s 22

From:	SIEpolicycoord
Sent:	Wednesday, 1 March 2017 9:24 AM
To:	s 22
Cc:	s 22
	s 22
	SIEpolicycoord
Subject:	Potential research proposal by Professor Nicholas Biddle [SEC=UNCLASSIFIED]
Attachments:	Proposal - Education paper (2).pdf

UNCLASSIFIED

Good morning all,

Firstly, a quick introduction – I'll be attempting to fill the large shoes left behind by s 22 in the coord space, so please bear with me as I get up to speed.

Professor Nicholas Biddle has provided the attached proposal for CAEPR to develop a paper on the available evidence for improving the education outcomes for Aboriginal and Torres Strait Islander Australians. The proposed paper will draw on existing CAPER research as well as analysis of new datasets, and will be an activity within existing funding.

Could you please send through any comments on the attached proposal from the perspective of your team – particularly any research gaps or needs you would like tested in this paper. We will also be testing it with our research and evaluation colleagues.

Brief comments or nil response are due to the SIEpolicycoord inbox by **midday Friday 3 March 2017.** I recognise there are significant pressures this week, so if there are any issues with this deadline, please let me know by COB today.

More than happy to discuss.

Many thanks,
s 22

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24th February 2017

Belinda Campbell
FAS, Education, Community Safety and Health
Commonwealth Department of Prime Minister and Cabinet

Proposal – Evidence based policy for improving Aboriginal and Torres Strait Islander education outcomes

Dear Belinda

(cc Liz Hefren-Webb,   s 22   , Vanessa Beck)

Thanks for coming along to the meeting in Woden a fortnight ago. It is very useful for us as researchers to get a sense of the key research and policy questions that we can help contribute to.

As discussed at the meeting, please find outlined below a short proposal for a targeted paper on the available evidence for improving the education outcomes for Aboriginal and Torres Strait Islander Australians. This paper would be provided to the Department of Prime Minister and Cabinet as part of the funding for the 'Indigenous Populations Project.' If extensive additional work was of interest, then this could be discussed separately.

The paper will draw on existing research undertaken by the Centre for Aboriginal Economic Policy Research, as well as analysis of new and maturing datasets.

The structure of the paper is open for discussion. However, an initial proposal would be as follows:

1. A Policy Summary – Draw out the key insights and the implications for the design of programmes and policy (approx. 2 pages)
2. A review of the key literature – Summarise the available literature, focusing on that which is based on the most rigorous evaluations and empirical analysis (approx. 4 pages)
3. Updated analysis of existing datasets – Provide a plain-English summary of analysis of the most recent datasets: Programme of International Student

Assessment (PISA); Longitudinal Surveys of Australian Youth (LSAY); Longitudinal Surveys of Indigenous Children (LSIC) (approx.. 5 pages)

4. Research gaps and needs – Outline the gaps in knowledge that require a research focus into the future (approx. 2 pages)

5. Summary and overview (approx.. 1 page)

6. Technical appendices

A timeline can be negotiated with the relevant areas of the Department of Prime Minister and Cabinet. However, it would be expected that the paper will be completed within 6-8 weeks of agreeing a structure and focus.

Following the delivery of the paper, it is anticipated that the research will be presented in a small workshop for select staff members within the Department of Prime Minister and Cabinet, with a larger workshop or seminar available if required.

Ultimately, the aim of this paper would be to make research and data as accessible and relevant as possible to key policy makers, and to enhance the evidence-base for decision making within the Australian Public Service.

Please do not hesitate to contact me on the email address or phone number listed above.

Sincerely

s 22

A/Prof Nicholas Biddle

Associate Professor Nicholas Biddle
Senior Fellow, Centre for Aboriginal Economic Policy Research
Deputy Director, Australian Centre for Applied Social Research Methods
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Sincerely

s 22

A/Prof Nicholas Biddle

Building Pathways Online: Indigenous Futures Collaboration

March 2017

Swinburne University of Technology ran the Indigenous Futures Collaboration (IFC) project between 2014 and 2016 to examine the extent to which online delivery can help overcome barriers to education for Indigenous people living in regional and remote areas.

Indigenous Higher Education

- Indigenous students living in regional and remote areas are less likely to have a degree or postgraduate qualification than their urban area peers.
- Indigenous people are more likely than non-Indigenous Australians to hold a Certificate III or IV as their highest qualification.

Table 1: Highest educational attainment by remoteness area and Indigenous status of persons aged 18 and above (in %)

	Indigenous*				Non-Indigenous**			
	Major cities of Australia	Regional	Remote	Total	Major cities of Australia	Regional	Remote	Total
Bachelor degree or above	9.3	4.2	1.8	5.5	29.9	16.3	19.9	26.1
Certificates III/IV	29.3	25.9	15.7	24.8	18.7	27.4	24.3	21.0
Year 12	15.1	11.7	12.4	13.0	16.6	12.8	11.8	15.5
Year 9 and below	13.1	18.5	25.9	18.2	7.5	12.3	10.1	8.7

Source: *ABS 4714.0 National Aboriginal and Torres Strait Islander Social Survey, 2014–15; **ABS General Social Survey (Non-Indigenous), 2014.4

- Indigenous students are less likely to complete their degrees than non-Indigenous peers.

Online education at Swinburne University

- The IFC project results showed that online education can assist more Indigenous people to participate in higher education.
- By 2016, the number of Indigenous students enrolled in Swinburne's Bachelor level or above courses was more than 8 times the 2010 figure (32 up to 263).[1]
- Online education can in particular assist people in regional and remote areas into higher education when courses are tailored to meet the needs of specific cohorts.
- Indigenous students in pathway courses (to higher education) require high levels of student support, including literary support and technical assistance. For pathway courses, a blended delivery with some face-to-face interaction is more likely to be successful than full online delivery.
- Digital exclusion remains a barrier for a significant number of Indigenous students living in remote areas; students are likely to benefit from internet access support, such as account credit.

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[1] P. 1.

- Internal mode of attendance increased by 0.9% from 2014-15, compared to external and multi-modal enrolments, which increased from 5.2% to 13% respectively.[2]
- Online learning enables education providers to reach out to people who could be excluded from university attendance because they cannot travel to and from campus or because they have employment, family or carer responsibilities that prevent them from attending classes regularly.[3]
- There is potential that online learning could increase access, participation, retention and completion for Indigenous people on higher education.
- Most of the students (55% Indigenous, and 56% non-Indigenous) said they chose to study online because of flexibility, allowing them to better manage their work–life–study balance.[4]

Try Out Online (TOO) Scholarships

- TOO scholarships were designed to assist students who did not already hold a qualification, providing financial assistance and access to support workers.
- At the end of the IFC project, there were 13 TOO scholarship students enrolled and engage to study undergraduate higher education at Swinburne Online. Further funding has been approved due to strong demand and a success rate of 13 out of 20 scholarship recipients enrolled and engaged to study an undergraduate degree.

Barriers

- Language barriers where students had limited English abilities.
- Low levels of adult literacy present additional issues when navigating an online medium, as well as a lack of technical skill.[5]
- Punitive approaches to welfare, which require recipients to be either in training or actively looking for work, have distorted incentives for both students and education providers.[6]
- Even where wraparound supports, such as home visits following absenteeism, meals and transport, assistance in obtaining appropriate workwear, and access to health services, are available, people will not complete courses unless they are sufficiently motivated to do so.[7]
  - Motivation is complex, and attempts to motivate have had mixed positive and negative effects; e.g., for some students, the connection to career development and higher wages was an important motivator; others failed to complete the course when work incentives or aspiration changed.

Demonstrator Projects

1. **Creative Industries**
   - Aimed to address need for training in the media and creative industries field, developed in partnership with Goolarri Media Enterprises based in Broome, WA.
   - Achieved a 49% Indigenous completion rate.[8]

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[2] P. 5.
[3] Oliaro and Trotter 2010.
[4] P. 36.
[5] P. 7.
[6] P. 6.
[7] P. 7.

2. **Health and Community Services**
   - Focused on building a cohort of skilled and qualified Indigenous workers and managers across a range of health and community service roles, including developing skills for management-level positions. Courses in this project were only delivered in the NT.
   - **Achieved a 0% Indigenous completion rate**. Potential reasons for this include the fact that Certificate III and IV course projects experienced too many problems with platform and design, making the results redundant.[9]

3. **Education**
   - Developed an online course that recognised prior learning (RPL) of existing Indigenous education and liaison support workers in schools, and provided gap training for attainment of Certificate IV in Education Support.
   - Achieved an 80% Indigenous completion rate.[10]
   - In addition to assessing each student's prior learning and knowledge, trainers also provided support and assistance for students to complete online tasks and activities, and guided them on the evidence they needed for assessment.
   - The Education project had all its materials prepared at commencement; project staff could better prepare the students for what was to come.
   - Students on the other two projects said they would have benefitted from a more comprehensive induction at the start of the course.

General findings

- Analysis of Swinburne Online indicates that Indigenous students who enrol for online degrees are more likely to be employed, to be female, to have children and to be mature age students.[11]
- Delays between enrolments resulted in a loss of potential recruits. It was suggested that an online platform to enrol students on a rolling basis could attract more participants longer term.
- Technical issues fell into three categories: internet access, including data usage and connectivity, at home or elsewhere; replacement of lost or stolen equipment; assistance in how to use a device; or help on how to access and navigate the learning management system (LMS).[12]
- Partnerships with external stakeholders for tertiary education providers were integral to development and delivery of courses.
- Student motivations and aspirations were an important factor in the success of the projects.
  - A quarter of those who entered the courses and did not complete were identified as not being motivated to begin with, or having lost motivation soon after entering the course.[13]

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[8] P. 11.
[9] P. 11.
[10] P. 11.
[11] P. 42.
[12] P. 21.
[13] P. 29.

References

Rennie, E., Prayaga, P. & Louie, Y. M (2017), 'Building Pathways Online: Indigenous Futures Collaboration', Swinburne University of Technology, pp. 1-66.

Oliaro, L. & Trotter, C. (2010), 'A Comparison of On-Campus and Off-Campus (or Distance) Social Work Education', *Australian Social Work,* no. 63, pp. 329–344.

Swinburne University of Technology

Building Pathways Online: Indigenous Futures Collaboration

Associate Professor Ellie Rennie, Dr Prabha Prayaga and Ms Yee Man Louie

27 March 2017

Australian Government

Department of Education and Training

Table of Contents

Executive Summary

In mid-2013, Swinburne University of Technology set out to increase Aboriginal and Torres Strait Islander people's participation in higher education using online learning and new methods of student support. More than 100 Aboriginal and Torres Strait Islander students participated in the Indigenous Futures Collaboration (IFC) project between 2014 and 2016, most of them based in remote areas of Western Australia, Queensland and the Northern Territory.

In this report, we use evidence from the IFC project to examine the extent to which online delivery can help overcome barriers to education for Aboriginal and Torres Strait Islander people living in regional and remote areas.

The report looks at two different cohorts of students: those who were qualified to enter into Bachelor degree courses, and those who were not. For the former group, the IFC focused on financial assistance and student support as a means to attract and retain students doing degrees through Swinburne Online. For those students who did not meet degree entry requirements, the IFC project offered certificate-level courses as pathways into higher education. These courses involved partnerships with nine organisations, including Indigenous organisations. Partner organisations undertook various roles, ranging from course design to student recruitment and support. In both cases, the IFC project set out to reach people who were excluded from studying on campus at Swinburne due to distance or other barriers.

IFC Project outcomes

The IFC project showed that online education can assist more Aboriginal and Torres Strait Islander people to participate in higher education. At the pathways level, the IFC project developed three "demonstrator" projects focused on three discipline areas: education; health and community services; and the creative industries. One of the three projects (Education) had a certificate-level completion rate more than double that of the national vocational education average (80 per cent, compared with 38 per cent)[1]. The project successfully encouraged 18 per cent of students who completed that course to then undertake online degrees**.**

However, the project partners also discovered that creating successful pathways is a multi-dimensional and resource-intensive task. In the pathways project with the highest student satisfaction levels (in terms of Indigenous content and technology assistance), 5 times as many students failed to complete their course, compared with the project with the highest completion rate. This report looks at how factors external to course design and delivery – including digital exclusion, and the motivations of students and education providers – can influence online pathways.

Swinburne Online experienced significant growth in the number of Aboriginal and Torres Strait Islander students undertaking Bachelor and postgraduate courses over the project's three-year timeframe. These students matched the profile of online students generally: mostly mature-age, working students, most of them living in non-metropolitan areas. For students undertaking online degrees through Swinburne Online, our research found that providing per-unit scholarships can help students to stay the course.

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[1] At the national level, completion rates are improving, according to data from the National Centre for Vocational Education Research (NCVER): of all government-funded VET programs that began in 2014 (Indigenous and non-Indigenous), an estimated 38.0% will be completed, up from 34.5% for comparable programs that began in 2013 (NCVER 2016).

Research findings

The IFC project provided a significant evidence base from which future endeavours may benefit. Findings discussed in this report include:

- Online education can assist people in regional and remote areas into higher education when courses are tailored to meet the needs of specific cohorts.
- Aboriginal and Torres Strait Islander student support needs are diverse: students in pathways courses generally required a high level of student support, including literacy support and technical assistance. Those in Bachelor degrees were found to have similar needs to non-Indigenous students enrolled through Swinburne Online. Providing good support for all online degrees students is likely to meet the needs of Indigenous learners.
- For pathways courses, blended delivery may be more successful than fully online delivery.
- Digital exclusion remains a barrier for a significant number of Aboriginal and Torres Strait Islander students living in remote areas, and for some in non-remote areas. Students are likely to benefit from internet access support (such as account credit), instruction on platform use, and device provision.

Research approach

This report discusses factors that impact on Indigenous pathways into higher education, with a focus on student support, motivations and digital exclusion. We did not analyse the learning design or pedagogies of the platforms, but we did take into account instances when this was a limiting factor.

The research was conducted using a mixed methods approach. Qualitative data collection consisted of interviews with students and staff, staff logs and workshops, as well as monitoring project developments over the full three years of the project. We also conducted surveys and analysed data from the learning management systems.

The findings in this report relate to Aboriginal and Torres Strait Islander students only. However, it should be noted that 16 non-Indigenous students also enrolled in the pathways projects, and nine non-Indigenous Swinburne Online students were interviewed for the higher education support component (see Part 3 of this report). We have used data drawn from the Aboriginal and Torres Strait Islander student cohort only when discussing factors that are specific to Indigenous education needs. However, in some instances we have used data from *all* students (as noted in the text of this report) in order to avoid performance comparisons.

Part 1: Background and Research Aims

1.1 Project background

In 2013, staff at Swinburne University of Technology (Swinburne) observed that the number of Aboriginal and Torres Strait Islander students enrolled in degrees had almost doubled in the preceding year. Upon investigation, they discovered that the rise was attributable to enrolments in Swinburne Online. This online education provider had been launched only two years prior, as a joint venture between Swinburne and online jobs company SEEK Limited.

The trend in Aboriginal and Torres Strait Islander student enrolments continued as Swinburne Online grew; by 2016, the number of Aboriginal and Torres Strait Islander students enrolled in Swinburne's Bachelor-level or above courses was more than eight times the 2010 figure (up from 32 to 263). Of the 263 students enrolled in 2016, 204 were enrolled in Swinburne Online (1.56 per cent of all Swinburne Online students), and 17 in other online courses. Only 38 were studying on-campus (0.19 per cent of all on-campus students).[2]
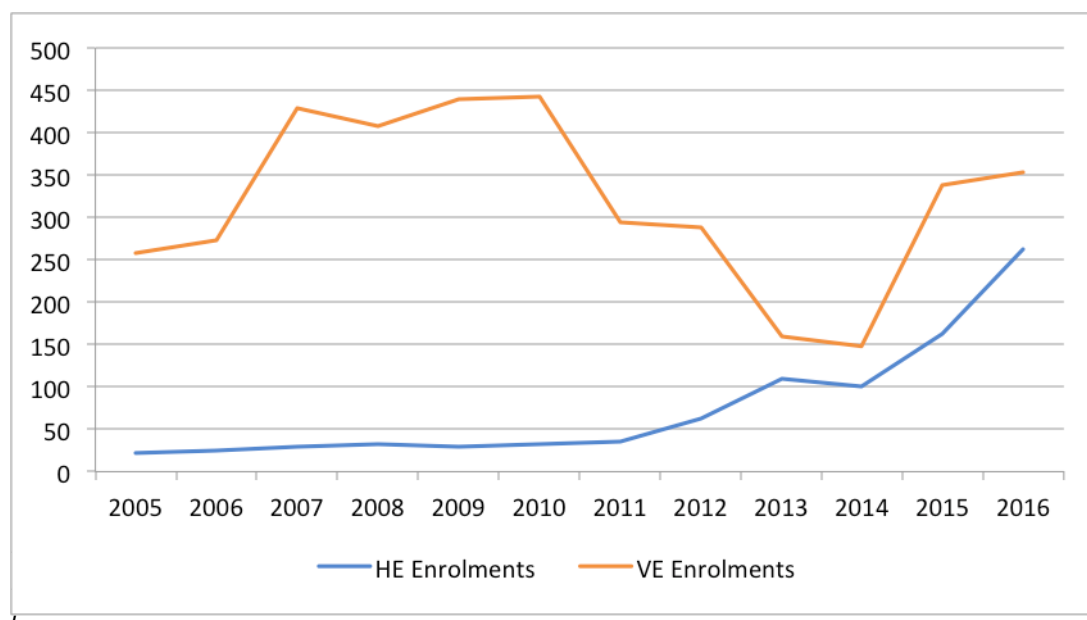
FFigure 1: Number of Aboriginal and Torres Strait Islander students, 2005–2016, higher education and vocational, Swinburne.[3]

To our knowledge, in its early years Swinburne Online did not actively set out to recruit Aboriginal and Torres Strait Islander students – yet this cohort of students was enrolling in numbers slightly above the national average. In 2014, at our request, Swinburne Online compared the demographics of Aboriginal and Torres Strait Islander students with all Swinburne Online students, and found they conformed to the Swinburne Online student base on most demographic characteristics, including being predominantly female and mature age. While the sample was too small to draw a reliable conclusion, Aboriginal and Torres Strait Islander students were somewhat more likely to be from a low SES (socioeconomic status) area. Just under half of the 2014 students were from major cities, half were from outer or inner regional areas, and a small number were from very remote Australia.

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[2] Other online higher education institutions included Open University Australia and Hawthorn Online. Three students were studying by correspondence, and three were unknown.

[3] The decline in VE (Vocational Education) enrolments is likely due to the closure of the Lilydale campus. VE enrolments grew from 2014 with the commencement of the IFC and other projects in Arnhem Land.

In 2012, a major review of higher education access and outcomes for Aboriginal and Torres Strait Islander people (Behrendt 2012) found that their participation was significantly below parity with the population as a whole. While the review recommended "the use of virtual networks and other technology-based solutions to provide greater access to universities by remote and regional students" (84), it did not specify what this might entail.

For Swinburne, the Swinburne Online experience suggested that pathways projects structured around online education might increase the numbers of Aboriginal and Torres Strait Islander students in higher education.

From mid-2013 until the end of 2016, the Indigenous Futures Collaboration (IFC) project undertook to provide new modes of student support for existing online students, as well as pathways into online higher education for those who were excluded (or at risk of exclusion) due to geographic or other barriers. A central feature of the IFC project was that it was a collaboration between a dual sector public education provider (TAFE and university) and nine partner organisations, including a number of Indigenous organisations. As a result of these partnerships, the IFC project developed into multiple and varied endeavours, and reached a diverse set of learners.

One component of the IFC project offered financial assistance and student support to Aboriginal and Torres Strait Islander people wanting to undertake a degree, recruited from Indigenous organisations or employers, as part of their companies' professional development or succession planning. These students might otherwise not have taken the opportunity to further their education. Indigenous students already enrolled in Swinburne Online who were at risk of withdrawing from their course were offered the same financial assistance and student support (see Part 4 of this report).

The IFC project also established six certificate-level online courses that were intended as pathways into higher education. These courses fell within three "demonstrator" projects, each with a different learning platform and degree pathway (the three destinations being Health and Community Services, Creative Industries, and Education). The demonstrator projects and their outcomes are discussed in Parts 2 and 3 of this report.

The purpose of this report is to present insights from the IFC project that might benefit future efforts. The fact that the IFC developed a number of very different sub-projects for its student cohorts was a challenge for the research, making it difficult to compare outcomes. However, the overarching project revealed the diverse needs, experiences and aspirations of Aboriginal and Torres Strait Islander students in relation to online learning. Before turning to those findings, we first provide a short overview of the educational disparities the IFC project sought to address.

