RESEARCH PAPER

Increasing regional student participation in higher education through innovative university outreach

Laurie Poretti[*]
University of Canberra, Australia

Despite Australian government funding through the Higher Education Participation and Partnerships Program (HEPPP), people in regional and remote areas across the country remain underrepresented in higher education. Drawing on an innovative outreach model developed by the University of Canberra, this paper investigates how principles of effective outreach can be tailored specifically to regional and remote contexts to overcome the barriers of distance, cost, academic achievement and motivation (Gale et al., 2010) which often limit higher education participation. Principles that underpin this outreach model are highlighted, including the harnessing of technology, the use of blended delivery modes, and the adaptation of more traditional, urban-centred outreach approaches, such as face-to-face interaction with university student role models and outreach officers, to engage regional cohorts. The findings from a trial of the outreach model delivered to 36 regional schools in 2017, reveal the potential for universities to increase regional student aspiration for higher education by moving away from the dominant model of school and cohort-based outreach to a more flexible approach that responds to the wider communities being engaged with. This paper addresses a number of issues influencing education in regional Australia and suggests strategies for collectively developing increased higher education participation rates and making a genuine, long-term difference for regional communities and their equity of access within the future of Australian higher education.

Keywords: widening participation; regional communities; higher education; university outreach; access; aspiration

Introduction

This paper explores the potential of university outreach to increase regional access and participation rates in Australian higher education. Drawing on an innovative outreach model developed by the University of Canberra, the paper discusses how principles of effective outreach can be tailored specifically to regional and remote contexts. In particular, models that are people-rich, collaborative, academic, sustained, place-based, and cohort-specific, are widely accepted as being more likely to raise aspiration for university and educational achievement among regional students (Gale et al., 2010). Gale et al. (2010), ACIL Allen Consulting (2017), and Bennett et al. (2015) all identify a need for governments and institutions to focus on both expanding and reshaping regional outreach strategies. The paper begins by contextualising

*Email: Laurie.Poretti@canberra.edu.au

regional participation rates in Australia, and exploring existing strategies to raise access, achievement and aspiration. Contrasts are made between low socio-economic status (SES) participation rates, which have increased in the past five years, and regional participation rates which have not (ACIL Allen Consulting, 2017). The paper highlights how outreach has been central to raising low SES rates more generally, but that challenges of scope and scale have limited its impact in regional and remote contexts.

The paper introduces an innovative outreach model developed by the University of Canberra specifically for regional contexts, and which was designed to overcome key barriers to higher education participation for non-metropolitan students as summarised by Gale et al. (2010) under four categories: distance, cost, academic achievement and motivation. The paper explores how the model addresses these four barriers, by blending online modules together with university outreach staff physically present in the schools, and discusses how it has resulted in a clear increase in university aspiration within target communities using participant feedback from a pilot study in 2017. Principles behind the model are highlighted, including the harnessing of video and animation technology and the adaptation of more traditional, urban-centred outreach approaches, including face-to-face interaction with university student role models and outreach officers to engage regional cohorts. Refining these traditional principles to suit specifically regional contexts could inform the development of more expansive models across the sector, thereby increasing the impact of university outreach in regional Australia.

Context/background

The relatively low higher education participation rates of students from regional Australia are "one of the persistent inequities in Australian higher education" (James et al., 1999, p. 22). In 1997, the Department of Employment, Education, Training and Youth Affairs found that university students from rural and isolated backgrounds comprised just 19.2 per cent of the total student population, and in 2017, at 19.68 per cent (Australian Government Department of Education, 2017), those figures remain largely unchanged. The *Independent Review into Regional, Rural and Remote Education* (Halsey, 2018) confirmed that people from regional and remote areas of Australia remain underrepresented in higher education. Furthermore, they are less likely to complete Year 12 and less likely to pursue higher education than their urban counterparts. Naylor, Baik, and James (2013) identify a number of possible factors that have contributed to the lack of increase, including that many students belong to more than one equity group and, therefore, experience compounded disadvantage. People who are from both low SES and rural backgrounds face the 'cumulative effect' of the presence of inhibiting factors and an absence of encouraging factors (Naylor et al., 2013). A wide body of research (e.g., James et al., 1999; James et al., 2008; Naylor et al., 2013) suggests that such underrepresentation is more related to the lower likelihood of people from regional and remote areas applying for university as a university qualification is not believed to be relevant for the jobs they want. Relatedly, Burnheim and Harvey (2016) also note that low university participation rates among regional students are also due to lower rates of secondary school completion, and their aspirations to non-university pathways, including paid work and vocational education.

