

Research Article

Cite this article: Benton M, Hearn S, Marmolejo-Ramos F (2021). Indigenous students' experience and engagement with support at university: a mixed-method study. *The Australian Journal of Indigenous Education* 50, 256–264. <https://doi.org/10.1017/jie.2021.1>

Received: 2 March 2020
Revised: 18 August 2020
Accepted: 18 October 2020
First published online: 29 March 2021


Key words:

Aboriginal; higher education; Indigenous students; student engagement student support; success

Author for correspondence:

Madeleine Benton,
E-mail: madeleine.benton@adelaide.edu.au

Indigenous students' experience and engagement with support at university: a mixed-method study

Madeleine Benton¹ , Shane Hearn¹ and Fernando Marmolejo-Ramos²

¹Wirltu Yurlu, The University of Adelaide, North Terrace, Adelaide, South Australia 5005, Australia and ²Centre for Change and Complexity in Learning, University of South Australia, Adelaide, South Australia 5005, Australia

Abstract

There remains significant under representation of Aboriginal and Torres Strait Islander peoples in Australian higher education systems. A number of strategies have been implemented by governments and universities to best support Indigenous students within higher education that have produced varying levels of success in increasing participation, retention and completions. One key strategy is the inclusion of Aboriginal Education Units within universities. The current study aimed to examine students experience and engagement with a range of support services across university, in particular with an Aboriginal Education Unit. Utilising a mixed-method approach, data were collected from 103 students who identified as Aboriginal and/or Torres Strait Islander at The University of Adelaide. Overall, students were most satisfied with support provided by family (70%) and the Aboriginal Education Unit (61%), followed by support provided by university faculties (49%), and the wider university (43%). The main reasons students were accessing the Unit was for academic and tutoring purposes, also rating tutoring as the most beneficial service provided by the Unit. This study highlights the importance of examining and evaluating enablers such as support mechanisms from the student perspective and has demonstrated the significant role Aboriginal Education Units play in the student experience, laying a crucial foundation for targeted support initiatives.

Introduction

Aboriginal and Torres Strait Islander peoples continue to experience significant disadvantage relative to other Australians across numerous social and health indicators (Steering Committee for the Review of Government Service Provision (SCRGSP), 2011). Education is recognised as one of the most crucial strategies in addressing this disadvantage and improving health, economic and educational outcomes for Aboriginal and Torres Strait Islander peoples (Pechenkina *et al.*, 2012). The terms 'Indigenous Australians' and 'Indigenous students' are hereafter used respectfully to refer to Australia's Aboriginal and Torres Strait Islander peoples and/or students with full recognition of the significant diversity of the cultures and experiences of Australia's First Peoples (Taylor *et al.*, 2019).

Despite substantial progress in recent times, Indigenous Australians remain significantly underrepresented in higher education systems. Overall, Indigenous Australians make up less than 1% of higher education students and are one of the most underrepresented minority groups in Australian universities (Bradley *et al.*, 2008; Pechenkina and Anderson, 2011). Despite the number of commencing Indigenous students remaining relatively stable over the past 10 years, the attainment and completion rates have varied (Pechenkina and Anderson, 2011). It is estimated that less than half of Indigenous students who embark on tertiary studies fulfil their academic goals (James *et al.*, 2008). Regardless of a students' commitment to complete their degree, Indigenous students encounter a multitude of obstacles that may lead them to withdraw from university at higher rates than their non-Indigenous counterparts (Oliver *et al.*, 2015). The increasing body of literature identifying the complex and often interrelated factors contributing to Indigenous students withdrawal from university include challenges relating to health, family and community responsibilities, finances, social support, academic preparedness, and issues surrounding personal well-being (Parente *et al.*, 2003; Sharrock and Lockyer, 2008; Oliver *et al.*, 2015; Barney, 2016; Hearn *et al.*, 2019).

It has been consistently recognised that providing a quality student experience and ensuring adequate support can positively influence Indigenous students' success, retention and completions in higher education. Interestingly, findings from Australasian Survey of Student Engagement (AUSSE) research demonstrated a strong association between the support levels perceived by students and their intention to complete their degrees (Asmar *et al.*, 2011). Thus, it is critical to not only widen access to university for Indigenous students but to enhance it with appropriate support strategies, ensuring that these students have the best chance of success (Engstrom and Tinto, 2008).

Governments and universities have implemented various strategies to support Indigenous students to increase participation, retention, completion and success of these students in higher education. Previous research suggests that despite universities having developed strategies to support students and increase completions rates, few have been successful in doing so (Pechenkina *et al.*, 2012). One key strategy that has been implemented across universities is the emergence of Aboriginal Education Units (also known as Indigenous Education Units).

At present, nearly all Australian universities have a dedicated Aboriginal Education Unit (Pechenkina and Anderson, 2011); however, their structure, function and size vary across universities. Aboriginal Education Units also vary in whether they are tasked solely with student support or whether they combine teaching and/or research as part of their core activities. These Units are often located in a purpose-built site within the university campus (Walter, 2011). The essential role that these Units play in supporting Indigenous students in undertaking and completing degrees has been demonstrated within the literature (Morgan, 2001; Anderson *et al.*, 2008; Trudgett, 2009; Oliver *et al.*, 2015; Barney, 2016; Gore *et al.*, 2017; Taylor *et al.*, 2019). Despite Aboriginal Education Units playing such a critical role in terms of providing support for Indigenous students while at university, little examination of them has taken place from the student perspective.

Outside of the university, family support has been identified as a significant enabler for participation and retention of Indigenous students in higher education (Oliver *et al.*, 2015). In a recent review presenting data related to the participation of Indigenous students in Australian higher education, the support and understanding of family and community was found to be crucial to students pursuing their aspirations as well as participating in higher education (Gore *et al.*, 2017).

