Studies Team, Library and Information Literacy Team, Professional Support and Curriculum Directorate, & NSW Aboriginal Education Consultative Group Incorporated. (2003). *Aboriginal education K–12 resource guide*. NSW Department of Education and Training, Professional Support and Curriculum Directorate.
- Abuzar, M. A., Burrow, M. F., & Morgan, M. (2009). Development of a rural outplacement programme for dental undergraduates: students' perceptions. *European Journal of Dental Education*, 13(4), 233-239. <https://doi.org/10.1111/j.1600-0579.2009.00581.x>
- Abuzar, M. A., & Owen, J. (2016). A community engaged dental curriculum: A rural Indigenous outplacement programme. *Journal of Public Health Research*, 5(668), 27-31. <https://doi.org/10.4081/jphr.2016.668>
- Ahpra and the National Boards. (2023). *Ahpra and the National Boards annual report 2022/23*. Australian Health Practitioner Regulation Agency.
- Anderson, L. W., & Krathwohl, D. R. (2001). *A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives* (Abridged ed.). Longman.
- Anderson, P., & Ma Rhea, Z. (2018). Rights-based Indigenous education in Australia: Evidence-based policy to pedagogy. In M. Barnes, M. Gindidis, & S. Phillipson (Eds.), *Evidence-based learning and teaching: A look into Australian classrooms* (pp. 205-216). Routledge. <https://doi.org/10.4324/9781351129367>
- Anderson, P., Mapedzahama, V., Kaabel, A., & O'Leary, J. (2022). *Racism at work: How organisations can stand up to and end workplace racism*. Diversity Council Australia.
- Anderson, P., Rennie, J., White, S., & Darling, A. (2019). *Improving teacher education for better Indigenous outcomes - PREEpared - Partnering for Remote Education Experience: Final report May 2019*. Department of Education and Training. https://ltr.edu.au/resources/SD15-5215_FinalReport_PREEpared_Anderson_2019.pdf
- Angelo, T. (2013). Designing subjects for deeper learning: Practical research-based principles and guidelines. In L. Hunt & D. Chalmers (Eds.), *University teaching in focus: a learning-centred approach* (2nd ed.). Routledge. <https://doi.org/10.4324/9781003008330>
- Anstice, N. S., Alam, K., Armitage, J. A., Biles, B., Black, J. M., Boon, M. Y., Carlson, T., Chinnery, H. R., Collins, A. V., Cochrane, A., Duthie, D., Hopkins, S., Fitzpatrick, G., Keay, L., Watene, R., Yashadhana, A., & Bentley, S. A. (2023). Developing culturally safe education practices in optometry schools across Australia and Aotearoa New Zealand. *Clinical and Experimental Optometry*, 106(2), 110-118. <https://doi.org/10.1080/08164622.2022.2136514>
- Arafeh, S. (2014). Curriculum mapping in higher education: a case study and proposed content scope and sequence mapping tool. *Journal of Further and Higher Education*, 40(5), 585-611. <https://doi.org/10.1080/0309877X.2014.1000278>

-
- Arnold, A., Dunn, R., Taylor, H., Keeffe, J., Fox, S., Goujon, N., Xie, J., Still, R., Burnett, A., & Marolia, M. (2009). *National Indigenous eye health survey: Minum Barreng (tracking eyes) full report*. University of Melbourne.
https://mbspgh.unimelb.edu.au/data/assets/pdf_file/0004/1984144/nieshs_full_report.pdf
- Australian & New Zealand Association for Health Professional Educators. (n.d.). *Past Grant Recipients*. <https://www.anzahpe.org/Past-Grant-Recipients>
- Australian Association of Social Workers. (2012). *Australian Social Work Education and Accreditation Standards (ASWEAS) 2012*. Australian Association of Social Workers,.
- Australian Council of Deans of Education. (n.d.). Respect, Relationships and Reconciliation. <https://www.acde.edu.au/projects/matsiti/>
- Australian Health Practitioner Regulation Agency. (2020). *National scheme's Aboriginal and Torres Strait Islander health and cultural safety strategy 2020-2025*. Ahpra. <https://www.ahpra.gov.au/About-Ahpra/Aboriginal-and-Torres-Strait-Islander-Health-Strategy/health-and-cultural-safety-strategy.aspx>
- Australian Health Practitioner Regulation Agency. (2022). *Code of conduct*. Ahpra. <https://www.ahpra.gov.au/Resources/Code-of-conduct/Shared-Code-of-conduct.aspx>
- Australian Human Rights Commission. (2022). *Close the gap: Indigenous health campaign*. Australian Human Rights Commission. <https://humanrights.gov.au/our-work/aboriginal-and-torres-strait-islander-social-justice/projects/close-gap-indigenous-health>
- Australian Indigenous Doctors' Association. (n.d.). *About*. <https://aida.org.au/about/>
- Australian Indigenous HealthInfoNet. (2022). *The Australian Indigenous HealthInfoNet Guidelines for Aboriginal and Torres Strait Islander Terminology*. Australian Indigenous HealthInfoNet, Perth.
- Australian Indigenous HealthInfoNet. (2023). *Australian Indigenous HealthInfoNet Year in Review 2022*. Australian Indigenous HealthInfoNet.
- Australian Indigenous HealthInfoNet. (n.d.-a). *Quality assurance*. <https://healthinfonet.ecu.edu.au/about/our-work/quality-assurance/>
- Australian Indigenous HealthInfoNet. (n.d.-b). *What We Do*. <https://healthinfonet.ecu.edu.au/about/our-work/what-we-do/>
- Australian Institute for Teaching and School Leadership. (2011). *Australian Professional Standards for Teachers*. Australian Institute for Teaching and School Leadership.
- Australian Institute of Aboriginal and Torres Strait Islander Studies. (2022). *AIATSIS Guide to evaluating and selecting education resources*. AIATSIS. <https://aiatsis.gov.au/publication/118125>
- Australian Institute of Aboriginal and Torres Strait Islander Studies. (n.d.). *Caring for the Collection*. <https://aiatsis.gov.au/collection/caring-collection>
- Australian Nursing and Midwifery Accreditation Council. (2019). *Registered nurse accreditation standards 2019*. ANMAC.

<https://www.anmac.org.au/document/registered-nurse-accreditation-standards-2019>

- Australian Nursing and Midwifery Accreditation Council. (2021). *Midwife accreditation standards 2021*. ANMAC. <https://www.anmac.org.au/document/midwife-accreditation-standards-2021>
- Australian Qualifications Framework Council. (2013). *Australian qualifications framework* (2nd ed.). Australian Qualifications Framework Council. <https://www.aqf.edu.au/publication/aqf-second-edition>
- Bell, B. (2021). White dominance in nursing education: A target for anti-racist efforts. *Nursing Inquiry*, 28(1), e12379. <https://doi.org/10.1111/nin.12379>
- Bennett, B., Coghlan, C., Evans, K., & Morse, C. (2018a). Incorporating Aboriginal and Torres Strait Islander curriculum frameworks into practice and implications for employment. *Journal of Australian Political Economy Summer*(82), 171-189.
- Bennett, B., Redfern, H., & Zubrzycki, J. (2018b). Cultural responsiveness in action: Co-constructing social work curriculum resources with Aboriginal communities. *British Journal of Social Work*, 48(3), 808-825. <https://doi.org/10.1093/bjsw/bcx053>
- Bennett, D., Kift, S., Lee, N., O'Sullivan, S., Cullen, T., O'Shea, S., & Munckton, P. (2019). *Celebrating the legacy of Australian Learning and Teaching Fellowships*. Department of Education and Training.
- Bennett, P., Jones, D., Brown, J., & Barlow, V. (2013). Supporting rural/remote primary health care placement experiences increases undergraduate nurse confidence. *Nurse Education Today*, 33(2), 166-172. <https://doi.org/10.1016/j.nedt.2012.02.015>
- Benson, J., Ryder, C., Gill, M., & Balabanski, A. (2015). A brief experience for medical students in a remote Aboriginal community. *Australian Family Physician*, 44(10), 752-759.
- Bentley, S., Stapleton, F., & Jalbert, I. (2023). Public health and Indigenous eye health: More work to be done in optometry. *Clinical and Experimental Optometry*, 106(2), 107-109. <https://doi.org/10.1080/08164622.2022.2153586>
- Bentley, S. A., Anstice, N. S., Armitage, J. A., Booth, J., Dakin, S. C., Fitzpatrick, G., Herse, P., Keay, L., & McKendrick, A. M. (2021). Strengthening Indigenous eye care in Australia and New Zealand through a Leaders in Indigenous Optometry Education Network. *Australian and New Zealand Journal of Public Health*, 45(2), 89-92. <https://doi.org/10.1111/1753-6405.13080>
- Bhambra, G. K., Gebrial, D., & Nişancioğlu, K. (2018). *Decolonising the university*. Pluto Press.
- Biddle, N., Gray, M., McAllister, I., & Qvortrup, M. (2023). *Detailed analysis of the 2023 Voice to Parliament Referendum and related social and political attitudes*. Australian National University.
- Biggs, J., & Tang, C. (2007). *Teaching for quality learning at university: What the student does* (3rd ed.). McGraw-Hill Education.
- Biggs, J. B. (2011). *Teaching for quality learning at university* (4th ed.). McGraw-Hill Education.

-
- Bird, K., Stothers, K., Armstrong, E., Marika, E. D., Yunupingu, M. D., Brown, L., Witt, S., Campbell, N., & Barker, R. (2022). Marrgithirri gunga'yunarawu ga gunga'yunyarawu marrgithinyarawu Learning to connect and connecting to learn: Preparing the rural and remote allied health workforce through a co-created student-implemented service in East Arnhem, Australia. *Australian Journal of Rural Health*, 30(1), 75-86. <https://doi.org/10.1111/ajr.12813>
- Bison, W. (2001). *Developing culturally-based promising practices for Native American communities*. White Bison, Inc. <https://wellbriety.com/wellbriety/wp-content/uploads/2019/06/Culturally-Based-Promising-Practices-Native-American.pdf>
- Blair, A., & McGinty, S. (2013). Feedback-dialogues: exploring the student perspective. *Assessment & Evaluation in Higher Education*, 38(4), 466-476. <https://doi.org/10.1080/02602938.2011.649244>
- Bond, C. (2020). *Indigenous knowledges, Indigenous educators and culturally safe pedagogies: Final report 2020*. Australian Government Department of Education https://ltr.edu.au/resources/FS14-0219_Bond_Report_2020.pdf
- Brooks, J. G., & Brooks, M. G. (1999). *In search of understanding: The case for constructivist classrooms* (2nd ed.). Association for Supervision and Curriculum Development. https://ocw.metu.edu.tr/pluginfile.php/9173/mod_resource/content/1/In%20Search%20of%20Understanding.pdf
- Brumpton, K., Gupta, T. S., Evans, R., & Ward, R. (2022). Assessment of cultural safety in a post-Objective Structured Clinical Examination (OSCE) era. *Australian Journal of General Practice*, 51(1/2), 90-93. <https://doi.org/10.31128/AJGP-08-21-6120>
- Bullen, J., & Roberts, L. (2019). Transformative learning: A precursor to preparing health science students to work in Indigenous health settings? *Australian Journal of Indigenous Education*, 48(2), 129-140. <https://doi.org/10.1017/jie.2018.3>
- Bullen, J., Roberts, L., Davis, C., Hill, B., Lipscombe, T., & Cox, D. (2021). Comfort with discomfort: Exploring Wadjella educators' engagement with Indigenous students. *National Centre for Student Equity in Higher Education*.
- Burbules, N. C., & Berk, R. (1999). Critical thinking and critical pedagogy: Relations, differences, and limits. In T. S. Popkewitz & L. Fendler (Eds.), *Critical theories in education: Changing terrains of knowledge and politics* (1st ed., pp. 45-65). <https://doi.org/10.4324/9780203826256-11>
- Cahn, P. S., Watkins Liu, C., & Hobbs, M. (2024). Using narrative to integrate anti-oppression into interprofessional collaborative practice competencies. *Journal of Interprofessional Care*. Advance online publication. <https://doi.org/10.1080/13561820.2024.2303498>
- Callegaro, M. (2008). Social desirability. In P. J. Lavrakas (Ed.), *Encyclopedia of survey research methods*. Sage Publications. <https://doi.org/10.4135/9781412963947>
- Carlson, B., Berglund, J., Harris, M., & Poata-Smith Te Ahu, E. (2014). Four scholars speak to navigating the complexities of naming in Indigenous

- studies. *The Australian Journal of Indigenous Education*, 43(1), 58-72. <https://doi.org/10.1017/jie.2014.8>
- Carriage, C., Akers, J., & Payne, K. (2017). An immersive model of learning in Aboriginal Community Control Services for MBBS students. *LIME Good Practice Case Studies*, 4, 32-37. <https://limenetwork.net.au/wp-content/uploads/2021/09/gpcs-vol4.pdf>
- Cavanagh, J. (2011). *National medical education review: A review of the implementation of the Indigenous health curriculum framework and the healthy futures report within Australian medical schools*. Medical Deans Australia and New Zealand Inc.
- Australian Indigenous Doctors' Association. <https://medicaldeans.org.au/md/2018/07/Medical-Deans-AIDA-Review-Final-Report.pdf>
- Chalmers, K. J., Bond, K. S., Jorm, A. F., Kelly, C. M., Kitchener, B. A., & Williams-Tchen, A. J. (2014). Providing culturally appropriate mental health first aid to an Aboriginal or Torres Strait Islander adolescent: Development of expert consensus guidelines. *International Journal of Mental Health Systems*, 8(1), 1-10. <https://doi.org/10.1186/1752-4458-8-6>
- Charmaz, K. (2014). *Constructing grounded theory* (2nd ed.). SAGE.
- Charmaz, K. (2017). The power of constructivist grounded theory for critical inquiry. *Qualitative Inquiry*, 23(1), 34-45. <https://doi.org/10.1177/1077800416657105>
- Charmaz, K., & Belgrave, L. L. (2018). Thinking about data with grounded theory. *Qualitative Inquiry*, 25(8), 743-753. <https://doi.org/10.1177/1077800418809455>
- Charmaz, K., & Thornberg, R. (2021). The pursuit of quality in grounded theory. *Qualitative Research in Psychology*, 18(3), 305-327. <https://doi.org/10.1080/14780887.2020.1780357>
- Christian, L. W., Brawdy, M., Wohlgemuth, E., Hutchings, N., & Spafford, M. M. (2023). Teaching cultural safety principles: Optometry student perceptions. *Clinical and Experimental Optometry*, 106(2), 150-157. <https://doi.org/10.1080/08164622.2022.2151871>
- Commonwealth of Australia. (2021). *National Aboriginal and Torres Strait Islander health plan 2021–2031*. Commonwealth of Australia. <https://www.health.gov.au/resources/publications/national-aboriginal-and-torres-strait-islander-health-plan-2021-2031?language=en>
- Congress of Aboriginal and Torres Strait Islander Nurses and Midwives. (2017). *The nursing and midwifery Aboriginal and Torres Strait Islander health curriculum framework: An adaptation of and complementary document to the 2014 Aboriginal and Torres Strait Islander health curriculum framework*. CATSINaM. <https://issuu.com/catsinam1/docs/nursing-and-midwifery-health-curriculum-framework>
- Congress of Aboriginal and Torres Strait Islander Nurses and Midwives. (2018). *Good clinical placements guide*. CATSINaM. <https://issuu.com/catsinam1/docs/clinical-placements-guide-final-spreads>
- Congress of Aboriginal and Torres Strait Islander Nurses and Midwives. (n.d). *About us*. CATSINaM. <https://catsinam.org.au/>

-
- Congress of Aboriginal and Torres Strait Islander Nurses and Midwives. (n.d.). *About LINMEN*. <https://www.linmen.org.au/home/>
- Copeman, R. C. (1989). Medical students, Aborigines and migrants: Evaluation of a teaching programme. *Medical Journal of Australia*, 150(2), 84-87. <https://doi.org/10.5694/j.1326-5377.1989.tb136369.x>.
- Cranney, M. (1995). Resource guide for Aboriginal studies and Torres Strait Islander studies [Book Review]. *Australian Aboriginal Studies*, 2, 73-74. <https://doi.org/10.3316/ielapa.150202937327226>
- Craven, R. (1996). *Using the right words: Appropriate terminology for Indigenous Australian studies*. University of New South Wales.
- Craven, R. (2007). *Guidelines Indigenous perspectives: Selecting and evaluating resources* Queensland Studies Authority. https://www.qcaa.qld.edu.au/downloads/approach2/indigenous_g008_0712.pdf
- Creswell, J. W. (2015). *A concise introduction to mixed methods research* (2nd ed.). SAGE.
- Cuevas, N., Matveev, A., & Miller, K. (2010). Mapping general education outcomes in the major: Intentionality and transparency. *American Association of Colleges and Universities*, 12(1), 10-15.
- Curtis, E., Jones, R., Tipene-Leach, D., Walker, C., Loring, B., Paine, S.-J., & Reid, P. (2019). Why cultural safety rather than cultural competency is required to achieve health equity: A literature review and recommended definition. *International Journal for Equity in Health*, 18(1), 1-17. <https://doi.org/10.1186/s12939-019-1082-3>
- Day, M., Carlson, B., & Bargallie, D. (2023, June 29). During NAIDOC week, many Indigenous women are assigned unpaid work. New research shows how prevalent this is in the workplace. *The Conversation*. <https://theconversation.com/during-naidoc-week-many-indigenous-women-are-assigned-unpaid-work-new-research-shows-how-prevalent-this-is-in-the-workplace-208454>
- Delany, C., Andrews, S., Bandler, L., Doughney, L., Ewen, S., Harms, L., Kosta, L., McCullough, M., Nicholson, P., & Reid, P. (2016). *Theory and practice: Indigenous health assessment at Australian qualifications framework level 9*. Office for Learning and Teaching. https://ltr.edu.au/resources/ID14-3976_Melbourne_Delany_Theory%20and%20Practice%20report_2016_0.pdf
- Delany, C., Ewen, S., Doughney, L., Bandler, L., Harms, L., Remedios, L., Nicholson, P., Andrews, S., Kosta, L., McCullough, M., Edmondson, W., Shannon, C., Willis, J., & Reath, P. (2017). *Guiding assessment for learning in Indigenous health at level 9 of the Australian qualifications framework: A capability approach to assessment for Indigenous health education*. Department of Education and Training. https://ltr.edu.au/resources/ID14-3976_Delany_Report_2018.pdf
- Delbridge, R., Garvey, L., Mackelprang, J. L., Cassar, N., Ward-Pahl, E., Egan, M., & Williams, A. (2022). Working at a cultural interface: Co-creating Aboriginal health curriculum for health professions. *Higher Education Research & Development*, 41(5), 1483-1498. <https://doi.org/10.1080/07294360.2021.1927999>