1.2 Aboriginal and Torres Strait Islander participation in higher education

Educational attainment is linked to social and economic advancement, and people with a degree qualification are likely to earn more than those with only secondary educational attainment or below. Therefore, as noted by the Behrendt Report, while not everyone will or should aspire to gain a tertiary qualification, it is important that everyone has the option (Behrendt *et al.* 2016). Australia has one of the highest rates of tertiary-educated adults in the world (OECD 2016); in 2016, of the 10.5 million Australians aged 15 to 74 years with a non-school qualification, 44 per cent (4.6 million people) had a Bachelor degree or higher qualification (Australian Bureau of Statistics 2016b).

Aboriginal and Torres Strait Islander people are under-represented in both higher education and the labour market (Wilks and Wilson, 2015; Kinnane *et al.* 2014; Edwards and McMillan 2015; Pechenkina *et al.* 2011). In 2015, Aboriginal or Torres Strait Islander students made up only 1.1 per cent (16,136) of all higher education students (Department of Education and Training, 2016c; Department of Education and Training 2016a).

As shown in Table 1 (below), Aboriginal and Torres Strait Islander students living in regional and remote areas are less likely to have a degree or postgraduate qualification than Aboriginal and Torres Strait Islander people living in urban areas. A higher proportion of Aboriginal and Torres Strait Islander people live in regional and remote areas than non-Indigenous Australians (21 per cent against 2 per cent; see Australian Institute of Health and Welfare 2015). Being located some distance from higher education providers negatively affects people's chances of gaining a university degree, because of the high costs faced by students who need to travel longer distances for education (Biddle 2010). In theory, online or digital education should be able to address spatial inequality and other factors affecting Indigenous participation in higher education.

While Aboriginal and Torres Strait Islander people are significantly less likely to hold a Bachelor or higher degree than non-Indigenous Australians, they are proportionally *more* likely than other Australians have a Certificate III or IV as their highest qualification (see Table 2, page 5). As discussed below, this may be due to employability skills programs.

Table 1: Highest educational attainment by remoteness area and Indigenous status of persons aged 18 and above (in %)

	Indigenous*				Non-Indigenous**			
	Major cities of Australia	Regional	Remote	Total	Major cities of Australia	Regional	Remote	Total
Bachelor degree or above	9.3	4.2	1.8	5.5	29.9	16.3	19.9	26.1
Certificates III/IV	29.3	25.9	15.7	24.8	18.7	27.4	24.3	21.0
Year 12	15.1	11.7	12.4	13.0	16.6	12.8	11.8	15.5
Year 9 and below	13.1	18.5	25.9	18.2	7.5	12.3	10.1	8.7

*Source: *ABS 4714.0 National Aboriginal and Torres Strait Islander Social Survey, 2014–15; **ABS General Social Survey (Non-Indigenous), 2014.[4]*

Completions rates are also an issue affecting Indigenous education outcomes. Indigenous students are less likely to complete their degrees than their non-Indigenous peers (for discussions, see Berhendt *et al.* 2012, 33; Pechenkina *et al.* 2011; Asmer *et al.* 2011). An ACER cohort analysis exploring equity groups' educational outcomes found the completion rate of Aboriginal and Torres Strait Islander students nine years after commencement in 2005 was less than half (46.7 per cent), and below other equity groups, including: Low SES (socioeconomic status) students (68 per cent); Regional students (69 per cent); Remote students (59 per cent) (Edwards and McMillan 2015) (Department of Education and Training 2016a).

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[4] Note on comparability of data: the NATSISS is a sample survey and results can therefore differ from the Census. See Explanatory Note 108 on Australian Bureau of Statistics, 2016.
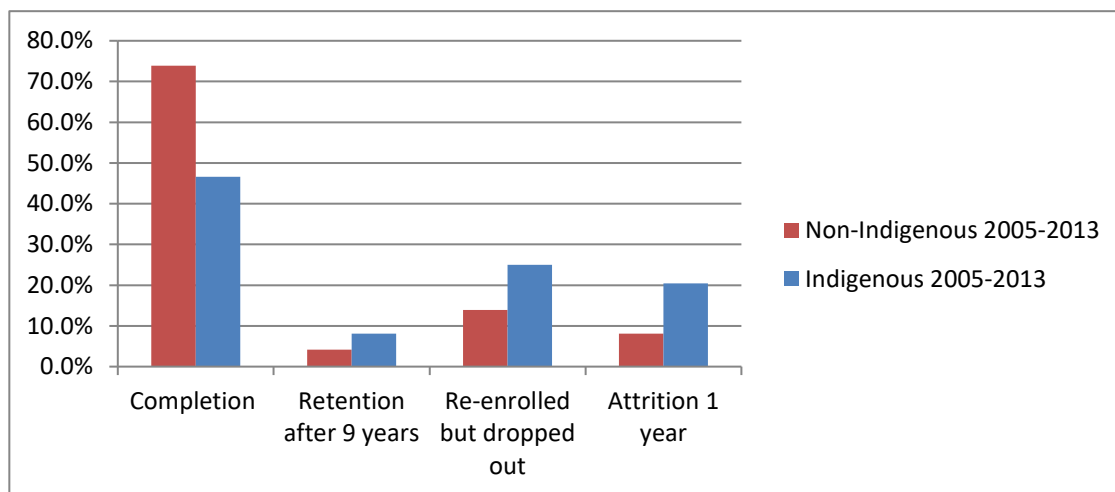
Figure 2: Cohort analysis for domestic Bachelor degree over a nine-year period, 2005–2013. Data source: Department of Education & Training Completion Rates, Higher Education Students, Cohort Analysis, 2005–14.
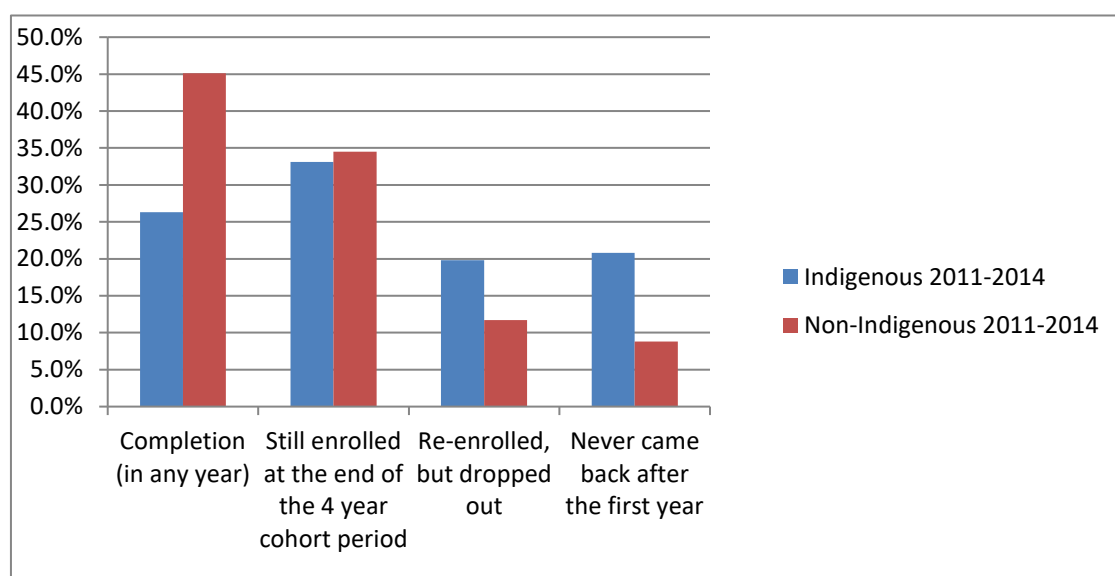
Figure 3: Cohort analysis for domestic Bachelor degree over a four-year period, 2011–2014. Data source: Department of Education & Training, Completion Rates, Higher Education Students, Cohort Analysis, 2005–14.

To address these inequities, the Australian government has implemented various programs that aim to increase the participation of Aboriginal and Torres Strait Islander people in higher education, including the Higher Education Participation and Partnerships Program (HEPPP). This program and others have supported universities to develop various engagement strategies, sometimes in consultation and partnership with Aboriginal and Torres Strait Islander communities, to encourage Aboriginal and Torres Strait Islander students to pathway into higher education, including through the IFC project.

1.2.1 Factors influencing Indigenous education participation

Low enrolment and completion rates among Aboriginal and Torres Strait Islander students have been attributed to various factors that students may face both before and after entering higher education (Bin-Sallik 1996; 2000; 2003; Barney 2013; Schofield *et al.* 2013; Pechenkina 2014).

Contributing factors identified by past research include:

- socio-cultural factors including attitudes, aspirations and intentions; societal, institutional and family support; language and cultural barriers; overcrowded housing;
- institutional and financial factors including availability, affordability and access to resources, socio-economic status, intergenerational poverty, chronic unemployment, welfare dependence; and
- individual factors such as schooling experiences and performance, aspirations and expectations, chronic health conditions, self-confidence and self-esteem.

Some researchers have argued that Aboriginal and Torres Strait Islander students often face not just one but a complex mix of these factors, which compounds their disadvantages in participating in higher education (Hughes and Hudson 2011). It is important to note that not all Aboriginal and Torres Strait Islander people are excluded; children of working, urban Aboriginal or Torres Strait Islander people are participating in post-secondary education at rates similar to those of the non-Indigenous population. More than three quarters of this group are not from low SES backgrounds, and 44 per cent are not the first in their family to attend university (Hughes and Hughes 2012).

1.2.2 Online learning

Since 2008, we have seen an increase in enrolments in external and blended higher education courses. Innovation through online or blended learning allows providers to tailor their course offerings to suit the needs of a particular group of learners, and to deliver outcomes that will empower them to achieve their educational goals (Alammary, Sheard & Carbone 2014). As seen in Table 2 (below), the internal mode of attendance increased by 0.9 per cent from 2014 to 2015, while external and multi-modal enrolments increased by 5.2 per cent and 13 per cent respectively. The uptake of blended courses by Aboriginal and Torres Strait Islander students has included VET courses, where nearly 50 per cent of national VET providers' enrolments in 2013 were in online or blended courses (Regional Universities Network (RUN) 2013).

Table 2: All students by state and mode of attendance, full year 2015				
State	Internal	External	Multi-modal	TOTAL
New South Wales	322,739	72,989	34,926	430,654
Victoria	301,231	39,565	40,233	381,029
Queensland	163,567	44,316	34,866	242,749
Western Australia	109,776	16,966	13,651	140,393
South Australia	71,022	15,759	9,896	96,677
Tasmania	15,093	12,315	4,824	32,232
Northern Territory	3,010	6,840	2,085	11,935
Australian Capital Territory	31,750	864	6,959	39,573
Multi-State	30,562	3,974	355	34,891
TOTAL	**1,048,750**	**213,588**	**147,795**	**1,410,133**
Total 2014	**1,039,396**	**203,015**	**130,819**	**1,373,230**
% change on 2014	**0.9**	**5.2**	**13.0**	**2.7**

Source: Department of Education and Training 2015, All Students data

Online learning and blended learning can be more effective than face-to-face modes (Bowers and Kumar 2015; Watson 2013; Akyol *et al*. 2009; Anthony and Keating 2013). Watson (2013) asserted that such technologies can help Aboriginal and Torres Strait Islander high school students acquire the knowledge and skills to be accepted into higher education courses, and to be more successful in these further studies.

Online learning offers learners convenience and flexibility; moreover, it also enables education providers to reach out to people who could be excluded from university attendance because they cannot travel to and from campus, or because they have employment, family or carer responsibilities that prevent them from attending classes regularly. Online learning could be the only, or the most convenient, choice open to a particular group of students, and is thus an important option (Oliaro and Trotter 2010).

A recent study found that students who studied fully online were older on average (suggesting a return to study), and had lower expectations of academic achievement, significantly lower levels of extrinsic motivation, a preference to learn with peers, and the need for learning support (Johnson 2015). Although online education is known to have a higher attrition rate that on-campus education, Swinburne Online's experience suggests that it could also help increase access, participation, retention and completion for Aboriginal and Torres Strait Islander people in higher education.[5]

1.2.3 Remote community learners

As discussed in Parts 2 and 3 of this report, a significant number of the IFC project students were from very remote communities in Western Australia, the Northern Territory and Queensland. These adult learners faced particular challenges in transitioning into higher education, including speaking English as another language.

Since the 1980s, adult learning in Australia's remote communities has incrementally become more formalised, with an emphasis on standards and linkages to work. State governments have become selective in the courses they will support, which in turn has restricted what training organisations can offer.[6] Punitive approaches to welfare, which require recipients to be either in training or actively looking for work, have also distorted incentives for both students and education providers.

Samantha Disbray and adult educator Ros Bauer[7] have observed that the result has been an increase in "drive in–drive out" block training delivery, generally with low completion rates. Even with the best support, these certificate-level courses struggle to achieve completions if students are not motivated to do the course to begin with.

Guenther, McRae-Williams and Kilgariff (2014) give a case study of a "wraparound approach", in which the Centre for Appropriate Technology (CAT) in Alice Springs provided significant support to students undertaking a Certificate I in Construction. This support included home visits following absenteeism, meals and transport, assistance in obtaining appropriate work wear, access to health services, negotiating Centrelink

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[5] As Swinburne Online had only been operational for six years at the completion of this research, it is too soon to comment on attrition. Students are mostly studying part-time.

[6] Media courses are not currently supported in WA, which posed a challenge for the sustainability of the Creative Industries demonstrator project.

[7] Ros Bauer was involved in the IFC project's Yuendumu pilot project, through the Warlpiri Youth Development Aboriginal Corporation.

requirements, some assistance with accommodation, alcohol and drug use, and help through a broad range of family difficulties. The result was that of 18 participants enrolled in the course, three transitioned to a higher-level certificate offered by CAT. Of the remaining 15, four completed the full certificate. The study authors note that this outcome is a modest success compared to other experiences, concluding that even with the best collaboration, coordination, and client support, such courses will struggle to achieve high completion rates without client buy-in:

> *If the logic of outcomes depends on client and community buy-in then strategies to achieve this must be factored into the collaborative effort. This then may assist with the problem of attrition (Guenther, McRae-Williams and Kilgariff 2014).*

Part 3 of this report looks at motivations and other factors that influenced the success or otherwise of the three IFC demonstrator projects. We found a significant connection between work and educational attainment within the demonstrator projects (see section 3.2.1), and note that this connection manifested in both positive and negative ways. For some students, the connection to career development and higher wages was an important motivator, while others failed to complete the course when work incentives or aspirations changed. In Part 2 we look at the kinds of support necessary for online courses, as well as instances where support is unlikely to make a difference.

Adult literacy, in particular, is a significant barrier to higher education for many people living in remote communities, and this hurdle was encountered by students across the three IFC projects. Formal online education projects that comply with academic frameworks demand a level of English literacy, as well as technical skills. Literacy scholars have observed that the transition from an oral culture to a literature culture is relatively recent in remote communities, and that there is a lack of antecedent literacy practices in the home and community that would enable Western pedagogical frameworks for education to succeed. Moreover, as discussed in section 3.3.4, while most participants were already reasonably proficient with some online platforms (such as social media) when they entered the course, the kinds of technical skills required for online courses were new to some of them.

Using ethnographic research, Kral and Schwab have found that informal community learning settings are important, as they facilitate and validate "a culture of learning by creating a space where learning is normal and valuable and for everyone". For the IFC project, one important question was whether the necessary "literacy socialisation experiences" (Kral and Schwab forthcoming) could be provided through online or offline support systems to enable course participation. The IFC project conducted a pilot project (made up of four units), which was offered at a community learning centre in Yuendumu (NT). As described in section 6.2.1 of this report, and as noted in the Conclusion, while online courses are a way for education providers to reach those living in very remote communities, learning centres are essential for retaining students.

1.3 About the research

The core question for our research was whether online education can increase Aboriginal and Torres Strait Islander people's participation in higher education. We focused on the factors that might influence outcomes (both positive and negative). Therefore, in addition to reporting the outcomes of the IFC project, this report also:

- examines student digital inclusion and its influence on enrolments and attritions;
- describes student needs, and the extent to which student support may influence retention and completion rates;
- considers the importance of Indigenous and local content; and
- discusses partnerships and their role in the success of the projects.

We did not analyse the learning design or platforms, except insofar as they cancelled out other factors (as was the case in one instance). Nor did we set out to observe literacies, given that much of the engagement was expected to occur remotely (see Appendix 1, Research Approach). However, we did take into account the observations of the project's learner support workers in relation to student capacities, including English language proficiency.

A note on terminology

We have used the term "Aboriginal and Torres Strait Islander people" when referring to people who identify as being of Aboriginal and/or Torres Strait Islander descent. However, as the word "Indigenous" is used within many policies and programs designed for Aboriginal and Torres Strait Islander people, we have used "Indigenous" in places.

The three demonstrator projects discussed in this report were called Education Support, Health and Community Services, and Creative Industries. We refer to them by their pathway destination; thus, "Education Support" is called "Education" in this report.

Part 2: The Three Pathways Demonstrator Projects

The IFC project developed three pilot projects to deliver online pathway courses to Aboriginal and Torres Strait Islander students living in regional and remote communities. These three pilot or "demonstrator" projects were focused on three different discipline areas where there was a need for a qualified workforce: education; health and community services; and the creative industries. The three projects were designed and delivered in partnership with organisations that work directly with Aboriginal and Torres Strait Islander people (see Appendix 6, IFC Project Partners).

The three demonstrator projects developed six digital courses. The criteria used to select these pilot projects and the courses to be designed were:

- existing relationships with industry organisations working with and in Indigenous communities in regional and remote areas;
- an identified need for further education in the discipline area, and;
- a willingness to use new technologies to deliver education in the areas where a need existed.

Of the Aboriginal and Torres Strait Islander students who enrolled and participated in the demonstrator projects, just over 70 per cent were female. In terms of age range, 6.8 per cent were aged below 18 at the end of 2016; 34.9 per cent were aged 18–29 years; 41.5 per cent were aged 30–49 years; 13.5 per cent were aged 50–59 years, and 3.3 per cent were aged 60 or older.

The three demonstrator projects are described below.

2.1 Creative Industries demonstrator project

The Creative Industries demonstrator project aimed to address the need for further training in the media and creative industries field. The goal was to extend and fill the gaps in training beyond the broadcasting sector, and into design and digital media skills development, fields which typically require tertiary qualifications. Although mining is still the dominant industry in Western Australia (WA), the highest employment growth rates in 2014–15 were in two other industries: healthcare and social services, and arts and recreation (Duncan A, Gao G, Nguyen H, Ong R & Tarverdi Y 2016; Duncan A, Ong R & Tarverdi Y 2016).

This project set out to fill a perceived need for qualified workers in the creative industries, by connecting with students living in remote areas who aspire to creative jobs beyond the traditional media and broadcasting sector. By producing digital media-qualified and design-qualified creative workers, the project ultimately sought to expand what has become known as the "creative economy"; this term extends beyond what is traditionally seen as the arts and cultural industries, to account for the growing need for creative skills (Bakhshi *et al.* 2013).

The creative workforce consequently includes people working with new technologies, content and applications to coordinate businesses and lifestyles, and produce design solutions across a broad array of industries, including traditional services and manufacturing (Hearn *et al.* 2014). The Creative Industries project was developed in partnership with Goolarri Media Enterprises (Goolarri) an Aboriginal media organisation based in Broome, Western Australia (WA). Courses in this project were delivered in WA, mainly for people living in the Kimberley and Pilbara regions. Goolarri is a Registered Training Organisation (RTO), and the courses offered Goolarri qualifications. The demonstrator project was partly intended to build Goolarri staff's capacity to deliver online education.

2.2 Health and Community Services demonstrator project

The Health and Community Services demonstrator project focused on building a cohort of skilled and qualified Aboriginal workers and managers across a range of health and community service roles, including developing skills for management-level positions.

The largest occupational groups among Aboriginal and Torres Strait Islander people in the community services workforce are education aides or support workers, welfare support workers, and aged and disabled carers (Australian Institute of Health and Welfare 2015). In 2011, Aboriginal and Torres Strait Islander people were proportionally more likely to be employed in the community services workforce than non-Indigenous Australians (3 per cent versus 2 per cent, see Australian Institute of Health and Welfare 2015). The economic contribution made by this workforce is significant; yet generating direct pathways to higher education for these workers – particularly for those living in remote communities – is not easy.