Although several studies have highlighted barriers to Indigenous students' participation in higher education, the significance of examining and evaluating enablers such as support mechanisms, has been strongly encouraged as it provides a critical foundation for targeted support initiatives (Gore *et al.*, 2017). The overall aim of the current study was to explore and examine Indigenous student's perspectives, experiences and engagement with support at university in particular with an Aboriginal Education Unit.

Methods

The current study utilised a mixed-method approach, combining quantitative and qualitative research methodologies to increase the accuracy and scope of the research.

Participants

The study was conducted between May 2019 and June 2019 at The University of Adelaide in South Australia. The University of Adelaide is a member of the Group of Eight, a coalition of Australia's leading research-intensive institutions, which are consistently the highest ranked of all Australian universities. Participants were recruited from an enrolment database managed by Wirltu Yarl'u, the Aboriginal Education Unit at The University of Adelaide. In order to participate in the study participants had to (i) be ≤ 18 years of age, (ii) able to communicate in English, (iii) identify as Aboriginal and/or Torres Strait Islander and (iv) be enrolled in, and participating in a degree at The University of Adelaide. Ethical approval was granted by the Human Research Ethics Committee at the University of Adelaide (Ethics

Approval Number: H-2019-044). A total of 249 students were invited to take part in the study, of whom 103 responded; the completion rate was 41%.

Procedure and materials

Students were contacted via email and provided with an information sheet and a link to the questionnaire. Following this initial email, a reminder email was sent followed by a phone call when contact numbers were provided. A questionnaire was considered the most appropriate method of collecting data as it is non-invasive, convenient to complete and not overly time consuming for participants. The information sheet provided detailed information relating to the purpose of the study, the procedure, potential risks and benefits of participation, information around confidentiality and anonymity of responses, contact information of an independent group for individuals to raise concerns or complaints if needed, individuals capacity to withdraw from the study and details about where to access support in the case an individual felt distressed. The self-report questionnaire comprised of a series of questions (including multiple choice, Likert style and open-ended) to measure student's utilisation, experiences and satisfaction with various aspects of support provided by the Aboriginal Education Unit at The University of Adelaide (Wirltu Yarl'u), faculties within the university, the broader university, as well as from family and community. The questionnaire could be accessed and completed at any location of the participants choice and was estimated to take around 10–15 min.

Statistical analyses

A number of visual representations of descriptive data were utilised. Additionally, categorical variables were used to visualise data, specifically mosaic plots were utilised to represent associations between variables (e.g. number of participants per faculty according to the supports they had access to) (Hartigan and Kleiner, 1984). Instead of raw counts, percentages were reported. Associations between categorical variables were assessed via the Fisher's exact test for count data with simulated p -values (based on 2000 replicates) (via the 'fisher.test' function in R; this test was used as some cells had less than five observations).

Content analysis was utilised for the qualitative data obtained through the three open-ended response questions. Responses were coded and allocated into themes to quantify responses, they took the form of a single word, complete answer or direct quotations. Once the data were coded, themes of similar content were combined, until a succinct number of categories were established (Mayring, 2000). Researchers cross-checked a subset of themes before a final interpretation was reached. This process improved consistency and reliability of the content analysis process through inter-rater reliability (Mayring, 2000). The presentation of the content analysis in qualitative data tables was adopted from Vogel *et al.* (2019).

Results

Profile of participants

Table 1 reports the sociodemographic characteristics of the participants. Participants ranged in age from 18 to 64, with a mean age of 26 years. The majority of participants were women (72%), a pattern that is consistent with the 2009 AUSSE data (Asmar *et al.*, 2011).

Table 1. Sociodemographic characteristics of participants ($n = 103$)

Characteristics	<i>n</i>	%
Gender		
Female	74	72
Male	29	28
Age (years)		
18–19	30	29
20–21	18	18
22–25	25	24
26–35	15	15
36–46	10	10
46+	4	4
Missing	1	1
Faculty		
Faculty of Arts	30	29
Faculty of Engineering, Computer and Mathematical Sciences	10	10
Faculty of Health and Medical Sciences	35	34
Faculty of Professions (including Schools of Business, Law, Architecture, and Economics)	13	13
Faculty of Sciences	11	11
UPP	4	4
Residing location		
Urban	79	77
Rural	22	21
Remote	2	2
Caring responsibilities		
None	64	56
Children	19	17
Parents	11	10
Extended family	13	11
Other	7	6

Overall support satisfaction

Figure 1 reports the findings in relation to students' satisfaction with support provided by their family, from the Aboriginal Education Unit, from the Faculties in which students were enrolled in and general/wider university supports. Overall, the majority of students were most satisfied with support provided by their families and the Aboriginal Education Unit—Wirltu Yarlū.

Support provided by Aboriginal Education Unit

Student's overall awareness, engagement and experiences with the Aboriginal Education Unit were examined through a series of questions. Descriptive statistics are presented in figures 2–4.

The Fisher test indicated there was no significant association between the faculty and whether Wirltu Yarlū services were accessed ($p = 0.12$) (figure 5). However, as shown in figure 3,

70% of participants made use of the support provided by Wirltu Yarlū, while 30% did not, with most of the participants who answered in this way coming from the Faculty of Health and Medical Sciences.

The main reasons students were accessing the Aboriginal Education Unit was for academic and tutoring purposes. Furthermore, nearly 60% of students reported that tutoring was the most beneficial service provided by the Unit (see figures 6 and 7 for descriptive statistics of these data).

In terms of satisfaction with facilities at the Aboriginal Education Unit (including use of computers and culturally safe study spaces and common areas), 67% of students were either satisfied or very satisfied, 6% were either unsatisfied or very unsatisfied, with the remaining 27% reporting being neither satisfied nor unsatisfied.