- Department of Health. (2014). *Aboriginal and Torres Strait Islander health curriculum framework*. Commonwealth of Australia. <https://www.health.gov.au/sites/default/files/documents/2020/12/aboriginal-and-torres-strait-islander-health-curriculum-framework.pdf>
- Dey, I. (1999). *Grounding grounded theory: Guidelines for qualitative inquiry*. Academic Press.
- Diversity Council Australia. (2021). *Inclusion@Work Index: Mapping the state of inclusion in the Australian workforce*. Diversity Council Australia.
- Doucette, H. J., Maillet, P. J., Brilliant, M. G., & Tax, C. L. (2015). Dental hygiene students' perceptions of a cultural competence component in a tobacco dependence education curriculum: A pilot study. *Journal of Dental Education*, 79(6), 680-685. <https://doi.org/10.1002/j.0022-0337.2015.79.6.tb05941.x>
- Dowell, A., Crampton, P., & Parkin, C. (2001). The first sunrise: An experience of cultural immersion and community health needs assessment by undergraduate medical students in New Zealand. *Medical Education*, 35(3), 242-249. <https://doi.org/10.1046/j.1365-2923.2001.00772.x>.
- Drummond, A. (2020). Embodied Indigenous knowledges protecting and privileging Indigenous Peoples' ways of knowing, being and doing in undergraduate nursing education. *The Australian Journal of Indigenous Education*, 49(2), 127-134. <https://doi.org/10.1017/jie.2020.16>
- Dudgeon, P., Darlaston-Jones, D., Phillips, G., Newnham, K., Brideson, T., Cranney, J., Hammond, S., Harris, J., Herbert, J., Homewood, J., & Page, S. (2016). *Australian Indigenous psychology education project curriculum framework*. University of Western Australia.
- Dudgeon, P., Milroy, H., & Walker, R. (2014). *Working together: Aboriginal and Torres Strait Islander mental health and wellbeing principles and practice* (2nd ed.). Commonwealth of Australia. <https://www.telethonkids.org.au/globalassets/media/documents/aboriginal-health/working-together-second-edition/working-together-aboriginal-and-wellbeing-2014.pdf>
- Duffy, G., Ross, S. J., Woolley, T. S., Sivamalai, S., Whaleboat, D., & Miller, A. (2013). Processes and outcomes for a successful engagement between a medical school and a remote Indigenous community in North Queensland, Australia. *Rural and remote health* 13(2277), 1-10. <https://doi.org/10.22605/RRH2277>
- Duffy, J. F., Douglass, A. G., Hammond, D. S., & Woods, C. A. (2021). Demographics and distribution of new entrants to the optometry profession in Australia. *Clinical and Experimental Optometry*, 104(2), 222-228. <https://doi.org/10.1111/cxo.13122>
- Duthie, D. (2019). Embedding Indigenous Knowledges and cultural safety in social work curricula. *Australian Social Work*, 72(1), 113-116. <https://doi.org/10.1080/0312407X.2018.1534978>
- Ewen, S., Mazel, O., & Knoche, D. (2012). Exposing the hidden curriculum influencing medical education on the health of Indigenous People in Australia and New Zealand: The role of the critical reflection tool. *Academic Medicine*, 87(2), 200-205. <https://doi.org/10.1097/ACM.0b013e31823fd777>

-
- Ewen, S., Pitama, S., Robertson, K., & Kamaka, M. (2011). Indigenous simulated patient programs: A three-nation comparison. *Focus on health professional education*, 13(1), 35-43.
- Fass-Holmes, B. (2022). Survey fatigue - What is its role in undergraduates' survey participation and response rates? *Journal of Interdisciplinary Studies in Education*, 11(1), 56-73.
- Fialho, M. (2012). *Courageous conversations about race*. University of Western Australia.
https://www.teachingandlearning.uwa.edu.au/__data/assets/pdf_file/0007/2337550/Appendix1-TIP1-Courageous-Conversations-About-Race.pdf
- First Nations Eye Health Alliance. (n.d.). *Aboriginal and Torres Strait Islander eye health collective: Our vision in our hands*. <https://fneha.com.au/>
- Flavell, H., Thackrah, R., & Hoffman, J. (2013). Developing Indigenous Australian cultural competence: A model for implementing Indigenous content into curricula. *Journal of Teaching and Learning for Graduate Employability*, 4(1), 39-57.
<https://doi.org/10.21153/jtlge2013vol4no1art560>
- Forsyth, C., Irving, M., Short, S., Tennant, M., & Gilroy, J. (2019). Strengthening Indigenous cultural competence in dentistry and oral health education: Academic perspectives. *European Journal of Dental Education*, 23(1), 37-44. <https://doi.org/10.1111/eje.12398>
- Francis-Cracknell, A., Murray, M., Palermo, C., Atkinson, P., Gilby, R., & Adams, K. (2019). Indigenous health curriculum and health professional learners: A systematic review. *Medical Teacher*, 41(5), 525-531.
<https://doi.org/10.1080/0142159X.2018.1497785>
- Francis-Cracknell, A., Truong, M., Thackrah, R., & Adams, K. (2022). "We still have a lot to learn": Non-Indigenous educator perspectives on teaching Indigenous health. *Higher Education Research & Development*, 42(6), 1407-1421. <https://doi.org/10.1080/07294360.2022.2128072>
- Genat, B., Anderson, I., Brabham, W., & Jessen, J. (2008). *National Indigenous public health curriculum framework*. Onemda VicHealth Koori Health Research Unit.
- Goos, M., & Salomons, A. (2017). Measuring teaching quality in higher education: Assessing selection bias in course evaluations. *Research in Higher Education*, 58(4), 341-364. <https://doi.org/10.1007/s11162-016-9429-8>
- Green, E. P. (2021). Reviewing Slides for Diversity and Inclusion. In E. P. Green (Ed.), *Healthy Presentations* (pp. 63-80). Springer.
https://doi.org/10.1007/978-3-030-72756-7_6
- Hafferty, F. W. (1998). Beyond curriculum reform: Confronting medicine's hidden curriculum. *Academic Medicine*, 73(4), 403-407.
<https://doi.org/10.1097/00001888-199804000-00013>
- Hall, K., Vervoort, S., Del Fabbro, L., Rowe Minniss, F., Saunders, V., Martin, K., Bialocerkowski, A., Milligan, E., Syron, M., & West, R. (2023). Evolving beyond antiracism: Reflections on the experience of developing a cultural safety curriculum in a tertiary education setting. *Nursing Inquiry*, 30(1), 1-11. <https://doi.org/10.1111/nin.12524>

- Harden, R. M. (2001). AMEE Guide No. 21: Curriculum mapping: A tool for transparent and authentic teaching and learning. *Medical Teacher*, 23(2), 123-137. <https://doi.org/10.1080/01421590120036547>
- Hart, B., Cavanagh, M., & Douglas, D. (2015). The “strengthening nursing culture project” – An exploratory evaluation study of nursing students’ placements within Aboriginal Medical Services. *Contemporary Nurse*, 51(2-3), 245-256. <https://doi.org/10.1080/10376178.2016.1150190>
- Harvey, P., Nightingale, C., & Kippen, R. (2021). Rural medical students' self-reported perceptions of preparedness to practice in the Aboriginal and Torres Strait Islander health context. *Australian Journal of Rural Health*, 29(2), 261-266. <https://doi.org/10.1111/ajr.12721>
- Health Workforce Australia. (2011). *Growing our future: Final report of the Aboriginal and Torres Strait Islander health worker project*. HWA. <https://www.voced.edu.au/content/ngv%3A52970>
- Holden, S., Ferguson, M., Brimblecombe, J., & Palermo, C. E. (2015). Can a community of practice equip public health nutritionists to work with remote retail to improve the food supply? *Rural Remote Health*, 15(4), 1-11. <https://doi.org/10.22605/RRH3464>
- Horsburgh, M., & Lamdin, R. (2004). Maori health issues explored in an interprofessional learning context. *Journal of Interprofessional Care*, 18(3), 279-287. <https://doi.org/10.1080/13561820410001731322>
- Hsu, C. C., & Sandford, B. A. (2007). The Delphi technique: Making sense of consensus. *Practical assessment, research, and evaluation*, 12(10), 1-8. <https://doi.org/10.7275/pdz9-th90>
- Humphrey-Murto, S., Varpio, L., Gonsalves, C., & Wood, T. J. (2017). Using consensus group methods such as Delphi and Nominal Group in medical education research. *Medical Teacher*, 39(1), 14-19. <https://doi.org/10.1080/0142159X.2017.1245856>
- Hung, M.-L., Chou, C., Chen, C.-H., & Own, Z.-Y. (2010). Learner readiness for online learning: Scale development and student perceptions. *Computers & Education*, 55(3), 1080-1090. <https://doi.org/10.1016/j.compedu.2010.05.004>
- Hunt, L., Ramjan, L., McDonald, G., Koch, J., Baird, D., & Salamonson, Y. (2015). Nursing students' perspectives of the health and healthcare issues of Australian Indigenous People. *Nurse Education Today*, 35(3), 461-467. <https://doi.org/10.1016/j.nedt.2014.11.019>
- Huria, T., Palmer, S., Beckert, L., Lacey, C., & Pitama, S. (2017). Indigenous health: Designing a clinical orientation program valued by learners. *BMC Medical Education*, 17(1), 1-8. <https://doi.org/10.1186/s12909-017-1019-8>
- Huria, T., Palmer, S., Pitama, S., Beckert, L., Lacey, C., Ewen, S., & Smith, L. (2019). Consolidated criteria for strengthening reporting of health research involving Indigenous peoples: The CONSIDER statement. *BMC Medical Research Methodology*, 19(1), 173-182. <https://doi.org/10.1186/s12874-019-0815-8>
- Indigenous Allied Health Australia. (n.d). *Cultural responsiveness in action framework*. <https://iaha.com.au/workforce-support/training-and-development/cultural-responsiveness-in-action-training/>

-
- Information Literacy Group. (n.d.). *Pedagogic theory*.
<https://infolit.org.uk/teaching/developing-your-teaching/pedagogic-theory/>
- Jamrozik, K. (1995). Going bush: Helping medical students learn from Aboriginal People. *Medical Journal of Australia*, 163(11-12), 591-594.
- Janke, T. (2021). *True tracks: Respecting Indigenous knowledge and culture*. UNSW Press.
- Jenkins, K., & Saul, J. (n.d). *How to incorporate diverse texts in your syllabus?*
<https://diversityreadinglist.org/teach/>
- Jones, R. (2012). Te Ara: A graduate profile in Maori health. *LIME Good Practice Case Studies*, 1, 32-35. <https://limenetwork.net.au/wp-content/uploads/2017/10/Rhys-Jones-Te-Ara.pdf>
- Jones, R., Crowshoe, L., Reid, P., Calam, B., Curtis, E., Green, M., Huria, T., Jacklin, K., Kamaka, M., Lacey, C., Milroy, J., Paul, D., Pitama, S., Walker, L., Webb, G., & Ewen, S. (2019). Educating for Indigenous health equity: An international consensus statement. *Academic Medicine*, 94(4), 512-519.
<https://doi.org/10.1097/acm.0000000000002476>
- Jones, R., Henning, M., Pinnock, R., Shulruf, B., & Hawken, S. (2013). Medical students' and clinical teachers' perceptions of Māori health teaching. *New Zealand Medical Journal*, 126(1377), 40-49.
<https://doi.org/10.1186/s12909-017-1019-8>
- Jünger, S., Payne, S. A., Brine, J., Radbruch, L., & Brearley, S. G. (2017). Guidance on Conducting and REporting DElphi Studies (CREDES) in palliative care: Recommendations based on a methodological systematic review. *Palliative Medicine*, 31(8), 684-706.
<https://doi.org/10.1177/0269216317690685>
- Kamien, M. (1975). Education in community medicine with an emphasis on the health of an Aboriginal community: A pilot project. *Medical Journal of Australia*, 2(13), 509-513. <https://doi.org/10.5694/j.1326-5377.1975.tb106023.x>
- Keeney, S., Hasson, F., & McKenna, H. (2006). Consulting the oracle: Ten lessons from using the Delphi technique in nursing research. *Journal of Advanced Nursing*, 53(2), 205-212. <https://doi.org/10.1111/j.1365-2648.2006.03716.x>
- Keeney, S., Hasson, F., & McKenna, H. P. (2001). A critical review of the Delphi technique as a research methodology for nursing. *International Journal of Nursing Studies*, 38(2), 195-200.
[https://doi.org/10.1016/S0020-7489\(00\)00044-4](https://doi.org/10.1016/S0020-7489(00)00044-4)
- Kennedy, J., Thomas, L., Percy, A., Dean, B., Delahunty, J., Harden-Thew, K., & de Laat, M. (2019). An Aboriginal way towards curriculum reconciliation. *International Journal for Academic Development*, 24(2), 148-162. <https://doi.org/10.1080/1360144X.2019.1593172>
- Kertesz, J. (2015). U-Map: Beyond curriculum mapping. *Advances in the Scholarship of Teaching and Learning*, 2(1), 16-34.
- Kickett, M., Hoffman, J., & Flavell, H. (2014). A model for large-scale, interprofessional, compulsory cross-cultural education with an Indigenous focus. *Journal of Allied Health*, 43(1), 38-44.

- Klimm, K., & Robertson, D. (2021). How an old book created a commitment to better represent First Nations Australians. *Connections, Term 2*(117), 4-5.
- Kline, C. C., Godolphin, W. J., Chhina, G. S., & Towle, A. (2013). Community as teacher model: Health profession students learn cultural safety from an Aboriginal Community. *Michigan Journal of Community Service Learning, 20*(1), 5-17. <https://files.eric.ed.gov/fulltext/EJ1046931.pdf>
- Kohan, N., Soltani Arabshahi, K., Mojtahedzadeh, R., Abbaszadeh, A., Rakhshani, T., & Emami, A. (2017). Self-directed learning barriers in a virtual environment: A qualitative study. *Journal of Advances in Medical Education & Professionalism, 5*(3), 116-123.
- Krishnan, A., Rabinowitz, M., Ziminsky, A., Scott, S. M., & Chretien, K. C. (2019). Addressing race, culture, and structural inequality in medical education: A guide for revising teaching cases. *Academic Medicine, 94*(4), 550-555. <https://doi.org/10.1097/ACM.0000000000002589>
- Kumagai, A. K., & Lyson, M. L. (2009). Beyond cultural competence: Critical consciousness, social justice, and multicultural education. *Academic Medicine, 84*(6), 782-787. <https://doi.org/10.1097/ACM.0b013e3181a42398>
- Laccos-Barrett, K., Brown, A. E., Saunders, V., Baldock, K. L., & West, R. (2022). Are we teaching nurses to be racist towards Aboriginal and Torres Strait Islander Peoples? A critical race document analysis of discrete Aboriginal and Torres Strait Islander health courses. *International Journal of Environmental Research and Public Health, 19*(18), 1-16. <https://doi.org/10.3390/ijerph191811455>
- Lalloo, R., Evans, J. L., & Johnson, N. W. (2013). Dental care provision by students on a remote rural clinical placement. *Australian and New Zealand Journal of Public Health, 37*(1), 47-51. <https://doi.org/10.1111/1753-6405.12009>
- Lambert, S., & Fadel, H. (2022). *Open textbooks and social justice: A national scoping study*. Curtin University.
- Laycock, A., Walker, D., Harrison, N., & Brands, J. (2009). *Supporting Indigenous researchers: A practical guide for supervisors*. Cooperative Research Centre for Aboriginal Health.
- Leaders in Indigenous Medical Education Network. (2018). *Periodic systematic review of Indigenous health initiative tool* <https://limenetwork.net.au/resources-hub/critical-reflection-accreditation-tools/>
- Leaders in Indigenous Medical Education Network. (2020). *LIME activity member survey 2019 report*. LIME Network.
- Leaders in Indigenous Medical Education Network. (2022a). *About the LIME Network*. <https://limenetwork.net.au/about-us/>
- Leaders in Indigenous Medical Education Network. (2022b). *Resource Database*. <https://limenetwork.net.au/resources-hub/resource-database/>
- Leaders in Indigenous Nursing and Midwifery Education Network. (2018a). *Resource Hub*. <https://www.linmen.org.au/resource-hub/>
- Leaders in Indigenous Nursing and Midwifery Education Network. (2018b). *Terms & Conditions*. <https://www.linmen.org.au/terms-conditions/>

-
- Leung, L., Min, J., Medgyesi, N., & Soon, J. (2022). An Indigenous health elective – Perspectives of pharmacy undergraduate students and alumni. *Currents in Pharmacy Teaching and Learning*, 14(2022), 647–654. <https://doi.org/10.1016/j.cptl.2022.04.007>
- Lewis, M., & Prunuske, A. (2017). The development of an Indigenous health curriculum for medical students. *Academic Medicine*, 92(5), 641-648. <https://doi.org/10.1097/ACM.0000000000001482>
- Lie, D. (2006). Tool for assessing cultural competence training (TACCT). *MedEdPORTAL*, 2, 325. https://doi.org/10.15766/mep_2374-8265.325
- Lie, D., Boker, J., & Cleveland, E. (2006). Using the tool for assessing cultural competence training (TACCT) to measure faculty and medical student perceptions of cultural competence instruction in the first three years of the curriculum. *Academic Medicine*, 81(6), 557-564. <https://doi.org/10.1097/01.ACM.0000225219.53325.52>
- Lock, M., McMillan, F., Bennett, B., Martire, J. L., Warne, D., Kidd, J., Williams, N., Worley, P., Hutten-Czapski, P., & Roberts, R. (2022). Position statement: Research and reconciliation with Indigenous Peoples in rural health journals. *Australian Journal of Rural Health*, 30(1), 6-7. <https://doi.org/10.1111/ajr.12834>
- Lockhart, C., Lower, T., & Loud, J. (2003). Primary health care and “Country week”: Assessing the impact of a rural placement program on the learning experience of undergraduate health students. *Focus on health professional education*, 5(1), 23-31. <https://doi.org/10.3316/aeipt.131122>
- Lower, T. (2001). Indigenous content in the health promotion curricula. *Aboriginal and Islander Health Worker Journal*, 25(3), 33-35. <https://doi.org/10.3316/ielapa.192552532195404>
- Lu, P. Y., Tsai, J. C., & Tseng, S. Y. (2014). Clinical teachers' perspectives on cultural competence in medical education. *Medical Education*, 48(2), 204-214. <https://doi.org/10.1111/medu.12305>
- Ma Rhea, Z. (2012). Partnership for improving outcomes in Indigenous education: Relationship or business? *Journal of Education Policy*, 27(1), 45-66. <https://doi.org/10.1080/02680939.2011.621030>
- Ma Rhea, Z., & Russell, L. (2012). The invisible hand of pedagogy in Australian Indigenous studies and Indigenous education. *The Australian Journal of Indigenous Education*, 41(1), 18-25. <https://doi.org/10.1017/jie.2012.4>
- Mackinlay, E., & Barney, K. (2012a). Introduction. *The Australian Journal of Indigenous Education*, 41(1), 1-9. <https://doi.org/10.1017/jie.2012.2>
- Mackinlay, E., & Barney, K. (2012b). Pearls, not problems: Exploring transformative education in Indigenous Australian studies. *The Australian Journal of Indigenous Education*, 41(1), 10-17. <https://doi.org/10.1017/jie.2012.3>
- Mak, D. B., Plant, A. J., & Toussaint, S. (2006). “I have learnt ... a different way of looking at people's health”: An evaluation of a prevocational medical training program in public health medicine and primary health care in remote Australia. *Medical Teacher*, 28(6), 149-155. <https://doi.org/10.1080/01421590600776404>
- Maloney, S., Hong-Meng Tai, J., Paynter, S., Lo, K., & Ilic, D. (2013). Self-directed online learning modules: Students' behaviours and