The IFC project developed and delivered three courses, with training materials that were culturally appropriate and accessible to learners and workers, regardless of their geographical location. The courses were developed in partnership with several existing Indigenous organisations that deliver health and community services in the Northern Territory (NT). The NT partner organisations included Carers NT, Carpentaria Disability Services, the Council for Aboriginal Alcohol Program Services, the Human Services Training Advisory Council, the Warlpiri Youth Development Aboriginal Corporation, and the BCA National Training Group. Courses offered by this project provided formal qualifications to individuals working in the health and community services sectors. Courses in this project were delivered only in the NT.

2.3 Education demonstrator project

The Education demonstrator project developed an online course that recognised prior learning (RPL) of existing Indigenous education and liaison support workers in schools, and provided gap training so they could attain Certificate IV in Education Support. At a national level, education and training is the second-largest industry that employs Aboriginal and Torres Strait Islander people (Australian Bureau of Statistics 2011). However, only about 20 per cent of Aboriginal and Torres Strait Islander people reported an occupational status of professionals or managers, compared to about 36 per cent of non-Indigenous Australians (Gray *et al.* 2012).

The aim of this pilot project was to provide Aboriginal and Torres Strait Islander education support workers with opportunities to use their prior learning and experience in obtaining formal qualifications, and subsequently enable them to pathway to higher education (teaching degrees or early childhood diplomas). The project was initially set up in partnership with the Queensland University of Technology (QUT), however due to internal changes at QUT this partnership was dissolved in the first year. Subsequently, partnerships were formed with the Australian Catholic University (ACU) and Nahri, an Aboriginal not-for-profit organisation, to assist in student recruitment and support. The project also benefitted hugely from the support and endorsements by the Department of Education and Training, Queensland (DETQ). Courses in this project were delivered in Queensland, including the Torres Strait Islands.

2.4 Course completions and transitions into higher education

As of March 2017, two students from the demonstrator projects had transitioned into degree courses (both from the Education project into Swinburne Online). A third student had commenced a degree, but later withdrew. Three more students had expressed interest in enrolling in a degree from groups 1 and 2 of the Education project, and two more from group 3

were interested. It is expected that these five students will enroll in either the mid-year or November 2017 intakes. Excluding the student who withdrew, this amounts to 18 per cent of those who completed the Certificate IV in Education Support making, or being likely to make, the transition into higher education.

For the purposes of this research, the fact that *components* of the pathways demonstrator projects were successful is more significant than the overall course completion rates. As discussed below, these successes provide important insights into "what works". Likewise, if a demonstrator project (or a component of a demonstrator project) experienced high attrition, it is possible to examine the contributing factors and produce learnings for future projects.

On this basis, two "pilot" cohorts can be discounted from the overall student completion results: the Certificate II "enabler" in the Health and Community Services project consisted of just four units, rather than an entire certificate; and the first wave of students in the Certificate III of the Creative Industries demonstrator project enrolled before the course was complete, when there were still many issues to be resolved on the platform and before staff had received professional development.

When we exclude these two pilot cohorts, the IFC achieved 80 per cent Indigenous completions in the Education project[8], 49 per cent Indigenous completions in the Creative Industries project, and no Indigenous completions in the Health and Community services project (or 34 per cent completion, 49 per cent attrition, and 17 per cent "certificate of attainment" across all three projects). Arguably, the Certificate III and IV courses in the Health and Community Services project experienced too many problems with the platform and design, making the results redundant, while the Certificate II enabler was more successful in terms of content and design.

The completion and attrition rates for all students (Indigenous and non-Indigenous) in the demonstrator project courses are given in Tables 3 and 4 (overleaf). Students who received a "certificate of attainment" were those who had not completed the course at the project's end, but who may yet go on to complete.

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[8] An additional six students attended the initial Education project information session and signed enrolment forms, but withdrew immediately thereafter. These students are not counted in this figure or in the table, as per the project's own records (everyone was encouraged to sign as this was the best opportunity to collect forms). However, it should be noted that if these students were counted, then the completion rate for the Education project would be 68 per cent.

Table 3: Completion, attrition and "certificate of attainment" by course: Indigenous students only.

Project	Course	Enrolment	Attrition	Certificate of attainment	Full certificate (completion rate)
Education	Cert IV: Group 1	14	1(7)	- (0)	13 (93)
	Cert IV: Group 2	10	1 (10)	2 (20)	7 (70)
	Cert IV: Group 3	11	1 (9)	2 (18)	8 (73)
Health & Community Services	Cert II: Community Services*	6	1 (17)	5 (83)	- (0)
	Cert III: Individual Support	6	4 (67)	2 (0)	- (0)
	Cert IV: Alcohol & Other Drugs	6	6 (100)	0 (0)	- (0)
Creative Industries	Cert III: Media Group 1	22	21 (95)	1 (5)	- (0)
	Cert III: Media Group 2	8	5 (63)	- (0)	3 (38)
	Cert III: Media Group 3	2	1 (50)	1 (50)	- (0)
	Cert IV: Digital Interactive Media	5	3 (60)	2 (40)	- (0)
Total		**90**	**44 (49)**	**15 (17)**	**31 (34)**

% in brackets
*The Certificate II in the Health and Community Services project only piloted four units, and was not a full Certificate.
A further six students attended the information session for the Education project and signed enrolment forms but did not commence. They have been excluded from the above table.

Table 4: Completion, attrition and "certificate of attainment" by course: non-Indigenous students only

Project	Course	Enrolment	Attrition	Certificate of attainment	Full certificate (completion rate)
Education	Cert IV: Group 1	-	-	-	- (0)
	Cert IV: Group 2	1	-	-	1 (100)
	Cert IV: Group 3	1	-	1	- (0)
Health & Community Services	Cert II: Community Services*	-	-	-	- (0)
	Cert III: Individual Support	3	0	3	0 (0)
	Cert IV: Alcohol & Other Drugs	7	4	-	3 (43)
Creative Industries	Cert III: Media Group 1*	-	-	-	- (0)
	Cert III: Media Group 2	3	-	1	2 (67)
	Cert III: Media Group 3	1	-	-	1 (100)
	Cert IV: Digital Interactive Media	-	-	-	- (0)
Total		**16**	**4 (25)**	**5 (31)**	**7 (44)**

% in brackets
*The Certificate II in the Health and Community Services project only piloted four units, and was not a full Certificate. A learner support worker from Goolarri who enrolled in the Creative Industries project to test content has been removed from the table.

2.5   Assessing what works: delivery, content, support, partnerships

The aim of the research was to understand whether online education is a viable means of increasing Aboriginal and Torres Strait Islander people's participation in higher education. As discussed in Part 1, online education can potentially overcome geographic educational disadvantage, as well as other restrictions on people's ability to attend face-to-face training, such as work and family demands.

In the remainder of Part 2 (to follow), we discuss which approaches were effective within the three pathways projects, across four key elements: course delivery, content, partnerships, and student support. Identifying what worked requires knowing the context of the projects and analysing the multiple factors that influenced outcomes. In certain cases, particular project components may have been successful, but one or more other decisions – for instance, course design, technology choices, or student recruitment – led to poor outcomes overall. In such cases, it is necessary to untangle the success factors from other factors.

For example, although the first wave of students in the Creative Industries project did not complete the course, the technology strategy on that project worked effectively (including device choice and internet access arrangements); it received better feedback than the other two projects, and informed later decisions across all three projects. Our analysis also takes adaptations into account, which was possible because we tracked the projects from the start and observed decision-making processes (see Appendix 1, Research Approach).

Online platforms proved to be beneficial for providing more flexible delivery options, allowing partners to overcome barriers to education provision. Although in all cases some face-to-face interaction between students and staff was needed, online platforms can help in achieving better outcomes if they are tailored to student needs. In all cases, local and Indigenous content made the courses more relevant and appealing to students (as discussed in section 2.9: Partnerships). Finally, we discuss the importance of student support for online learners and the kinds of support needed, including induction.

2.6 Flexible delivery tailored to student needs

For Indigenous pathways programs, online education platforms are best considered as a means to more effective, dynamic and flexible delivery. Projects that seek to eliminate all face-to-face contact with students are unlikely to succeed. Most students desired the group learning environment and face-to-face contact, either with trainers or learner support workers, and this was important for achieving student completions.

All three demonstrator projects involved a higher level of face-to-face contact than was initially anticipated (the modes of face-to-face delivery varied across the projects, as outlined in Appendix 2, Blended Delivery Models). The main reasons for using face-to-face teaching or support were to keep students engaged; to assist them with both digital literacy and LLN (language, literacy and numeracy); and for group or practical activities.

> *That's something that I've been arguing within the project now from the start […] I don't think it's going to work completely online, because students – the people that we're delivering to – are very rarely ready to be able to do it. Whether it's a motivation thing, whether it's an LLN digital literacy type thing, we still need to have some contact with them to help with those issues. (Staff member, Creative Industries project)*

> *[The RPL and directing students to activities] could have happened more on the phone but it's still been difficult to actually pin people down and say, "Look, this is when I'm ringing you." Or ringing and not getting a response and leaving a message. (Staff member, Education project)*

However, online platforms provide significant benefits that can enable providers to reach students who might otherwise be excluded. One student began the education support course while also working another job. The student commented that if the course had not been online,

achieving the certificate qualification would have been impossible due to work commitments. The student subsequently found work in a school and "had enough confidence to do so".

We have abstracted the delivery modes into three models (see Appendix 2) to show the differences between the IFC project courses. There are clear cases to be made for online platforms for Indigenous pathways education in the following situations:

■ when the education provider is not physically located in the community, but where there is another organisation present with staff who can support learners;
■ where industry experts are part of the training experience, but where it is more efficient or desirable for them to deliver practical components face-to-face;
■ in situations where Recognition of Prior Learning (RPL) is possible and desirable;
■ where rolling enrolment is more likely to attract and retain students; and
■ where students are trainees.

As outlined below, each of these findings was supported by evidence from one or more of the demonstrator projects.

2.6.1   When education provider is not physically located in the community

The benefit of online courses is that they can be accessed by students who live in places where there is no education provider based on-site. However, students at lower training levels need a face-to-face study environment where coursework is carried out (see below). One solution is for local Indigenous organisations to provide face-to-face learner support in a community setting, while the education institution provides a qualified trainer from a distance to carry out assessments

The Certificate II "enabler" project in Yuendumu delivered four units, with six students (of nine total) successfully completing all four units. The local learner support worker and mentors from the Warlpiri Youth Development Aboriginal Corporation (WYDAC) helped the students through the course content, and some of them also provided verbal translation into Warlpiri. The students undertook their work online at a community learning centre (see Disbray & Bauer 2016). A trainer based in Melbourne carried out the assessments and liaised with the developer about content and technology issues. She had contact with both the learner support worker and students via the platform. One rationale for this approach was that a local organisation would also be best placed to provide support and guidance in a culturally appropriate manner.

While those supporting the students perceived some problems with the platform design, they were nonetheless able to guide a high number of participants through the course. The learner support worker observed that the blended environment was important, due to English being a second (or third, or fourth) language for many participants. The trainer commented that this mode of delivery worked, adding, "So long as there's a good mentor on the ground I wouldn't have any problems doing that again." She also said she enjoyed the interactions with the learner support worker and the students.

As discussed below, the Education demonstrator project was framed around RPL, with trainers travelling to conduct assessments only. Students had some face-to-face contact with staff and mentors, but mostly worked through the content with support provided by the trainer and others from a distance. The students from the Torres Strait Islands were located on different islands, so travel was logistically difficult and

expensive. In such cases, online delivery resolves barriers that would otherwise prevent education providers from being able to deliver courses.

However, students from the Torres Strait Islands were more likely to drop out than students in group one of the Education demonstrator project (a third of students in group 3 compared with 7 per cent in group one). The difficulties in providing face-to-face contact may have been a factor in attrition in this group. The trainer commented on the delivery for the Torres Strait Islander students: "If they had a learner support [worker] at the same time for one hour or two hours every week, that would make a huge difference, but that's not happening." Her comment aligns with a model where some local face-to-face support is available, and where this does not have to entail qualified on-the-ground trainers.

Interestingly, one student from the first group was later employed as a learner support worker for the second two cohorts. However, she became more of a remote tutor on the project. Another staff member on that project commented that the former student assisted at least three students to complete who might otherwise have dropped out.

2.6.2 When industry experts are part of the training experience

Online education can provide students with the materials they need, while releasing industry-based trainers from the theory components of course delivery. For the Creative Industries project, having trainers who are also media industry experts is attractive to students (Aboriginal and non-Indigenous students alike). The media workers wanted input into the course content. However, some trainers found that face-to-face intensive delivery was a burden that took them away from their media production work. In addition, these trainers were not necessarily the best equipped to monitor students' progress, or to be available for all kinds of support, given their other work commitments.

> *An area of concern is that due to the trainers also being industry experts and having a heavy workload it has been hard to stick to deadlines. I think having trainers working separately will be important moving forward. (Staff member, Creative Industries project)*

A minority of trainers felt that those who delivered the content should be the ones interacting with students, so as to avoid giving students conflicting information; others felt it was more important to have a designated trainer who reported to the training manager to ensure quality (as opposed to media workers, who reported to the CEO).

The Creative Industries project staff used face-to-face workshops as part of their delivery. Having the industry professionals deliver practical activities, with students working through online content either remotely or during block learning time, became the goal of the course (a "flipped classroom" model). The online platform can be a means for trainers to weave their insights into the course without needing to do all of the delivery. The challenge for this model is that all staff need to be given adequate professional development in working with online platforms.

> *Having the workshops is necessary for a lot of the units as they need practical training, and get students to see and use professional equipment that they won't otherwise have access to and that is used in the real world. For example, when you're talking about lights and setting up for a shoot you need to be able to see. (Staff member, Creative Industries project)*

One trainer suggested that the course could be more integrated into Goolarri's existing production activities:

> *Base it on programs we have already done […]; use the media brands and formats. [For instance] lighting could be "Kimberley Girl event lighting", or set-up for Kimberley Girl could be part of the occupational health and safety unit; sound with Catch 'n' Cook; Streets of Broome is about storytelling. (Staff member, Creative Industries project)*

2.6.3 When Recognition of Prior Learning is possible and desirable

The Education project developed an online course that was designed to accommodate and recognise the significant experience of existing Indigenous education and liaison support workers in schools. The project also provided gap training so these workers could attain Certificate IV in Education Support.

As described in Appendix 2 (Model 1), this model was designed with face-to-face assessment interviews, in which the students could present evidence of their prior experience and knowledge for the trainer to assess. If the trainer identified any gaps in a student's knowledge or experience, they directed them to the online course website to complete tasks and activities to fulfil their course requirements. There was no traditional teaching involved in this model. However, in addition to assessing each student's prior learning and knowledge, the trainers also provided support and assistance for students to complete online tasks and activities, and guided them on the evidence they needed to gather and present for assessment.

One student in this group was able to prove prior learning for the entire course and did not do any activities online. Other students in the group said that despite being able to gain RPL for a unit or activity, they preferred doing the online activities so they could learn more:

> *It's there available online, so some people can then choose to do every activity even though they can RPL a lot of the topics. […] That's, I suppose, the exciting thing, that the students say, "Look, I want to do the activities because I'm learning so much. (Trainer, Education project).*

Modifications for the Certificate IV in Health and Community Services included giving the students the ability to seek RPL for some of the units. When these changes were implemented, it reduced the dropout and withdrawal rate, and served to attract some of the students who had dropped out to return and complete the course (in this case, all were non-Indigenous students).

2.6.4 When rolling enrolment is more likely to attract and retain students

In the Creative Industries demonstrator project, staff found that the delay between marketing the course and actually enrolling the next wave of students meant they lost some potential recruits. Staff suggested that one benefit of the online platform was that it could be used to commence students on a rolling basis, enabling the course to attract more participants over the long term. This was not undertaken during the timeframe of the IFC project because it would have required rethinking how the block training was run, which was beyond the organisation's capacity at the time.

I think we need to be able to grab it when the person's interested, and then try and grow that interest rather than say, "You're interested! I'll take your name but we're not starting for two months." Which is kind of what's happened in this one, so people have enrolled ages ago but then it wasn't starting until a certain date, so they'd…lost interest. So we had this huge expression of interest, back from three months before it started. But I don't think one of those people are on the course now because they had moved on to something else. It's about striking while it's hot and saying, "Yep, you're interested, so here's some more information. We can enrol you today if you're really interested. We can get you working within a week". (Staff member, Creative Industries project).

2.6.5   When students are trainees

In the next section we discuss student motivations, and the relationship between pathways to study and work. It became apparent over the course of the project that connection between study and work was an important motivating factor, and one that may have led to completions.

In some industries, a small number of trainees or workers in an organisation (such as a media organisation or a school) want to gain qualifications in order to learn more about their chosen path and improve their professional standing. For instance, some Goolarri media-makers entered the organisation as trainees and completed certificate-level courses while learning media production over a long timeframe. Goolarri staff working on the Creative Industries project noted that the online platform would be a useful mechanism for Aboriginal trainees to gain qualifications. One trainer said those who were successful in the online course could become trainees and gain further on-the-job experience.

At the start of the project, staff at Swinburne and Goolarri hoped there would be enough interest from Aboriginal and Torres Strait Islander students for the course to become sustainable over time. An interesting development in the project's latter stages was that four non-Indigenous students chose to undertake the course on a fee-paying basis. For these students, it was an opportunity to learn more about Aboriginal media and culture from Aboriginal experts, while gaining qualifications. If this interest continues, it is possible that Goolarri could develop a sustainable training model that generates revenue from non-Indigenous students to support training delivery, while allowing them to keep supporting a smaller number of Aboriginal trainees to gain their qualifications.

2.7 Importance of Indigenous and local content

In Indigenous Australian contexts, research (Mills 2008) has suggested that taking advantage of multiliteracies-focused pedagogies can enable a meaningful learning design and ultimately improve Aboriginal and Torres Strait Islander educational outcomes. Over the timeframe of the IFC project, courseware provided by Swinburne was redeveloped or adapted by the project partners, or in consultation with them, to incorporate more Indigenous content, including visual and multimedia content. For example, in the first iteration of the Education project, students said the course needed more local Aboriginal content, which was subsequently added.

It has a lot of Indigenous content and just what I was looking for; the others were more mainstream and not as relevant, especially if you are working with Indigenous [school] students. (Student, Education project).

In this instance, all the course content and materials were designed by the trainers who delivered the course. As a result, the trainers could tailor the content and material to suit the

needs of their students, while making this content appealing and engaging by infusing it with Aboriginal cultural knowledges, teaching principles and design. When the third group of student enrolled from the Torres Strait Islands, the trainers changed the design and included more local cultural knowledges and examples, working in consultation with the school. The students found this to be appealing and engaging and could easily identify with the content.

A different approach was taken on the Creative Industries project. The Goolarri staff working on this project wrote or sourced much of the content themselves. However, for some design units it was necessary to bring in course writers through Swinburne. Goolarri then needed to rewrite those units to make them more relevant to the students, which may have not been the most efficient approach:

> With all the design units we couldn't develop the resources for that, so that we hired somebody through Swinburne to do that. But then we've had to then hire a person on top of that to then contextualise it and make it locally relevant. (Staff member, Creative Industries project)

Delays in developing the Goolarri content set the project outcomes back significantly, and the sequencing of units and activities underwent changes after it became clear that the first cohort of students had struggled. The final product, however, was considered by external stakeholders to be unique and of high quality. An online education expert commented that Goolarri's media expertise lifted the standard of the content, not just because of staff members' production skills, but also because the content was localised:

> The partner organisation is a leading media organisation with a strong knowledge and experience base in the industry. They capitalised and drew on this base frequently while developing the content for the course successfully. The finished content is really good, with localised content and examples that the students can immediately relate to. The audio, video and graphics produced for the courses are all very good, with the latest technology. (Stakeholder, Creative Industries project)

Despite the problems mentioned above, most students enrolled in the Creative Industries project said they were happy with the platform and content, and appreciated the ability to access the content from home on a device.

The courseware for the Health and Community Services project was written by the industry partners. For the Certificate III and IV students, there were significant problems with the design, sequencing and assessments, which seemed to be a factor in student attrition. Students found the courses too text-heavy and wanted more videos and audios. Non-Indigenous students found that the course contained a lot of Indigenous-focused content that was not sufficiently transferrable to a mainstream workforce. The question of to what extent courses designed for Aboriginal and Torres Strait Islander pathways should appeal to non-Indigenous students is beyond the scope of our project. However, as mentioned above, attracting and enrolling non-Indigenous students may be a means to achieve sustainability, while also increasing understanding of Aboriginal and Torres Strait Islander issues and culture among non-Indigenous people.