Tutoring/mentoring

Academic tutoring/mentoring is offered by the Aboriginal Education Unit to all students who identify as Aboriginal and/or Torres Strait Islander at the University. This is a government-funded initiative that is implemented at universities across Australia. The programme is of no cost to the students and can be utilised for all subjects. Interestingly, only half of students actually accessed this service (see figure 8) however, of those students who accessed the service over 80% found it a beneficial service.

The Fisher test indicated there was no significant association between the faculty and accessing mentoring/tutoring services provided by Wirltu Yarlū ($p = 0.67$). The percentage of participants from the university's faculties was very similar to the overall scenario (see figure 9).

Support faculty and university

In relation to accessing faculties for support around 40% of students utilised services while almost 60% did not (see figure 10). The main services students were accessing through their faculties included Indigenous Student Mentors and Student led study groups. Interestingly, the main service students were accessing through the broader university was the Writing Centre—a service that provides drop-in academic writing support to university students, this service was closely followed by support provided by the counselling centre (see figures 11 and 12 for descriptive statistics of these data).

Positive experiences with the Aboriginal Education Unit (Wirltu Yarlū)

In response to the open-ended survey question, 'Please describe any positive experiences you have had with Wirltu Yarlū?', the most frequently identified themes were 'overall support' ($n = 77$) (theme 1.PE) and 'welcoming' ($n = 22$) (theme 2.PE). Overall support consisted of responses related to mentoring/tutoring, financial opportunities, programme opportunities and support in general. Key aspects of mentoring/tutoring that students described as positive were the development of academic skills, assistance on assessments and improvements on grades. Students also felt an 'ease of financial pressure' with the availability of scholarships provided through the Unit. Theme 2, 'welcoming', referred to the student's experience of staff as being friendly and approachable when assisting students. Some students referred to Wirltu Yarlū as having a strong sense of culture and providing

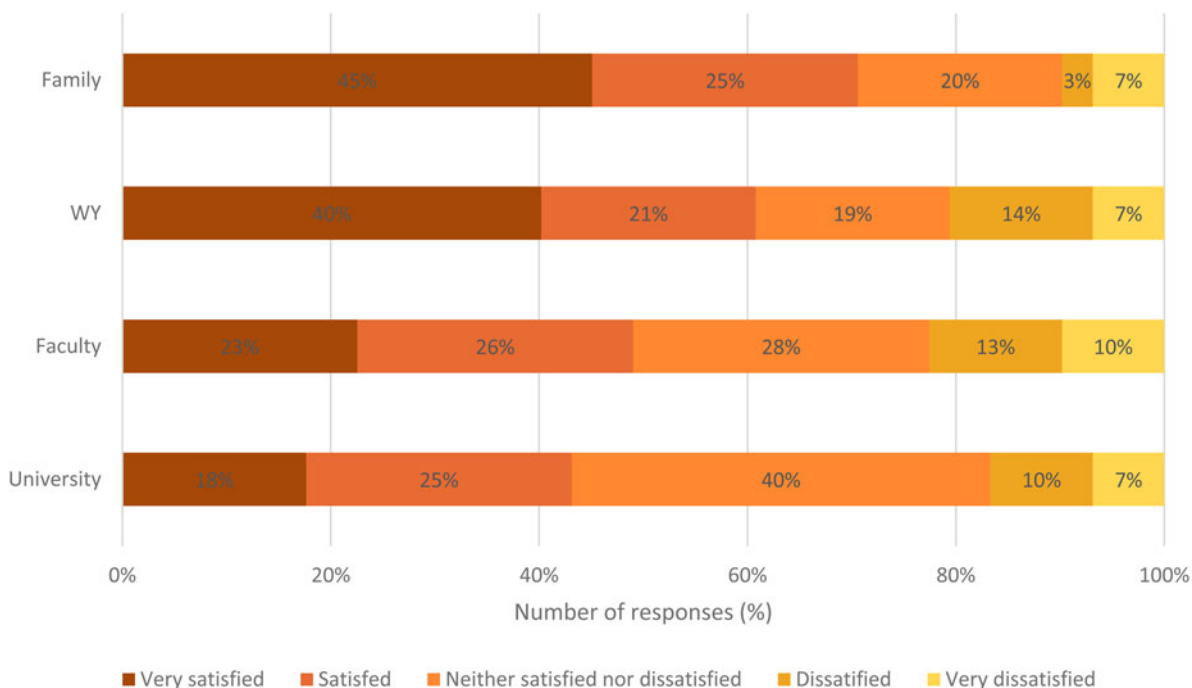


Fig. 1. Descriptive statistics of students' satisfaction with varying modes of support. Note: Wirltu Yarl'u (WY).

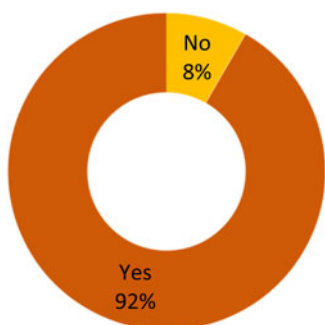


Fig. 2. Awareness of Units location.

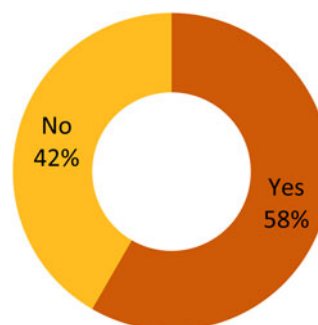


Fig. 4. Students who had visited support officers at the Unit.