In many regional communities, the benefits of higher education may not be positively perceived or there is little importance placed on post-school studies, and family expectations for children to engage in further study are often lower than in metropolitan areas (Fleming & Grace, 2014; Halsey, 2018). However, it is essential that all regional young people and their families have access to high quality education and that they have the resources to make a successful transition to further study, training or employment. Their unique needs must be considered and accounted for with the same opportunities as their urban counterparts (Halsey, 2018). The Australian

Government has an explicit objective to achieve population parity for 'regional and remote students'. These Australians, identified by the postcode of their permanent home residence using the Australian Statistical Geography Standard (ASGS) system of classification (Australian Bureau of Statistics, 2018), remain a designated student equity group since being first identified as such in *A Fair Chance for All* (Department of Employment, Education and Training, 1990).

One major strategy to address the identified barriers of distance, cost, academic achievement and motivation experienced by regional Australians (Gale et al., 2010), and thereby increase higher education participation, has been university outreach to secondary schools. Given the established importance of school achievement and aspiration to university, many universities have developed activities that directly engage school students, both through outreach, where university staff visit schools, and through inreach, where universities host school students on their campuses. Students from regional backgrounds often live great distances from higher education institutions and either have to travel to study or face the high emotional, social and financial costs of relocating (Cardak et al., 2017; Fleming & Grace, 2015). For decades, the primary aim of university outreach has been to increase awareness of and access to higher education and associated careers by nurturing aspirations (Naylor et al., 2013). The majority of activities are targeted at high school students with a smaller number of programs focused on younger students, parents, teachers and members of the community, and even fewer initiatives aimed at the needs of non-school leavers/mature age people (Bennett et al., 2015).

For government social justice goals to be met, participation in Australian higher education should not be determined by class, geographical location or other personal characteristics. Since 2005, the Commonwealth Government has required all publicly funded universities to conduct and report on outreach programs aimed at attracting more people from underrepresented equity groups to higher education, particularly those living in regional or remote areas, those from low SES backgrounds, and Aboriginal and Torres Strait Islander people (Ferrier, Heagney, & Long, 2008). Later, the 2008 *Review of Australian Higher Education* (Bradley, Noonan, Nugent, & Scales, 2008) was pivotal in prompting Australian universities to establish outreach programs aimed at increasing participation in higher education by students from low socio-economic status backgrounds. With the introduction of the Higher Education Participation and Partnerships Program (HEPPP) in 2010 and the government target of increasing the participation of individuals from low SES backgrounds to 20 per cent by the year 2020, outreach efforts have increased exponentially with a substantial financial investment from the Commonwealth (Australian Government Department of Education, 2019). Despite the large-scale formalisation of outreach, there is much debate regarding where universities should focus effort, which groups to specifically target and how to plan, implement and evaluate programs to determine outcomes and effectiveness (Ferrier et al., 2008).