- experiences. *Pharmacy*, 1(1), 8-15.
<https://doi.org/10.3390/pharmacy1010008>
- Malterud, K., Siersma, V. D., & Guassora, A. D. (2016). Sample size in qualitative interview studies: Guided by information power. *Qualitative Health Research*, 26(13), 1753-1760.
<https://doi.org/10.1177/1049732315617444>
- Manton, D., & Williams, M. (2021). Strengthening Indigenous Australian perspectives in allied health education: A critical reflection. *International Journal of Indigenous Health*, 16(1), 223-242.
<https://doi.org/10.32799/ijih.v16i1.33218>
- Martin, K. (2020). *The role of Aboriginal Knowledges in higher education in the 21st century*. Australian Government Department of Education, Skills and Employment. https://ltr.edu.au/resources/FS14-0208_Martin_Report_2020.pdf
- Martin, K., & Mirraoop, B. (2003). Ways of knowing, being and doing: A theoretical framework and methods for Indigenous and indigenist research. *Journal of Australian studies*, 27(76), 203-214.
<https://doi.org/10.1080/14443050309387838>
- Mason, J. (2013). *Review of Australian government health workforce programs*. Department of Health and Ageing.
- Matthews, M. R. (2021). Philosophical problems with constructivism. In S. Hoidn & M. Klemenčič (Eds.), *The Routledge international handbook of student-centred learning and teaching in higher education* (1st ed., pp. 47-64). Routledge. <https://doi.org/10.4324/9780429259371>
- Mazel, O., & Ewen, S. (2015). Innovation in Indigenous health and medical education: The Leaders in Indigenous Medical Education (LIME) network as a community of practice. *Teaching and Learning in Medicine*, 27(3), 314-328.
<https://doi.org/10.1080/10401334.2015.1044655>
- McCartan, J., Dart, J., Adams, K., Davidson, Z., & Brimblecombe, J. (2021). Can integrating Aboriginal health content in undergraduate nutrition curricula foster student cultural capabilities? *Higher Education Research & Development*, 40(2), 325-340.
<https://doi.org/10.1080/07294360.2020.1740182>
- McDermott, D., Sjöberg, D., Lawless, A., Mackean, T., Ward, C., Harding, L., Paul, D., Lavalley, B., Tervalon, M., Jones, R., Bond, C., Pitama, S., Kamaka, M., & Keawe'aimoku Kaholokula, J. (2020). *Having the hard conversations: Strengthening pedagogical effectiveness by working with student and institutional resistance to Indigenous health curriculum*. Department of Education.
https://ltr.edu.au/resources/FS14-0209_Flinthers_McDermott_FinalReport_2020.pdf
- McDonald, H., Browne, J., Perruzza, J., Svarc, R., Davis, C., Adams, K., & Palermo, C. (2018). Transformative effects of Aboriginal health placements for medical, nursing, and allied health students: A systematic review. *Nursing & Health Sciences*, 20(2), 154-164.
<https://doi.org/10.1111/nhs.12410>
- McGloin, C., & Carlson, B. L. (2013). Indigenous studies and the politics of language. *Journal of University Teaching & Learning Practice*, 10(1), 1-10. <https://doi.org/10.53761/1.10.1.3>

-
- McIlwraith, P. (n.d.). *How to ease pressure off mob and share the cultural load*. <https://au.reachout.com/articles/how-to-ease-pressure-off-mob-and-share-the-cultural-load>
- McKivett, A., Hudson, J. N., McDermott, D., & Paul, D. (2020). Two-eyed seeing: A useful gaze in Indigenous medical education research. *Medical Education*, 54(3), 217-224. <https://doi.org/10.1111/medu.14026>
- Medical Deans Australia and New Zealand. (2007). *Indigenous health project critical reflection tool*. Medical Deans. https://limenetwork.net.au/wp-content/uploads/2021/11/Interactive_CRT_FINAL.pdf
- Melchert, B., Gray, M., & Miller, A. (2016). Educator perspectives on Indigenous cultural content in an occupational therapy curriculum. *The Australian Journal of Indigenous Education*, 45(1), 100-109. <https://doi.org/10.1017/jie.2016.3>
- Menzel, K. (2022, May 24). Attention managers: If you expect First Nations' staff to do all your 'Indigenous stuff', this isn't support – it's racism. *The Conversation*. <https://theconversation.com/attention-managers-if-you-expect-first-nations-staff-to-do-all-your-indigenous-stuff-this-isnt-support-its-racism-176143>
- Mills, K., & Creedy, D. (2019). The 'pedagogy of discomfort': A qualitative exploration of non-Indigenous student learning in a First Peoples health course. *The Australian Journal of Indigenous Education*, 50(1), 29-37. <https://doi.org/10.1017/jie.2019.16>
- Mills, K., Creedy, D. K., & West, R. (2018). Experiences and outcomes of health professional students undertaking education on Indigenous health: A systematic integrative literature review. *Nurse Education Today*, 69(2018), 149-158. <https://doi.org/10.1016/j.nedt.2018.07.014>
- Morrissey, H., & Ball, P. (2014). First year pharmacy students' health services experience at the top-end of Australia. *The Australian Journal of Pharmacy*, 95(1135), 66-71. <https://doi.org/10.3316/ielapa.203289846842693>
- Naidoo, T., Chamunyonga, C., Burberry, J., & Rutledge, P. (2023). Identifying methods to best integrate Indigenous knowledge and perspectives within the radiation therapy undergraduate curriculum. *Journal of Medical Radiation Sciences*, 70(2), 183-191. <https://doi.org/10.1002/jmrs.660>
- Nakata, M. (2002). Indigenous Knowledge and the cultural interface: Underlying issues at the intersection of knowledge and information systems. *IFLA Journal*, 28(5-6), 281-291. <https://doi.org/10.1177/034003520202800513>
- Narragunnawali. (2016). *Evaluating Resources Guide*. https://www.narragunnawali.org.au/storage/media/page/225pl-evaluating-resource-guide-280722_txo5d.pdf
- National Aboriginal Studies and Torres Strait Islander Studies Project. (1995). *Resource guide for Aboriginal studies and Torres Strait Islander studies*. Curriculum Corporation.
- National Health Medical Research Council. (2006). *Cultural competency in health: A guide for policy, partnerships and participation*. National Health and Medical Research Council.

- National Health Medical Research Council. (2018). *Ethical conduct in research with Aboriginal and Torres Strait Islander Peoples and communities: Guidelines for researchers and stakeholders*. Commonwealth of Australia.
<https://www.nhmrc.gov.au/sites/default/files/documents/Indigenous%20guidelines/Indigenous-ethical-guidelines.pdf>
- National Indigenous Australians Agency. (n.d). *Leaders in Indigenous Medical Education Network (LIME)*. <https://www.niaa.gov.au/indigenous-affairs/closing-gap/implementation-measures/leaders-indigenous-medical-education-network-lime>
- National Indigenous Australians Agency. (n.d.). *Leaders in Indigenous Nursing and Midwifery Education Network (LINMEN)*.
<https://www.niaa.gov.au/indigenous-affairs/closing-gap/implementation-measures/leaders-indigenous-nursing-and-midwifery-education-network-linmen>
- Nelson, A., Shannon, C., & Carson, A. (2013). Developing health student placements in partnerships with urban Aboriginal and Torres Strait Islander Community Controlled Health Services. *LIME Good Practice Case Studies*, 2, 29-34.
<https://doi.org/10.3316/informit.049090637300819>
- Nestel, D., & Tierney, T. (2007). Role-play for medical students learning about communication: Guidelines for maximising benefits. *BMC Medical Education*, 7(3), 1-9. <https://doi.org/10.1186/1472-6920-7-3>
- Newbury, J., Shannon, S., Ryan, V., & Whitrow, M. (2005). Development of 'rural week' for medical students: Impact and quality report. *Rural Remote Health*, 5(3), 432-441. <https://doi.org/10.22605/RRH432>
- Nicolson, C. H., Holland, A. E., & Lee, A. L. (2017). The bronchiectasis toolbox: A comprehensive website for the management of people with bronchiectasis. *Medical Sciences*, 5(2), 1-7.
<https://doi.org/10.3390/medsci5020013>
- Nieblas-Bedolla, E., Christophers, B., Nkinsi, N. T., Schumann, P. D., & Stein, E. (2020). Changing how race is portrayed in medical education: Recommendations from medical students. *Academic Medicine*, 95(12), 1802-1806. <https://doi.org/10.1097/ACM.00000000000003496>
- Nixon, S. A. (2019). The coin model of privilege and critical allyship: Implications for health. *BMC Public Health*, 19(1637), 1-13.
<https://doi.org/10.1186/s12889-019-7884-9>
- Okoli, C., & Pawlowski, S. D. (2004). The Delphi method as a research tool: An example, design considerations and applications. *Information & management*, 42(1), 15-29. <https://doi.org/10.1016/j.im.2003.11.002>
- Oliver, C. (1995). *National principles and guidelines for Aboriginal studies and Torres Strait Islander studies K-12*. Curriculum Corporation.
- Optometry Australia. (2022). *Entry-level competency standards for optometry 2022*. Optometry Australia. https://www.optometry.org.au/wp-content/uploads/Professional_support/Guidelines/Final_Entry-level-Competency-Standard-for-Optometry-2022.pdf
- Optometry Council of Australia and New Zealand. (2016). *Accreditation standards and evidence guide for entry-level optometry programs*. OCANZ.

-
- <https://www.ahpra.gov.au/documents/default.aspx?record=WD16%2F21178&dbid=AP&chksum=KqKAymc8dLGsvOrahBPzZQ%3D%3D>
- Optometry Council of Australia and New Zealand. (2018). *Optometry Aboriginal and Torres Strait Islander health curriculum framework: An adaptation of and complementary document to the 2014 Aboriginal and Torres Strait Islander health curriculum framework*. OCANZ. <https://www.ocanz.org/assets/Accreditation/1e67933cc4/Optometry-Aboriginal-Torres-Strait-Islander-HCF-OCANZ-Board-October-2018.pdf>
- Optometry Council of Australia and New Zealand. (2021). *Optometry Aboriginal and Torres Strait Islander health curriculum – Mapping tool*. OCANZ. <https://www.ocanz.org/assets/7dc2d75425/Critical-Reflection-Tool-Optometry-Aboriginal-and-Torres-Strait-Islander-Health-Curriculum-Framework.pdf>
- Optometry Council of Australia New Zealand. (2021). *Accreditation standards and evidence guide for entry-level optometry programs*. OCANZ. <https://ocanz.org/assets/Accreditation/7c3f0e44fc/OCANZ-Accreditation-Standards.pdf>
- Pasricha, A. (2012). Developing a measurement tool to assess medical students' cultural competency. *University of Ottawa Journal of Medicine*, 2(1), 44-47.
- Paul, D., Carr, S., & Milroy, H. (2006). Making a difference: The early impact of an Aboriginal health undergraduate medical curriculum. *Medical Journal of Australia*, 184(10), 522-525. <https://doi.org/10.5694/j.1326-5377.2006.tb00350.x>
- Phillips, G. (2004a). *CDAMS Indigenous health curriculum development project: National audit & consultations report*. The University of Melbourne. <https://limenetwork.net.au/wp-content/uploads/2021/11/CDAMSauditreport.pdf>
- Phillips, G. (2004b). *CDAMS Indigenous health curriculum framework*. Committee of Deans of Australian Medical Schools. <https://medicaldeans.org.au/md/2018/07/CDAMS-Indigenous-Health-Curriculum-Framework.pdf>
- Pitama, S. G., Palmer, S. C., Huria, T., Lacey, C., & Wilkinson, T. (2018). Implementation and impact of Indigenous health curricula: A systematic review. *Medical Education*, 52(9), 898-909. <https://doi.org/10.1111/medu.13613>
- Plano Clark, V., & Ivankova, N. (2016). Why use mixed methods research?: Identifying rationales for mixing methods. In V. Plano Clark & N. Ivankova (Eds.), *Mixed methods research: A guide to the field*. SAGE Publications, Inc. <https://doi.org/10.4135/9781483398341>
- Power, T., Lucas, C., Hayes, C., & Jackson, D. (2020). 'With my heart and eyes open': Nursing students' reflections on placements in Australian, urban Aboriginal organisations. *Nurse Education in Practice*, 49(102904), 1-6. <https://doi.org/10.1016/j.nepr.2020.102904>
- Preston, R., Gratani, M., Owens, K., Roche, P., Zimanyi, M., & Malau-Aduli, B. (2020). Exploring the impact of assessment on medical students' learning. *Assessment & Evaluation in Higher Education*, 45(1), 109-124. <https://doi.org/10.1080/02602938.2019.1614145>

- Prout, S., Lin, I., Nattabi, B., & Green, C. (2014). 'I could never have learned this in a lecture': Transformative learning in rural health education. *Advances in Health Sciences Education*, 19(2), 147-159. <https://doi.org/10.1007/s10459-013-9467-3>
- Public Health Association Australia. (n.d). *Aboriginal and Torres Strait Islander guide to terminology*. Public Health Association Australia,. <https://www.phaa.net.au/documents/item/2292>
- Queensland University of Technology. (2021). *Recommended guidelines for Aboriginal and Torres Strait Islander terminology*. Queensland University of Technology.
- Queensland University of Technology. (2022). *Student voice survey 2022 semester 1 highlights*. Queensland University of Technology. <https://qutvirtual4.qut.edu.au/documents/4404537/4840243/SVS-highlights-SEM1-2022.pdf/b1bc827b-a9a2-7548-ae6e-93d3167ee1c7?t=1659668365470>
- Ramjan, L., Hunt, L., & Salamonson, Y. (2016). Predictors of negative attitudes toward Indigenous Australians and a unit of study among undergraduate nursing students: A mixed-methods study. *Nurse Education in Practice*, 17(2016), 200-207. <https://doi.org/10.1016/j.nepr.2015.12.006>
- Ramsden, I. (2002). *Cultural safety and nursing education in Aotearoa and Te Waipounamu* [Doctoral dissertation, Victoria University of Wellington].
- Ramsden, P. (2003). *Learning to teach in higher education* (2nd ed.). Routledge.
- Ranzijn, R., McConnochie, K., Day, A., Nolan, W., & Wharton, M. (2008). Towards cultural competence: Australian Indigenous content in undergraduate psychology. *Australian Psychologist*, 43(2), 132-139. <https://doi.org/10.1080/00050060701762554>
- Rasmussen, L. (2001). *Towards reconciliation in Aboriginal health: Initiatives for teaching medical students about Aboriginal issues*. The University of Melbourne. <http://www.wimmerapcp.org.au/wp-gidbox/uploads/2014/04/TowardsReconciliation.pdf>
- Reconciliation Australia. (2021). *Demonstrating inclusive and respectful language*. Reconciliation Australia. <https://www.reconciliation.org.au/wp-content/uploads/2018/05/language-guide.pdf>
- Reser, D., Simmons, M., Johns, E., Ghaly, A., Quayle, M., Dordevic, A. L., Tare, M., McArdle, A., Willems, J., & Yunkaporta, T. (2021). Australian Aboriginal techniques for memorization: Translation into a medical and allied health education setting. *PloS One*, 16(5), 1-17. <https://doi.org/10.1371/journal.pone.0251710>
- Roche, V. F. (2014). The sustained, positive impact of a Native American cultures and health course on students' education and practice-related choices. *American Journal of Pharmaceutical Education*, 78(9), 1-7. <https://doi.org/10.5688/ajpe789172>
- Ruel, E., Wagner III, W. E., & Gillespie, B. J. (2016). Pretesting and pilot testing. In E. Ruel, W. E. Wagner III, & B. J. Gillespie (Eds.), *The practice of survey research: Theory and applications*. SAGE Publications, Inc. <https://doi.org/10.4135/9781483391700>

-
- Ryder, C., Yarnold, D., Hayes, C., MacKean, L., Sjoberg, D., & Porter, M. (2013). Demonstrating cultural safety in communication through standardised role play. *LIME Good Practice Case Studies*, 2, 19-23. <https://doi.org/10.3316/informit.048922940559496>
- Savin-Baden, M., & Major, C. H. (2013). *Qualitative research: The essential guide to theory and practice* (1st ed.). Routledge.
- Schmid, K. L., Backhouse, S., Cochrane, A. L., Collins, A. V., Constable, P. A., Jalbert, I., & Sabeti, F. (2021). A snapshot of optometry teaching in Australia and New Zealand in response to COVID-19. *Clinical and Experimental Optometry*, 104(6), 723-727. <https://doi.org/10.1080/08164622.2021.1878859>
- Schreier, M. (2012). *Qualitative content analysis in practice*. Sage publications.
- Schreier, M. (2014). Qualitative content analysis. In U. Flick (Ed.), *The SAGE handbook of qualitative data analysis*. Sage Publications. <https://doi.org/10.4135/9781446282243.n12>
- Sivertsen, N., Lawrence, M., & McDermott, D. (2017). Challenges to Indigenous health curriculum design - Bringing the Aboriginal and Torres Strait Islander health curriculum framework to life. *Australian Nursing & Midwifery Journal*, 24(9), 41-41.
- Sjorberg, D., & McDermott, D. (2016). The deconstruction exercise: An assessment tool for enhancing critical thinking in cultural safety education. *International Journal of Critical Indigenous Studies*, 9(1), 28-48. <https://doi.org/10.5204/ijcis.v9i1.143>
- Spencer, C., Macdonald, R., & Archer, F. (2009). Designing a questionnaire to review cultural competency in Australian and New Zealand paramedic courses. *Australasian Journal of Paramedicine*, 7(4), 1-10. <https://doi.org/10.33151/ajp.7.4.188>
- Stoneham, M., Goodman, J., & Daube, M. (2014). The portrayal of Indigenous health in selected Australian media. *International Indigenous Policy Journal*, 5(1), 1-13. <https://doi.org/10.3316/cinch.298949>
- Supply Nation. (n.d.). *Search Indigenous Business Direct*. <https://supplynation.org.au/>
- Taylor, H. R., Boudville, A. I., & Anjou, M. D. (2012). *The roadmap to close the gap for vision*. The University of Melbourne. <https://doi.org/10.5694/mja12.10544>
- Taylor, K., Kickett, M., & Jones, S. (2014). *Aboriginal and Torres Strait Islander health curriculum project: Findings from preliminary consultation process, undertaken for Health Workforce Australia as part of Aboriginal and Torres Strait Islander health curriculum Fframework project*. Health Workforce Australia,.
- Thackrah, R. D., & Thompson, S. C. (2013). Confronting uncomfortable truths: Receptivity and resistance to Aboriginal content in midwifery education. *Contemporary Nurse*, 46(1), 113-122. <https://doi.org/10.5172/conu.2013.46.1.113>
- Thackrah, R. D., & Thompson, S. C. (2018). Applying a midwifery lens to Indigenous health care delivery: The contribution of campus learning and rural placements to effecting systemic change. *Canadian Journal of Nursing Research*, 50(4), 179-188. <https://doi.org/10.1177/0844562118771829>