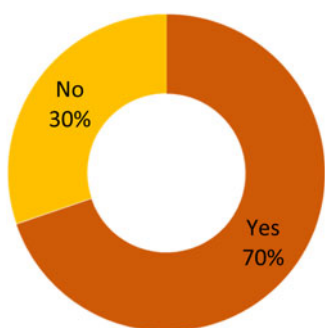


Fig. 3. Use of services provided by the Unit.

an opportunity to build strong relationships with fellow students and staff members (theme 3.PE). Other students reported having positive experiences at social and informative events as they were able to connect with other students (theme 4.PE). These events included introductory seminars, orientation week and community barbeques. Additional positive experiences were identified,

however only by a small portion of students. These included study areas (theme 5.PE) related to dedicated spaces for Indigenous students around the university and broader programmes designed specifically for Indigenous students (theme 6.PE) related to opportunities provided by Wirltu Yarl'u prior to university (Table 2).

Negative experiences with the Aboriginal Education Unit (Wirltu Yarl'u)

In response to the open-ended survey question, 'Please describe any negative experiences you have had with Wirltu Yarl'u?', the most frequently identified theme was 'delivery of mentoring/ tutoring services' (theme 1.NE). This was related to difficulty navigating the online tutoring management system, lengthy allocation time and placements of inappropriate subject tutors. Several students identified a lack of general support provided by the Unit and a lack of general awareness and promotion of support offered by the Unit (theme 2.NE). Additional negative experiences identified by students included unwelcoming

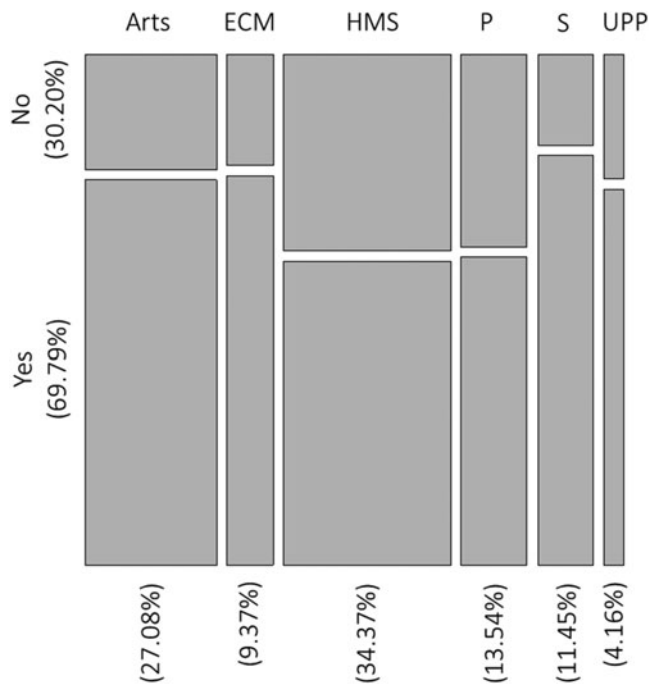


Fig. 5. Mosaic plot representing associations between categorical variables of interest. The mosaic plot shows the marginal percentages in each faculty (preventing performing [multiple] pairwise comparisons). ECM, Faculty of Engineering, Computer, and Mathematical Sciences; HMS, Faculty of Health and Medical Sciences; P, Faculty of Professions; S, Faculty of Science; UPP, University Preparatory Programme.

(theme 3.NE), which was related to the Unit being a difficult place to approach and not being an inviting place to go. Furthermore, communication (theme 4.NE) was identified as an additional theme related to the Unit displaying a lack of personal/individualised (Table 3).

Improvements suggested by students for the Aboriginal Education Unit (Wirltu Yarlu)

In response to the open-ended survey question, ‘How could support provided by Wirltu Yarlu be improved?’, the most frequently identified themes were delivery of mentoring/tutoring services (theme 1.SI), engagement with students (theme 2.SI), facilities (theme 3.SI) and support (theme 4.SI). Students suggested that the Unit could improve the usability of the mentoring/tutoring management system, reduce the tutor allocation time to earlier in or before the commencement of the semester, and provide tutors across a wider variety of subjects (theme 1.SI). It was also frequently suggested that the Unit should engage with students more regularly and personally by increasing the number of social events, increasing the number of meetings with student support officers, having more student representation in meetings and discussions and increasing direct contact with students as opposed to emails (theme 2.SI). Improvements of facilities was identified by students and related to students’ wanting more culturally safe study spaces on the university campus and secure study areas where belongings can be left (theme 3.SI). Students suggested that support could be improved by increasing the amount of general support, increasing the awareness of available support services, locating Wirltu Yarlu support services in more central areas of the university with other student services, designating a specific Wirltu Yarlu support person for each faculty, improving

support of mature aged students and improving support of students beyond first year university (theme 4.SI). Improvements in communication from the Unit was suggested by students by sending more focused communication, responding more promptly to student inquires and communicating via phone calls (theme 5.SI). Some students suggested the Unit could improve financial support by providing textbooks, scholarship application support, increasing the awareness of available financial support and cultural awareness (themes 6.SI and 7.SI) (Table 4).

Discussion

It has been consistently recognised that providing a quality student experience and ensuring adequate support can positively influence Indigenous students’ educational outcomes with relation to success, retention and completions in higher education. If further advances are to be made in addressing the under-representation of Indigenous students in higher education, there is still much to do to ensure the support initiatives are effective, targeting the real needs of students, their families and communities (Gore *et al.*, 2017).

With enduring disparities in access, participation, retention and completion of Indigenous students (Behrendt *et al.*, 2012; Bennett *et al.*, 2015), it is critical to understand what is needed to achieve and sustain substantially better outcomes. There has been a growing body of literature examining the enablers and barriers within higher education for Indigenous student; however, there is a lack of literature directly relating to the students experience in terms of support (Day and Nolde, 2009). This research therefore aimed to examine Indigenous students’ experiences and engagement with support at The University of Adelaide and more specifically with the Aboriginal Education Unit at this university.