The Certificate II courseware was written with local Aboriginal examples and design as much as possible. The majority of students in this course completed all four pilot units that were tested. One person involved in the project said that a next step could be to incorporate Warlpiri language into the course:

You could actually add in recordings in local language, so learners have their opportunity to listen to it both ways, so they're developing their English as well but getting lots of explanation through Warlpiri like we do…if you look at iTalk libraries, where there's a whole lot of little mini stories or mini learnings that can be in first language and English. (Industry partner, Health and Community Services project).

2.8 Student support and pathways courses

Research has found a strong correlation between Indigenous students' perceived levels of support and their intentions to drop out of a course (Asmar *et al.* 2001). Support must be "multi-faceted, layered" and "underpinned by the principles of respect, relationships, and responsibility to ensure Indigenous success" (Milne *et al.* 2016).

The drive for partially or fully online education delivery models has created a need for new kinds of support structures. Researchers have offered insight into how such support can be delivered, including: understanding and implementing pedagogically strong course design components; ensuring student collaboration; integrating elements of educational technology into various aspects of the course; and introducing engaged moderation (Harbaugh 2012; Hart 2012).

Student support needs were high across all three demonstrator projects. Data collection on student support included logs kept by some support workers, and interviews with students and staff, including a two-day intensive workshop with learner support workers from the Health and Community Services and Creative Industries projects. From this we were able to understand the importance of student support, some best practice support for remote learners, and the challenges of the support worker role.

The Education project had problems with appointing and retaining a learner support worker. Since there was no learner support worker during much of the course for groups one and two, the trainers filled this role for these two groups. This had some advantages and disadvantages. The advantages were that the students bonded well with the trainer, who could keep a close eye on student progress. This may be a significant reason as to why students continue with the course. The trainer commented that relationship-building was important; it was not until her fourth visit to the Torres Strait Islands that students began to trust her and to initiate contact. Prior to this, she did all the contacting. The disadvantage was that the trainer could not always reply to the students' queries immediately. As mentioned above, the trainer felt in hindsight that an onsite student support worker would have benefited the project (in addition to the student from group one, who was later employed to provide remote support to groups 2 and 3).

2.8.1 Reasons for contact

Most calls or contacts were initiated by the learner support workers, to ask how the students were going and whether they needed help, remind them to complete work and submit assessments, or help arrange travel to attend the week-long workshops. The learner support workers contacted the students for a number of reasons (see Figure 6, below). Only about 30 per cent of these instances were related to course content (7 per cent) or assessments (23 per cent). About 3 per cent of these instances were related to IT or learning management system (LMS) issues. About 25 per cent of the instances were general queries, and for 11 per cent no reason was given for the contact. This indicates that most of the contact with the students did not relate to the course or assessments, and that most contact was multi-dimensional.

Some of the major triggers for a learner support worker to call students were: non-performance, which was identified by inactivity on the learning management systems, or by students missing deadlines; persistent issues such as LLN (language, literacy and numeracy); or to follow up on advice given in previous sessions as a general check-in, which students mostly appreciated.

Learner support workers also called students to inform them that they were exceeding their data allowances, and to help them understand how that was occurring. Workers also contacted students at a trainer's request in order to verify assessments or help with amendments to students' work, particularly when students were not as advanced as they needed to be. Sometimes the learner support worker called simply to motivate the students by highlighting their achievements, pointing out the usefulness of the course, or relating assessment tasks to everyday tasks.
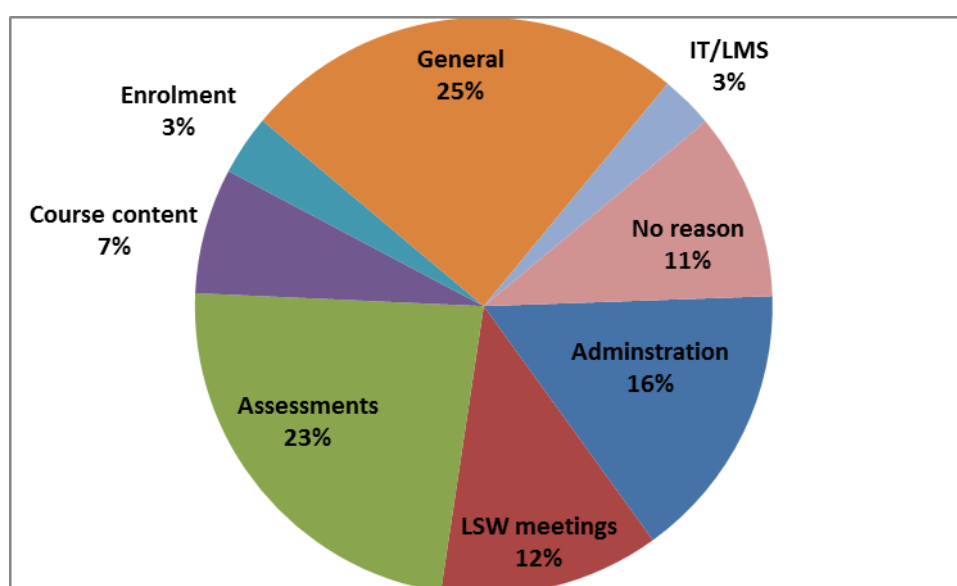

Figure 4: Reasons why learner support workers contacted students

According to the learner support workers' logs, email was the most frequently used mode of contact with students. However, these staff members soon resorted to phoning students or texting them to make contact. As two learner support worker noted:

> I assumed that the students enrolled in an online course would be reading and responding to my emails but that was not happening; so we have to call and talk to them; so I am trying different things to grab their attention. (Staff member, Creative Industries project)

> It's persevering and going, "Yes. Look, they will get there, I've just got to keep on ringing yet again and emailing yet again…" And understanding that culturally things move very slowly. And going up there myself to observe that people don't always get back to you and they don't always read emails. (Staff member, Education project)

The learner support workers noted that students seemed to prefer receiving SMS messages, possibly because other services (such as health clinics and employment agencies) use SMS for appointment reminders. However, workers on one of the projects experienced issues with students changing phones or sim cards frequently.
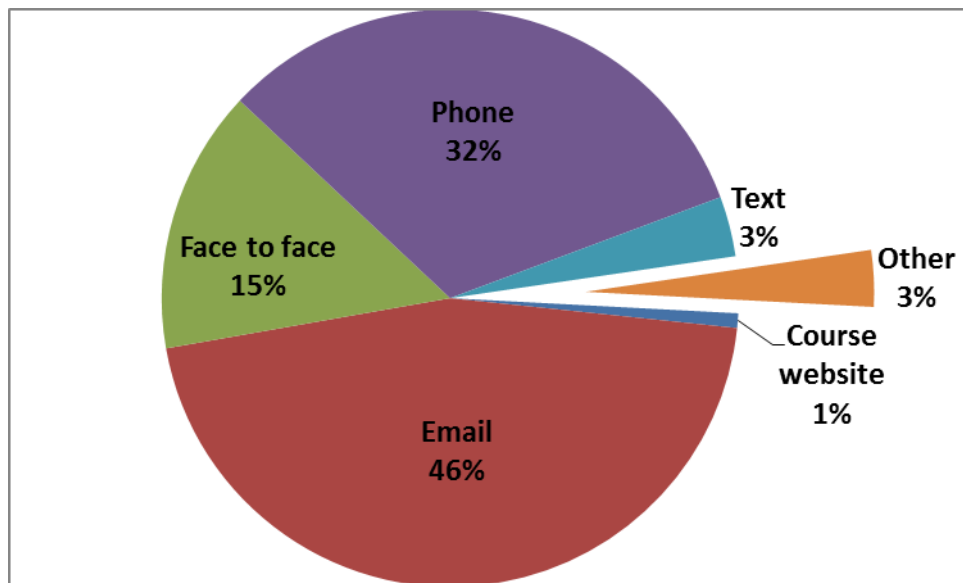
Figure 5: Methods of contact used by learner support workers

Students had varied needs that each learner support worker had to deal with. These staff members identified the following reasons why the students would call them on the phone: to organise travel preferences for travel to block training, including extending their stay for social or family reasons; for family and cultural reasons, including sorry business; around major life events, such as illness; and to ask for help with time management. Other calls were work-related, including instances when the course content was not aligning with work practices, to inform the learner support worker of work commitments, to report that an employer was not following procedures, or to get advice on professional development.

Technical issues fell into three categories: internet access, including data usage and connectivity, at home or elsewhere (see Appendix 3); replacement of lost or stolen equipment; assistance in how to use a device; or help on how to access and navigate the LMS. Students also called for help with elements of the course, such as asking for clarification on content and technical terms. Many required assistance with assessment, such as clarifying questions, uploading assignments, and seeking further input when the trainer feedback was not sufficient or timely. One student commented:

> *Being online we don't have a teacher there that we could ask what the question actually means. But it's good that we can ring up and speak to them whenever we get lost or whatever. (Student, Creative Industries project)*

Appendix 4 shows the results of the Learner Support Workshop in terms of the issues identified by the staff, and their perceptions on what issues they could provide sufficient support for. Factors such as lack of motivation, significant life events and internet access were deemed to be beyond the staff member's ability to control. In addition, aspects of courseware design and RTO motives were also outside their sphere of influence, and could thwart all their attempts to assist a student through the course. For the benefit of future projects, we have mapped the factors that fall within or outside the LSA's ability to influence outcomes (see Appendix 4).

2.8.2 Other forms of support

One student living in the Kimberley region said she would seek further support by "go[ing] around the community and ask[ing] whoever knows about [media]", including her partner who worked in a related field. In another example, community elders influenced student perceptions and behaviour when one cohort received laptops but complained about the model and weight of the device. The project manager and trainers were unable to pacify the students. When one of the community elders stepped in and advised the students to manage with the devices they were given, and to concentrate on completing the course, the complaints ceased. Support from the students' workplace was also important. For example, one student had received a lot of support from one of his supervisors at work. When the supervisor left, the student lost motivation and later dropped out of the course.

Peer support arose spontaneously among some of the cohorts. In the Education project, students who were living in the same town organised to meet in person (without a learner support worker present) to tackle the coursework: "We would have at least an hour solid each, if not a little bit more, depending on the questions [in the courseware]." While students did reach out for support from their peers, some said that attempting to get that support online was frustrating: "What I find hard is when you discuss something with another student and they're not online. So we do things on different times."

2.8.3 Induction

The course that was most successful in terms of completions (the Education project) had all its materials prepared at commencement. This is significant, because it meant project staff could better prepare the students for what was to come. While some students initially felt daunted by the prospect of studying online, students in the Education project said they had the support they needed to get through that.

Students on the other two projects said they would have benefitted from a more comprehensive induction at the start of the course. Some said they needed more information on the course structure, outline and deadlines in the first workshop, and others suggested more reminders for upcoming deadlines:

> *Giving an idea of the structure and scheduled completion and milestone date at the start will help keep students on track; but dates and times need to be flexible to be able to fit other obligations. (Student, Creative Industries project)*

> *It needs to be a little bit more clear with the deadlines, [so] you've got lots of warning. It's pretty clear once you've actually clicked on them, but maybe like an email sent to you two weeks before that says, "This assignment will be due in two weeks". (Student, Creative Industries project)*

Others saw a need for more instruction on how to use the device and platform:

> *I think but what you might want to do, at the beginning of the course, is really go through it, because a lot of our mob, when they come from the communities too, we don't have access to technology like this. So just a general care, maintenance and basically how to get in and out of applications. Because I'm hearing our gang having problems with downloading photos and stuff like that. (Student, Creative Industries project)*

Staff on the Creative Industries project agreed with this sentiment. Corrections were made to improve induction for the second cohort of students, along with improvements to the sequencing of the course.

There were some mistakes in the first induction, which were corrected for the second cohort of students, like changing the order in which some units were delivered, and being quite clear about what to spend time on and what's just "Quick, now finish it" – which made it a lot easier to move forward for all the staff. (Staff member, Creative Industries project)

2.9 Partnerships

For tertiary education providers, partnerships can provide connection to potential students, as well as valuable local support networks and local knowledge. As discussed in Part 3 of this report, pathways projects are unlikely to succeed through a "build it and they will come" approach. In two of the demonstrator projects, partnerships were integral to the development and delivery of courses, while the third was strongly informed by stakeholders. Each project – either through circumstance or as a product of existing relationships – resulted in partner organisations taking on different roles. While some difficulties were evident in all three projects, we found that all three were underpinned by genuine collaboration.

This observation was backed up by a partnership assessment survey, carried out by two of the three projects. The partnership assessment tool, developed by VicHealth (VicHealth 2014), enabled the partners to monitor and assess the health of the partnerships established for the project. This tool assessed seven aspects of the partnership, including determining the need for the partnership; choosing partners; making sure partnerships work; planning collaborative action; implementing collaborative action; minimising barriers to partnerships; and reflecting on and continuing the partnerships.

The Education project was not able to complete the partnership assessment tool because the original partner, QUT's Strong and Smart Institute, was dissolved and the new partnerships had not been formed at the time. While the full survey results are confidential to the partners, we can say that the results indicate the partnerships were based on genuine collaboration.

A clear finding from the project is that education institutions can and should take the lead in developing online education, due to the significant experience, infrastructure and resources they have to hand. However, working on their own they will struggle to identify and reach Aboriginal and Torres Strait Islander students at the pathways level, and may fail to retain those they do reach. Looking at the successes of the demonstrator projects, we found that delineating roles in the following way will most likely lead to positive outcomes for students and organisations:

2.9.1 Role of Indigenous partner organisations and stakeholder organisations

Recruitment: partner organisations are best equipped to connect with potential students. In cases where there is a direct connection between the qualification and a workforce, organisations are able to directly identify and make contact with students:

Well, in group one, they were recruited by […] the Regional Manager for Indigenous Education […He] was a real driver and the advantage of having that person was that he arranged the workshop, he arranged the visits, the schedule of visits. He made sure that students were available. (Staff member, Education project)

While Indigenous partners have contact with potential students, there is a danger that organisations will primarily connect with people within their immediate catchment area, including those who might not see reason to complete the course. As discussed in section 3.2.2, identifying students who will most benefit from the courses is important for both students and organisations, and partners need to be aware of the risks of enrolling students who are not likely to succeed.

Indigenous content: section 2.9 of this report discusses the contribution of the partners in ensuring that the content was culturally appropriate. Moreover, Indigenous organisations can play an important role in ensuring that the delivery of content is appropriate for Aboriginal and Torres Strait Island learners.

Space and equipment to work: partners on all three projects provided spaces for students to complete their work when required. The students indicated that this was important and that such support could be extended.

2.9.2 Role of education sector

The overall finding of the IFC project is that clearly defined roles are important. Tertiary education providers have significant experience in course design and delivery. Indigenous organisations that do not have education as part of their core business may find themselves burdened by online delivery. Determining which learning designers are right for the task can also be difficult for those outside the education sector, and good learning designers are hard to come by outside of the major cities.

One important consideration is that VET and competency-based learning can accommodate visual and interactive content. However, when delivered as pathways into higher education, these courses also need to prepare students for a different learning context – one with a greater emphasis on developing academic skills including writing, analysis, and research.

While education partners should be conscious not to take over, they can and should leverage their significant resources and experience for the benefit of Indigenous organisations. This requires a whole-of-institution buy-in. In the case of Swinburne, there were some difficulties, as Swinburne Online is a separate company with a commercial-in-confidence model. It provided advice early on to the demonstrator projects, but the platforms were developed by other parts of the university and contractors.

Finally, the fact that Swinburne is a dual sector institution made this project possible. Productive and collaborative teamwork between individuals from PAVE (TAFE) and higher education underpinned the project.

Part 3: Pathways Projects: Factors that Influenced Outcomes

The three pathways demonstrator projects recruited varied student cohorts, some of whom were prepared for online learning, and others who were not. Moreover, the students faced very different life circumstances. Of those who withdrew from the courses (just over half of the total cohort),[9] approximately one quarter left due to work-related issues (including leaving a job that was related to the course), a quarter due to other factors in their personal lives (including issues with internet and devices, as well as family problems),[10] and a quarter were not motivated to begin with or lost interest during the course. The remaining quarter did not give the learner support workers a reason why they left.

Learning design was important within the projects, taking up a great deal of time and resources, and shaping the student experience. As stated in section 1.2.3, we did not set out to assess the learning design elements of the project, but to understand the needs of the learners, their capacities for undertaking online education, and the additional support required to assist Indigenous students living in remote areas into higher education. Therefore, while the learning design may have influenced the success or otherwise of the projects, we have limited our analysis to factors external to the design.

3.1   Student motivations for undertaking courses

Students were asked on their entry forms why they were enrolling in the course. Over half of the Aboriginal students in Western Australia[11] said they were enrolling for personal interest or personal development reasons (54 per cent).[12] By contrast, only 18 per cent of Aboriginal and Torres Strait Islander students in the Education project listed personal development or personal interest as a reason for enrolling, and in the Health and Community services project only 12 per cent of this cohort did so. Students in the latter two courses were more likely to say they entered the course to get new skills for their job, or because it was a requirement of their job.

Student interviews provided further insight into their motivations and aspirations. For example, one of the Aboriginal students in the Creative Industries project said, "I chose to do this course because I want to start a business in digital media"; another said she believed in the "connection with this technology with our old stories, to start looking at recording". Some said they joined because they had creative interests and aspirations:

> *I seen it on Facebook and it said if you're interested in making movies, broadcasting radios, documentaries and documentaries is what made me want to do it. So I want to look at environment-based docos and things like that, yeah. (Student, Creative Industries project)*

For the Certificate IV course, Goolarri staff members also suggested that some organisations might wish to use the course to train their own staff. Those who came in through this pathway also had an interest in media production and took the opportunity for professional development:

> *I have always been a really creative person, so I like to – I like photography and I like media stuff and radio was a good fit for me. And they were offering the course and my workplace said that they'd be willing to support if I got the scholarship, so we put in the applications and – yeah. Yeah, it's been good (student, Creative Industries project).*

> *My work colleague, she rung up to see if we could kind of do a bit of a working partnership with Goolarri on a program and maybe get them to come in, you know, kind of film the*

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[9] This includes the Creative Industries project cohort.
[10] One student died before completing the course.
[11] One student in WA identified as both Aboriginal and Torres Strait Islander.
[12] Students in the Creative Industries project selected multiple answers, whereas in the other projects students were directed to choose only one answer.

program that she wanted to make. Then yeah, they kind of said that there's training opportunities where they could actually skill you up to do it yourself. So yeah, she approached me about it and it seemed like a good idea (student, Creative Industries project).

Students in the Education project wanted to develop their professional skills:

I would like to continue working in schools and in playgroups and that and having the qualifications to do that, and it fits in because I know that at my age you can still accomplish something. (Student, Education project)

It was just more for myself to be able to upskill myself and be up to date. (Student, Education project)

In the Health and Community Services project, students confirmed that they entered the course because it was an expectation or requirement from their employer, saying they needed the qualification to work in the field.

3.2 Student motivations underpinning completion and attrition

Student motivations and aspirations were an important factor in the success of the projects. Students who took part in the project with the highest number of completions – the Education project – spoke of clear incentives for completing their course, including career development and the possibility of earning higher wages.

While some students in the other two projects became involved as a result of their existing work, the nature of these industries meant student motivations were more likely to change partway through the course. As discussed below, some students had participated in training courses in the past, possibly with no tangible outcomes, and this may have negatively affected their determination to complete their chosen IFC course.

3.2.1 Work

Work-related reasons were a factor in at least a quarter of attritions. However, work was also a significant factor in almost all completions.

In the Education project, 80 per cent of students completed the course – more than double the national average for publicly funded VET students. As mentioned in section 2.4, the Education project also succeeded in creating pathways into higher education for some students. All the students enrolled in this project, except three, were employed as teacher aides in Queensland schools, and those who were not had to work in schools for about 100 hours to complete the course requirements. This recruitment strategy resulted in high completion and retention rates because of clear links to employment benefits, and this was instrumental in motivating the students. The course was promoted through DETQ as a professional development program for Indigenous staff in Queensland schools who were working as community education councillors and teacher aides. The project invited expressions of interest from the Indigenous staff in these roles. Staff interested in undertaking the course had to include a name and short statement from a person who would support them in their study. These expressions of interest were carefully vetted by trainers and project staff for eligibility before enrolling the students.

At least a quarter of the students who graduated from the Education project reported positive professional outcomes, such as increased responsibilities in the classroom, pay rises, new job opportunities, more respect in the workplace, and the ability to voice opinions and put forward suggestions at work with confidence and authority. These positive professional outcomes, which sometimes occurred while students were still doing the course, reinforced their motivations and drive to complete the course and graduate on schedule.