- Thackrah, R. D., Thompson, S. C., & Durey, A. (2014). "Listening to the silence quietly": Investigating the value of cultural immersion and remote experiential learning in preparing midwifery students for clinical practice. *BMC Research Notes*, 7(685), 1-12. <https://doi.org/10.1186/1756-0500-7-685>
- Tong, A., Sainsbury, P., & Craig, J. (2007). Consolidated criteria for reporting qualitative research (COREQ): A 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*, 19(6), 349-357. <https://doi.org/10.1093/intqhc/mzm042>
- Truong, M., Bentley, S. A., Napper, G. A., Guest, D. J., & Anjou, M. D. (2014). How Australian and New Zealand schools of optometry prepare students for culturally competent practice. *Clinical & Experimental Optometry*, 97(6), 540-549. <https://doi.org/10.1111/cxo.12196>
- Tsingos, C., Bosnic-Anticevich, S., Lonie, J. M., & Smith, L. (2015). A model for assessing reflective practices in pharmacy education. *American Journal of Pharmaceutical Education*, 79(8), 1-10. <https://doi.org/10.5688/ajpe798124>
- Tweed, A., & Charmaz, K. (2012). Grounded theory methods for mental health practitioners. In D. Harper & A. R. Thompson (Eds.), *Qualitative research methods in mental health and psychotherapy: A guide for students and practitioners* (1st ed., pp. 131-146). John Wiley & Sons. <https://doi.org/10.1002/9781119973249.ch10>
- United Nations. (2007). *United Nations declaration on the rights of Indigenous Peoples*. United Nations. https://www.un.org/development/desa/indigenouspeoples/wp-content/uploads/sites/19/2018/11/UNDRIP_E_web.pdf
- Universities Australia. (2017). *Indigenous strategy 2017-2020*. Universities Australia. <https://www.universitiesaustralia.edu.au/publication/indigenous-strategy-2017-2020/>
- Universities Australia. (2022). *Indigenous Strategy 2022-25*. Universities Australia. <https://www.universitiesaustralia.edu.au/publication/indigenous-strategy-2022-25/>
- Universities of South Australia. (2021). *Yurirka: Proppa Engagement with Aboriginal Peoples*. Universities of South Australia.
- University of South Australia. (2013). *Respect, Relationships Reconciliation (the 3Rs) – Aboriginal and Torres Strait Islander education: Resources for pre-service teachers*. <https://rrr.edu.au/>
- University of Wollongong. (2019). *You can't say that! Hints and tips*. University of Wollongong.
- Vass, A., & Adams, K. (2020). Educator perceptions on teaching Indigenous health: Racism, privilege and self-reflexivity. *Medical Education*, 25(3), 1-9. <https://doi.org/10.1111/medu.14344>
- Veltri, N., Webb, H., Matveev, A., & Zapatero, E. (2011). Curriculum mapping as a tool for continuous improvement of IS curriculum. *Journal of Information Systems Education*, 22(1), 31-42.
- Ward, M. (2022, December 11). Indigenous staff overwhelmed by unpaid Welcome to Country and committee work. *The Age*. <https://www.theage.com.au/national/indigenous-staff-overwhelmed-by->

[unpaid-welcome-to-country-and-committee-work-20221208-p5c4nt.html](https://doi.org/10.1111/j.1440-1584.2021.01153.x)

- Watego, C. (2021, October 27). Teaching race in Indigenous medical education: Moving from resistance to a race critical curriculum [Conference presentation]. Leaders in Indigenous Medical Education Connection: Staying Connected, Online.
- Webster, S., Lopez, V., Allnut, J., Clague, L., Jones, D., & Bennett, P. (2010). Undergraduate nursing students' experiences in a rural clinical placement. *Australian Journal of Rural Health*, 18(5), 194-198. <https://doi.org/10.1111/j.1440-1584.2010.01153.x>
- Weenthunga Health Network. (2023, November 16). *We've been rethinking the term "cultural load". Language matters powerfully, and our culture is not a load. Can't say the* [Post]. Facebook. <https://www.facebook.com/weenthunga>
- West, M., Sadler, S., Hawke, F., Munteanu, S. E., & Chuter, V. (2021a). Effect of a culturally safe student placement on students' understanding of, and confidence with, providing culturally safe podiatry care. *Journal of Foot and Ankle Research*, 14(1), 9. <https://doi.org/10.1186/s13047-021-00450-2>
- West, R., Armao, J. E., Creedy, D. K., Saunders, V., & Rowe Minnis, F. (2021b). Measuring effectiveness of cultural safety education in First Peoples health in university and health service settings. *Contemporary Nurse*, 57(5), 356-369. <https://doi.org/10.1080/10376178.2022.2025876>
- West, R., Mills, K., Rowland, D., & Creedy, D. (2019). Impact of a discrete First Peoples health course on students' experience and development of cultural capabilities. *Higher Education Research & Development*, 38(5), 1090-1104. <https://doi.org/10.1080/07294360.2019.1603202>
- White, S., Anderson, P., Gower, G., Byrne, M., Bennet, M., Quin, A., & Darling, A. (2019). *Engaging and partnering with Aboriginal and Torres Strait Islander parents and caregivers: Final report 2019*. Department of Education and Training.
- Wilson, A., Mehta, K., Miller, J., Yaxley, A., Thomas, J., Jackson, K., Wray, A., & Miller, M. (2015). Review of Indigenous health curriculum in nutrition and dietetics at one Australian university: An action research study. *The Australian Journal of Indigenous Education*, 44(1), 106-120. <https://doi.org/10.1017/jie.2015.4>
- Wilson, C., Heinrich, L., Heidari, P., & Adams, K. (2020). Action research to implement an Indigenous health curriculum framework. *Nurse Education Today*, 91(104464), 1-11. <https://doi.org/10.1016/j.nedt.2020.104464>
- Wolfe, N., Sheppard, L., Le Rossignol, P., & Somerset, S. (2018). Uncomfortable curricula? A survey of academic practices and attitudes to delivering Indigenous content in health professional degrees. *Higher Education Research & Development*, 37(3), 649-662. <https://doi.org/10.1080/07294360.2017.1385595>
- Yashadhana, A., Fields, T., Burnett, A., & Zwi, A. B. (2021). Re-examining the gap: A critical realist analysis of eye health inequity among Aboriginal and Torres Strait Islander Australians. *Social Science and Medicine*, 284(114230), 1-10. <https://doi.org/10.1016/j.socscimed.2021.114230>

- Young, L., Kent, L., & Walters, L. (2011). The John Flynn placement program: Evidence for repeated rural exposure for medical students. *Australian Journal of Rural Health*, 19(3), 147-153. <https://doi.org/10.1111/j.1440-1584.2011.01201.x>
- Yunkaporta, T. (2009). *Aboriginal pedagogies at the cultural interface* [Doctoral dissertation, James Cook University].
- Zimmerman, P.-A., Stringfellow, T., Rowland, D., Armstrong, V., & West, R. (2019). Review of Aboriginal and Torres Strait Islander content within a bachelor of nursing. *Collegian*, 26(4), 441-447. <https://doi.org/10.1016/j.colegn.2018.12.003>
- Zubrzycki, J., Green, S., Jones, V., Stratton, K., Young, S., & Bessarab, D. (2014). *Getting it right: Creating partnerships for change. Integrating Aboriginal and Torres Strait Islander knowledges in social work education and practice. Teaching and learning framework*. Australian Government Office for Learning and Teaching.

Appendices

Appendix A

Study 1: Optometry Aboriginal and Torres Strait Islander Health

Curriculum Mapping Tool

	Optometry Aboriginal and Torres Strait Islander Health and Cultural Safety Curriculum Mapping Tool
Information and Instructions:	
Thank you for taking part in this important research to map the Aboriginal and Torres Strait Islander health curricula currently included in Australian optometry programs. Before you complete the mapping tool below, please read through the Participant Information Sheet, if you have not done so already. The mapping tool below has three sections and tables covering the themes of the OCANZ 'Optometry Aboriginal and Torres Strait Islander Health Curriculum Framework'. We request you please complete the tables, reflecting on the units that comprise your optometry program, as best you can. If you are not sure where content should go, please simply put it all in the first table. We recognise that you may not be able to complete all sections. This is not a problem, and we would be grateful for any information that you can provide. If you have any questions or would like any assistance to complete the mapping tool, please do not hesitate to contact the researcher, Kate Pecar, on +61 7 3138 5697 or email kate.pecar@hdr.qut.edu.au.	
Demographic Information	
What is your age range? ☐ 20-30 ☐ 31-40 ☐ 41-50 ☐ 51-60 ☐ 61+ years	
What is your gender? ☐ Female ☐ Male ☐ Other ☐ Prefer not to say	
What is your level of appointment? ☐ Associate Lecturer ☐ Lecturer ☐ Senior Lecturer ☐ Associate Professor ☐ Professor ☐ Other [Please specify]:	
What is your role (e.g.: course coordinator, subject coordinator, unit coordinator, academic lead etc.)? [Please specify]:	
Approximate number of years of higher education teaching experience? Please specify:	
Do you identify as Aboriginal and / or Torres Strait Islander? ☐ Yes ☐ No ☐ Prefer not to say	

Theme 1: Integrating cultural safety into reflective practice and professionalism					
1a. There is an opportunity for students to identify and analyse their own cultural values and how they influence their worldview.					
Unit (code and name)	Year Level Taught	Learning Outcome (yes/no) [explicit/implicit]	Content Description (including mode of delivery)	Content Duration (hours)	Feedback/Assessment (yes/no) [description]
Example: Unit ABC123: cultural safety, ethics and professionalism 101	Year 1	• Yes • Explicit • Examine and reflect on how one's own culture and dominant cultural paradigms, influence perceptions of and interactions with Aboriginal and Torres Strait Islander peoples	A cultural identity concept mapping activity followed by an in-class / group discussion of how student's cultural identity in the mapping activity influences their worldview of topics set by facilitator.	1 hour	• Yes • In-class discussion of how the students culture identified in the concept mapping activity can influence their worldview (formative assessment) • 1,500-word reflection of how their own cultural compares or differs with the dominant Western culture and how one's own culture influences perceptions of and interactions with Aboriginal and Torres Strait Islander peoples (summative assessment)
1b. Forms of racism, white privilege and their connection with social determinants of health for Aboriginal and/or Torres Strait Islander Peoples are explained.					
Unit (code and name)	Year Level Taught	Learning Outcome (yes/no) [explicit/implicit]	Content Description (including mode of delivery)	Content Duration (hours)	Feedback/Assessment (yes/no) [description]

1c. There is an opportunity for students to reflect on their own worldview (personal and professional) and positioning (in relation to white privilege impact) on health care delivery, including considerations of policies, codes and legislations, and outcomes for Aboriginal and/or Torres Strait Islander Peoples.

Unit (code and name)	Year Level Taught	Learning Outcome (yes/no) [explicit/implicit]	Content Description (including mode of delivery)	Content Duration (hours)	Feedback/Assessment (yes/no) [description]

If the Optometry program teaches Theme 1 at an Entry to Practice level, providing students with practical skills and hands-on engagement with this theme, do you:

1d. Provide opportunities for students to use their knowledge and skills in creating culturally safe interactions with Aboriginal and/or Torres Strait Islander people?

Unit (code and name)	Year Level Taught	Learning Outcome (yes/no) [explicit/implicit]	Content Description (including mode of delivery)	Content Duration (hours)	Feedback/Assessment (yes/no) [description]

1e. Provide students with strategies that enable ongoing self-reflexivity (i.e. examine how one's own culture influences perceptions of and interactions with Aboriginal and Torres Strait Islander Peoples) in a professional context?

Unit (code and name)	Year Level Taught	Learning Outcome (yes/no) [explicit/implicit]	Content Description (including mode of delivery)	Content Duration (hours)	Feedback/Assessment (yes/no) [description]

1f. Provide opportunities for students to incorporate anti-racist, social justice and affirmative action approaches (i.e. proactive methods for increasing opportunities where inequalities exist, surpassing acts of non-discrimination) in health care practice that addresses the social determinants of health (conditions in which people are born, grow, live, work and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks) for Aboriginal and/or Torres Strait Islander Peoples.					
Unit (code and name)	Year Level Taught	Learning Outcome (yes/no) [explicit/implicit]	Content Description (including mode of delivery)	Content Duration (hours)	Feedback/Assessment (yes/no) [description]

Theme 2: History and diversity of Aboriginal and/or Torres Strait Islander Peoples, the post-colonial experience and implications for population health and health care practice					
2a. The diversity of Aboriginal and/or Torres Strait Islander Peoples and cultures are explored and cultural values and practices important in the health context considered.					
Unit (code and name)	Year Level Taught	Learning Outcome (yes/no) [explicit/implicit]	Content Description (including mode of delivery)	Content Duration (hours)	Feedback/Assessment (yes/no) [description]
2b. The Optometry program provides students with an opportunity to consider the impact of colonisation on the current health of Aboriginal and/or Torres Strait Islander Peoples; this includes analysing the effect of historical events on access to and engagement with health services. Implications for building trust and relationships with Aboriginal and/or Torres Strait Islander Peoples are identified.					
Unit (code and name)	Year Level Taught	Learning Outcome (yes/no) [explicit/implicit]	Content Description (including mode of delivery)	Content Duration (hours)	Feedback/Assessment (yes/no) [description]

2c. Current demographic, health indicators and statistical trends, including the strengths and limitations of data collection/reporting and population health policies/strategies, for Aboriginal and/or Torres Strait Islander Peoples, are taught.					
Unit (code and name)	Year Level Taught	Learning Outcome (yes/no) [explicit/implicit]	Content Description (including mode of delivery)	Content Duration (hours)	Feedback/Assessment (yes/no) [description]
If the Optometry program teaches Theme 2 at an Entry to Practice level, providing students with practical skills and hands-on engagement with this theme, do you: 2d. Provide students with opportunities to incorporate strategies for delivering health care and designing population health and health workforce policy that builds trust and relationships with Aboriginal and/or Torres Strait Islander Peoples?					
Unit (code and name)	Year Level Taught	Learning Outcome (yes/no) [explicit/implicit]	Content Description (including mode of delivery)	Content Duration (hours)	Feedback/Assessment (yes/no) [description]

Theme 3: Delivery of culturally safe eye health care in partnership with Aboriginal and/or Torres Strait Islander health professionals, organisations and communities					
3a. Clinical practice and service delivery factors impacting on Aboriginal and/or Torres Strait Islander Peoples are explained, including the impact of the dominant Western cultural and political paradigm.					
Unit (code and name)	Year Level Taught	Learning Outcome (yes/no) [explicit/implicit]	Content Description (including mode of delivery)	Content Duration (hours)	Feedback/Assessment (yes/no) [description]

3b. Aboriginal and Torres Strait Islander community-controlled health services and other health sector initiatives, and the role of Aboriginal and/or Torres Strait Islander health professionals are explored. The role of Aboriginal and/or Torres Strait Islander health professionals, organisations, eye health population health programs, and communities in delivering culturally safe health services to Aboriginal and/or Torres Strait Islander Peoples from a strengths-based approach is discussed.					
Unit (code and name)	Year Level Taught	Learning Outcome (yes/no) [explicit/implicit]	Content Description (including mode of delivery)	Content Duration (hours)	Feedback/Assessment (yes/no) [description]
3c. Those eye health conditions that are more prevalent in Aboriginal and/or Torres Strait Islander Peoples are discussed and effective and culturally safe management options for Aboriginal and/or Torres Strait Islander Peoples are examined.					
Unit (code and name)	Year Level Taught	Learning Outcome (yes/no) [explicit/implicit]	Content Description (including mode of delivery)	Content Duration (hours)	Feedback/Assessment (yes/no) [description]
3d. Students are encouraged to critically examine the culture of optometry and the broader health system in terms of their impact on Aboriginal and/or Torres Strait Islander Peoples health service experiences.					
Unit (code and name)	Year Level Taught	Learning Outcome (yes/no) [explicit/implicit]	Content Description (including mode of delivery)	Content Duration (hours)	Feedback/Assessment (yes/no) [description]

3e. The role of optometrists in developing eye health population health programs with Aboriginal and/or Torres Strait Islander colleagues, organisations and community members is explained; students are familiar with strengths-based strategies for building partnerships with Aboriginal and/or Torres Strait Islander health professionals, organisations and communities in delivering all components of eye health.

Unit (code and name)	Year Level Taught	Learning Outcome (yes/no) [explicit/implicit]	Content Description (including mode of delivery)	Content Duration (hours)	Feedback/Assessment (yes/no) [description]

If the Optometry program teaches Theme 3 at an Entry to Practice level, providing students with practical skills and hands-on engagement with this theme, do you:

3f. Provide opportunities for students to apply principles and practices of cultural safety in the clinical training program.

Unit (code and name)	Year Level Taught	Learning Outcome (yes/no) [explicit/implicit]	Content Description (including mode of delivery)	Content Duration (hours)	Feedback/Assessment (yes/no) [description]

3g. Offer opportunities for students to demonstrate strategies for personal and professional leadership, lifelong learning and resilience in working with health system challenges to cultural safety, including in partnership with Aboriginal and/or Torres Strait Islander health professionals and leaders.

Unit (code and name)	Year Level Taught	Learning Outcome (yes/no) [explicit/implicit]	Content Description (including mode of delivery)	Content Duration (hours)	Feedback/Assessment (yes/no) [description]

Appendix B

Study 2: Optometry Aboriginal and Torres Strait Islander Health

Curriculum Critical Reflection Survey – Program Lead

Demographic Information

Q1.1. What is your age range?

- ☐ 20-30
- ☐ 31-40
- ☐ 41-50
- ☐ 51-60
- ☐ 60+ years

Q1.2. What is your gender?

- ☐ Male
- ☐ Female
- ☐ Other
- ☐ Prefer not to say

Q1.3. Number of years of higher education teaching experience?

Q1.4. Do you identify as Aboriginal and / or Torres Strait Islander?

- ☐ Yes
- ☐ No
- ☐ Prefer not to say

Q1.5. Are you directly involved in teaching Aboriginal and Torres Strait Islander health and cultural safety?

- ☐ Yes
- ☐ No

Q1.6. Which university do you **primarily** work at?

- ☐ Deakin University
- ☐ Flinders University
- ☐ Queensland University of Technology
- ☐ The University of Melbourne
- ☐ University of Canberra
- ☐ University of New South Wales
- ☐ University of Western Australia
- ☐ Prefer not to say

Leadership and strategy

Q2.1. Does your faculty/school/program mission statement and/or strategic plan articulate commitment to Aboriginal and Torres Strait Islander health and cultural safety curriculum?

- ☐ Achieved
- ☐ Opportunity
- ☐ Not planned

Additional comments

Q2.2. Do you see leadership and strategy as an enabler (facilitator) or barrier to integrating the 'Optometry Aboriginal and Torres Strait Islander Health Curriculum Framework' at your program?