Interestingly, students in this study were most satisfied with support provided outside of the university setting, in particular by their families, this was followed by support provided by the Aboriginal Education Unit. Family and community support, and associated commitments have previously been identified as both an enabler and constraint for Indigenous student’s enrolled in higher education (Oliver *et al.*, 2015; Gore *et al.*, 2017). Overall, a significantly large number of students were aware of the Unit on campus, with around 70% of students actually accessing the Unit for support, which was considerably more than other support mechanisms including Faculties and broader University services. This highlights the importance of these often-under recognised Units as a strong central pillar of support experienced by students. The primary reasons students were accessing support was for academic and mentoring/tutoring purposes. However, only half of the students actually accessed the tutoring/mentoring services despite a significant number of students reporting it was very beneficial for their academic success. Universities around Australia are provided with federal funding for Indigenous students to receive tuition in the areas of their study (Lydster and Murray, 2019). The educational literature on supporting Indigenous students frequently points to the important role this supplementary tutoring plays in retention and academic success amongst Indigenous students (Wilks and Wilson, 2015). Recent research has highlighted that such tutoring programmes delivered within other Aboriginal Education Units have been viewed by students and tutors alike, as extremely beneficial and a very positive influence on the student experiences of university (Whatman

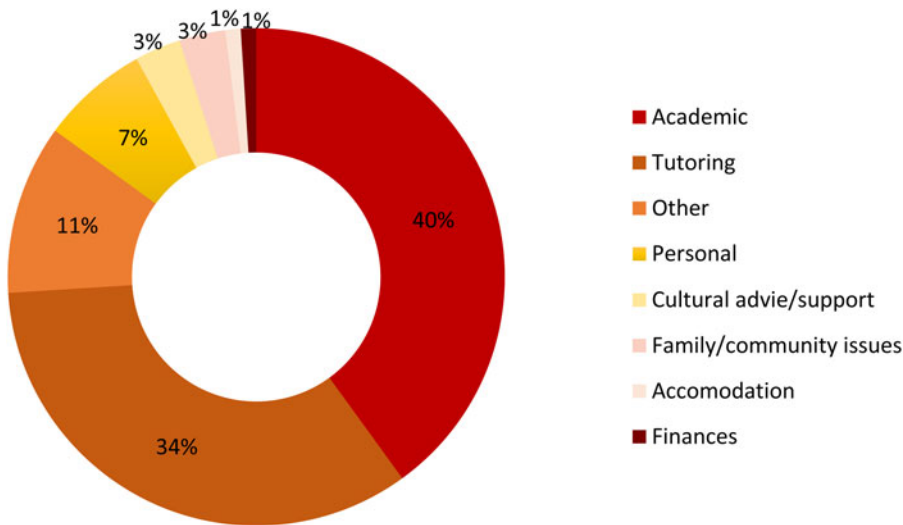


Fig. 6. Visual representation of the reasons students access the Aboriginal Education Unit.

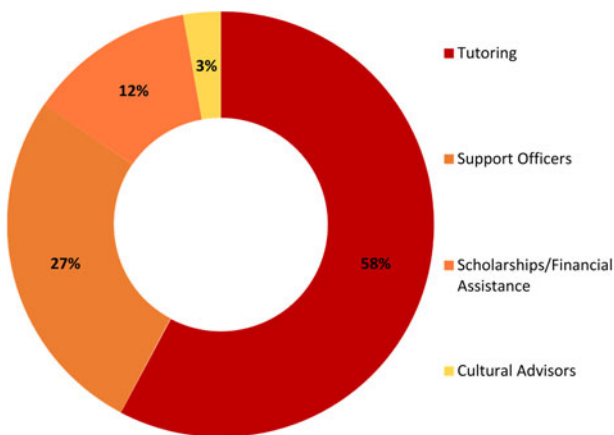


Fig. 7. Visual representation of the most beneficial services provided by the Unit.

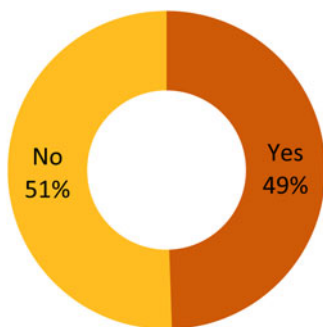


Fig. 8. Percentage of students who report accessing the tutoring services.

et al., 2008; Wilks et al., 2017; Nakata et al., 2018). Overall, awareness and ease of accessing these services should therefore be encouraged.

Students provided crucial information through qualitative data around both positive and negative experiences, and overall improvements of services provided by the Aboriginal Education Unit. Interestingly, the mentoring/tutoring programme arose in several identified themes. Similarly to the quantitative findings

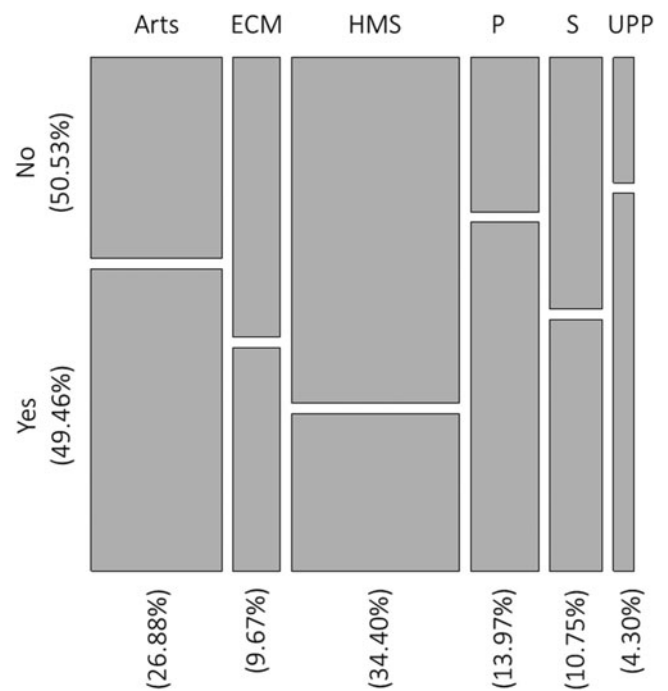


Fig. 9. Mosaic plot representing associations between faculty and mentoring services. The mosaic plot shows the marginal percentages in each faculty. ECM, Faculty of Engineering, Computer, and Mathematical Sciences; HMS, Faculty of Health and Medical Sciences; P, Faculty of Professions; S, Faculty of Science; UPP, University Preparatory Programme.