> *Professionally, I have completed a Certificate IV, and will receive a small pay rise, and I have gained a qualification. Personally, [the course has increased my] confidence, and helps my kids as they have seen me doing further study. (Student, Education project)*

Interestingly, of those students who withdrew from the Education project, three stated on the enrolment form that they had a Bachelor degree (out of four Indigenous students in the Education project with a Bachelor degree, and only five Indigenous students overall with a Bachelor degree)[13]. The learner support workers gave no explanation as to why these students withdrew. However, it is possible that the qualification was not likely to benefit these students, and this may explain their low motivation. An additional two who withdrew from the Education project already had a diploma.

Students in the Health and Community Services and Education projects, as well as the second group undertaking Certificate III in the Creative Industries project, were encouraged and sometimes sponsored by their employers to undertake and complete the course. Community health workers need qualifications to work in specific areas, including alcohol and drug rehabilitation and individual support, but attrition in these courses was still higher than expected because enrolment was linked to their employment; if their employment ceased or terminated for some reason, Certificate III students were withdrawn from the course. In this project, in the cases documented by the learner support workers, seven out of 15 Aboriginal students withdrew from the course when they changed jobs or had their employment terminated. Of the remainder, the reasons for withdrawal were unknown, suggesting that the work connection could be higher.

Evidence collected from staff and students in the Health and Community service project suggests the project was unsuccessful due to multiple factors: these included issues with the learning material, poor literacy and numeracy for many students (including non-Indigenous students), a learning management system that was difficult to navigate on the devices provided, and some workplace issues. In Tennant Creek, participation in the course was linked to employment, and termination of employment was a significant reason for attrition. Swinburne project managers found it difficult to find alternative work placements that would enable students to continue the course. In addition, the partner organisation was initially hesitant to loan students devices; as a result, they could only undertake coursework at set times. We raise these issues to demonstrate the complexity of online education, particularly when delivered in partnership with non-educational organisations that are juggling multiple responsibilities.

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[13] The other Indigenous student with a Bachelor Degree was enrolled in the Health and Community Services project, but withdrew from the course due to a combination of illness and leaving her/his job.

Of those students who enrolled in the second cohort of Certificate III in the Creative Industries project, some had direct professional reasons and support to undertake the course. Two of the three who graduated from this group were working at an Indigenous radio station in the region. Their employer encouraged them to enrol in the course and allowed them to undertake the coursework from the radio station offices:

> *I was born in Broome, moved around quite a bit for schooling. I wasn't able to graduate unfortunately. So I finished school in Year 10 and I've been doing TAFE courses ever since. I've got a few jobs doing engineering and boiler making. Now I'm doing radio broadcasting in Derby. So I'm doing this course to, sort of, get a better understanding of what media's all about. (Student, Creative Industries project)*

These students appreciated being able to do the work online. The third Aborginal student who completed the Creative Industries course was working at an Aboriginal organisation. Her employer also encouraged her to enrol and was supportive of her study, giving her time during the week to do coursework from Goolarri's offices. She stated on her enrolment form that she had undertaken the course because it was a job requirement, and because she wanted extra skills for her job.

It became apparent during the project that there is a low level of awareness about the creative industries in regional and remote areas. Swinburne invited a lecturer from the School of Design to speak to students about career pathways and the nature of the creative industries, which was well received by the students. The same lecturer developed HEPPP courses for school-aged participants in Warmun and Victoria.[14] Such early industry and career awareness is necessary for creative industries to develop in non-urban areas. Staff on the Creative Industries project confirmed this:

> *The reality is the skills you're using, you can take to a number of different areas, and people don't necessarily make that connection […] Maybe that's something we do at the start of a course. (Staff member, Creative Industries project)*

> *People don't think you could sit at home and be doing graphic design online for clients all around the world. People tend to look at what's the job at the end, but see it in a very traditional sense. So it's a bit like, "my community needs a clinic so let's go do health worker training". (Staff member, Creative Industries project)*

One-third of the students enrolled in group 1 of the Creative Industries project worked at the Pilbara and Kimberley Aboriginal Media Association (PAKAM). However, doing the course was not a condition of their employment and some already had similar qualifications. These students mostly never engaged, or withdrew in the first few weeks.

Of the 30 students who withdrew from or did not complete the Creative Industries courses, over a quarter were considered by the learner support workers to have had little motivation for doing the course to begin with. Workers commented that one student "was umming and ahhing from the start", while another "didn't even start" and moved to Perth. Another six lost motivation when they either gained employment or left media-related work. The learner support workers observed that one student "seemed keen, then he got a job", another joined the army, and two who had been employed at Aboriginal media organisations (other than Goolarri) dropped out of the course when

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[14] Samantha Edwards-Vandenhoek

they left their jobs. One student was encouraged to do the course through a prisoner release program, but soon lost interest.

3.2.2 False training incentives

A quarter of those who entered the courses and did not complete were identified as not being motivated to begin with, or having lost motivation soon after entering the course. It is unlikely that these students would ever have completed the courses, regardless of support, course content, or learning design:

> *Quite often people go into it, maybe not with the right motivation, and when it gets down to the nuts and bolts, if they're not motivated, we can support them as much as we possibly can. They're getting way more support in this course than they would be if they were just doing any other online course or something like that. But if people don't have the right motivation to start with, it's not going to help. (Staff member, Creative Industries project)*

The learner support workers and trainers, some of whom had experience working in other RTOs, reflected on the nature of the Indigenous training sector and how the system has produced false incentives for some students. One staff member commented that some learners are familiar with a particular style of training that involves travel to town, and provides per diems. They suggested that these measures work as incentives for some students, who will be disappointed by online education as it does not conform to their expectations:

> *I think the worst part is when people enrol but their heart isn't in the course. And that they've enrolled because their boss told them to enrol, they've enrolled because now I can maybe get some financial assistance, or they've enrolled because maybe I can get to travel. So for me that's the most disappointing aspect of it, but in my experience you always get some people doing that, especially when there's no fees attached to it so that there's actually no commitment. (Staff member, Creative Industries project)*

One Aboriginal staff member commented that some students hadn't freely chosen to be in the course, but were advised to enrol "by their respective handlers and employment agencies". The staff member said:

> *Some didn't want to be there. Centrelink says they should be busy; it is a condition that they are looking for a job or studying to access benefits. That's a general mind set, they might have had five years of employment agencies telling them what to do. The damage is already done by the time they get into a course like this. So even if they have traineeships etcetera when they come into the course they still have that mind set.*

Twice as many students in the Creative Industries project stated on their enrolment form that they had a post-school qualification (below degree level) than those who stated they had none, possibly supporting the staff member's observation that students are pushed into training programs that might not benefit them. However, these cases were not always straightforward.

The learner support workers on one project gave the example of an older woman who had done a number of training programs in the past. She was always enthusiastic about undertaking training, despite the fact that gaining more qualifications was unlikely to

change her career or material circumstances. While this student said she enjoyed the course content, she struggled with the online work and only used the platform at the partner's offices when assistance was to hand. The student stated in an interview that she enjoyed travelling to town and needed the face-to-face component, partly as others were using her data allowance at home: "It's best to go away from home for training." Although she dropped out of the course, while she was involved she provided good moral support to other students.

While the Indigenous Futures Collaboration (IFC) project achieved significant success in some areas, we conclude that such projects need to carefully consider whether they are producing benefits for students. Students who enrol without motivation can still experience negative outcomes from failing, such as reinforcing negative views of education generally. In the words of one staff member from a partner organisation:

> *The worst that happened with this trial, and it happens in so much vocational education training, is that the needs of the people being secondary. The trial wasn't about the learner's motivation, it was about the RTO's motivation. And so I didn't have ten people knocking on the door saying "I really want to do this", it was [a case of] find people at the appropriate level who I can engage for at least 20 hours, make sure we can get some payments for them so that they actually know that their time is valued, and that I can get something from start to finish. That's a challenge not with this group but with any group in a remote context, because one of the principles of adult learning is, as you know, adult learners are motivated. If they want something they'll go there and get it. If this was me imposing something on them, that was the worst part, yeah. (staff member, Health and Community Services project)*

However, another staff member felt that with adequate recruitment and induction, online education is less likely to attract students who are not motivated to complete, or who have inadequate English literacy or digital literacy skills for the task. He suggested that a few completions from highly motivated and capable students – people who were likely to see real benefits from the course – was better than "20 cereal-box certificates".

3.3.3 Life factors

We know that at least a quarter of the students who left the courses did so due to illness, for family reasons, or because of other hardships. However, the real figure is possibly higher, because personal reasons are likely to have been factors in students leaving their jobs, and therefore dropping out of study. Personal reasons included mental health issues, family violence, illness or death in the family. In addition, some students missed block learning sessions due to cultural obligations. One student described the difficulties she was experiencing:

> *I went for a funeral, and I thought, "Great, I'll be out at bush for two weeks because I'm in sorry camp. I can get all this work done," and then once we buried […] my father's brother' my mother's brother had a heart attack and he was sent back from Perth, so we then had to go and clean his house and cook for him for almost two weeks […] I could have come in last week [but] we had our native title AGM on that Thursday, so couldn't come until Thursday that afternoon and then obviously then I couldn't work. (Student, Creative Industries project)*

The learner support workers developed a series of case studies, which were based on encounters with students, but semi-fictionalised for ethical purposes. These case

studies demonstrate the complexity of the issues Aboriginal and Torres Strait Island students may face in undertaking online learning (available on request).

3.3.4 Digital exclusion factors

A core question for our research was the extent to which digital exclusion is a barrier to education for Aboriginal and Torres Strait Islander people living in remote areas. Digital exclusion can occur because of lack of access to the internet, but can also result from a lack of skills, motivations, resources, and social and cultural capital (Selwyn, 2003; van Dijk, 2005).

One concept useful in understanding the outcomes of internet use is the "knowledge-gap hypothesis", whereby social strata determine people's potential resources and motivations for engaging with information; these factors result in knowledge inequality, despite the same information being made available to all (Zillien & Hargittai, 2009). Other researchers have examined the "domestication" of technology (Silverstone & Haddon, 1996), paying attention to how social context shapes people's digital choices and the values they ascribe to technology.

Household and workplace circumstances can lead people to adapt technologies to their needs, often in ways that were never anticipated in the design of that technology. As discussed below, domestic factors are significant in the success or otherwise of online education for remote-living Indigenous students. However, as Blank and Dutton (2014) argue, the limitation of the domestication approach is that it fails to address other structural issues that may play a part in people's digital choices, including systems that determine infrastructure availability and pricing (see Rennie *et al.* 2016).

The National Aboriginal and Torres Strait Islander Social Survey (NATSISS) 2014–2015 shows that almost half (47.9 per cent) of Aboriginal and Torres Strait Islander people living in remote and very remote locations did not access the internet in the 12 months preceding the survey, compared with 14.2 per cent in non-remote areas. Comparable national figures show that more than eight in 10 Australians *did* access the internet in 2013 (ARC Centre of Excellence for Creative Industries and Innovation 2013). The NATSISS does not tell us what device respondents were using to access the internet, or what type of connection they had (the wording of the survey asks "whether through a computer, mobile phone or other device").

What we do know from other datasets, however, is that Aboriginal people living in areas with mobile reception are far more likely to have an internet connection at their dwelling than those living in areas without mobile reception. Research has shown that mobile broadband is popular because data can be pre-paid, which fits within the asymmetrical reciprocity that underlies Aboriginal distribution of resources (Rennie et al 2016). Asymmetrical reciprocity, or demand sharing (Peterson 2012), is also important in considering the opportunities and barriers to online education, as it is the most likely explanation for the high degree of device-sharing that occurs within Aboriginal families.

Provision of internet access and devices

Internet access proved to be an issue for some students. As discussed in Appendix 3, almost all the students said they used the internet regularly. However, only 65 per cent had an internet connection at home (a rate comparable to the Indigenous population nationally), but for a third of these students this consisted of a mobile connection only. While 65 per cent had a laptop at home, only 60 per cent used it to access the internet. This suggests that a significant proportion of the students are "mobile only" internet users, which is a more expensive way to access online education materials.

Other students spoke of difficulties in accessing space at home, or demands from family preventing them from studying at home. In response to a question "Where do you mostly access the internet?" almost a third of students did so at a library or internet kiosk. About 23 per cent of students said they found it difficult or very difficult to access the device in their household when they needed it.

Those students who successfully completed the Creative Industries courses did not work from home:

> *Internet connectivity has been a problem for a couple of students. They could not access it at home because they were being humbugged to use the device, or their family or friends were using up their allocated data. (Staff member, Creative Industries project)*

In the Creative Industries project, an offline version of the course content was developed for use on devices when students had no mobile connectivity:

> *If you're in a remote community that doesn't have access to 3G then the dongle's not going to work. So we are developing in an offline program that can be installed on your tablet, so all that you need to be able to do then is just bank up all your assessments, and then when you get to somewhere or you come in for your workshop, then you can upload all your assessments into Moodle. (Staff member, Creative Industries project)*

> *Where I live just 10 kilometres from Broome we're still on a dial sort of connection there. You can't get any other connections. So in regional and remote there's always going to be [connectivity problems]. (Staff member, Creative Industries project)*

It was anticipated that the first cohort of students in the Education project would be able to complete the course in their workplace. However, for some students this did not eventuate, or proved problematic (see Appendix 3). Their comments and experiences illustrate some of the barriers to online learning for people living in remote areas. One participant said her time on the blackboard site was "extremely limited", as she was only a casual worker and did not have access to the school computers outside of working hours. Another spoke of studying at the library or the botanic gardens, where there was Wi-Fi access. However, this strategy was costly for some:

> *It was good once we had our devices because it was quite expensive accessing the internet. It was $1.50 or $2.00 for an hour […] and then once we got the devices then we got the dongles with the internet it made it easier that we were able to still use the library but just as a place to set up. (Student, Education project)*

As the testimonies above suggest, being provided with internet access and devices is essential for some students. However, others found that borrowing devices from the education provider came with another set of difficulties:

> *I was told I was using too much megabytes. You see I've never really owned a computer myself and the tablet that you guys let me use, even though it's not mine, it'd be the first real type of computer that I've used. I am computer literate, I can use Microsoft Word and create documents and all that but I'm using other people's computers for that situation or the TAFE computers. And so when I go home, the tablet is the only time I've had access to that type of digital media and I wasn't really sure about how the Wi-Fi worked and I have kids who I think went on to the Wi-Fi and I think they may have turned it on and stuff like that and I didn't know how much I was using. (Student, Education project)*

Some students from the Creative Industries project chose to complete the work from their workplaces, or at the Goolarri offices, in order to avoid problems with family members using up their data. In addition, six students who withdrew from the course said they did so either because they lost their devices, or other people were demanding use of their data.

Digital literacy

Digital literacy is the ability to access, understand and create knowledge using devices, platforms and tools commonly referred to as digital or information communication technologies (ICTs). According to Buckingham (2007), literacy of any kind needs to be understood within the context in which reading takes place – "where the text is read, with whom and why" – as well as the social and economic context within which texts are created and circulated.

The term "digital literacy" thus holds multiple meanings: functional digital literacy is focused on competencies and tasks, but the term can also refer to a level of self-efficacy and conduct (for example, in relation to online threats such as scams and cyber safety), or to societal transformations that result from the adoption of new technologies.

Our qualitative data suggests there was significant variance in the digital literacy of the students, and this was confirmed through surveys (see Appendix 3). While more students rated their skills as "expert" than "beginner" (both Indigenous and non-Indigenous respondents), most self-rated as "intermediate" to "advanced".

The survey, conducted twice during the project, indicated that 20 per cent of students gained experience and confidence in using ICTs over the course of the project. One student from Queensland said she was "learning quite a bit at the same time other than the actual course itself", referring to her digital literacy skills. Another said, "We don't have the experience of doing a lot on the internet, but we are learning a lot." Interviews with the students revealed that many needed assistance with devices and platforms:

> *I know how to send the emails and all that but it's not a regular thing for me, it's not something I do every day. Whereas a lot of other people who are doing this course are always sending messages on their phones or they're sending emails and they're looking up the internet – they want to look it up every day, it's almost a determination. I haven't really had that opportunity and I still don't really have that opportunity. (Student, Creative Industries project)*

I'm getting better with the technology side, but I do try to steer away from it as much as I can. I found, once I started being able to navigate myself around, I got into it. (Student, Education project)

So I think the main one we've learned so far is that students need a lot more time learning how to use their devices. So we kind of had a bit of an assumption that most people are semi-digital literate with phones and iPads and things like that. (Staff member, Creative Industries project)

Part 4: Higher Education Support

4.1   Understanding Indigenous higher education students' needs online

Student support is one important factor that influences Aboriginal and Torres Strait Islander student participation and completion rates in higher education. The underlying assumption of education providers is that Aboriginal and Torres Strait Islander students require support in order to succeed. This assumption is problematic, as it starts from a deficit approach, implicitly suggesting that Indigenous students require more support than other students (Pechenkina 2014).

While some Aboriginal and Torres Strait Islander students do indeed require and appreciate support, university experiences are as diverse as Indigenous cohorts themselves. In this section we look at the support needs of Aboriginal and Torres Strait Islander students who have enrolled in online degrees of their own accord rather than through pathways programs.

As discussed in section 1.2, despite some recent improvements in Aboriginal and Torres Strait Islander participation rates in higher education, high attrition rates remain a key challenge. The Behrendt report found that support services related to academic, social and financial matters are important not just for improving retention and completion rates, but also for helping Indigenous students make decisions about life and employment opportunities after they complete their education (Behrendt *et al.* 2012; Anderson 2014).

However, much of the current research into Indigenous student support needs focuses on on-campus tertiary students, who have easy access to such services. Given the strong emerging digital trends in education, with growing numbers of higher and vocational education providers offering partially or fully online courses to diverse student cohorts, it is important to understand the support needs of Aboriginal and Torres Strait Islander students who study through alternative modes, including online. The IFC project provided an opportunity to investigate this.

This research was carried out in two separate phases. The first phase involved a survey of a small number of Indigenous and non-Indigenous students enrolled in Swinburne Online in 2014, when the IFC project had commenced. At that time, Swinburne Online's support system catered to *all* students and did not provide specialised support to any specific group, including Aboriginal and Torres Strait Island students. As Swinburne Online's Indigenous students were technically a part of Swinburne University of Technology's larger Indigenous student cohort, these online participants had access to Swinburne's wider services for Indigenous students. This included support from an Indigenous liaison and education staff, tutoring via the Indigenous Tutorial Assistance Scheme, and disability and carer support. However, at that time, Swinburne Online was not directing Indigenous students to Indigenous support services (this has since changed).

For the 2014 survey, only after the interview was complete did we disclose to participants that the study was investigating Indigenous support. Indigenous and non-Indigenous students were given the same questions, and the researchers made no Indigenous-specific statements or questions during the interview. The aim of this approach was to generate a balanced qualitative data set, in which Indigenous students' answers were not affected by the interviewer declaring interest in Indigenous-specific questions. However, students were given an opportunity to provide additional comment once the purpose of the research was disclosed to them, or to withdraw their interview responses. Phone calls were made to 80 Indigenous and 64 non-Indigenous students. However, we were only able to obtain 11 Indigenous and 9 non-

Indigenous completed interviews (following an average of 3.24 and 1.86 calls respectively). The survey findings therefore came from a very low base, and should be treated with caution.

The second component of the research consisted of in-depth interviews with six students enrolled in Swinburne Online who received IFC Try Out Online scholarships, which are described below. The experiences of these students provided more in-depth information on the experiences of Indigenous students enrolled in Swinburne Online.

4.1.1 Swinburne Online

Swinburne Online was born out of a partnership between employment website SEEK Ltd. and Swinburne University of Technology. It has been providing a new approach to learning in Australia, delivering and assessing courses on behalf of Swinburne University of Technology. Swinburne Online students receive the same degrees and certificate qualifications as students at Swinburne University of Technology.

Using an interactive learning format, the online classroom connects students with online tutors and other university students. Students submit assessments online, and take part in interactive quizzes, group work and discussion boards that contribute towards their final grade. Tutors, known as e-learning advisors, guide students through the course's academic content, learning activities and assessment tasks, and provide professional insight. Currently there are over 300 e-learning advisors working around Australia.

Swinburne Online students can also access a range of assessment support services, seven days a week. Student liaison officers are available to help with academic questions and technical problems from 9am to 9pm Monday to Friday, and 10am to 6pm on weekends.