The HEPPP is explicitly targeted to increase low SES participation with the aim of ensuring that Australians who have the ability to study at university have the opportunity to do so. Funding is provided to universities to undertake activities and implement strategies that improve access to undergraduate courses for people from low SES backgrounds (Department of Education and Training, 2019). Given that regional and low SES groups often overlap, the government expected that participation rates, i.e., students enrolled in a course of study (Gale & Parker, 2013), of both groups would be improved as a result of the dedicated low SES funding. However, there has been no similar increase in regional higher education participation rates, despite high levels of government spending on these programs. The current regional student participation rate of 20 percent has been largely unchanged since 2011 (Australian Government Department of Education, 2017). An independent evaluation of the HEPPP (ACIL Allen Consulting, 2017)

found that outreach activities have been effective in raising low SES participation, yet those activities have clearly been less effective in raising regional participation, suggesting a need for new models and tailored approaches to engaging people in the country's regions.

Scope

There are many strategies to increase regional higher education participation rates, including addressing supply, expanding regional higher education course offerings, various school level interventions, and provision of increased funding (Halsey, 2018). These strategies require firm financial, political, and policy commitments. This paper focuses specifically on the potential of universities to increase regional participation rates through targeted outreach, although it must be acknowledged that outreach is not recruitment per se. Evidence concludes that the majority of outreach projects are designed to target low SES students, however, they may also inadvertently benefit intersecting subgroups, such as Indigenous people or those from regional backgrounds (ACIL Allen Consulting, 2017). As such, improvements have been identified in a number of areas which could further increase the effectiveness of outreach programs being conducted in the regions—first in the activities, projects and equity groups to be targeted, second in revising the focus, and third in designing and embedding a stronger, more collaborative, multi-layered, multi-modal model.

The discussion below reviews existing evidence of effective outreach initiatives from extensively accepted key texts, including the evaluation of the HEPPP (ACIL Allen Consulting, 2017), *Interventions Early in School as a means to improve higher education outcomes for disadvantaged (particularly low SES) students* (Gale et al., 2010), *A Critical Interventions Framework for advancing equity in Australian Higher Education* (Naylor et al., 2013), and *The Critical Interventions Framework Part 2* (Bennett et al., 2015), all of which demonstrate positive impact on low SES student figures and suggest how higher education participation rates for people from regional areas can be improved. The paper addresses the issue of why outreach programs are not driving significant change and contributing to an increase in regional students accessing higher education. It examines the widely accepted principles of traditional models of mainstream outreach programs and identifies new principles to add to existing models to combat the limitations of traditional face-to-face outreach. To frame the discussion, the paper adopts Gale et al.'s (2010) typology and highlights how their outreach model was explicitly designed to address each of the four major identified barriers to higher education, including distance, cost, academic achievement and motivation/aspirations (Gale et al., 2010).

The model

Model design and objectives
The outreach model is designed to provide access to information, resources and motivational activities to students in Years 9 through 12 in the form of seven online aspiration and achievement modules. It includes three future-focused modules, challenging participants to consider 'who they are', 'what they want' for their future, and how to navigate their post-school pathway (Zacharias, 2017). The model also includes four modules focussed on academic preparation and achievement, intended to support entry to higher education (Ferrier et al., 2008). All modules were created as flexible and can be undertaken in any order, independently, or in the classroom. Each module incorporates specific elements of effective outreach and involves face-to-face engagement with outreach officers and current university student role models, known as Aspirations Agents. Online engagement is pivotal and enables students to work through the resources at their own pace and to participate in follow-up interaction with peers and university staff as desired.

The model piloted in parts of NSW and Queensland sought to combat common limitations of traditional outreach methods to inform the development of more expansive models across the sector and enable greater impact in regional Australia. It incorporates early and sustained intervention through 'on demand' accessible content, interactive and stimulating online learning experience, high challenge-high achievement activities, and inspiring, aspiration-enhancing scenarios utilising university students from a range of backgrounds.