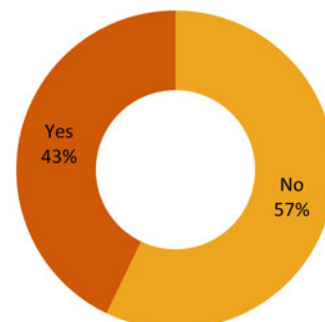


Fig. 10. Percentage of students who access support provided by faculty.

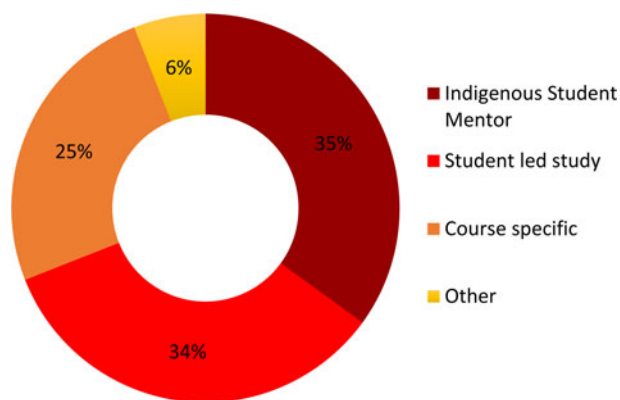


Fig. 11. Use of services provided by faculty.

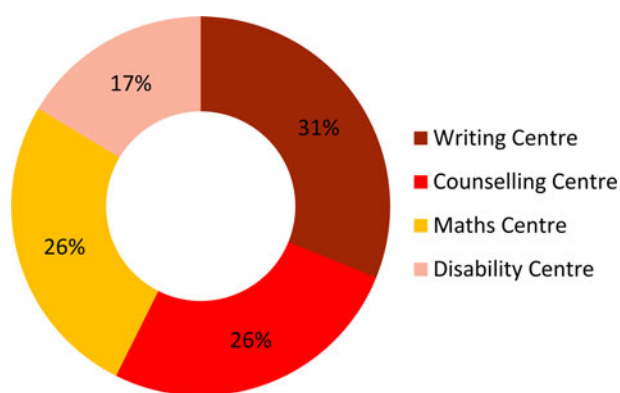


Fig. 12. University services utilised.

described above, students qualitative responses described tutoring/mentoring as a very beneficial programme for their academic success. However, students identified organisation factors as inhibiting the overall programme. These were related to lengthy allocation times of mentor/tutor to student and appropriate tutor/student matching. Despite, supporting literature of the importance of this programme, few studies have documented its efficacy in detail or discussed potential solutions to some of these problematic organisation factors that have also been discussed in previous research (Whatman *et al.*, 2008). Students also identified a general lack of support and awareness/promotion of the varying support offered by the Unit. Related to this, students suggested that the Unit engage with students more regularly at an individual level particularly with support officers. Therefore, further investigation is needed to identify and evaluate potential strategies to increase support visibility offered by the Unit.

Implications

Overall, there is general agreement that support for Indigenous students is essential for their success, to this end, accurate information that supports their needs must be disseminated more effectively. Moreover, the support provided should consider the whole student life experience in particular support provided from outside of the university. The results obtained from this research offer insights into student's experiences and engagements with support, and the importance of Aboriginal

Education Units in doing so. Findings of this study may inform and improve support offered to Indigenous students in an attempt to improve the likelihood of these students continuing and succeeding in higher education. The current study highlights the importance and adds to the growing body of literature evaluating various support services offered to Indigenous Australians by gaining direct experiences from students. To the author's knowledge, few studies similar to this have been undertaken whereby data have been collected in a mixed-method manner.

The research has highlighted the importance students place on support provided by Aboriginal Education Units and as a result this particular unit at The University of Adelaide is developing a number of new strategies to best support students through their services. One of these initiatives is a newly developed Student Success Strategy that aims to ensure targeted and individualised, high-quality support for students by adopting a clear and supportive whole-of-university framework taking into consideration the current findings and ongoing student centred research conducted at Wirrtu Yarl'u. Furthermore, tuition and mentoring services at the Unit are being offered through a newly developed management system in order to address students' concerns identified in this study including allocation times and appropriately matched tutors. The overall aim of this ongoing research is to best support students succeed at university and therefore raise retention and completion.

Limitations

Overall, results from this study should be interpreted in the context of several limitations, primarily related to methodology. The cross-sectional nature of the study is a limitation as the interpretation of results is limited to a single time point. A further limitation was related to the survey, which was developed specifically for this study. If this survey is to be utilised in future research, it is suggested that examination and psychometric testing of the survey be undertaken. Additionally, advanced results could have been obtained from the survey if a semantic VAS-type Likert scale had been used in the quantitative components (e.g. in a paper-based implementation, a 10 cm line anchored 'very unlikely' and 'very likely' could have been used to answer questions posited in the survey). The current study was conducted at one Australian university, and therefore, overall generalisability of the findings is limited. It is acknowledged that support provided by universities and Aboriginal Education Units varies significantly across Australia, and therefore further investigation within varying settings is important.