Swinburne Online experienced strong growth in its first three years of operation, and was listed amongst the BRW's fastest-growing small businesses for 2014. As mentioned in Part 1, Indigenous students enrolled in Swinburne Online shared a similar demographic profile to other Swinburne Online students, in that they were mostly mature age, female, and working.

4.2 The case for supporting all students

Our 2014 survey of 11 Indigenous and nine non-Indigenous Swinburne Online students found that the support Swinburne Online provided to all students was serving Indigenous students well. Digital inclusion was the only area where there was significant evidence that Indigenous students might need extra support.

The reasons the respondents gave for studying online were open ended and qualitative in nature. These were grouped into: (i) flexibility, (ii) access and convenience, and (iii) other reasons such as better motivation at home, cheaper, and so on. Most of the students (55 per cent Indigenous, and 56 per cent non-Indigenous) said they chose to study online because of the flexibility, as it allows them to better manage their work–life–study balance. The second most cited reason for studying online was convenience and access to education (36 per cent Indigenous, and 33 per cent non-Indigenous). One Indigenous student said that it was cheaper to study online than on campus.

Only 30 per cent of students (4 Indigenous and 2 non-Indigenous) said they might consider studying on campus if there was a Swinburne or other university campus nearby. Three out of four Indigenous students said they would choose to study on campus for the face-to-face interactions with lecturers and other students. About 70 per cent (14) of the students said they would not choose to study on campus even if there was a university campus near their residence. Most of the students said that they would not choose to study on campus because it lacked flexibility – that is, the on-campus model would not allow them to study while working and/or balancing family and other commitments.

Asked to nominate the best things about studying online, students cited flexibility, convenience, and being able to study at your own time and pace. There were no major differences between the perceptions of Indigenous and non-Indigenous students: all students agreed that studying online allowed them to choose their own time and place to study. Online study also allowed them to manage and balance multiple responsibilities of work, family and study in a way that suited them. About 50 per cent of all students interviewed had considered deferring or withdrawing from the course at some time; only six of these students were Indigenous.

When asked whether they had any difficulties, including those of technical (ICT) or non-technical nature, approximately 64 per cent of Aboriginal and Torres Strait Islander students and 22 per cent of non-Indigenous students reported having technical difficulties while studying online. Aboriginal and Torres Strait Islander students and non-Indigenous students alike experienced a range of technical issues in accessing the Learning Management System (LMS) overall, and course materials specifically. However, there were some technical challenges faced exclusively by Aboriginal and Torres Strait Islander students: these issues included lack of internet access, running out of internet credit, problems around compatibility of software with available hardware, and learning to understand the online environment.

All the students reported having an internet connection at home. About 54 per cent of Aboriginal and Torres Strait Islander students and 78 per cent of non-Indigenous students said they have always had an internet connection at home. About 36 per cent of Aboriginal and Torres Strait Islander students and 11 per cent of non-indigenous students said they got their first home internet connection when they started studying online. One Indigenous student was disappointed with Swinburne Online because the provider allegedly terminated his enrolment without considering the loss of internet connection he experienced as a result.

4.3 Try Out Online Scholarships

The "Try Out Online" (TOO) scholarships were developed as part of the IFC project. While the three pathways demonstrator projects (see Part 2 of this report) aimed to assist people who prior to entering the IFC project lacked the qualifications for entry into Bachelor degree courses, this scholarship program was designed to assist those who *did* hold such qualifications.

The TOO scholarships provided financial assistance, and access to support workers. To be eligible, the applicant must not already possess a Bachelor degree and must identify as Aboriginal and/or a Torres Strait Islander. The merit of each eligible scholarship application is based on two criteria:

■ perceived ability to successfully combine work and study; and
■ benefit of further study on career advancement.

From the time the TOO scholarship program began (in semester three, 2015) until it ended (in early 2017), the program attracted interest from 30 Swinburne Online students who identified as Aboriginal and/or Torres Strait Islander. Of those 30 students, 20 proceeded with applications and were accepted to the scholarship program during that period. Of these, seven students decided to defer or withdraw from their study; the most common reason given was work commitments, followed by family commitments.

At the end of the IFC project, there were 13 TOO scholarship students enrolled and engaged to study an undergraduate higher education degree with Swinburne Online. Due to the successful outcomes for most of the TOO scholarship students, along with strong demand, further funding has been approved (from HEPPP funds) to enable existing students to continue their study. New program management systems were put in place upon completion of the IFC project.

Originally, the TOO scholarships saw students funded for a maximum of two units plus amenities fees, for any of the five undergraduate degrees offered by Swinburne Online: Education, Business, Social Science, Communication, and Design. However, the positive feedback from students, high completion rate, and a funding increase meant the program could subsequently provide further scholarships to cover the unit and amenities fees for all units until end of semester in 2016 and 2017. As such, the number of funded units for each individual varied, and depended on students' commencement date and study load, ranging from one unit to eight units at the end of 2016.

The students who applied for TOO scholarships were either already enrolled in Swinburne Online courses, or were full-time or part-time workers with a strong interest in obtaining a degree. For the first group, students set out to achieve a degree qualification not because of the scholarship offer, but due to other motivations. For the second group, the scholarship offer motivated and enabled them to "try out" studying towards a degree. Most participants discovered the TOO scholarship offer while exploring options to sustain or embark on their further education. Students approached the Indigenous liaison officer to express interest, and subsequently applied for the scholarship.

4.3.1 Embarking on the journey

The highest education attainment of the TOO scholarship students ranged from diploma to graduate certificate, and one student had a Certificate IV qualification. All but one person from this cohort were already in the workforce. All students had very clear goals and saw their chosen course as a means to better career prospects. Their career goals included being a primary school teacher, managing an organisation, managing elite athletes, running an Aboriginal health service, and being a business entrepreneur. Two students were mothers returning to the workforce. One woman, living in a regional town in Victoria, stated:

> *I went through so many jobs I didn't like. I finally said, if I'm going to enjoy making money I've got to try and find the actual job I like, then studying is necessary. (Student, TOO scholarship recipient)*

TOO scholarship holders were juggling different commitments and facing various obstacles. However, they understood that good time management was the key to staying on top of online learning, and were aware of the need to set regular time aside in order to make the most of their learning opportunities.

According to ABS data, when asked why they are not studying, Australian women were more likely than men to cite responsibilities around "caring for family members" (Australian Bureau of Statistics 2014); for Indigenous women, this was the number one reason for not pursuing study (Australian Bureau of Statistics 2016). For non-Indigenous women, "financial reasons" were the most common cause, while carer responsibilities came third (Australian Bureau of Statistics 2014). Data also shows that Indigenous men are twice as likely as non-Indigenous men to cite caring for family members as a reason for not studying (Australian Bureau of Statistics 2016; Australian Bureau of Statistics 2014).

4.3.2   Why they chose online study

Participants chose to study online because it provided them with flexibility. One student explained that having a job and a stable income was very important to her, and online learning gave her the flexibility to study and work at the same time:

> *My sister actually goes to Monash Uni and she goes in to campus. She has to work weekends in a café and she hates it, so I'm really glad that I can have my weekends free, be with my family, be with my friends and all that, but also study when I want to, on my own terms sort of thing, and continue to work and get an income. (Student, TOO scholarship recipient)*

One woman with a young child said attending on-campus would be very difficult for her:

> *So I mean imagine holding your child in one hand and writing your assignment in the other, imagine trying to go into class. You can't, and she's very needy, and then maybe I think it was three, say a month after I started my Bachelor Degree, then my two stepchildren came into my care full time. That was something I hadn't planned for at all. (Student, TOO scholarship recipient)*

One male student, originally from Darwin but currently living in Cairns, was working as a teacher's aide. He said that while the degree kept him busy, the qualification was something he wanted to accomplish, and he found the course interesting:

> *Being able to work but also being away from home and just basically the lifestyle of it was something that became of interest to me because I came up to Cairns. So before Cairns, I was living in Sydney. So I've been all over the shop, having different experiences and now I'm in Cairns so who knows what's next, I could be somewhere else. (Student, TOO scholarship recipient)*

One student compared online learning with his past experience of distance learning:

> *I can gain access pretty much any time I like, whereas with the previous external course I did, I had to lug books or paperwork around with me….the books either got damaged or I couldn't take that stuff with me (student, TOO scholarship recipient).*

4.3.3   Scholarship outcomes

As mentioned above, of the 20 students accepted into Swinburne Online courses, seven decided to defer or withdraw during the course of the IFC project. Of the research participants, all completed the unit/s funded through their scholarship. Table 5

provides a summary of achievement for scholarship students who participated in the research. All participants found their higher education experiences rewarding and were happy with the standard of teaching delivered by Swinburne Online.

For students who remained in the program by end of 2016, but did not participate in the research, three Education students completed a total of 11 units between them, and four Social Science[15] students completed a total of eight units between them.

Table 5: Try Out Online Scholarship students, achievements of interviewees

Student	Highest qualification	Field of education	Units funded	Units completed	Completion rate (%)
1	Diploma	Management & Commerce	8	8	100
2	Diploma	Education	2	2	100
3	Diploma	Management & Commerce	4	4	100
4	Graduate Certificate	Management & Commerce	4	4	100
5	Certificate IV	Education	3	3	100
6	Diploma	Management & Commerce	3	3	100

4.3.4 Financial assistance needs

Recent ABS data shows that for many Indigenous and non-Indigenous Australians, "financial reasons'' are the main driver for deciding to undertake further education. Financial issues were a significant influence on the TOO scholarship students' decision to study (every student stated that they had experienced financial difficulties), and the scholarship worked to overcome this barrier. Two male participants commented that it was a "no-brainer" to apply for the scholarship. Nearly all the female students said the scholarship's financial assistance enabled them to do the course, and that they otherwise would have had to defer or drop out. For example, one student was experiencing financial difficulties after relocating her family twice due to family issues:

> *Without the scholarship….. if I didn't have Swinburne support I would have had to have failed and deferred and all that awful stuff. So they really helped me, without them it wouldn't have been possible. (Student, TOO scholarship recipient)*

When asked if they would continue their study or enrol in other online courses if the scholarship was unavailable next year, only one student said she would still consider continuing study. Another said:

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[15] Society and culture ASCED field of education.

No, I won't, as I cannot afford it in my current situation of working casual part time. I'm not secure enough and it's very expensive, my family don't have money like others. (Student, TOO scholarship recipient)

In addition, students commented on other study-related costs such as books, transport, meals for on-campus study, equipment and internet costs, and the prospect of losing income while incurring student loan debt from studying. In one case, the financial burden of studying created tension at home:

Well mainly my partner had a lot of problems or issues with me studying, and the main ones were I would be doing it for nothing, wouldn't get a job, and it cost a lot of money that we couldn't afford and our future would as a result be problematic for funds that they'd be asking in return. Because we've got three children, he just thought it was a waste of time. (Student, TOO scholarship recipient)

For those students who were recruited through their workplace, the scholarship provided the much-needed financial assistance to take up further studies. The scholarship therefore enabled them to realise their higher education ambitions.

For the students who had already enrolled in Swinburne Online, financial assistance was therefore not a motivating factor in them choosing to undertake study, but the scholarship helped offset the financial cost of obtaining a degree, and was a factor in keeping them on course. One male student said:

Because I've been given that opportunity, I feel like I can't – I'd let down, I suppose, the people that give that scholarship. It's actually another driving factor with me. When I'm sitting up at 1 in the morning finishing off an essay, I know the reasons why. (Student, TOO scholarship recipient)

One student said she would be very pleased to be offered a full scholarship. However, as the TOO indicates, short-term assistance can also act as an incentive for students to persevere.

4.3.5   Use of ICTs

Besides learning and liaising with peers via the LMS, participants were also exposed to a range of digital tools or applications to help with their group assessment, including Viber, Facebook, and Prezi. Most participants used online forums for peer support. For example, a group Facebook page was set up to enable the Try Out Online scholarship students to support each other.

Students used a range of devices to access course materials, including laptops, desktop computers, iPads and other tablets, and smartphones. None of them noted any issues with handling multiple devices.

Students raised issues of data usage and cost, internet speeds and connectivity. One person had noticed their home internet data plan was very slow towards the end of the monthly billing cycle, suggesting she was at the limit of her home internet plan. Another student had commenced with a 2GB plan but found that she had gone over her data limit and was charged hundreds of dollars for excess usage. She increased her plan to 12GB (at a total cost of $115 per month). Another student upgraded her internet plan by $20 a month in anticipation of undertaking the course. The student based in Cairns

noted that the connectivity was terrible, and that this affected his ability to study when and wherever he wanted:

> *Just being up in Cairns, I'm not too sure if it's because of the location, I don't know, I could be wrong but there's been times up here where just, yeah, no signal, nothing. Yeah, nothing. So it's a bit of a waiting game and just wait until I can get some of sort of signal or something or thinking of other ways. (Student, TOO scholarship recipient)*

4.3.6 Student support staff

Most of the study participants received support or had been contacted by the two Indigenous support workers at Swinburne: the Indigenous education officer, and the Indigenous liaison officer. Students found both these staff members to be very helpful. One student said sometimes things could get overwhelming, but regular contact from the Indigenous liaison officer made her felt she was not forgotten. Students felt they could phone or email support staff whenever they needed help, and that responses were timely and useful:

> *The student liaison team are very handy. I think I've abused that system. I've called so many times for everything, and they're very, very helpful. I know if I call them my problem will be sorted. Otherwise, I'll know how to sort it in rapid time. (Student, TOO scholarship recipient)*

Only one participant said he did not seek any support, as he felt he did not need it, and preferred to solve issues for himself or fellow students.

Alloway and Dalley-Trim (2009) found that rural Indigenous students' aspirations and expectations to obtain a higher education were heavily influenced by their family and community. When we asked students how supportive their family and friends were, most said they were helpful and encouraging.

4.4 Higher education support findings

The Swinburne Online experience indicates that Aboriginal and Torres Strait Islander students who enrol in online Degrees of their own accord share a similar profile to other online students. They are more likely to be employed, to be female, to have children and to be mature age students. For many who qualify for entry into a degree, financial barriers are likely to be a significant reason for not undertaking study, or not completing a course. Our research suggests that providing scholarships on a unit/subject basis will help Indigenous students to continue with their study, and may lead to higher completion rates.

In terms of student support, Swinburne Online appears to be providing best practice online support to all students. A survey conducted at the start of the IFC project (in 2014) found that this support is serving both Indigenous and non-Indigenous students alike. The only area where Indigenous students may need additional support was with ICTs. Digital exclusion issues – such as internet access, access to devices, and technical difficulties – were more likely to be identified as problems by Indigenous students than non-Indigenous students[16]. However, the Try Out Online scholarship students also received support from Indigenous support workers at Swinburne. Five out of six of the students used this support, and believed it to be helpful.

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[16] The numbers are too low to draw a definitive conclusion.

Part 5: Conclusion

When the Indigenous Futures Collaboration (IFC) project began in mid-2013, there was growing evidence that online education was the preferred mode of study for a significant number of Aboriginal and Torres Strait Islander students. What we did *not* know was why these students were choosing to study online, and whether a concerted effort to reach this group by providing online education choices would help more of them to pathway into degrees.

This report shows that under the right circumstances, online education can improve outcomes for Aboriginal and Torres Strait Islander students. These circumstances are adequate student support, backed by relevant Indigenous content that corresponds to student motivations.

The IFC project was ambitious in its scope and, as we have outlined, not all elements of the project succeeded. However, the parts that *did* work have the capacity to grow when resourced to do so. In particular, education support workers in Queensland have gained qualifications enabling them to undertake further study in education or early childhood, and more are likely to do so. Students in the Education course also greatly valued the professional development opportunity the course provided. This pathway could easily expand to reach more students in other states. Moreover, the experience and knowledge generated from this project will benefit other cohorts where recognition of prior learning is possible and desirable.

Other key lessons from the IFC project include the value of partnerships, particularly for recruiting students and providing culturally appropriate support. Students who undertook study through the pathways projects were encouraged by content that was relevant to their experiences, including the use of integrated Indigenous examples and presenters. We also found that both content and platforms need to be exceptionally well designed, and that technical support is essential. Importantly, Indigenous learners in remote areas often need assistance with internet access and devices, owing to the complexity of digital inclusion. The pressures faced by students may go beyond issues of connectivity and affordability, and involve more complex factors including family demands and suitable places to study.

The IFC project also demonstrated the limits of online education, particularly when student motivations for studying are weak. Even with the best student support, online study demands a high level of interest, time management, and dedication from students. Community learning centres are still necessary in very remote communities, but online platforms can expand the education offered in these sites. Where English literacy and culturally complex factors are at play, these face-to-face learning centres remain important.

Even the best online education has a high degree of attrition. It was always necessary to support those already enrolled online to complete their degrees. Crucially, the TOO scholarships provided this support. The Behrendt report noted that some universities struggle to attract students to Indigenous scholarships. The IFC approach of providing unit-by-unit scholarships to those already enrolled helped retain students that might otherwise have dropped out. Indigenous and non-Indigenous students alike face financial barriers to study. If the goal is to achieve parity in the proportion of Indigenous people with higher education qualifications, then some level of financial assistance will help achieve this goal.

The overarching lesson we took from this work is that new modes of education delivery require new approaches to student support. These approaches must be matched to the diversity of the Aboriginal and Torres Strait Islander student cohort. Achieving this goal will bring us closer to parity of educational attainment between Aboriginal and Torres Strait Islander students and other Australian students.

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Appendix 1: Research Approach

Ethical approval for this research was obtained from the Swinburne Human Research Ethics Committee prior to commencement (project 214/326).

Data required for this research was collected from all the major stakeholders of the IFC project, including students, project and teaching staff, support staff and partner organisations. Data collected included both qualitative and quantitative data. The method and frequency of collection depended on the type of data collected. Both qualitative and quantitative data were collected using different collection methods (Table 6, overleaf).

Qualitative data was primarily collected through interviews, either face-to-face or via telephone, depending on the availability and location of the participants and researcher. Because the interviews were time and resource intensive, they were generally one-off, with the exception of the first group of students enrolled in the Education project. These students were interviewed twice – once mid-way through their course, and again after they had completed.

Qualitative data was also collected from learner support workers, project leaders and management staff through short workshops and open-ended survey questions. We held two workshops with staff, one with the learner support workers, and one with the project managers. These workshops provided important insights into the challenges of the project. In addition, we held fortnightly informal catch-ups with the project managers. Some of the learner support workers kept logs of their contact with students and these proved to be useful records. Qualitative data was coded using NVivo.

Quantitative data was collected using a number of different methods, such as surveys (online and paper based), activities logs from support staff and the learning management system (LMS) platform, and enrolment forms. Data collected from paper-based forms and surveys included enrolment information, digital literacy and use of information technology, assessments about prior education and knowledge, while online surveys were used to collect data about course and teaching evaluations and partnership assessments. Data was also collected from the access and activity logs downloaded from the LMS platforms, where available. Another information source that yielded both quantitative and qualitative data were the student support logs, maintained by the learner support workers.

Table 6: Data collected for project

Data	Type	Time of collection	Method of collection	Target group
Enrolment	Quantitative	At enrolment	From enrolment forms	All students
ICT survey	Quantitative	At enrolment and completion	Paper based survey	All students
Student interviews	Qualitative	Mid-course or exit*	One on one interview	All current students
Staff interviews	Qualitative	After delivery commences	One on one interview	All staff
Student support	Quantitative & qualitative	As event occurs 2015	Electronic logs workshop	Learner support workers
Learning analytics	Quantitative	As event occurs	Activity logs from LMS	Student use
Partnership assessment	Quantitative	2015 & 2016 2016	Online survey workshop	Partner contacts and project management staff
Evaluations	Quantitative	At exit or completion	Online survey	Active or completing students

Only the first cohort to enrol in the Education support project was interviewed at both times.

Data collection was scheduled in consultation with the project and teaching staff, so that collection was as smooth and unobtrusive as possible for all stakeholders. Many stakeholders were willing and agreed to participate in surveys, but some staff felt that the interviews were time consuming and burdensome, as they took time away from their primary task of teaching or student support.

Method for Swinburne Online research

Undisclosed targeted sampling was utilised in this study, whereby Swinburne Online provided contact details for a matching sample of 176 Indigenous and non-indigenous students (88 students in each group). An average of 3.24 and 1.86 calls were made to obtain 11 and 9 completed interviews from Indigenous and non-indigenous students respectively. Both groups of students were given the same questions, and the interviewers made no Indigenous-specific statements or questions until after the completion of the interview. This allowed us to generate a balanced qualitative data set in which Indigenous students' answers were not affected by the interviewer declaring interest in Indigenous-specific perspectives. All students were interviewed in December 2014 via telephone, in a semi-structured manner, to acquire data about their needs and the services they required to successfully complete their courses. Every participant was offered a $30 gift card for completing the interview. About 18.2 per cent of the sample contained invalid contact details and were eliminated. A total of 341 calls were made to the remaining sample (144 students – 80 Indigenous and 64 non-indigenous). The interview contained both open and close ended questions. Open ended responses were grouped into categories for analyses.