- ☐ Enabler
- ☐ Barrier
- ☐ Neutral

Additional comments

Embedding community partnerships in governance and practice

Q3.1. Is there Aboriginal and / or Torres Strait Islander community representation on university committees with responsibilities for governance, curriculum development and evaluation?

- ☐ Achieved fully
- ☐ Achieved partially
- ☐ Opportunity
- ☐ Not planned

Additional comments

Q3.2. Has a partnership been established between your optometry program and local communities/organisations to progress improvements in Aboriginal and Torres Strait Islander health and cultural safety training?

- ☐ Achieved fully
- ☐ Achieved partially
- ☐ Opportunity
- ☐ Not planned

Additional comments

Q3.3. Are Aboriginal and/or Torres Strait Islander people involved in the development and management of the Aboriginal and Torres Strait Islander health and cultural safety curriculum in the optometry program?

- ☐ Achieved fully
- ☐ Achieved partially
- ☐ Opportunity
- ☐ Not planned

Additional comments

Q3.4. Have clinical training partnerships with Aboriginal and Torres Strait Islander health services been established?

- ☐ Achieved fully
- ☐ Achieved partially
- ☐ Opportunity
- ☐ Not planned

Additional comments

Q3.5. Do you see community partnerships as an enabler or barrier to integrating 'Optometry Aboriginal and Torres Strait Islander Health Curriculum Framework' into your optometry program?

- ☐ Enabler
- ☐ Barrier
- ☐ Neutral

Additional comments

Staff capacity

Q4.1. What is the profession/background of the teaching group that delivers the 'Optometry Aboriginal and Torres Strait Islander Health Curriculum Framework'? Select all that apply

- ☐ Head of school/program
- ☐ Academic internal to the program who is Aboriginal and / or Torres Strait Islander
- ☐ Academic internal to the program who is not Aboriginal and / or Torres Strait Islander
- ☐ Academic external to the program but internal to the university who is Aboriginal and / or Torres Strait Islander
- ☐ Academic external to the program but internal to the university who is not Aboriginal and / or Torres Strait Islander
- ☐ External visiting educator who is Aboriginal and / or Torres Strait Islander
- ☐ External visiting educator who is not Aboriginal and / or Torres Strait Islander
- ☐ Aboriginal and Torres Strait Islander student support centre representative
- ☐ Other (please specify)
- ☐ Unsure

Additional comments

Q4.2. Has completion of cultural safety training been set as part of induction for staff in your program?

- ☐ Achieved fully
- ☐ Achieved partially
- ☐ Opportunity
- ☐ Not planned

Additional comments

Q4.3. Is there a professional development program available for educators in the area of Aboriginal and Torres Strait Islander health and cultural safety?

- ☐ Achieved
- ☐ Opportunity
- ☐ Not planned

Additional comments

Q4.4. Do you feel prepared to teach Aboriginal and Torres Strait Islander health and cultural safety curriculum in your optometry program?

- ☐ Yes fully
- ☐ Yes partially
- ☐ No
- ☐ Not applicable

Additional comments

Q4.5. Do you feel prepared to assess Aboriginal and Torres Strait Islander health and cultural safety curriculum in your optometry program?

- ☐ Yes fully
- ☐ Yes partially
- ☐ No
- ☐ Not applicable

Additional comments

Q4.6. Is there an Aboriginal and Torres Strait Islander employment strategy in place at the university?

- ☐ Achieved
- ☐ Opportunity
- ☐ Not planned

Additional comments

Q4.7. Is there an Aboriginal and Torres Strait Islander staff support program in place?

- ☐ Achieved
- ☐ Opportunity
- ☐ Not planned

Additional comments

Q4.8. Do you see staffing within the optometry program as an enabler or barrier to integrating the 'Optometry Aboriginal and Torres Strait Islander Health Curriculum Framework'?

- ☐ Enabler
- ☐ Barrier
- ☐ Neutral

Additional comments

Aboriginal and Torres Strait Islander student support needs

Q5.1. Are there defined targets for recruiting Aboriginal and Torres Strait Islander students?

- ☐ Achieved
- ☐ Opportunity
- ☐ Not planned

Additional comments

Q5.2. Is there an alternative entry program for recruiting Aboriginal and Torres Strait Islander students?

- ☐ Achieved
- ☐ Opportunity
- ☐ Not planned

Additional comments

Q5.3. Are support services within your institution available to Aboriginal and Torres Strait Islander students?

- ☐ Achieved
- ☐ Opportunity
- ☐ Not planned
- Additional comments

Q5.4. Are support services within your program available to Aboriginal and Torres Strait Islander students?

- ☐ Achieved
- ☐ Opportunity
- ☐ Not planned
- Additional comments

Q5.5. Do you see Aboriginal and Torres Strait Islander student support services within the program as an enabler or barrier?

- ☐ Enabler
- ☐ Barrier
- ☐ Neutral
- Additional comments

Ensuring the allocation of sufficient resources

Q6.1. Is the 'Optometry Aboriginal and Torres Strait Islander Health Curriculum Framework' allocated appropriate timetabling, including time and location in the curriculum and size of the teaching groups that allow it to meet its learning outcomes?

- ☐ Achieved fully
- ☐ Achieved partially
- ☐ Opportunity
- ☐ Not planned
- Additional comments

Q6.2. Is the 'Optometry Aboriginal and Torres Strait Islander Health Curriculum Framework' allocated teaching resources that allow it to meet its learning outcomes?

- ☐ Achieved fully
- ☐ Achieved partially
- ☐ Opportunity
- ☐ Not planned
- Additional comments

Q6.3. Do you see the allocation of resources in your program as an enabler or barrier to integrating the 'Optometry Aboriginal and Torres Strait Islander Health Curriculum Framework' and cultural safety curricula?

- ☐ Enabler
- ☐ Barrier
- ☐ Neutral
- Additional comments

Integrated and discrete curriculum content

Q7.1. The 'Optometry Aboriginal and Torres Strait Islander Health Curriculum Framework' is delivered through:

- ☐ Discrete unit
- ☐ Integrated across units in the optometry program
- ☐ Both discrete and integrated
- ☐ Not applicable
- Additional comments

Q7.2. Has your program mapped their Aboriginal and Torres Strait Islander health curriculum against the 'Optometry Aboriginal and Torres Strait Islander Health Curriculum Framework'?

- ☐ Achieved
- ☐ Opportunity
- ☐ Not planned
- Additional comments

Q7.3. In your view, which of the teaching activities listed below are the most useful to graduating culturally safe optometrists? Select all that apply

- ☐ Case-based learning/case studies
- ☐ Clinical placement programs
- ☐ Community immersion
- ☐ Films/videos
- ☐ Guest lecturers
- ☐ Lectures/seminars
- ☐ Online/web-based
- ☐ Personal reflection journal
- ☐ Problem-based learning
- ☐ Role play
- ☐ Simulation
- ☐ Tutorial/group discussion
- ☐ Yarning
- ☐ Other (please specify)

Additional comments

Q7.4. In your view, which of the assessment tasks listed below are the most important to graduating culturally safe optometrists? Select all that apply

- ☐ Case study
- ☐ Clinical placement-based project
- ☐ Clinical placement experience
- ☐ Clinical placement problem reflection
- ☐ Create poster
- ☐ Creative performance
- ☐ Critical essay
- ☐ Data-based project
- ☐ Demonstration
- ☐ Design strategy/project
- ☐ Group work/presentation
- ☐ Individual oral presentation
- ☐ Multiple-choice questions
- ☐ Peer assessment
- ☐ Portfolio
- ☐ Problem reflection
- ☐ Problem scenario
- ☐ Reflective journal
- ☐ Research paper
- ☐ Research successful strengths based initiatives and identify critical success factors
- ☐ Role play
- ☐ Self-evaluation
- ☐ Short answer questions
- ☐ Short essay
- ☐ Simulation
- ☐ Other (please specify)

Additional comments

Q7.5. Are students exposed to Aboriginal and Torres Strait Islander health care in a range of health care settings?

- ☐ Yes, all students
- ☐ Yes, most students
- ☐ Yes, some students
- ☐ No

Additional comments

Q7.6. Do you see having both integrated and discrete 'Optometry Aboriginal and Torres Strait Islander Health Curriculum Framework' content within the program as an enabler or barrier to graduating culturally safe optometrists?

- ☐ Enabler
- ☐ Barrier
- ☐ Neutral

Additional comments

Continuous quality improvement

Q8.1. How does your program undertake an evaluation of the Aboriginal and Torres Strait Islander Health and cultural safety curriculum content? Select all that apply

- ☐ Systematic monitoring, review and improvement process
- ☐ Student evaluations
- ☐ Internal academic peer review
- ☐ External academic peer review
- ☐ Other (please specify)
- ☐ No evaluation
- ☐ Not applicable

Additional comments

Q8.2. Do you see quality improvement measures of the 'Optometry Aboriginal and Torres Strait Islander health framework' within the optometry program as an enabler or barrier?

- ☐ Enabler
- ☐ Barrier
- ☐ Neutral

Additional comments

Enablers and barriers

Q9.1. What do you see as the main enablers to the development and implementation of optometry Aboriginal and Torres Strait Islander health and cultural safety curriculum?

Q9.2. What resources are required?

Q9.3. What do you see as the main barriers to the development and implementation of optometry Aboriginal and Torres Strait Islander health and cultural safety curriculum?

Q9.4. How should we address these barriers?

Final remarks

Q10.1. Please provide any comments or additional insights that you would like to make, if any.

Appendix C

Study 2: Optometry Aboriginal and Torres Strait Islander Health

Curriculum Critical Reflection Survey – Educator

Demographic Information

Q1.1. What is your age range?

- ☐ 20-30
- ☐ 31-40
- ☐ 41-50
- ☐ 51-60
- ☐ 60+ years

Q1.2. What is your gender?

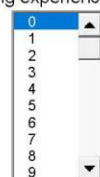
- ☐ Male
- ☐ Female
- ☐ Other
- ☐ Prefer not to say

Q1.3. What is your role?

- ☐ Academic internal to the program who is Aboriginal and / or Torres Strait Islander
- ☐ Academic internal to the program who is not Aboriginal and / or Torres Strait Islander
- ☐ Academic external to the program but internal to the university who is Aboriginal and / or Torres Strait Islander
- ☐ Academic external to the program but internal to the university who is not Aboriginal and / or Torres Strait Islander
- ☐ External visiting educator who is Aboriginal and / or Torres Strait Islander
- ☐ External visiting educator who is not Aboriginal and / or Torres Strait Islander
- ☐ Aboriginal and Torres Strait Islander student support centre representative
- ☐ Other (please specify)
- ☐ Unsure

Additional comments

Q1.4. Number of years of higher education teaching experience?



Q1.5. Do you identify as Aboriginal and / or Torres Strait Islander?

- ☐ Yes
- ☐ No
- ☐ Prefer not to say

Q1.6. Which university do you **primarily** work at?

- ☐ Deakin University
- ☐ Flinders University
- ☐ Queensland University of Technology
- ☐ The University of Melbourne
- ☐ University of Canberra
- ☐ University of New South Wales
- ☐ University of Western Australia
- ☐ Prefer not to say

Enablers and barrier

Q2.1. What do you see as the main enablers (facilitators) to the development and implementation of optometry Aboriginal and Torres Strait Islander health and cultural safety curriculum?

Q2.2. What resources are required?

Q2.3. What do you see as the main barriers to the development and implementation of optometry Aboriginal and Torres Strait Islander health and cultural safety curriculum?

Q2.4. How should we address these barriers?

Q2.5. To continue to improve graduating culturally safe optometrists, if you could change anything about the Optometry Aboriginal and Torres Strait Islander health and cultural safety curriculum in your school/program, what would it be?

Q2.6. Additional comments

Leadership and strategy

Q3.1. Do you see leadership and strategy as an enabler or barrier to integrating Aboriginal and Torres Strait Islander health and cultural safety curricula into the optometry program you are teaching?

- ☐ Enabler
- ☐ Barrier
- ☐ Neutral
- ☐ Unsure

Additional comments

Embedding community partnerships in governance and practice

Q4.1. Do you see community partnerships as an enabler or barrier to integrating Aboriginal and Torres Strait Islander health and cultural safety curricula into the optometry program you are teaching?

- ☐ Enabler
- ☐ Barrier
- ☐ Neutral
- ☐ Unsure

Additional comments

Staff capacity

Q5.1. Is there a professional development program available for educators in the area of Aboriginal and Torres Strait Islander health and cultural safety?

- ☐ Yes
- ☐ No
- ☐ Unsure

Additional comments

Q5.2. Do you feel prepared to teach Aboriginal and Torres Strait Islander health and cultural safety curriculum in the optometry program?

- ☐ Yes fully
- ☐ Yes partially
- ☐ No
- ☐ Not applicable

Additional comments

Q5.3. Do you feel prepared to assess Aboriginal and Torres Strait Islander health and cultural safety curriculum in the optometry program?

- ☐ Yes fully
- ☐ Yes partially
- ☐ No
- ☐ Not applicable

Additional comments

Q5.4. Is there an Aboriginal and Torres Strait Islander staff support program in place?

- ☐ Yes
- ☐ No
- ☐ Unsure

Additional comments

Q5.5. Do you see staffing of the program as an enabler or barrier to integrating Aboriginal and Torres Strait Islander health and cultural safety curricula?

- ☐ Enabler
- ☐ Barrier
- ☐ Neutral

Additional comments

Aboriginal and Torres Strait Islander student support needs

Q6.1. Do you see Aboriginal and Torres Strait Islander student support services within the program as an enabler or barrier?

- ☐ Enabler
- ☐ Barrier
- ☐ Neutral
- ☐ Unsure

Additional comments

Ensuring the allocation of sufficient resources

Q7.1. Is the Aboriginal and Torres Strait Islander health and cultural safety curriculum allocated appropriate timetabling, including time and location in the curriculum and size of the teaching groups that allow it to meet its learning outcomes?

- ☐ Yes fully
- ☐ Yes partially
- ☐ No
- ☐ Unsure

Additional comments

Q7.2. Is the Aboriginal and Torres Strait Islander health curriculum allocated teaching resources that allow it to meet its learning outcome?

- ☐ Yes
- ☐ No
- ☐ Unsure

Additional comments

Q7.3. Do you see the allocation of resources within the program as an enabler or barrier to integrating Aboriginal and Torres Strait Islander health and cultural safety curricula?

- ☐ Enabler
- ☐ Barrier
- ☐ Neutral
- ☐ Unsure

Additional comments

Integrated and discrete curriculum content

Q8.1. In your view, which of the teaching activities listed below are the most useful to graduating culturally safe optometrists? Select all that apply

- ☐ Case-based learning/case studies
- ☐ Clinical placement programs
- ☐ Community immersion
- ☐ Films/videos
- ☐ Guest lecturers
- ☐ Lectures/seminars
- ☐ Online/web-based
- ☐ Personal reflection journal
- ☐ Problem-based learning
- ☐ Role play
- ☐ Simulation
- ☐ Tutorial/group discussion
- ☐ Yarning
- ☐ Other (please specify)

Additional comments

Q8.2. In your view, which of the assessment tasks listed below are the most important to graduating culturally safe optometrists? Select all that apply

- ☐ Case study
- ☐ Clinical placement-based project
- ☐ Clinical placement experience
- ☐ Clinical placement problem reflection
- ☐ Create poster
- ☐ Creative performance
- ☐ Critical essay
- ☐ Data-based project
- ☐ Demonstration
- ☐ Design strategy/project
- ☐ Group work/presentation
- ☐ Individual oral presentation
- ☐ Multiple-choice questions
- ☐ Peer assessment
- ☐ Portfolio
- ☐ Problem reflection
- ☐ Problem scenario
- ☐ Reflective journal
- ☐ Research paper
- ☐ Research successful strengths based initiatives and identify critical success factors
- ☐ Role play
- ☐ Self-evaluation
- ☐ Short answer questions
- ☐ Short essay
- ☐ Simulation
- ☐ Other (please specify)

Additional comments

Q8.3. Do you see delivery of the optometry Aboriginal and Torres Strait Islander health and cultural safety curricula within the optometry program as an enabler or barrier to graduating culturally safe optometrists?

- ☐ Enabler
- ☐ Barrier
- ☐ Neutral
- ☐ Unsure

Additional comments

Q8.4. Do you see assessment of the optometry Aboriginal and Torres Strait Islander health and cultural safety curricula within the optometry program as an enabler or barrier to graduating culturally safe optometrists?

- ☐ Enabler
- ☐ Barrier
- ☐ Neutral
- ☐ Unsure

Additional comments

Continuous quality improvement

Q9.1. Do you see quality improvement measures with the Aboriginal and Torres Strait Islander health and cultural safety curricula within the program as an enabler or barrier to graduating culturally safe optometrists?

- ☐ Enabler
- ☐ Barrier
- ☐ Neutral
- ☐ Unsure

Additional comments

Final remarks

Q10.1. Please provide any comments or additional insights that you would like to make, if any.

Appendix D

Study 2: Interview Guide – Educator

Demographic Information

Q1.1. What is your age range?

- ☐ 20-30
- ☐ 31-40
- ☐ 41-50
- ☐ 51-60
- ☐ 61+ years

Q1.2. What is your gender?

- ☐ Male
- ☐ Female
- ☐ Other

Q1.3. What is your role / level of appointment?

- ☐ Sessional casual staff
- ☐ Guest lecturer
- ☐ Lecturer
- ☐ Senior Lecturer
- ☐ Associate Professor
- ☐ Professor
- ☐ Other (please specify)

Q1.3. Number of years of higher education teaching experience?

- ☐ <10
- ☐ 11-20
- ☐ 21-30
- ☐ 31+

Q1.4. Do you identify as Aboriginal and / or Torres Strait Islander?

- ☐ Yes
- ☐ No
- ☐ Prefer not to say

Interview Guide

1. What does cultural safety mean to you?
2. Why is cultural safety important to you?
3. How do you feel about teaching cultural safety?
4. How have you been supported in your teaching of Aboriginal and Torres Strait Islander health and cultural safety curriculum?
5. How could you be more supported in your teaching of Aboriginal and Torres Strait Islander health and cultural safety curriculum?
6. Would you please tell me about your experiences of any training / PD specific to teaching Aboriginal and Torres Strait Islander health and cultural safety?
7. What content, if any, do you think is needed in training?
8. In your view, should Aboriginal and Torres Strait Islander health and cultural safety

curriculum be included in the program, why/why not?