Despite, the overall response rate being smaller than anticipated, potentially leading to issues in generalisability, it is noted that availability of data in relation to higher education participation of Indigenous students remains a persistent challenge (Drew *et al.*, 2016). In similarly designed studies, response rates have ranged between 28.5 (Oliver *et al.*, 2015) and 33.7% (Hearn *et al.*, 2019). Furthermore, few studies similar to this have been undertaken whereby data have been collected in a mixed-method manner, with majority of research collecting qualitative data. In a large review of the literature of empirical research ($n = 57$) focusing on the participation of Indigenous students in higher education, the dominant methodology used within the reported publications was qualitative ($n = 36$), followed by mixed methods ($n = 11$) and quantitative ($n = 10$).

Table 2. Content analysis of positive experiences with Wirltu Yarlú ($N = 90$)

Code	Theme	Direct quote example	N (%) of participants
1.PE	Overall support (e.g. tutoring, financial opportunities, programme opportunities and support in general)	'Wirltu Yarlú has been awesome in the fact that they've helped me academically with tutor and financially with scholarships. I can't put into words how grateful I am'	77 (86%)
2.PE	Welcoming (e.g. friendly and approachable)	'Staff are friendly, supportive and always willing to go out of their way to help you in any way possible'	22 (25%)
3.PE	Culture and connectedness	'Meeting new people. Sense of community. Staff is great' 'Feel a strong cultural connection. Warmly received by staff and others'	7 (8%)
4.PE	Events (e.g. social events and informative events)	'Orientation week, the entire week was very informative'	6 (7%)
5.PE	Study areas	'Wirltu Yarlú has been a great space to study and have some quiet away from the busyness'	2 (2%)
6.PE	Programmes (e.g. school holiday programme and Karnkanthi education programme)	'Before [commencing] university, I was a part of the Karnkanthi education programme which provided great support for my year 12 studies'	2 (2%)

Note: N (%) does not total to 100 as students responses may have been classified under numerous themes.

Table 3. Content analysis of negative experiences with Wirltu Yarlú ($N = 43$)

Code	Theme	Direct quote example	N (%) of participants
1.NE	Delivery of tutoring services (e.g. tutoring application process, allocation time and placement of an appropriate tutor)	'I do feel that the tutorial programme starts way too late. I often only find out my tutor around week 6 (which is halfway through the semester!)	13 (30%)
2.NE	Lack of support	'I don't feel that there is much support provided to students and if there is, I think it would need to be promoted better... I have felt that I am not properly listened to or cared/supported for'	10 (23%)
3.NE	Unwelcoming	'It doesn't seem to be a very inviting place to go for support. I don't feel engaged at all by the staff at WY'	8 (19%)
4.NE	Poor communication	'The only so-called engagement I get from WY is receiving general emails that are sent to everyone else'	7 (16%)

Note: N (%) does not total to 100 as students responses may have been classified under numerous themes.

Table 4. Content analysis of support improvements for Wirltu Yarlú ($N = 72$)

Code	Theme	Direct quote example	N (%) of participants
1.SI	Delivery of tutoring service (e.g. online tutoring management system, time of tutor allocation and wider variety of tutors)	'receiving a tutor earlier in the semester' 'a wider variety of tutors would enable more students in different faculties to access support with their degree specific content'	11 (15%)
2.SI	Engagement with students	'Catch ups/appointments maybe once a month with student support officers' 'Personally, contact students and arrange an initial one-on-one meeting to discuss students' needs and experiences'	10 (14%)
3.SI	Facilities	'More Indigenous study spaces created around campus'	10 (14%)
4.SI	Support	'Maybe a designated support person for each faculty' 'Increase awareness. More exposure to services. Increased engagement with students'	9 (13%)
5.SI	Communication	'By improving the methods for contacting Wirltu Yarlú'	6 (8%)
6.SI	Financial support (e.g. scholarships)	'Let students know that there is financial support'	6 (8%)
7.SI	Cultural awareness	'Culture and Awareness is highly lacking'	3 (4%)

Note: N (%) does not total to 100 as students responses may have been classified under numerous themes.

Conclusion

The current study provides a greater understanding of Indigenous students' engagement and experience with supports across university, and more specifically with an Aboriginal Education Unit. Overall, by understanding the levels of engagement and listening to student experiences with support services across universities, support that is offered can be enhanced to assist in improving retention and completion rates of Indigenous students in higher education. These findings have relevance to closing the gap between Indigenous and non-Indigenous students by offering knowledge to inform adequate and acceptable support mechanisms and will further inform Indigenous higher education policy and practice.