Interviews with Try Out Online students

The analysis of the TOO scholarships is based on interviews obtained with six of the twelve students. Interviews were guided by a set of open-ended questions We attempted to survey and interview students who had left the course, but were unsuccessful. Instead, we have relied on information provided by Swinburne's Indigenous support workers.

Appendix 2: Blended Delivery Models

Blended Model 1

Model 1 was the basis of the Education project, and was an assessment or gap-training model, in which students could earn Recognition for Prior Learning (RPL) by presenting evidence to trainers during face-to-face interviews. Students with knowledge gaps were directed to undertake activities on the course website to fulfil the course requirements.

No traditional teaching was involved in this model; however, trainers offered support and guidance in relation to the online learning modules, and helped students gather appropriate supporting evidence to present at interview. Trainers gave students course outlines and assessment information at the first workshop, but otherwise students were expected to complete their work online with minimal support. Interviews with students and feedback from staff about student performance indicated that most students felt comfortable in the online environment, and found the course website easy to navigate.

Table 7: Number of online activities

Theme	Expected	Actual	Average
Group 1	128	196	15.08
Group 2	185	174	21.75
Group 3	20*	177	19.67

* Prior to commencing, students in Group 3 completed this only for Theme 1.

Students were asked to estimate the number of online activities they expected to undertake during the course. There was little statistical difference between students' estimations and the number of activities they ultimately undertook, as set out in Table 7 (above).[17] Overall, there were no significant statistical differences between the average numbers of online activities between the three groups, indicating that students could accurately assess where they would need to go online to fill a gap in their skillset.

Group 1 completed a greater number of online activities than the other two groups, although group 2 had the highest average. Students in group 1 expected to complete fewer online activities than they actually did. Most students in this group expressed a preference for undertaking units or activities online – even where they could have earned RPL – because this led to deeper learning. It must be noted, however, that one student in this group earned RPL for the entire course and therefore did not complete any activities online.

In relation to the specific themes, group 1 students completed the greatest number of online activities for Theme 3 ("Facilitating learning with students and teachers") and the least number of activities for Themes 1 ("Communicating cultural knowledge and history") and 2 ("Engaging and communicating in a diverse environment"). This could be because group 1 students undertook some training relating to these two themes before commencing, enabling them to earn RPL for most of the theme's activities.

[17] Data in this Appendix is drawn from the activities of all students, including non-Indigenous students.
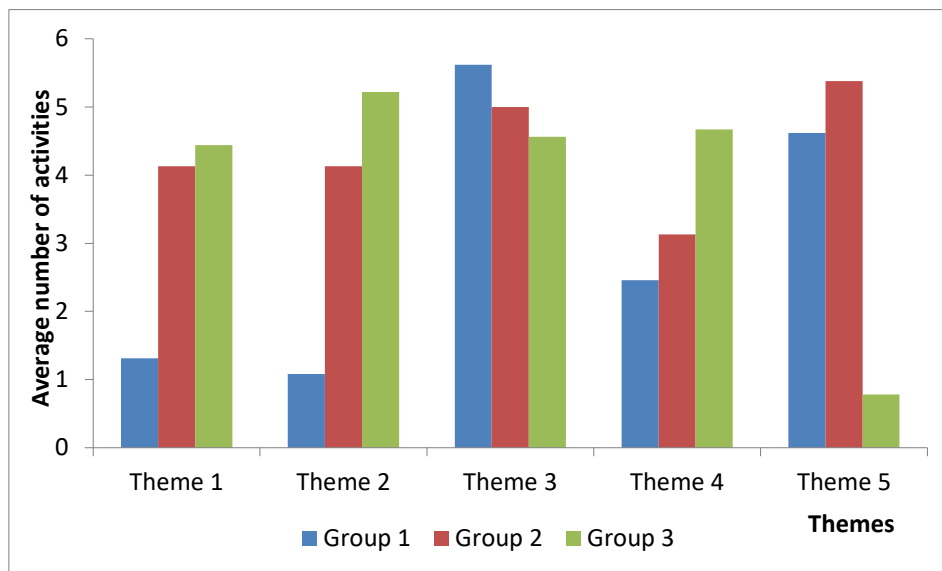
Figure 6: Average number of activities online, by theme.

Group 2 students completed the greatest number of online activities for Theme 3 ("Providing support to students") and Theme 5 ("Undertaking workplace responsibilities"), and the least number of online activities for Theme 4 ("Facilitating learning with students and teachers").

Finally, students in Group 3 completed a similar number of activities for each of the first four themes; however, the number dropped significantly for Theme 5 ("Undertaking workplace responsibilities"). Again, this is likely due to some training these students undertook before the course commenced, which touched on many of the elements of this theme; this led students to preference RPL over the online activities.

Blended Model 2

Model 2 was developed based on existing Indigenous teaching and learning models involving significant face-to-face time. The model was designed for beginner students with limited or low digital literacy skills, as was the case with the Certificate II students in the Health and Community Services project.

Students were given access to internet-enabled digital devices, such as iPads, at the local community learning centre, where a learner support worker was available to guide and support them. The learner support worker lived in the community so was available to students whenever they needed support or assistance. On average, students accessed the course website on eight days during their enrolment, however just two students accounted for more than 50 per cent of the online activity for this cohort, set out in Table 8 (overleaf).

Table 8: Course website access by students

Student ID	Enrolment status	Log ins	Total hits	No. of days of access
N102	Completed	57	1633	28
N106	Completed	35	816	15
N108	Completed	16	476	9
N109	Completed	11	469	7
N107	Completed	7	260	5
N101	Stopped engaging	15	162	8
N105	Withdrawn	5	16	4
N103	Withdrawn	2	7	2
N104	Withdrawn	2	6	1

All enrolled students logged into the course website at least once; however, as expected, students who completed the course logged in more than those who did not. About 71 per cent of students' online activity comprised viewing task or activity pages for assessments; 11 per cent related to viewing course content, and 6 per cent related to submitting assessments (Figure 7, below). Of the latter category, less than 1 per cent of activity related to saving or actually submitting an assessment online. This indicates that the majority of online activity related to viewing assessment-related tasks, rather than viewing course content or submitting online assessments. This might be because iPads were ill-suited to these tasks, or because students were novice internet users.
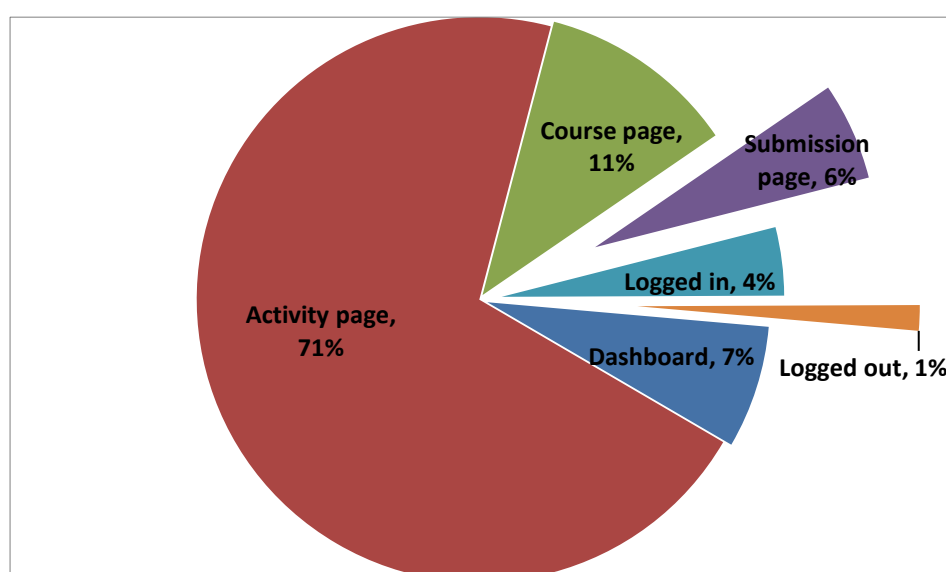
Figure 7: Online activity by Certificate II students in the health and community services project.

One student, N102, accounted for approximately 35 per cent of the total number of days the course website was accessed, as well as 42 per cent of total online activity for the course. At the other end of the spectrum, student N107 accounted for only 6 per cent of the total number of days the course website was accessed, and just 7 per cent of total online activity, having only accessed the website five days in total (see Figure 8, overleaf). Students' differing levels of internet proficiency did not seem to influence the degree to which they engaged with the course website. The number of days students accessed the website positively correlated with the total amount of online activity – that is, the total number of hits.

This indicates that the greater the number of days the course website was accessed, the greater the amount of online activity. However, a lesser amount of online activity did not necessarily equate to a lower chance of completion. Nor did it equate to the student in question having a higher level of internet proficiency. As the activity graphs below demonstrate (Figure 8, below), two students with beginner and intermediate-level internet proficiency completed the course in just five days.
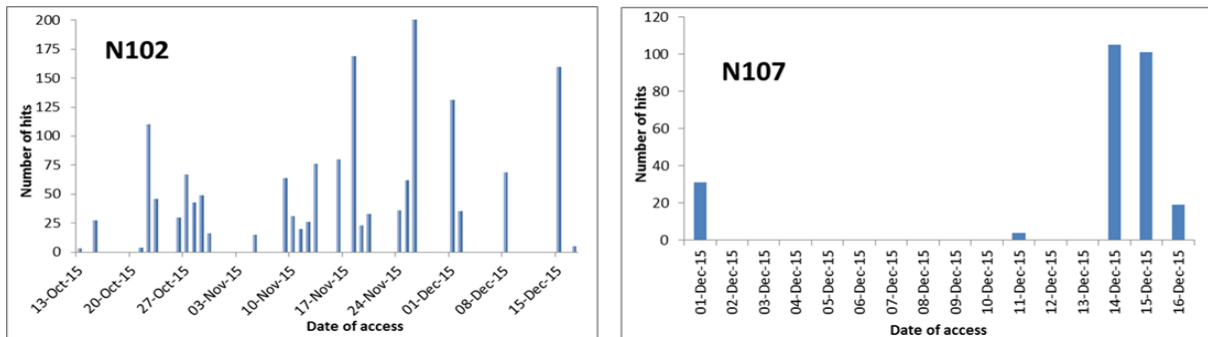

Figure 8: Activity logs for completed students.

Blended Model 3

Model 3 was designed for students with intermediate or advanced digital literacy skills, such as students undertaking the Creative Industries project, or those doing Certificate III or IV in the Health and Community Services project. Initially, this model comprised three to four intensive blocks or workshops, where students were instructed using a traditional teaching format. The model presupposed that students would undertake most of their learning and assessments online, in between workshops or block-training periods. It also presupposed that students would be motivated and self-directed learners, who could manage their time and complete tasks with minimal support.

However, in reality, students failed to engage in between the workshops. The activity logs for a sample set of students in Model 3 courses are presented below in Figure 11. Students N210 and N305 were enrolled in the Certificate IV and III, offered by the Health and Community Services project, while students W104 and W209 were enrolled in Certificate III (groups 1 and 2) in the Creative Industries project. Analysis of the online activity logs shows students engaged with course content directly before, during, and directly after the workshops; however, they did not do so in between workshops.
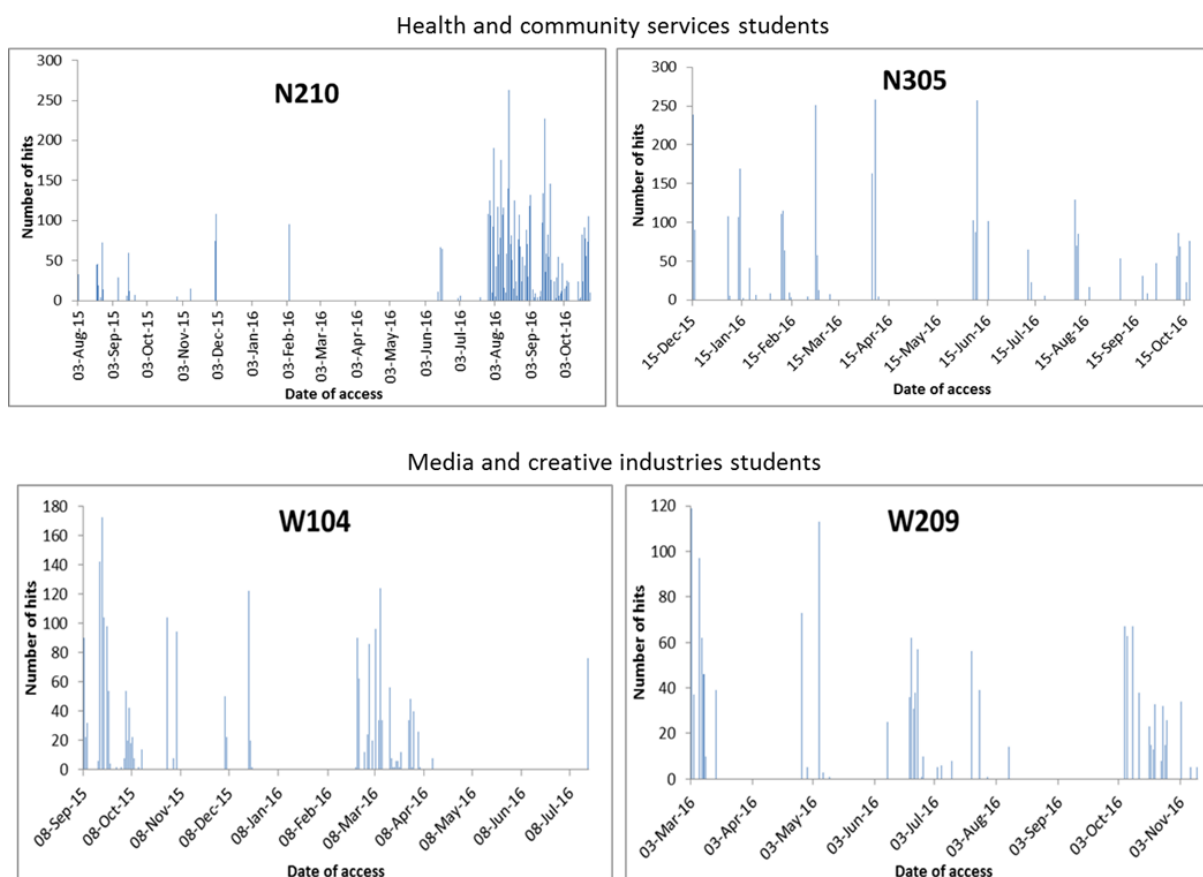
Figure 9: Activity logs of students in Certificate III and IV courses

Students told the learner support worker that they would prefer workshops to be assessment oriented, rather than being used to repeat course material that was already available online. They said this would give them time to complete their assessments with a trainer on hand to offer assistance, clarification and feedback, in real time. Students also said the workshops added value to their learning experience, as they provided an opportunity to ask questions in person and complete the course on schedule.

After consideration of students' online activity logs and feedback, Model 3 was recalibrated in several ways to ensure delivery would meet student needs:

- Workshops were increased from five to eight;
- Workshops became more assessment focused;
- The course completion date was extended by six months;
- Students were given printed course materials to assist with offline learning; and
- Students were given the opportunity to earn RPL for some of the units.

Not only did these changes curb the dropout rate, but they also led to a number of students who had previously withdrawn from the course returning to complete it.

The delivery for Certificate III started six months after Certificate IV had finished. As such, the revised Model 3 was implemented from the very start of the course, offering 10 workshops in total, with one almost every month. The trainer provided greater context for the units during workshops, before taking the students through the content and assessments. Time was also set aside for students to work on their assessments, with the option to spend one-on-one time with the trainer if they needed help.

Courses in the Creative Industries project were also modified. Six workshops were offered instead of four, and additional time was dedicated to practical work and assessments. These workshops also included training from specialists in areas where the partner organisation did not have relevant expertise. Following these changes, six students completed the course and graduated with a certificate qualification.

Appendix 3: Internet Access, Devices, and Skills

Internet access

Almost all the students said they were internet users (99 per cent), which is higher than the Australian average of 85 per cent (Australian Bureau of Statistics 2016a). Age may play a role here (see student demographics on page 9 of this report). ABS data shows internet use is more prolific amongst younger generations: 99 per cent of 15–17 year olds in 2014–2015 were internet users, against only 51 per cent of those aged 65 years and over.

Of the 93 students who identified as either Aboriginal or Torres Strait Islander, or both, 99 per cent said they were internet users, compared with 100 per cent of respondents who identified as neither Aboriginal nor Torres Strait Islander. Over half of respondents (58 per cent) had used the internet for more than 10 years, compared with 79 per cent of the mainstream adult population in Australia (ARC Centre of Excellence for Creative Industries and Innovation 2013). One-third (33 per cent) of the students said that they had used the internet for less than 10 years, which is higher than in the general population (21 per cent) (ARC Centre of Excellence for Creative Industries and Innovation 2013).

This indicates that almost all of the students enrolled in the project's courses are relatively recent internet users, with less experience than the mainstream population. This is as expected, particularly for Indigenous communities where there is lack of prior involvement with information technology due to limited opportunities (Gaidan 2007; Hui Ying Ooi 2007; Mau 2007).

Internet connectivity emerged as another issue. Although 46 per cent of enrolled students lived in remote or very remote areas, less than 5 per cent reported that they had no internet connectivity, while a further 3–4 per cent of students had experienced dropouts and/or a slow connection. A slow connection can be caused by too many people using the network at the same time – as can happen when using an employers' Wi-Fi – or by the student or their family members using up the allocated data allowance.

About 65 per cent of the students said they had an internet connection at home. This is lower than the figure for Australian households in general, which was about 86 per cent in 2014–15 (Australian Bureau of Statistics 2016a), but comparable to Indigenous households Australia-wide, about 63 per cent in 201 (Australian Bureau of Statistics 2011). About 64 per cent of the enrolled students said they got an internet connection at home less than 10 years ago, while only 28 per cent have had a connection at home for more than 10 years. This again supports the inference that internet uptake is relatively recent for this group, having occurred over the past decade.

About 61 per cent of the students said they had a broadband connection at home, and 35 per cent had internet access on their mobile phones. About one-third of the students (33 per cent) spent between $50 and $100 per month on internet access; 9 per cent spent more than $100 a month, while 21 per cent spent less than $50 a month. About 90 per cent of the students said they accessed the internet at home to study, and 53 per cent used the internet at work for study purposes. About 27 per cent of the students used the internet to study at a library (20 per cent) or an internet kiosk; these students, most of whom were enrolled in the Education project, paid about $2 or more an hour for this access. These are often out-of-pocket expenses. Trainers and learner support workers have observed that many students could not afford these costs, so have been hesitant to go online.

The project subsidised the costs of internet use through a data allowance, particularly for Indigenous students not sponsored by their employers. Data allowances were provided to students in the Education

project and the Creative Industries project. The Education students were given data vouchers and could request fresh vouchers from trainers when they ran out. Trainers checked the students' activities on the course website before providing extra vouchers. This worked well and the students' only complaint was that watching videos, and downloading or uploading files, rapidly used up the data allowance, meaning they frequently had to ask for extra vouchers. One suggestion the students made was to provide a monthly data allowance based on an estimate of the activities scheduled for units to be completed that month.

Students in the Creative Industries project received about 5GB data per month each, from a common account. The learner support workers could monitor internet use by each student, and limit data use for non-study purposes. When students went over their data allowances, the learner support workers were able to immediately identify the student, freeze their account and contact them to let them know.

Initially there were a few issues with this: one or two students were using up not only their own data allowance, but also used a large portion of the data from the common pool, reducing the amount available for other students. Another issue was that when students left their devices unattended, family members sometimes used their login details to go online, using large amounts of data watching videos or playing games, often without the students realising. When one student went back to their community, a friend took their sim card and used up all the data, so the student decided to work mostly offline when in community, then go to the local community learning centre to use the Wi-Fi there.

> *[I wasn't] really sure about how the Wi-Fi worked and I have kids who I think went onto the Wi-Fi and may have turned it on and …. I didn't know how much [data] I was using. (Student, Creative Industries project)*

Students studying Certificates III and IV in the Health and Community Services project were given internet access by their employers, through their workplace networks. This caused issues because the students were unable to study during working hours, and those working the night shift found that the Wi-Fi was switched off at night. As a result, many of these students did not engage very effectively in the course. The Certificate II students could access the internet at their community learning centre, under the supervision of the learner support worker.