9. What content, if any, do you think should only be taught by Aboriginal and Torres Strait Islander peoples?
 10. It has been suggested that all optometry program staff should be involved. What do you think about this?
 11. What do you think it takes for a student to provide culturally safe healthcare?
 12. Do students have adequate content and experience to provide culturally safe healthcare?
 13. How can an optometry school support Aboriginal and Torres Strait Islander students?
 14. How do you decide where you draw teaching material from?
 15. What do you think about sharing resources between optometry programs?
 16. What specifically should be shared between optometry programs if anything?
 17. What does an effective learning experience in community look like?
 18. How can we best support students prior to and during community placement?
 19. How do you think the optometry Aboriginal and Torres Strait Islander health and cultural safety curriculum could best be assessed?
 20. Are there any parts you think should not be assessed?
 21. What about assessment prior to community placement?
 22. What about assessment on community placement?
 23. What do you think about community partnerships?
 24. How do you think Aboriginal and Torres Strait Islander peoples should be involved in the program?
 25. What might strengthen the Aboriginal and Torres Strait Islander health and cultural safety curriculum?
 26. Is there anything that we have not discussed that you would like to tell me more about?
- Is there anything you would like to ask?

Appendix E

Study 3: Student Experience of Aboriginal and Torres Strait Islander Health Curriculum Survey

Demographic Information

Q1.1. What is your age range?

- ☐ Under 18
- ☐ 18-24
- ☐ 25-29
- ☐ 30-39
- ☐ 40+ years

Q1.2. Gender: How do you identify?

- ☐ Woman
- ☐ Man
- ☐ Non-binary
- ☐ Other

Q1.3. What is your ethnic background? [please specify]

-
- ☐ Prefer not to say

Q1.4. What is your year level

- ☐ Year 2
- ☐ Year 3
- ☐ Year 4
- ☐ Year 5
- ☐ 2021 graduate

Q1.5. Do you identify as Aboriginal and / or Torres Strait Islander?

- ☐ Yes
- ☐ No
- ☐ Prefer not to say

Q2. Thinking about your experience in the QUT optometry program, please rate your level of agreement with the following statements:

Statement	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	N/A	Optional additional comments
The Aboriginal and Torres Strait Islander health and cultural safety curriculum was well- organised	☐	☐	☐	☐	☐	☐	
The Aboriginal and Torres Strait Islander health and cultural safety assessment was clear and fair	☐	☐	☐	☐	☐	☐	
I received helpful feedback on my Aboriginal and Torres Strait Islander health and cultural safety assessments	☐	☐	☐	☐	☐	☐	
The Aboriginal and Torres Strait Islander health and cultural safety curriculum engaged me in learning	☐	☐	☐	☐	☐	☐	
The teaching (lecturers, tutors, online etc.) on Aboriginal and Torres Strait Islander health and cultural safety curricula was effective in helping me to learn	☐	☐	☐	☐	☐	☐	
The Aboriginal and Torres Strait Islander health and cultural safety curriculum developed my sense of social responsibility (e.g., social and civic responsibilities, human rights or sustainability)	☐	☐	☐	☐	☐	☐	
The Aboriginal and Torres Strait Islander health and cultural safety curricula increased my appreciation of the importance of further learning and professional development throughout life	☐	☐	☐	☐	☐	☐	
The Aboriginal and Torres Strait Islander health and cultural safety curriculum increased my awareness of and respect for the values and knowledges of Aboriginal and Torres Strait Islander Peoples	☐	☐	☐	☐	☐	☐	
Overall, I am satisfied with the quality of the Aboriginal and Torres Strait Islander health and cultural safety curriculum	☐	☐	☐	☐	☐	☐	

Q3. If you could change anything about the QUT Optometry Aboriginal and Torres Strait Islander health and cultural safety curriculum, what would it be?

Q4. Please provide any comments or additional insights that you would like to make, if any with regard to the QUT Optometry Aboriginal and Torres Strait Islander health and cultural safety curriculum.

Appendix F

Study 4: Round one and two pre and Pilot Testing Results

Table 1

Pre-testing Participant Characteristics

Position description	Round One		Round Two	
	n	%	n	%
Faculty of Health Cultural Safety and Indigenous Perspectives working group members with experience developing a repository of resources to support cultural safety education for both staff and students	3	50%	1	20%
Optometry academic not involved in teaching Aboriginal and Torres Strait Islander health or cultural safety	1	17%	-	-
External consultants	2	33%	2	40%
Research team member	-	-	2	40%

Note. Research team members PA & KRB

Table 2

Summary of Round One Survey Pre-Testing

Feedback Comments	Revisions	n	%
Ambiguous instructions	Minor changes made to grammar, punctuation, and wording	6	15%
Ambiguous instructions	No action as added as a result of pre-testing feedback in a prior phase of research	1	2.5%
Instructions not extensive	No action as information in PSI	1	2.5%
Estimated participation time not accurate	Estimated participation time increased	1	2.5%
Demographic question ambiguous	Examples added in two demographic questions	3	7.5%
Demographic response options revealed anonymity	Qualifiers Removed	1	2.5%
Exhaustiveness of response options questioned	No action as participants' demographic range known	1	2.5%
Ambiguous question	Minor changes made to grammar, punctuation, and wording of ten questions	10	25%
Definition requested	No action, information provided in instruction and PIS	1	2.5%
Image not easily understood	Replaced image with more user-friendly image	1	2.5%
Suggestion/s	No action as suggestion not aligned with Delphi methodology	7	17.5%
Estimated reading time questioned	Estimated reading time removed	1	2.5%
Terminology query	No action as terminology is well known/used within invited participants	2	5%
Order of questions queried	Split subheading into two	2	5%
Māori examples needed	No action as all reference to Māori removed	1	2.5%
Sensitivities around Pasifika flagged	No action as all references to Pasifika removed	1	2.5%

Note. n = 6

Table 3

Pilot Participant Characteristics

Position description	Round One		Round Two	
	n	%	n	%
Faculty of Health Cultural Safety and Indigenous Perspectives working group members with experience developing a repository of resources to support cultural safety education for both staff and students	-	-	1	25%
Optometry academic external to the research group not involved in teaching Aboriginal and Torres Strait Islander health or cultural safety	2	50%	1	25%
Optometry academic external to the research group involved in embedding Aboriginal and Torres Strait Islander health and cultural safety curriculum	-	-	1	25%
Research team member	2	50%	1	25%

Note. Round one research team pilot participants SAB & SH and round two pilot research team participant SH

Table 4
Summary of Round One Survey Pilot Testing

Comments	Revisions made	n	%
Ambiguous instructions	Editing of instructions including rewording, addition of a definition, removing redundant words	6	26%
Formatting concerns	No action, redundant as removed	3	13%
Inconsistencies in demographic question response options	Additional comments response option removed	1	4%
Inconsistency throughout survey	Changed capitals, American English, and punctuation	3	13%
URL error	URL link edited to open in a new web browser	1	4%
Reference needed	Reference added	1	4%
Example burdensome	One example removed	1	4%
Acronyms queried	Acronyms spelled out at first use	1	4%
Question estimated reading time requested	No action as estimated survey length provided in instructions	1	4%
Referencing format confusing	Punctuation added	1	4%
Instructions for questions requested	No action, unnecessary	1	4%
Content queried	No action, content appropriate	1	4%
Validations needed	Prompt added when no answer given	1	4%
Back button ambiguous	Back button wording changed	1	4%

Note. n = 4.

Responses do not sum to 100%, this is due to rounding.

Table 5
Summary of Survey Two Pre-Testing

Feedback Comments	Revisions	n	%
Formatting questioned	No action as format addressed when using Qualtrics	1	6%
Instructions ambiguous	Minor changes made to wording	1	6%
Question ambiguous	Minor changes to wording of one question	1	6%
Wording offensive	All reference to 'mob' removed in both questions and responses	1	6%
Grammar questioned	No action as title	1	6%
More details requested	No action as suggestion irrelevant to audience	1	6%
Response options ambiguous	Editing including rewording, correcting grammar and punctuation of five questions	6	38%
Response option example confusing	Example removed	1	6%
Response options not exhaustive	One response option added to one question	1	6%
Response options not exhaustive	No action as opportunity to provide additional suggestions provided	1	6%
Response option ambiguous	No action as question removed	1	6%

Note. n = 5.

Responses do not sum to 100%, this is due to rounding.

Table 6
Summary of Survey Two Pilot Testing

Comments	Revisions made	n	%
Format problematic	All rating questions format changed, and introduction changed for phone friendly format	2	5%
Instruction ambiguous	Editing of instructions including rewording to ensure consistent wording	2	5%
Demographic questions issue	Response option duplicate removed	1	3%
Question instructions format ambiguous	Highlight section of question	2	5%
Question ambiguous	Editing of wording including minor changes to grammar and removal of example	2	5%
Question redundant	Question removed	1	3%
Response option suggestion	No action, question removed	1	3%
Response option typo	Typo fixed	1	3%
Response dependent on other factors	Clarified in the question	1	3%
Terminology confusing	Greater details provided when terminology is used	1	3%
Comments/suggestion	No action as addressed in other parts of the survey / research team previously removed / not aligned to Delphi methodology / misinterpreted purpose / outside scope	23	62%

Note. n = 4

Appendix G

Study 4: Round one Questionnaire

Round One Questionnaire

Instructions

Thank you for agreeing to participate in this Delphi study, involving a series of three surveys delivered in rounds, where each 'round' informs the next in an effort to reach agreement about a topic. Final agreement will be reached in a focus group workshop. You have been invited to contribute due to your involvement in Aboriginal and Torres Strait Islander health and cultural safety education in optometry. As involvement and experiences will vary among respondents, we recognise that you may not be able to complete all questions. This is not a problem, and we would be grateful for any responses and information that you can provide.

An earlier part of this research identified a need to build the capacity of and support optometry educators to integrate Aboriginal and Torres Strait Islander health and cultural safety into optometry curricula. One way to do this is by creating an online repository of suitable, high-quality resources. However, it is essential to have consensus-based guidelines for selecting appropriate resources to include in such a repository. This survey is designed to determine what an online repository of resources on Aboriginal and Torres Strait Islander health and cultural safety to support optometry educators should include, what guidelines and processes should be used for selecting appropriate resources for the repository and, how the repository should be set up, maintained, and governed.

The survey contains a mix of closed and open questions, all with optional comments. For the 'closed' questions, a response is required using a Likert scale (i.e., strongly agree, agree, neutral, disagree, and strongly disagree) and for the open questions a text response is required. Should you require more viewing space in the comment sections, the sizing function is located in the bottom right corner of the text box, where you can drag to your desired size.

This first round of the survey will be open for two weeks, it comprises 20 questions which should take approximately 60 minutes to complete. You can leave the survey at any time and resume your progress later by clicking the link in your email invitation, as long as you return using the same browser.

At the end of the two weeks, we will collate and summarise the findings from all participants and formulate a second survey that you will receive next month. In the second round, you will be asked to rate the importance of the summarised feedback from the first round and for further comments. In the third round, the findings of the second round will be sent to participants for further comments.

Your survey participation and individual responses will be anonymous to the research team and other survey participants. However, if you wish to be recognised in any public acknowledgements for your contributions to this survey, you can provide this information at the end of the survey, which will be collected separately and not linked to your anonymous survey results.

Lastly, we will contact you in due course inviting you to a workshop to be held in the coming months to discuss the survey outcomes and future directions.

You are about to enter the first round of surveys.

If you have questions when completing the survey, please do not hesitate to contact the researcher, Kate Pecar, on +61 7 3138 5697 or email kate.pecar@hdr.qut.edu.au.

Demographic Information

Q1.1. What is your age group?

- ☐ 20-30
- ☐ 31-40
- ☐ 41-50
- ☐ 51-60
- ☐ 60+ years

Q1.2. What is your gender?

- ☐ Male
- ☐ Female
- ☐ Other
- ☐ Prefer not to say

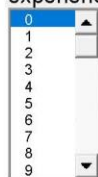
Q1.3. Do you identify as of Aboriginal or Torres Strait Islander descent? Tick all that apply

- ☐ Yes, Aboriginal
- ☐ Yes, Torres Strait Islander
- ☐ No
- ☐ Prefer not to say

Q1.4. What is your primary role in relation to an optometry program?

- ☐ Academic internal to an optometry program (e.g., lecturer in the School of Optometry)
- ☐ Academic external to an optometry program but internal to the university (e.g., lecturer in the School of Medicine)
- ☐ External visiting educator (e.g., guest lecturer)
- ☐ Knowledgeable expert providing support in Aboriginal and Torres Strait Islander health and cultural safety to an educator / optometry program
- ☐ Stakeholder group representative i.e. IAHA, LIME Network, LIOEN Reference Group or OCANZ Indigenous Strategy Taskforce (please specify)
- ☐ Other (please specify)
- ☐ Unsure

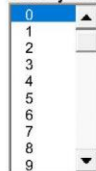
Q1.5. Number of years of higher education teaching (e.g., university teaching) experience?



A vertical dropdown menu with a scroll bar. The numbers 0 through 9 are listed from top to bottom. The number 0 is currently selected and highlighted in blue.

☐ N/A

Q1.6. Number of years of Aboriginal and Torres Strait Islander health and cultural safety education experience?



A vertical dropdown menu with a scroll bar. The numbers 0 through 9 are listed from top to bottom. The number 0 is currently selected and highlighted in blue.

Q1.7. Which university do you **primarily** work at?

- ☐ Deakin University
- ☐ Flinders University
- ☐ Queensland University of Technology
- ☐ The University of Melbourne
- ☐ University of Canberra
- ☐ University of New South Wales
- ☐ University of Western Australia
- ☐ Prefer not to say
- ☐ N/A

Questionnaire

The purpose of the proposed online repository **at this stage** is to provide access to a collection of **existing resources** aligned with the curriculum outlined in the [Optometry Aboriginal and Torres Strait Islander Health Curriculum Framework](#). The Optometry Framework has the following themes (see figure below) that need to be integrated in optometry curricula.



Source: [OCANZ 2018](#)

Each theme contains a description of the content to be taught, the learning outcomes to be addressed (covering the novice, intermediate and entry to practice levels), and suggested assessments. If you wish to see this level of detail, please visit the [Optometry Framework](#).

Please keep this Optometry Framework in mind when considering the following questions...

Content

1. What content do you think should be included in the repository (e.g., resources that align with the Optometry Framework themes, examples of assessment, guidance on assessment, examples of case studies, how to develop partnerships with communities etc.)?
2. What formats should be included (e.g., journals, books, conference proceedings, podcasts, videos, links to websites etc.)?

¹³ Note: Reprinted with permission from "Optometry Aboriginal and Torres Strait Islander Health Curriculum Framework" by Optometry Council of Australia and New Zealand, 2018, Optometry Council of Australia and New Zealand, p.11.

Architecture / Structure

There are many ways the repository could be structured. Some examples are captured over the next few pages including categories, subcategories, resources type, catalogue:

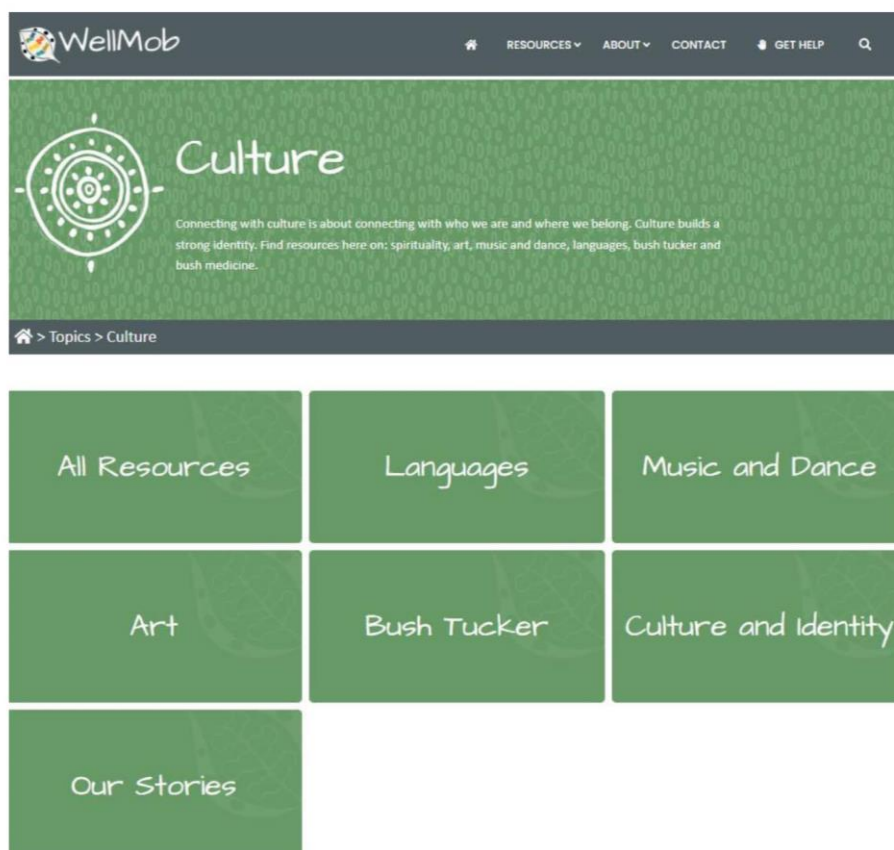
Categories (example for the image below: mind, body, our mob etc.)



Source: [WellMob n.d](https://wellmob.org.au/)

¹⁴ Note: Reprinted with permission from "https://wellmob.org.au/" by Australian Indigenous HealthInfoNet, n.d., Australian Indigenous HealthInfoNet.

Subcategories (example for the image below: languages, music and dance, art etc. are subcategories of the category culture)



Source: [WellMob n.d](https://wellmob.org.au)

15

Resource type (example for the image below: apps, websites, audio etc.)



Source: [WellMob n.d](https://wellmob.org.au)

16

¹⁵ Note: Reprinted with permission from "https://wellmob.org.au/e-health-topics/culture/" by Australian Indigenous HealthInfoNet, n.d., Australian Indigenous HealthInfoNet.

¹⁶ Note: Reprinted with permission from "https://wellmob.org.au/e-health-topics/culture/" by Australian Indigenous HealthInfoNet, n.d., Australian Indigenous HealthInfoNet.

Catalogue (example for the image below: keywords, phrases, fields [title, author etc], stop words etc.)



AIATSIS

Mura® Collections Catalogue

Find items that have:

All these words:

This exact phrase:

Don't show items that have:

These unwanted terms:

Additional limits:

☒ Find ☐ Don't show

Title:

☒ Find ☐ Don't show

Creator:

☒ Find ☐ Don't show

Subject:

Search Targets

- ☐ Collection search
☐ Cross References

Limits

- ☐ ABI
☐ Audio
☐ Electronic resources
☐ Manuscript
☐ Moving image
☐ Photographic
☐ Print collection

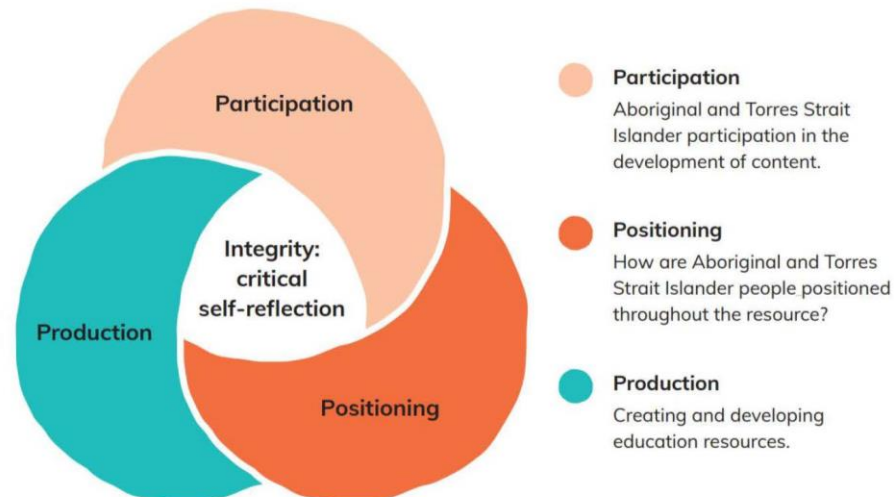
Source: [AIATSIS 2021](#)

3. How do you think the online repository should be structured?
4. If the online repository was to use categories and subcategories to structure the website, what do you think the categories (e.g., theme 1, theme 2 and theme 3 of the Optometry Framework) and subcategories (e.g., novice learning goals, intermediate learning goals and entry to practice learning goals) should be?