References

- Anderson C, Bunda T and Walter M** (2008) Indigenous higher education: the role of universities in releasing the potential. *The Australian Journal of Indigenous Education* 37, 1–8.
- Asmar C, Page S and Radloff A** (2011) *Dispelling Myths: Indigenous Students' Engagement with University*. Australia: AUSSE Research Briefings. v.10 April 2011.
- Barney K** (2016) Listening to and learning from the experiences of Aboriginal and Torres Strait Islander students to facilitate success. *Student Success* 7, 111.
- Behrendt L, Larkin S, Griew R and Kelly P** (2012) *Review of Higher Education Access and Outcomes for Aboriginal and Torres Strait Islander People: Final Report*. Canberra, Australia: Australian Government. Retrieved June 5, 2013.
- Bennett A, Naylor R, Mellor K, Brett M, Gore J, Harvey A, James R, Munn B, Smith M and Whitty G** (2015) The critical interventions framework part 2: Equity initiatives in Australian higher education: A review of evidence of impact. Retrieved from http://www.newcastle.edu.au/_data/assets/pdf_file/0016/261124/REPORT-FINAL.pdf.
- Bradley D, Noonan P, Nugent H and Scales B** (2008) Review of Australian Higher Education: Final Report. Canberra: Department of Education, Employment and Workplace Relations.
- Day D and Nolde R** (2009) Arresting the decline in Australian Indigenous representation at university; student experience as a guide. *Equal Opportunities International* 28, 135–161. doi:
- Drew N, Wilks J, Wilson K and Kennedy G** (2016) Standing up to be counted: data quality challenges in Aboriginal and Torres Strait Islander higher education statistics. *Australian Aboriginal Studies* 2, 104–120.
- Engstrom C and Tinto V** (2008) Access without support is not opportunity. *Change: The Magazine of Higher Learning* 40, 46–50.
- Gore J, Patfield S, Fray L, Holmes K, Gruppeta M, Lloyd A and ... Heath T** (2017) The participation of Australian Indigenous students in higher education: a scoping review of empirical research, 2000–2016. *The Australian Educational Researcher* 44, 323–355.
- Hartigan JA and Kleiner B** (1984) A mosaic of television ratings. *The American Statistician* 38, 32–35.
- Hearn S, Benton M, Funnell S and Marmolejo-Ramos F** (2019) Investigation of the factors contributing to Indigenous students' retention and attrition rates at the University of Adelaide. *The Australian Journal of Indigenous Education*, 1–9. doi: 10.1017/jie.2019.5.
- James R, Bexley E, Anderson A, Devlin M, Garnett R, Marginson S and Maxwell L** (2008) *Participation and Equity: A Review of the Participation in Higher Education of People From low Socioeconomic Backgrounds and Indigenous People*. Report prepared for Universities Australia: Centre for the Study of Higher Education University of Melbourne, Australia.
- Lydster C and Murray J** (2019) 'Not just a tutor': successful supplementary tuition for Australian Indigenous students in higher education. *Journal of Academic Language and Learning* 13, 140–160.
- Mayring P** (2000) Qualitative content analysis. *Forum: Qualitative Social Research* 1, 1–10. doi: 10.17169/fqs-1.2.1089%
- Morgan D** (2001) Indigenous education: factors affecting students' decisions to continue or withdraw from tertiary studies at flinders university. *International Education Journal* 2, 233–239.
- Nakata M, Nakata V, Day A and Martin G** (2018) Indigenous undergraduates' use of supplementary tutors: developing academic capabilities for success in higher education studies. *The Australian Journal of Indigenous Education*. 48, 119–128.
- Oliver R, Grote E, Rochecouste J and Dann T** (2015) Indigenous student perspectives on support and impediments at University. *The Australian Journal of Indigenous Education* 45, 23–35.
- Parente A, Craven R and Munns G** (2003) What do Indigenous students say about their aspirations? *Journal of Aboriginal Studies Association* 12, 11–22.
- Pechenkina E and Anderson I** (2011) Background paper on Indigenous Australian higher education: Trends, initiatives and policy implications. Retrieved from https://sydney.edu.au/documents/about/higher_education/2011/20110930%20IndigenousHigherEducationReview-ReseachPaper.pdf.
- Pechenkina E, Kowal E and Paradies Y** (2012) Indigenous Australian students' participation rates in higher education: exploring the role of universities. *The Australian Journal of Indigenous Education* 40, 59–68.
- Sharrock P and Lockyer H** (2008) One to one and face to face: a community based higher education support strategy retaining Indigenous Australian university students. *The Australian Journal of Indigenous Education* 37, 28–39.
- Steering Committee for the Review of Government Service Provision (SCRGSP)** (2011) *Overcoming Indigenous Disadvantage: Key Indicators 2011*. Canberra, Australia: SCRGSP.
- Taylor EV, Lalovic A and Thompson SC** (2019) Beyond enrolments: a systematic review exploring the factors affecting the retention of aboriginal and Torres Strait Islander health students in the tertiary education system. *International Journal for Equity in Health* 18, 136.
- Trudgett M** (2009) Build it and they will come: building the capacity of Indigenous units in universities to provide better support for Indigenous Australian postgraduate students. *The Australian Journal of Indigenous Education* 38, 9–18.
- Vogel D, Falter-Wagner CM, Schoofs T, Kramer K, Kupke C and Vogeley K** (2019) Interrupted time experience in autism spectrum disorder: empirical evidence from content analysis. *Journal of Autism Developmental Disorders* 49, 22–33.
- Walter M** (2011) Embedding Aboriginal and Torres Strait Islander presence: opening knowledge pathways. In *Commissioned for the Behrendt review of Indigenous higher education by the Department of Education, Employment and Workplace Relations, Canberra, May 2011*.
- Whatman S, McLaughlin J, Willsted S, Tyhuis A and Beetson S** (2008) Quality and efficacy of the Indigenous Tutorial Assistance Scheme (ITAS) for University Students. *Australian Journal of Indigenous Education* 37, 118–130.
- Wilks J and Wilson K** (2015) Indigenous Australia: a profile of the Aboriginal and Torres Strait Islander higher education student population. *Australian Universities Review* 57, 17–30.
- Wilks J, Fleton ER and Wilson K** (2017) Indigenous tutorial assistance scheme: tertiary tuition and beyond: transitioning with strengths and promoting opportunities. *Australian Universities Review* 59, 14–23.

Madeleine Benton has a PhD in Psychology and also holds a position as a Research Officer at Wirrtu Yarlur Aboriginal Education at The University of Adelaide.

Professor Shane Hearn is a Noongar man from Western Australia and is the current Pro Vice-Chancellor Indigenous Engagement and The University of Adelaide.

Fernando Marmolejo-Ramos is a visiting research fellow in the School of Psychology at The University of Adelaide and a research fellow at the Centre for Change and Complexity in Learning at the University of South Australia.