Subsidising data for students worked well after the initial issues were ironed out, because it helped offset some of the costs of studying online and provided unencumbered internet connection without having to search for internet connectivity.

Devices

All the enrolled students reported having a mobile phone (either android or Apple) and using it to access the internet. While 65 per cent of students had a laptop at home, only 60 per cent used it to access the internet. Students and staff also reported that devices at home were shared and available to all household members. About 23 per cent of the students said they found it difficult or very difficult to access the device in their household when they needed it. In addition, the device students had at home may not be appropriate to study an online course or complete assignments; for example, if the student only had a mobile phone. To counter this problem, the project loaned students appropriate devices to help them study online whenever they needed to. Each project loaned students a different device.

The Education project provided laptops to their students. The students reported being comfortable using the device because they were familiar with it. However there were delays in delivering the laptops to them. Group 1 was enrolled in July but didn't get their laptops until October, a delay of about 3–4 months.

This delay was because project staff and trainers assumed the students would have access to devices in the schools where they worked. This was not the case, because the school laptops were shared and/or not available for students to take home after work. Group 3 were enrolled in April but did not get their laptops till August, a delay of 4–5 months. This delay was due to these students being located in remote areas, which are difficult to access.

Delays in getting the devices to these two groups of students delayed their participation in the course. These students left the first workshop keen to start the course, but the equipment delays caused them to lose interest and momentum. However the delays did not have a significant impact on course completion and attrition rates. Group 2 students, who were given their devices at the first workshop, did not follow through immediately but took some time before using their laptops and engaging in the course.

After widespread consultation with the partner organisations, the Health and Community Services project provided iPads to their students. The consensus among students and staff of the Certificate III and IV courses was that the iPads were not practical for studying. They said the iPad was too small, and they could not save and upload assessments with it. They predominantly used alternative devices, such as laptops, for study purposes. However, the learner support worker for the Certificate II course reported that the iPads were suitable for those students, because most had only beginner or intermediate level internet skills. The iPads made it simple for them to log on and do tasks online using the drag and drop functions. They learned to upload assessments by doing the work on paper, taking a photo of it and uploading that image. Student feedback indicated that they enjoyed using the iPads and learned internet skills.

Initially the Health and Community Services project was the only one in which students were not allowed to take the device home with them. However after considering feedback from students, in the latter half of 2016 those in the Certificate III and IV courses were allowed to take the device home. This did not have appreciable effect on student performance, because it was not the preferred study device, and because this change happened too long after the course began.

The Creative Industries project students were given a Microsoft Surface device. The steering committee felt this device was suitable to complete the tasks required for the course, such as taking photos, recording videos and drawing. The device came with an external keyboard, so it functioned as a laptop and a stylus for writing and drawing. The students were unfamiliar with this device, and it was one more thing they had to learn to master, along with the course content and website. Many struggled to do simple tasks like saving and retrieving documents, because they were unfamiliar with the device and its set up. The students also said the device had many glitches: it would turn itself off and could not be restarted for several minutes; the battery life was short (about an hour or so), it needed to be recharged often; and the keyboard was too small, which made it difficult to double click and move items around. In response to this feedback students were given a mouse. However this led to further issues, with the device often needing to be re-started when the mouse failed to work. Because of these problems some students preferred to use their own familiar devices, such as laptops and desktop computers.

Some students living in communities were not willing to take the device home because they felt it made them targets for break-ins. One student said they could only use the device in the privacy of their bedroom in the night after everyone had gone to bed. Several devices were either stolen or lost while in a student's possession. This led to the students being uncontactable by learner support workers because of their feelings of "shame". This may have been one factor that affected attrition rates in the project.

Digital skills

The students were asked how they would rate their internet skills in both waves of the ICT survey (Table 9). A comparison of responses between the two waves shows that the students perceived their internet skills to have improved. No students rated their internet skills at the beginner level, and there was a general decline in the number of students rating their skills at the beginner or intermediate level between the two waves, from about 47 per cent to 39 per cent in wave two.

Table 9: Self-assessment of internet skills (% of respondents)				
Project	**Beginner**	**Intermediate**	**Advanced**	**Expert**
Wave 1				
Education support	2.86	40	31.43	25.71
Health & community services	20.83	33.33	33.33	12.5
Media & creative industries	15.38	30.77	35.9	17.95
Wave 2				
Education support	------	50	27.78	22.22
Health & community services	------	------	33.33	66.67
Media & creative industries	------	33.33	16.67	50

About 22 per cent of the students answered both waves of the ICT survey. There was no change in the rating for internet skills for about 68 per cent of these students, while 12 per cent changed their rating to a lower skill level, and 20 per cent changed their rating to a higher skill level. Statistical tests indicated that there were no significance differences in the rating of internet skills between the two waves.

The students were also asked to score[18] simple statements in five categories to assess their digital literacy. These categories covered functional knowledge, basic skills and critical thinking required to successfully study online. The average scores for each of the five categories are given in Table 10 (overleaf).

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[18] The scores were based on a five point Likert scale, with self-reported truth response items: 1=Not at all true of me; 2=Not very true of me; 3=Neither true nor untrue of me; 4=Mostly true of me; 5=Very true of me

Table 10: Average digital literacy scores

Internet skills	Education support	Health & community services	Media & creative industries	Total
Wave 1				
Operational	4.19	3.87	4.20	4.12
Information navigation	2.21	2.31	2.15	2.21
Online safety and security	4.50	4.31	4.50	4.41
Applying knowledge	2.95	2.90	2.90	2.92
Mobile	3.96	4.17	4.24	4.12
Wave 2				
Operational	4.23	4.90	4.57	4.39
Information navigation	2.16	1.90	1.92	2.07
Online safety and security	4.29	5.00	4.29	4.37
Applying knowledge	3.04	3.10	3.47	3.15
Mobile	4.11	4.67	4.38	4.24

The average scores in wave 1 indicate that there were no differences in the skill categories between students enrolled in different projects, except for the Health and Community Services and Education students who scored lower than the other students on operational and mobile skills respectively. In wave 2 the Health and Community Services students scored higher than the other students in all skill categories, except applying knowledge. The increase in average scores in wave two for all skill categories indicates that the students were improving their digital literacy skills slowly. However, the increase in average scores was not significant.

A comparison of the digital literacy scores and self-assessment internet skill ratings indicated that there was no difference between them, and it appears that the students were able to rate their skill level accurately. This is unexpected, because when conducting self-assessments, respondents often either under or overestimate their skill levels (Murray and Pérez 2014; van Deursen *et al.* 2014). However, this is small and select sample, and the conclusions drawn may not be transferrable to the wider student cohort. This inference needs to be investigated more fully, with a larger sample, before firmer conclusions can be drawn.

The low scores in the "applying knowledge" category are concerning, and could affect students' ability to perform tasks required for online study. 62 per cent of students said they had never studied online before, and found it to be different from their earlier modes of internet use, such as Facebook and email. However, the students also said they were learning the skills to use the course websites quickly, and that being digitally literate or "computer savvy" helps. The learning of digital and internet skills is substantiated by the increase in average digital literacy scores and an improvement in internet skills ratings.

Appendix 4: Learner Support Workers' Sphere of Influence Analysis

Things the learner support worker (LSW) can control

SPHERE OF INFLUENCE	POTENTIAL ACTIONS
Students	**Cut off data if student exceeds their limit** (GME students only) **Accommodate requests about travel arrangements** (GME students only) **Encourage building of digital literacy skills** **Set boundaries of relationship with student** (availability & extent of help) **Identify non-completers & non-participating students**; manage them out **Set agreement contracts between staff & students** (including rules & goals based on core requirements & timelines)
Course	**Improve understanding of course content by creating:** ▪ Relevant, everyday examples that students can easily relate to ▪ Contextualised content ▪ Glossary for difficult words, phrases, terminology
Communication& information	**Facilitate flow of communication:** ▪ Between students and trainers ▪ Between all relevant parties **Disseminate information:** ▪ Give students up to date, clear, reliable information about course ▪ Decide what information to give, and when **Gather information:** relevant, reliable data to inform research & management **Create information:** step-by-step information/tip sheets on how to do things
Self-reflection (role/performance)	**Own perceptions** – reflective practices **Privacy of students** – how much personal information is used/shared

Things the learner support worker (LSW) can influence, but cannot control

Students	**Manage expectations** around what LSW can and can't do to help students **Guide efficient use of data allowance** **Guide methods of contact used by students** **Support students to complete course work:** ▪ Encourage assessment integrity (doing & submitting) ▪ Help "serial learners" to complete; guide lagging students ▪ Encourage student engagement **Help plan and manage study & other obligations:** ▪ Major life events & cultural obligations (sorry business) ▪ Work, e.g. managing competing schedules and commitments ▪ Time management and study plans **Explore and encourage new tools and ways of learning:** ▪ Help see benefits on online education ▪ Motivate and encourage ▪ Build digital literacy skills **Bolster student dignity and self-efficacy by:** ▪ Increasing self-esteem and confidence ▪ Encouraging self-discovery and direction ▪ Professional and courteous interactions **Assist and/or direct students to access:** ▪ Additional LLN and core skills training ▪ Different courses suited to their aptitudes ▪ Suitable pathway and higher education courses

Community, employers & others	Build relationships with community & elders (can influence student support, perception, behaviour & outcomes)
	Build relationships with employers/supervisors (includes time management & links with professional development programs for motivation)
	Mitigate gender issues by providing male/female help (e.g. have a male & female LSW)
	Manage trainer expectations

Things the learner support worker (LSW) can neither control nor influence

Students	Health, psychological & addiction issues (where student may require treatment/therapy)
	Avoidance behaviour/unresponsive behaviour
	Learning styles & issues
	Not interested in online study – functional dysfunction
	Serial learners and non-completers
	Too many missed deadlines – issues with student engagement
	LLN and device availability
Relationships	Student/employer: workplace performance
	Community/employer: can suggest alternatives to lost/broken relationships, but can't build them
	Other factors:
	▪ Socialising behaviour when in town for workshops/block releases
	▪ Not informing LSA of changed contact details and/or circumstances
	▪ Changes in work/job situation making the course irrelevant or enrolment redundant
	▪ Third-party use of devices & data
Course & trainers	Trainer expectations/assumptions
	Trainers not pulling their weight
	Distorted incentives to trainers – encouraging face-to-face learning
Course content	Core vs electives content – core units considered irrelevant by students
Business imperatives of RTOs & job providers	Enrolling students regardless of their capabilities
	Encouraging "serial learners"
	Differing expectations/ assumptions
Access to technology	Connectivity and device availability (Telstra etc.)
	Technology not available
Gender issues & boundaries	

Appendix 5: IFC Project Partners

Goolarri Media Enterprises is part of the remote Indigenous media sector, a multi-faceted system that has evolved since the mid-1980s to include regional radio networks, a satellite television channel (ICTV), film and television production, and music production (Rennie and Featherstone 2008). Goolarri also works closely with the Pilbara and Kimberley Aboriginal Media Association (PAKAM), which coordinates radio and video activity in approximately 20 remote communities in north-west Western Australia. Goolarri has been providing training to remote media workers, including PAKAM workers, becoming a Registered Training Organisation (RTO) in 2003. Until now, Goolarri's training has primarily been directed at remote media workers – Aboriginal people residing in remote areas who produce radio content for Remote Indigenous Broadcasting Services (RIBS radio, including PAKAM) and locally focused video content distributed on ICTV, NITV and Indigitube.

Carers NT: since its inception in 1992, Carers NT has been dedicated to improving the lives of family carers living in the Northern Territory who provide "Unpaid care and support to family members and friends who have a disability, mental illness, chronic condition, terminal illness or who are frail" (Carers NT 2014). The organisation operates across the Norther Territory, providing services to individual carers and advocating on behalf of all NT carers.

Carpentaria Disability Services (CDS) has been providing services, support, information and encouragement to disabled people and their families since its formation in 1973 (Carpentaria Disability Services 2014). Previously known as NT Spastic Association, CDS was formed to provide services to Northern Territory children with cerebral palsy and other disabilities, and their families. In response to the community's needs, CDS has broadened its role to provide specialised early intervention, respite and adult-oriented services.

The **Council for Aboriginal Alcohol Program Services (CAAPS)**: this Aboriginal corporation is a family-focused residential alcohol and other drug rehabilitation centre in Northern Australia (Council for Aboriginal Alcohol Program Services 2014). It provides a substance misuse service that supports Aboriginal and Torres Strait Islander families experiencing alcohol and other drug issues. It has an all-Aboriginal Board and strives to maintain a minimum 60 per cent Aboriginal and Torres Strait Islander staff body. CAAPS has been operating for 30 years and came into being with the support of NT's remote communities. It provides evidence-based assistance to overcome problems caused by substance misuse, while raising public awareness and advocating for client and community needs.

Human Services Training Advisory Council (HSTAC) provides advocacy, products and advice about training packages for Vocational Education and Training (VET) in the human services sectors (Human Services Training Advisory Council 2014). It is one of six training advisory councils contracted to provide advice to government and industry about Vocational Education and Training. HSTAC provides both free and commercial services essential to supporting future workforce development across a range of human service industries. Its key focus is on workforce development for the health, community services, local government and correctional services sectors.

BCA National Training Group (BCA National) is a Registered Training Organisation (RTO) experienced in rural and remote delivery of quality training in business, community services, conservation and land management, construction, education, finance, governance, and training and assessment (BCA National 2016). It offers training through flexible, blended and client-focused delivery models programs, and seeks to introduce people to learning progressively while building their knowledge, skills and confidence.

Nahri is an Aboriginal independent non-for-profit consulting firm. Nahri employs some of Australia's leading Aboriginal advisors and consultants in education, health, employment, and business to provide independent policy analysis and advice to business and government on all aspects of Aboriginal affairs (Nahri 2016). Nahri's experts analyse complex issues and provide rigorous assessment to inform all stages of the indigenous policy-making and business cycles, and have helped to tackle some of the most challenging issues in indigenous education, business and community.

Australian Catholic University (ACU) is a publicly funded not-for-profit university, which is committed to providing equal access to education for all people (Australian Catholic University 2016). ACU has seven campuses in Australia, and partnership arrangements with international universities in more than 16 countries.

Warlpiri Youth Development Aboriginal Corporation (WYDAC) has dedicated itself to developing the strength, health, confidence and leadership of Warlpiri youth (WYDAC 2016). The program aims to promote positive and meaningful future pathways for all young Warlpiri people. The program was created by and for Warlpiri people, and is governed by a Warlpiri Committee. WYDAC's head office is located in the Yuendumu Community, but has a number of programs operating at five different Warlpiri sites – Yuendumu, Willowra, Nyirrpi, Lajamanu and Mt Theo Outstation.

Appendix 6: Abbreviations and Acronyms

ACU   Australian Catholic University
CAAPS   Council for Aboriginal Alcohol Program Services
CAT   Centre for Appropriate Technology
DETQ   Department of Education and Training Queensland
Goolarri   Goolarri Media Enterprises
HEPPP   Higher Education Participation and Partnerships Program
HSTAC   Human Services Training Advisory Council
IFC   Indigenous Futures Collaboration
IT   Information Technology
ICT   Information and Communication Technology
LMS   Learning Management System
LSW   Learner Support Worker
NT   Northern Territory
PAKAM   Pilbara and Kimberley Aboriginal Media Association
QLD   Queensland
QUT   Queensland University of Technology
RTO   Registered Training Organisation
RPL   Recognition of Prior Learning
RUN   Regional Universities Network
SES   Socioeconomic Status
VET   Vocational Education and Training
WA   Western Australia
WYDAC   Warlpiri Youth Development Aboriginal Corporation

Australian Government
Department of the Prime Minister and Cabinet

Youth Policy
Scoping Paper

Introduction

The history of colonisation in Australia has had an intergenerational impact on all Aboriginal and Torres Strait Islander people's wellbeing and life outcomes. The effects of this intergenerational trauma and the critical period of development of adolescence means a clear and well-evidenced policy position on youth must be developed in order to better support the life outcomes of young Indigenous people.

This paper will seek to articulate this end goal and serve as a reference point for future policy development to better support Aboriginal and Torres Strait Islander young people through education and employment. Additionally, this paper aims to examine some of the characteristics, age range and key issues that Aboriginal and Torres Strait Islander young people face. This is part of a broader piece of work seeking to improve the strategic approach to the range of issues affecting Aboriginal and Torres Strait Islander youth and to develop a framework to guide future funding decisions on proposals that stretch over education, and perhaps other areas.

Definition of Youth

Youth is best understood as a period of transition from the dependence of childhood to adulthood's independence. This is why, as a category, youth is more fluid than other fixed age groups.

Youth is defined as those between the ages of 15 and 24 years, and specifically relates to those leaving compulsory education and beginning employment. This definition is consistent with the United Nation's 1995 resolution 50/81, along with the Australian Bureau of Statistics' definition, which notes the youth age cohort should be 15 to 24.

Firstly, it is important to conceptualise the number of Aboriginal and Torres Strait islander people in this cohort of youth. There has been a sharp rise in the number of young Aboriginal and Torres Strait Islander people in their early 20's, with further increases anticipated. In 2015, 20.4 per cent (almost 150,000) of Indigenous Australians were aged between 15 and 24 years, compared to 13 per cent of non-Indigenous Australians.

Key issues facing young Indigenous Australians

Whilst inheriting a long and proud history of culture, courage and resilience, Indigenous young people experience some of the highest levels of disadvantage in the developed world. Indigenous young people are disproportionately exposed to a broad range of risk factors including; discrimination, housing and health concerns, higher unemployment rates, and poorer education outcomes due to early disengagement from school.

There are a number of barriers to participation in employment, education and training for young Indigenous Australians, particularly those in isolated and remote areas. Factors include difficulty accessing education and training due to remoteness, poor health outcomes, family violence and low aspirations.

Overall rates of young people not in employment, education or training (NEET) are more than three times higher for the Indigenous population compared to the non-Indigenous population (36 per cent compared to 11 per cent). In major cities, 34 per cent per cent of Indigenous youth are classified as NEET, however this figure increases steadily the more rural the location, peaking at 58 per cent in very remote areas[i].

For those young people who become disengaged, there is a risk that many develop a long-term dependence on welfare, along with increasing numbers who come into contact with the justice system. Additionally, the younger ages at which Indigenous women have children affect their engagement with further education. Some may not have access to childcare, which, in turn, impacts their ability to study whilst raising a child. Indigenous women were also more likely to be lone parents, meaning they are often the sole carers of their children and often defer their education until their children have completed their schooling[ii]. The rate of participation of Aboriginal and Torres Strait Islander women in further education from their mid-thirties is higher than Indigenous men or non-Indigenous men and women[iii].

The combination of these factors make it difficult to re-engage young people into a pathway through skill development, employment and positive participation in their community.

Aspirations

Young people's perceptions regarding available opportunities can potentially impact on both the development and achievement of aspirations for their future. Among Indigenous youth, aspirations towards further education, training and employment are lower than non-Indigenous youth.

Conclusions

Making a successful transition from school to tertiary study or full-time employment can have long-term implications for a young person's wellbeing. Staying engaged in work and/or study can help young Aboriginal and Torres Strait Islander people to stay connected to the job market and their communities, and be at less risk of becoming long-term unemployed or underemployed

The evidence presented throughout this paper suggests that an 'Indigenous Youth Policy' needs to support young Indigenous people throughout their schooling, into further education and employment. Targeting support to Indigenous young people through to age 24 will also help address the issue around the large number of NEETs, and show consistency with ABS modelling and the UN definitions.

If our policy scope were to focus on school aged Indigenous young people to the age 17-18 years, a number of issues become evident. We know that Indigenous young people across the board are struggling to make the transition from school into higher education, training and employment and need to be better supported to make this transition successfully. This

can be achieved by ensuring the scope of our 'Youth Policy' covers young people to age 24 and targets the growing number of NEETs.

It would also be worthwhile that policy consideration investigate and align with current place based models being developed within the Department of the Prime Minister and Cabinet's governance regions. For example, the Central Australia region's youth framework being developed to ensure young people remain engaged throughout schooling and beyond.

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[i] Based upon 2011 census data compiled for *draft OECD report Investing In Youth, 2015*.
[ii] 2011 Census data
[iii] Doyle & Hill, 2012, p. 25 and Biddle & Yap, 2010, cited in Doyle & Hill, 2012, p. 10