The modules incorporate a flexible design to provide 'just-in-time' skills, resources, and opportunities for learning (Fleming, 2016). Traditionally accepted principles for effective outreach were applied to a specifically regional context, including direct experiences with university staff and students, such as virtual campus tours, a 'day in the life of a uni student' videos, and people-rich, face-to-face engagement with outreach officers and current student role models. Burke (2017) has challenged assumptions of 'aspiration raising' and 'information giving' as effective widening participation practices as they do not acknowledge the unequal social relations within which aspirations and knowledge are embedded and formed. As such, these common outreach approaches were circumvented within the new model by carefully designing interactive content to nurture existing aspirations and engage participants from diverse student groups through genuinely meaningful approaches and activities personalised to the individual (Gore et al., 2017).

Pilot study

This paper is based on qualitative research findings from a pilot study analysis of an outreach model developed by the University of Canberra. The study was conducted over 12 months with careers advisers at each school nominating the specific topics from the series of modules, depending on the perceived needs of a chosen cohort. The modules were made available online to 26 schools in regional New South Wales and 10 schools in northern Queensland, all of which were identified as having large cohorts of students from financially disadvantaged backgrounds. Through these 36 schools, the researchers collected data from 95 teachers and over 3,000 students in Years 7-12, with the majority (92 per cent) of students being in Years 9 and 10. Despite the modules being designed to target students in Years 9-12, teachers overwhelmingly elected the 9s and 10s to undertake the activities, which is interesting and likely requires future investigation as it was beyond the scope of the present study. The modules were completed by similar numbers of participating female students (47 per cent) and male students (49 per cent). Across the 36 study schools, 97 school visits were made by outreach officers with 129 hours of face-to-face classroom time.

The evaluation of student groups was intended to explore and determine whether online modules appealed to participants through the innovative technology and presentation; how they helped students to develop a better understanding of higher education, and if they influenced students' views of university. Students rated their experience with each module upon completion and submitted evaluations throughout the project. Supervising teachers completed evaluations which measured components of the modules, including the variety of activities offered and the perceived impact on participating students, such as changes in university aspirations, awareness of course and career options, and preparedness for higher education. How the new model addresses each of the barriers to higher education participation by regional populations is discussed in more detail below.

Distance and access to resources
Australia's land mass is extensive and its population relatively small. Therefore, access to fewer resources in regional areas along with time and cost must be factored into the provision of

university outreach programs (Fleming & Grace, 2014). To address issues of geographical location, an increasingly coordinated strategy with greater collaboration across higher education institutions is necessary. Research (Cardak et al., 2017; Halsey, 2018) confirms that distance is a barrier to both the offer of and take-up of outreach. Often in regional and remote areas, schools may not be well enough resourced to have dedicated careers advisers and their location may further disadvantage students from receiving regular contact through outreach programs with higher education providers (Cardak et al., 2017).

A recent study conducted by Harvey et al. (2016), found that the intention to pursue post-school study was lower in Year 11 students from regional areas compared with their urban counterparts; with the majority of students citing financial reasons for commencing employment immediately out of school. Overall, students participating in the study also reported limited knowledge of Tertiary Admissions Centre (TAC) applications processes, school recommendation schemes, Special Entry Access Scheme or the Educational Access Scheme, and access and equity scholarships (Harvey et al., 2016).

Fleming and Grace (2015) note that it is not uncommon for students to lack knowledge regarding financial assistance, scholarships and other support, and they are therefore unable to take advantage of these benefits. Such issues can be addressed through university outreach by providing timely and accurate information, increasing motivation and academic achievement, and reducing the barriers of cost and distance through online mediums. Reaching regional and remote communities with 'people-rich', sustainable resources typically on limited budgets is difficult and requires innovative thinking and program design. To address these critical issues, the use of technology and digital resources was explored to develop the model and to promote innovation within current program delivery (Fleming, 2016). By developing a blended model, the new approach enables students from regional and remote areas to engage in a resource-sustainable way, whilst providing important face-to-face contact and campus experiences where possible. This blended approach is achieved through interactive activities, animations, videos and visits from current students from similar backgrounds to share their first-hand experiences. Targeted advice and support are provided to inform young regional, first-in-family students of study options, financial assistance and career pathways available through higher education. Information is scaffolded and delivered via a range of engaging formats to appeal to diverse students and enable them to navigate the higher education structures, thereby increasing their confidence and self-advocacy (Fleming, 2016).