¹⁷ Note: Reprinted with permission from "https://iats.ent.sirsidynix.net.au/client/en_AU/external/search/advanced? " by Australian Institute of Aboriginal and Torres Strait Islander Studies, n.d., Australian Institute of Aboriginal and Torres Strait Islander Studies.

Guidelines and Process

Several guidelines for evaluating and selecting suitable resources exist. The Australian Institute of Aboriginal and Torres Strait Islander Studies (AIATSIS) published the most recent guide in October 2022. An overview of the AIATSIS Resource Evaluation Framework is shown below. Note that only 'participation' and 'positioning' are relevant to the purpose of this particular study, which is to use existing resources. 'Production' relates to the creation of new resources and is outside the scope of this study (but may be considered at some time in the future).



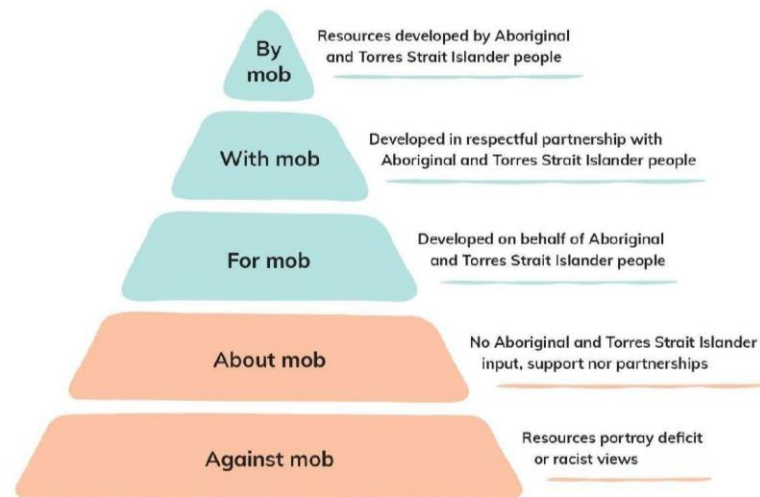
Source: [AIATSIS 2022](#)

Please take time to review the [AIATSIS Guide](#) before completing the following four questions.

5. What do you consider as the strengths of the AIATSIS Guide and why?
6. Do you see any limitations in applying the AIATSIS Guide to developing an online repository of resources for optometry programs? Do you feel any sections of the AIATSIS Guide are less relevant to optometry?
7. Is there something missing from the AIATSIS Guide? Do you think there should be additional criteria?

¹⁸ Note: Reprinted with permission from "AIATSIS Guide to evaluating and selecting education resources" by Australian Institute of Aboriginal and Torres Strait Islander Studies, 2022, Australian Institute of Aboriginal and Torres Strait Islander Studies, p.5.

-
8. The AIATSIS Guide proposes a spectrum or hierarchy of resources based on cultural appropriateness and educational quality (see image below).



Source: [AIATSIS 2022](#)

Should resources from all levels be included in the repository? Should there be any conditions assigned to resources from different levels and if yes, what should they be? E.g., only include if no other suitable resources are available or only include if the unsuitable resource is being used as a teaching tool (e.g., to highlight racism) etc.

9. Who should be eligible to deposit a possible resource and how would this work?
10. Who should apply the resource evaluation guidelines and determine which resources should be included in the repository and how would this work?

¹⁹ Note: Reprinted with permission from "AIATSIS Guide to evaluating and selecting education resources" by Australian Institute of Aboriginal and Torres Strait Islander Studies, 2022, Australian Institute of Aboriginal and Torres Strait Islander Studies, p.3.

11. Should there be a procedure for removing a resource from the repository (e.g., see image below)?

Source: [NLA n.d](#)

If so, what criteria for withdrawal/removal should be used and who should be responsible for actioning this?

12. Are there any other quality assurance measures that should be in place (e.g., replacing broken links / updated versions)?

Infrastructure and Management

13. Please provide suggestions about where the online repository should be hosted. This could include existing websites (e.g., HealthInfoNet), open-source content management systems (e.g., Pressbooks, WordPress etc), learning management systems (e.g., Canvas, Blackboard, Moodle etc), cloud storage systems (e.g., OneDrive, SharePoint) etc.
14. How should the cost associated with developing and maintaining the repository be managed?

Governance

15. Who should be responsible for the oversight of developing, implementing, and monitoring the repository and have the overall decision-making authority? How would this work?

20

Terminology

16. What should the repository be called?
17. Are there style guides that should be adopted or created for the purpose of using appropriate and consistent terminology in this repository (e.g., [Inclusive language: Aboriginal and Torres Strait Islander peoples?](#))

Additional comments

18. Are there any other comments or suggestions that you would like to make:

²⁰ Note: Reprinted with permission from <https://refracker.nla.gov.au/ref100.aspx?key=Takedown> by National Library of Australia, n.d., National Library of Australia.

Appendix H

Study 4: Round two Questionnaire

Instructions

Thank you for agreeing to participate in this study, which aims to determine what an online repository for Aboriginal and Torres Strait Islander health and cultural safety educational resources should look like. Your involvement in Aboriginal and Torres Strait Islander health and cultural safety education in optometry has led to your invitation to contribute to this study. We understand that everyone's involvement and experiences may vary, so please answer as many questions as you can. Your input is greatly appreciated.

This study consists of a series of 'rounds' of surveys, with each round building upon the previous one to reach a consensus on the topic. The first round has been completed. Final agreement will be reached in a focus group workshop. We are grateful to those who participated in round one, where ideas were generated. The purpose of this **second round** is to present the collated responses from round one and ask you to rate their importance or indicate your level of agreement. You do not need to have participated in round one to participate in the round two survey.

The round two survey will be open for two weeks. The survey includes 15 questions and should take approximately 30 minutes or less to complete. You can leave the survey at any time and resume later using the link in your email invitation, as long as you return using the same browser. The survey contains a mix of closed and open-ended questions, and opportunities to provide additional comments. If you need more viewing space in the comment sections, you can resize the text box using the sizing function located in the bottom right corner.

Your participation in the survey and your individual responses will remain anonymous to the research team and other participants. However, if you wish to be publicly acknowledged for your contributions to this survey, please let us know at the end of the survey.

You are about to begin the round two survey, which includes demographic questions about you (e.g., age group, gender, work role etc) followed by questions about an online repository of educational resources.

If you have any questions while completing the survey, please feel free to contact the researcher, Kate Pecar, at +61 7 3138 5697 or via email at kate.pecar@hdr.qut.edu.au.

Demographic Information

Q1.1. What is your age group?

- ☐ 20-30
- ☐ 31-40
- ☐ 41-50
- ☐ 51-60
- ☐ 61+ years

Q1.2. What is your gender?

- ☐ Male
- ☐ Female
- ☐ Other
- ☐ Prefer not to say

Q1.3. Do you identify as of Aboriginal or Torres Strait Islander descent? Tick all that apply

- ☐ Yes, Aboriginal
- ☐ Yes, Torres Strait Islander
- ☐ No
- ☐ Prefer not to say

Q1.4. What is your primary role in relation to an optometry program?

- ☐ Academic internal to an optometry program (e.g., lecturer in the School of Optometry)
- ☐ Academic external to an optometry program but internal to the university (e.g., lecturer in the School of Medicine)
- ☐ External visiting educator (e.g., guest lecturer)
- ☐ Knowledgeable expert providing support in Aboriginal and Torres Strait Islander health and cultural safety to an educator / optometry program
- ☐ Stakeholder group representative i.e. IAHA, LIME Network, LIOEN Reference Group or OCANZ Indigenous Strategy Taskforce (please specify)
- ☐ Other (please specify)
- ☐ Unsure

Q1.5. Number of years of higher education teaching (e.g., university teaching) experience?

☐ N/

Q1.6. Number of years of Aboriginal and Torres Strait Islander health and cultural safety education experience?

Q1.7. Which university do you **primarily** work at?

- ☐ Deakin University
- ☐ Flinders University
- ☐ Queensland University of Technology
- ☐ The University of Melbourne
- ☐ University of Canberra
- ☐ University of New South Wales
- ☐ University of Western Australia
- ☐ Prefer not to say
- ☐ N/A

Round Two Survey

The purpose of the proposed online repository at this stage is to provide access to a collection of existing resources for educators, aligned with the '[Optometry Aboriginal and Torres Strait Islander Health Curriculum Framework](#)'. This should provide a starting point for educators to develop their own safe, high quality teaching material, and encourage ongoing participation in critical self-reflection. The development and sharing of new resources, the inclusion of Māori resources and a 'community of practice' were suggested by some participants in round one; however, these are all beyond the scope of the current study. We hope that these excellent suggestions will be addressed in future studies. For now, in round two, only suggestions focussed on the purpose of the current study are presented.

Repository Content

1a. Keeping in mind the purpose of the repository, please rate how important you think it is to include the following resources (for more information, please hover over underlined text).

	Extremely important	Very important	Moderately important	Slightly important	Not at all important	No opinion
Resources covering the Optometry Framework themes ¹						
Examples of case studies						
Examples of assessment						
Examples of lesson plans						
Examples of role plays						
Examples of lived experience						
Links to websites that have been developed by or involve Aboriginal and Torres Strait Islander peoples						
List of key Aboriginal and Torres Strait Islander health organisations in each state and territory						
Guidelines on how to support Aboriginal and Torres Strait Islander students						
Guidelines on how to develop partnerships and work with communities						
Information on Indigenous pedagogy and theory						
Resources on appropriate terminology						
The AIATSIS ² guide to evaluating and selecting education resources						
Optometry accreditation standards						

1b. Please provide any additional comments or suggestions related to the statements above.

¹ e.g., theme one (reflective practice and professionalism); theme two (history, diversity, colonisation, and population health); and theme three (culturally safety and partnership)

² Australian Institute of Aboriginal and Torres Strait Islander Studies

2a. Please indicate your level of agreement with the following statements:

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	No opinion
Resources should cover and align with the Optometry Framework themes						
The repository should provide a limited number of quality resources						
The repository should provide as many resources as possible						
Resources should have been primarily developed by Aboriginal and Torres Strait Islander people						
Resources should be optometry-specific						
Resources should draw on multiple disciplines, including other health professions, sociology, anthropology, education, law etc.						

2b. Please provide any additional comments or suggestions related to the statements above.

In round one, participants were asked about the types of resources to be included. A wide range was suggested, such as journal articles, books, conference abstracts, reports, videos (including TEDx talks), podcasts, websites, infographics, training modules available on the web, newspaper stories etc.

3a. Please indicate your level of agreement with the following statement:

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	No opinion
Appropriate resources in any format should be considered						

3b. Please provide any additional comments or suggestions related to the statements above.

Architecture / Structure

Participants suggested the repository should use categories and sub-categories.

4a. Please rate the importance of the following suggestions for the structure of the repository (*for more information, please hover over underlined text*):

	Extremely important	Very important	Moderately important	Slightly important	Not at all important
Categories should be based on knowing, being and doing ³					
Categories should be based on the Optometry Framework themes ⁴					
Sub-categories should be based on the Optometry Framework sub-themes/learning outcomes ⁵					
Sub-categories should be based on the Optometry Framework learning levels ⁶					
Sub-categories should be based on the type of resource ⁷					

4b. Please provide any additional comments or suggestions related to the statements above.

³ e.g., knowing yourself, knowing community, knowing how to practice in community

⁴ e.g., reflective practice and professionalism; history, diversity, colonisation, and population health; and cultural safety and partnership

⁵ e.g., culture, racism and white privilege; social determinants of health; culturally safe interactions; self-reflexivity, anti-racist, social justice and affirmative action approaches; diversity of Aboriginal and/or Torres Strait Islander Peoples and cultures; colonisation; epidemiology; population health and health workforce policy; dominant Western cultural and political paradigm; Aboriginal and/or Torres Strait Islander health professionals and organisations; clinical management, culture of optometry / health system, building partnership, cultural safety in clinical setting, leadership and lifelong learning

⁶ e.g., novice, intermediate and entry to practice

⁷ e.g., journal article, book, video etc

Guidelines and Process

The AIATSIS Guide to evaluating and selecting education resources, was introduced in round one and was well-received as a practical tool. It emphasises prioritising resources that have been developed by or involved Aboriginal and Torres Strait Islander people, as well as promoting a strengths-based approach. However, it was noted that it does not specifically address other aspects of culture (e.g., gender identity, First Nations resources from other parts of the world etc) and that the term 'mob' might not be appropriate. No alternative guidelines were suggested. Therefore, the visual representation of the resource hierarchy outlined in the AIATSIS Guide (top image) has been modified (bottom image), as shown below.



21

²¹ Note: Reprinted with permission from "AIATSIS Guide to evaluating and selecting education resources" by Australian Institute of Aboriginal and Torres Strait Islander Studies, 2022, Australian Institute of Aboriginal and Torres Strait Islander Studies, p.3.

Modified guide ↓

Image omitted due to copyright

5a. Please rate your level of agreement with the following statements regarding the potential application of the modified pyramid⁸ to the repository processes (*for more information, please hover over underlined text*):

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	No opinion
Resources 'about Aboriginal and Torres Strait Islander peoples, with no input, support or partnerships' should only be included if no other suitable resources meeting higher criteria are available						
Resources 'against Aboriginal and Torres Strait Islander peoples, portraying deficit or racist views' should not be included under any circumstances, and instead a strengths-based approach should be adopted using 'resources developed by Aboriginal and Torres Strait Islander peoples' and resources 'developed in meaningful and respectful partnership with Aboriginal and Torres Strait Islander peoples'						
Resources 'against Aboriginal and Torres Strait Islander peoples, portraying deficit or racist views' could be included if they are clearly identified and their purpose explained (e.g., used to illustrate racism)						
All resources should be identified with the relevant classification from The AIATSIS Guide e.g., resource developed by Aboriginal and Torres Strait Islander peoples						
A disclaimer is necessary to acknowledge that even if a resource is evaluated and categorised in the "top levels of the pyramid ⁹ ," it may not be universally suitable due to the diverse range of Aboriginal and Torres Strait Islander peoples, cultures, and perspectives.						

5b. Please provide any additional comments or suggestions related to the statements above.

⁸ Hyperlink to open image of pyramid in another tab

⁹ Resources developed by Aboriginal and Torres Strait Islander peoples, developed in meaningful and respectful partnership with Aboriginal and Torres Strait Islander peoples and developed on behalf of Aboriginal and Torres Strait Islander peoples

Participants suggested that anyone should be able to submit a resource to be evaluated for inclusion in the repository.

6a. Please rate your level of agreement with who should apply The AIATSIS Guide to evaluating potential resources for the repository and monitor the repository for outdated material (*for more information, please hover over underlined text*):

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	No opinion
Nominees from each Optometry School should form a Working Group						
The Leaders in Indigenous Optometry Education Network (LIOEN) should form a Working Group ¹⁰						
An appointed administrator/researcher (noting that these positions at LIME Network and Australian Indigenous HealthInfoNet are paid appointments)						

6b. Please provide any additional comments or suggestions related to the statements above.

¹⁰ note, the LIOEN reference group comprises two representatives from First Nations health organisations, in addition to one representative from each Optometry School in Australia and Aotearoa/New Zealand

7a. Please rate your level of agreement with the following statements regarding the resource evaluation process:

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	No opinion
If Aboriginal and Torres Strait Islander peoples are to be involved, they need to be remunerated for their time, knowledge, and expertise						
Demonstrating suitable cultural safety training should be an essential requirement before assessing materials.						
Resources should be determined through group consensus						

7b. Please provide any additional comments or suggestions related to the statements above.

Infrastructure and Management

At this stage, the repository will only be accessible to a closed group (not publicly available). The decision to transition to open access when ready in the future will depend on various factors, including availability of funding to support the necessary infrastructure, ongoing maintenance, and copyright issues.

8a. Please rate your level of agreement with the following statements regarding where the repository might be hosted, keeping in mind the likely range of costs and accessibility. Note that some suggestions in round one are not possible and have not been presented below. For example, the Optometry Australia website (not possible for non-members to access) and the accreditation organisation OCANZ website (beyond the scope of the organisation).

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	No opinion
The online repository should be hosted on <u>HealthInfoNet</u>						
The online repository should use the open-source content management system Pressbook						
The online repository should use the open-source content management system WordPress						
The online repository should use the learning management system, Canvas (or similar)						
The online repository should use the cloud storage system, OneDrive						
The online repository should use the communication platform, Teams						

8b. Please provide any additional comments or suggestions related to the statements above.

In round one, participants put forward suggestions for funding the repository.

9a. Please rate your level of agreement with the following people/groups funding the costs related to developing and maintaining the repository in the short term.

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	No opinion
Shared between Optometry Schools						
Subscription fee from users						
Grants or philanthropy						
Government funding						

9b. Please provide any additional comments or suggestions related to the statements above.

Governance

10a. Please rate your level of agreement with the following groups having overall decision-making authority and responsibility for the repository (*for more information, please hover over underlined text*):

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	No opinion
LIOEN Reference Group ¹¹						
A specifically convened governance group (noting this would not fall within the scope of professional association (Optometry Australia) or regulatory bodies (such as Optometry Council of Australia and New Zealand) who have different roles in the profession)						
The same Working Group evaluating the resources						

10b. Please provide any additional comments or suggestions related to the statements above.

¹¹ currently comprising two representatives from First Nations health organisations, in addition to one representative from each Optometry School in Australia and Aotearoa/New Zealand

11a. How important would it be to have the following characteristics, skills, and qualifications represented in the overall responsible decision-making authority:

	Extremely important	Very important	Moderately important	Slightly important	Not at all important	No opinion
Aboriginal and/or Torres Strait Islander person/s						
Non-Aboriginal and/or Torres Strait Islander person/s						
Academic skills						
Cultural safety training						
Governance experience						
Information literacy						
Librarian						
Optometrist						
Other health care provider						
Teaching skills						

11b. Please provide any additional comments or suggestions.

Naming the Repository

The name of the repository will likely be influenced by the governance structure. However, some suggestions were made by participants.

12a. Please number from 1 to 3 your preferred name for the repository, where 1 is your first preference (*for more information, please hover over underlined text*).

- Ways to Improve Cultural Safety
- The LIOEN's¹² Den RIOR - repository for Indigenous optometry resources
- The LIOEN's Den ROIR - repository of optometry Indigenous resources
- The LIOEN's Den RIOT - resources for Indigenous optometry teaching
- LIOEN repository
- Teaching resources for cultural safety
- No opinion

12b. Please provide any additional comments or suggestions about the preferred name for the repository.

Additional comments

13. Is there anything missing from what has been presented, so far? Are there any other comments or suggestions that you would like to make?

¹² Leaders in Indigenous Optometry Education Network

Appendix I

Study 4: Acknowledgement of Contributors

The project team would like to acknowledge and thank the following people who have contributed their time and expertise to inform the recommendations develop as part of study four.

Khyber Alam
Mitchell Anjou AM
Joanna Black
Joanne Bolton
Jason Booth AM
Mei Ying Boon
Holly Chinnery
Anthea Cochrane
Andrew Collins
Deb Duthie
Paul Gibson
Moneisha Gokhale

Melissa Haswell
Vanessa Honson
Lisa Keay
Susan Kelly
Stephen Lambert
Myra Leung
Layal Naji
Gregory Phillips
Katrina Schmid
Mandy Truong
Kathleen Watt
Ryan Wood-Bradley

The project team would also like to acknowledge those who have contributed and wish to remain anonymous.

Appendix J

Study 4: Round one and two Summary

Background

The purpose of the proposed online repository at this stage is to provide access to a collection of existing resources for educators, aligned with the '[Optometry Aboriginal and Torres Strait Islander Health Curriculum Framework](#)'. This should provide a starting point for educators to develop their own safe, high quality teaching material, and encourage ongoing participation in critical self-reflection. The development and sharing of new resources, the inclusion of Māori resources and a 'community of practice' have been suggested by some participants; however, these are all beyond the scope of the current study. We hope that these excellent suggestions will be addressed in future studies. For now, findings focussed on the purpose of the current study are presented.

The purpose of the round one survey was to generate ideas regarding how the online repository should be structured and what types of resources should be included, as well as the criteria for selecting educational resources to support Aboriginal and Torres Strait Islander health and cultural safety curricula in optometry. There were 22 participants in round one. The purpose of the round two survey was to ask participants to rate their level of agreement with or the importance of the ideas suggested in round one. There were 18 participants in round two.

The next step of the study is the workshop to present and discuss findings from the surveys. **Where more than 75% of participants rated an idea in the surveys as very or extremely important (or agreed or strongly agreed) there is group consensus. The workshop will focus on responses that have not quite reached consensus and need further discussion to clarify the position of the group, as highlighted in yellow boxes in the results below.**

Round Two Survey Results

Repository Content

Table 1 Types of Resources

Resource	% of participants responding 'very or extremely important'	Mean importance rating (SD)
Examples of lived experience	94%	4.7 (0.6)
Links to websites that have been developed by or involve Aboriginal and Torres Strait Islander peoples	94%	4.4 (0.6)
Guidelines on how to support Aboriginal and Torres Strait Islander students	94%	4.4 (0.6)
Guidelines on how to develop partnerships and work with communities	94%	4.3 (0.6)
Resources covering the Optometry Framework themes	89%	4.5 (0.9)
Information on Indigenous pedagogy and theory	89%	4.3 (0.7)
Examples of case studies	89%	4.1 (0.8)
The AIATSIS guide to evaluating and selecting education resources	83%	4.3 (0.8)
List of key Aboriginal and Torres Strait Islander health organisations in each state and territory	83%	4.1 (0.8)
Resources on appropriate terminology	78%	4.2 (0.8)
Examples of assessment	78%	3.9 (0.9)
Optometry accreditation standards	61%	3.7 (1.1)
Examples of lesson plans	44%	3.6 (0.9)
Examples of role plays	44%	3.3 (1.1)

Note: n=18 responded; importance scale from 1 'not at all important' to 5 'extremely important'

There was clear consensus about the types of resources that should be included in the repository.

Table 2 Coverage of Resources

Statement	% of participants responding 'agree or strongly agree'	Mean agreement rating (SD)
Resources should cover and align with the Optometry Framework themes	100%	4.4 (0.5)
Resources should draw on multiple disciplines, including, anthropology, education, law etc.	94%	4.2 (0.7)
Resources should have been primarily developed by Aboriginal and Torres Strait Islander people	78%	3.9 (0.9)
The repository should provide a limited number of quality resources	61%	3.6 (0.7)
Resources should be optometry-specific ^a	47%	3.1 (1.0)
The repository should provide as many resources as possible	39%	2.9 (1.0)

Note: n=18 except ^a where 17 responded; agreement scale from 1 'strongly disagree' to 5 'strongly agree'

There was clear consensus that the resources should:

- Align with the Optometry Framework
- Draw on multiple disciplines
- Have been primarily developed by Aboriginal and Torres Strait Islander people

Table 3 Format of Resources

Statement	% of participants responding 'agree or strongly agree'	Mean agreement rating (SD)
Appropriate resources in any format should be considered	100%	5.0 (0.5)

Note: n=18 responded; agreement scale from 1 'strongly disagree' to 5 'strongly agree'

There was clear consensus that resources in any format should be considered (e.g., journal articles, books, conference abstracts, reports, videos (including TEDx talks), podcasts, websites, infographics, training modules available on the web, newspaper stories etc.).

Architecture / Structure

Table 4 Structure of the Repository

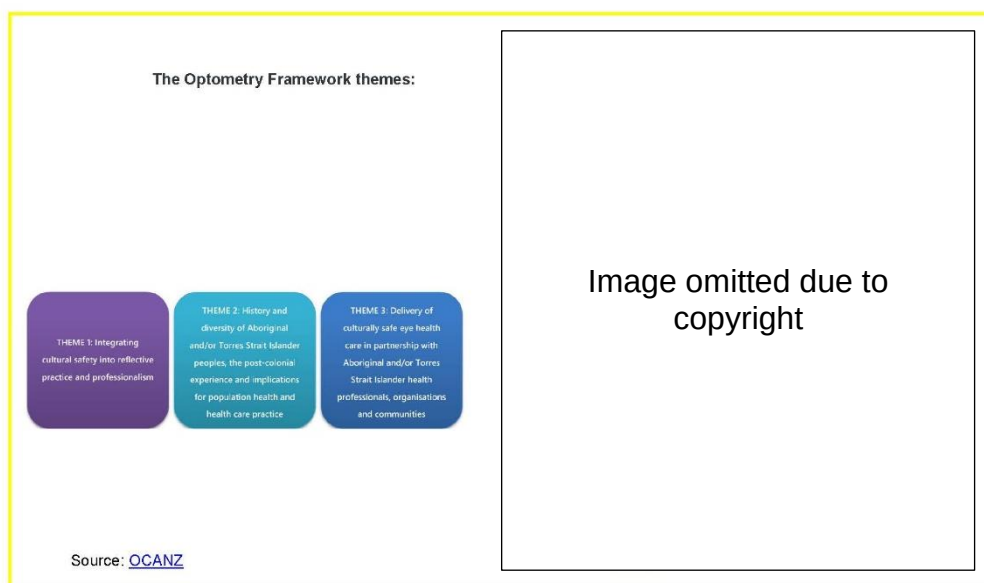
Statement	% of participants responding 'very or extremely important'	Mean importance rating (SD)
Categories should be based on the Optometry Framework themes ^a	76%	4.1 (0.9)
Categories should be based on knowing, being and doing^a	71%	3.9 (1.2)
Sub-categories should be based on the Optometry Framework sub-themes/learning outcomes^a	71%	3.8 (0.8)
Sub-categories should be based on the Optometry Framework learning levels ^a	53%	3.3 (1.0)
Sub-categories should be based on the type of resource	39%	2.9 (1.2)

Note: n=18 except ^a where 17 responded; importance scale from 1 'not at all important' to 5 'extremely important'

How the repository should be structured was less clear. Although there was agreement that the categories should be based on Optometry Framework themes (see image below), categories based on knowing, being and doing were also suggested (see example below).

Comments included:

- Aboriginal and Torres Strait Islander input and leadership would be required if using Aboriginal and Torres Strait Islander categorisation
- Given the nature of the repository, most of the resources are likely to focus on the development of knowledge, whereas understanding of knowing, being and doing is also about actions and practice



22

Guidelines and Process

Table 5 Who Should Evaluate Resources

Evaluators	% of participants responding 'agree or strongly agree'	Mean agreement rating (SD)
The Leaders in Indigenous Optometry Education Network (LIOEN) should form a Working Group	83%	4.1 (0.7)
An appointed administrator/researcher	67%	3.6 (1.0)
Nominees from each Optometry School should form a Working Group ^a	47%	3.5 (0.7)

Note: n=18 except ^a where 17 responded; agreement scale from 1 'strongly disagree' to 5 'strongly agree'

There was clear consensus that LIOEN should form a Working Group to evaluate resources submitted for inclusion in the repository. LIOEN was established in 2020 by the heads of optometry schools in Australia and Aotearoa New Zealand. LIOEN was inspired by the Leaders in Indigenous Medical Education (LIME) network. Unlike, LIME, LIOEN does not receive government funding and all work has been largely in-kind.

²² *Note:* Reprinted with permission from "Optometry Aboriginal and Torres Strait Islander Health Curriculum Framework" by Optometry Council of Australia and New Zealand, 2018, Optometry Council of Australia and New Zealand, p.11.

The AIATSIS Guide to evaluating and selecting education resources emphasises prioritising resources that have been developed by or involved Aboriginal and Torres Strait Islander people, as well as promoting a strengths-based approach.

Some participants in round one and members of the research team felt that the term 'mob' might not be appropriate. Therefore, the word 'mob' was removed from the image of the AIATSIS Guide resource hierarchy and some of the descriptors were extended to add clarity, as shown below.



Source: [AIATSIS](#)

In round two, a comment was made that indicated some discomfort with modifying the AIATSIS pyramid, which warrants discussion.

Table 6 Application of the AIATSIS Guide to Selecting Resources

Statement	% of participants responding 'agree or strongly agree'	Mean agreement rating (SD)
A disclaimer is necessary to acknowledge that even if a resource is evaluated and categorised in the "top levels of the pyramid," it may not be universally suitable due to the diverse range of Aboriginal and Torres Strait Islander peoples, cultures, and perspectives.	94%	4.4 (0.6)
All resources should be identified with the relevant classification from The AIATSIS Guide	89%	4.2 (0.6)
Resources 'against Aboriginal and Torres Strait Islander peoples, portraying deficit or racist views' should not be included under any circumstances, and instead a strengths-based approach should be adopted using 'resources developed by Aboriginal and Torres Strait Islander peoples' and resources 'developed in meaningful and respectful partnership with Aboriginal and Torres Strait Islander peoples'	72%	3.9 (1.2)
Resources 'about Aboriginal and Torres Strait Islander peoples, with no input, support or partnerships' should only be included if no other suitable resources meeting higher criteria are available	67%	3.8 (0.9)
Resources 'against Aboriginal and Torres Strait Islander peoples, portraying deficit or racist views' could be included if they are clearly identified and their purpose explained (e.g., used to illustrate racism)	67%	3.7 (1.0)

Note: n=18; agreement scale from 1 'strongly disagree' to 5 'strongly agree'

There was clear consensus that the AIATSIS guide could be used to help evaluate whether a resource is appropriate for the repository. Additionally, that:

- A disclaimer is necessary to acknowledge that even if a resource is evaluated and categorised in the "top levels of the pyramid," it may not be universally suitable due to the diverse range of Aboriginal and Torres Strait Islander peoples, cultures, and perspectives*
- All resources in the repository should be identified with the relevant classification from The AIATSIS Guide*

What was a little less clear and needs discussion was whether:

- Resources 'against Aboriginal and Torres Strait Islander peoples, portraying deficit or racist views' should not be included under any circumstances, and instead a strengths-based approach should be adopted using 'resources developed by Aboriginal and Torres Strait Islander peoples' and resources 'developed in meaningful and respectful partnership with Aboriginal and Torres Strait Islander peoples'*

Table 7 Resource Evaluation Process		
Statement	% of participants responding 'agree or strongly agree'	Mean agreement rating (SD)
If Aboriginal and Torres Strait Islander peoples are to be involved, they need to be remunerated for their time, knowledge, and expertise	100%	4.7 (0.5)
Demonstrating suitable cultural safety training should be an essential requirement before assessing materials	94%	4.6 (0.6)
Resources should be determined through group consensus	72%	3.7 (0.7)

Note: n=18; agreement scale from 1 'strongly disagree' to 5 'strongly agree'

There was consensus that:

- Aboriginal and Torres Strait Islander people who are involved in evaluating resources for the repository should be paid
- Evaluators should have had cultural safety training

What was a little less clear and needs discussion was whether resources to be included in the repository should be determined by consensus of the evaluation working group.

Infrastructure and Management

At this stage, the repository will only be accessible to a closed group (not publicly available). The decision to transition to open access in the future will depend on various factors, including availability of funding to support the necessary infrastructure, ongoing maintenance, and copyright issues.

Table 8 Repository Host Site

Host site	% of participants responding 'agree or strongly agree'	Mean agreement rating (SD)
The online repository should be hosted on HealthInfoNet ^a	60%	3.7 (0.8)
The online repository should use the cloud storage system, OneDrive ^b	42%	3.3 (1.0)
The online repository should use the open-source content management system WordPress ^c	36%	3.5 (0.7)
The online repository should use the learning management system, Canvas (or similar) ^c	36%	3.4 (0.8)
The online repository should use the open-source content management system Pressbook ^d	30%	3.3 (0.5)
The online repository should use the communication platform, Teams ^b	25%	3.0 (0.7)

Note: ^a 15 participants responded, ^b 12 responded, ^c 11 responded, ^d 10 responded; agreement scale from 1 'strongly disagree' to 5 'strongly agree'

Consensus was not reached on where the repository should be hosted. Notably, not all participants responded to the question.

Comments on this question suggested that lack of consensus was due to:

- Participants not feeling they had sufficient technical understanding of the systems listed
- The potential influence of practical considerations such as funding and copyright issues

Of the possibilities listed, the Australian Indigenous HealthInfoNet was ranked highest. Discussions with the Director revealed this would require funding. We suggest that the repository site is left to the governing group.

Table 9 Funding

Funding source	% of participants responding 'agree or strongly agree'	Mean agreement rating (SD)
Grants or philanthropy ^a	88%	3.9 (1.0)
Government funding	78%	4.0 (0.8)
Shared between Optometry Schools ^b	75%	3.8 (0.9)
Subscription fee from users ^a	29%	2.9 (1.0)

Note: n=18, except ^a where 17 responded and ^b where 16 responded; agreement scale from 1 'strongly disagree' to 5 'strongly agree'

There was consensus that the repository should be funded through grants or philanthropy, government, and/or shared between Schools, and that it should NOT be funded through user subscription fees.

Comments raised for the governing group to consider include:

- Grants, philanthropy, and government funding may not provide sustainability
- Due to the current state of university budget restrictions, funding from optometry schools may not be feasible
- Multiple funding sources might be required

Table 10 Governance: Who has Overall Decision-Making Authority for the Repository

Group	% of participants responding 'agree or strongly agree'	Mean agreement rating (SD)
LIOEN Reference Group	78%	3.9 (0.6)
A specifically convened governance group	53%	3.3 (0.9)
The same Working Group evaluating the resources ^a	53%	3.2 (1.1)

Note: n=18 except ^a where 17 responded; agreement scale from 1 'strongly disagree' to 5 'strongly agree'

There was clear consensus that the LIOEN Reference Group should be the governing body and take responsibility for overall decision making.

Currently, the LIOEN Reference Group is made up of two representatives from Indigenous health organisations, one from Australia (Indigenous Allied Health Association) and one from Aotearoa New Zealand (Ngā Pou Mana). In addition to one representative from each optometry school in Australia and Aotearoa/New Zealand, nominated by the Head. Where possible, optometry school representatives are Aboriginal and/or Torres Strait Islander (if in Australia) and Māori (if in Aotearoa).

The role of the LIOEN Reference Group is to provide governance, leadership and oversight to the development and implementation of strategic initiatives of the LIOEN. It also contributes to the development and implementation of specific program work through sub-committee or working group membership.

Table 11 Skills Required of Governance Group

Skills	% of participants responding 'very or extremely important'	Mean importance rating (SD)
Teaching skills	94%	4.3 (0.6)
Aboriginal and/or Torres Strait Islander person/s ^a	88%	4.6 (0.9)
Cultural safety training	89%	4.6 (0.7)
Information literacy	72%	4.1 (0.8)
Academic skills	72%	4.0 (0.9)
Governance experience	72%	4.0 (0.8)
Optometrist ^a	53%	3.6 (0.9)
Librarian ^c	44%	3.3 (1.0)
Other health care provider ^a	35%	2.8 (1.0)
Non-Aboriginal and/or Torres Strait Islander person/s ^a	18%	2.7 (0.9)

Note: n=18 except ^a where 17 responded and ^c where 15 responded; importance scales from 1 'not at all important' to 5 'extremely important'

There was consensus that the group making decisions about the repository should collectively have the following skills, experience and attributes:

- Teaching skills
- Aboriginal and/or Torres Strait Islander person/s (noting a comment that tokenistic inclusion should be avoided)
- Cultural safety training

The following skills, experience and attributes need discussion:

- Information literacy
- Academic skills
- Governance experience

Naming the Repository

Table 12 Preferred Name for the Repository

Name	Mean Preference
LIOEN repository	1.1
The LIOEN's Den ROIR - repository of optometry Indigenous resources	1.5
The LIOEN's Den RIOT - resources for Indigenous optometry teaching	1.9
Teaching resources for cultural safety	2.0
The LIOEN's Den RIOR - repository for Indigenous optometry resources	2.4
Ways to Improve Cultural Safety	2.5

Note: n=16 responded; participants were asked to rank their top three preferred names where 1 was the top preference and 3 was the third preference

Relatively few names for the repository were suggested. We suggest that the naming of the repository is left to the governing group.

Appendix K

Peer-Reviewed Publications Arising From the Thesis

Pecar, K. D., Anderson, P. J., Hopkins, S., Rallah-Baker, K. R., & Bentley, S. A. (2023). Educator perspectives on implementing the optometry Aboriginal and Torres Strait Islander health curriculum framework. *Clinical and Experimental Optometry*, 106(2), 140-149.

<https://doi.org/10.1080/08164622.2022.2102892>

Appendix L

Conference Proceedings Arising From the Thesis

Pecar, K. D., Anderson, P. J., Hopkins, S., Rallah-Baker, K. R., & Bentley, S. A. (2023, September 11). Implementation of the Aboriginal and Torres Strait Islander health curriculum framework in optometry programs: Early progress [Presentation]. Scientific and Educators Meeting in Optometry, Melbourne, VIC, Australia.

Pecar, K. D., Hopkins, S., Rallah-Baker, K. R., & Bentley, S. A. (2023, June 26-29). Integrating Aboriginal and Torres Strait Islander health education into an optometry program: What do optometry students think so far? [Presentation]. Australian & New Zealand Association for Health Professional Educators, Gold Coast, QLD, Australia.