Zacharias and Brett (2019) emphasise the importance of developing technology into an effective mechanism for education delivery to support young people from backgrounds traditionally underrepresented in higher education. The online component of the outreach model was designed to facilitate the availability, variety and choice in accessing content within the modules. Timely, relevant accessibility of higher education and careers content in the regions is essential and often lacking from traditional programs (Zacharias & Brett, 2019). Similarly, Gore et al. (2017) argue that flexibility in the delivery of outreach is paramount for students from regional backgrounds and must be in sync with the students' decision-making processes, again reinforcing the early, long-term implementation of online and multi-modal intervention strategies.

Drawing upon evidence from Bennett et al. (2015), the online modules were designed to increase engagement and support through greater reach and flexibility of resources. Content is easy to navigate, sustainable and effective for young people to engage with, regardless of their geographical location. The online modules combined with traditional principles of effective

outreach, including a series of supplementary visits to schools conducted by outreach officers to deliver aspiration and achievement sessions in class via face-to-face engagement. Whilst participants were introduced to the resources in person, new and innovative methods of engagement, identified as critical elements of effective outreach by Naylor et al. (2013) were also realised, including online forums and submission tools, enabling students to receive ongoing feedback from university staff.

In addition, the new model provides scope for engagement with mature aged members of the population, care leavers and other groups, all of which are underserviced through current, predominantly school-based interventions. It is imperative that increasingly seamless embedded outreach initiatives are created to complement the curriculum and link to key learning areas, career paths and outcomes. Online content reaches broader audiences with a more tailored, just-in-time approach, whereas traditional in-class models exclude certain groups (Bennett et al., 2015) and create further disadvantage in segments of regional communities and a greater divide between regional and metropolitan participation rates.

Cost
The costs associated with pursuing higher education continue to be a significant obstacle for many people from regional backgrounds (Burnheim & Harvey, 2016; Cardak et al., 2017; Halsey, 2018). While the outreach model proposed here does not involve any diminution of cost for regional students who transition to higher education, it does address cost indirectly in two important ways. First, through a number of module activities requiring students to plan for their future by seeking out potential scholarships, part-time jobs, and accommodation options. These guided opportunities increase students' awareness of the range of assistance available and better prepare them for the realities of transitioning into higher education and living away from home. Second, by familiarising students with online university education, the model prepares students for blended and online learning experiences that may encourage some to enrol via distance, flexible mode or other blended face-to-face and on-campus opportunities. While the costs of physical relocation or commuting costs remain prohibitive for many regional students (Halsey, 2018; Stone, 2017), the model reveals the potential of online resources both to support on-campus study, and as a mode of study in its own right. Individuals familiar with online delivery may be more likely to embrace online study, allowing them to overcome barriers of both distance and cost. Online platforms create opportunities and enable participants to gain greater access and, arguably, participate on a more level playing field, however, creating engaging, interactive and connected learning spaces can be difficult and requires well-trained facilitators, resources and support (Stone, 2017). Whilst the integration of online elements in multi-modal outreach interventions is recognised as key to reaching regional and remote communities, it can be met with logistical challenges that are outside of a university's control. A major hurdle to overcome when incorporating online elements into regional outreach programs is that rural schools often have less access to IT specialists to coordinate connectivity and address concerns as they arise (Devlin & McKay, 2016; Halsey, 2018; Stone, 2017). Nevertheless, the option of online access is fundamental to improving students' achievements and pathways beyond school, however, interventions are dependent upon ICT infrastructure and access within schools and communities. The outlook is optimistic for the positive affect that a collaborative approach to online outreach can have for widening participation for regional students (Stone, 2017) and is further evidenced through the design of the model discussed here. Ferrier et al. (2008) cite the relatively low level use of the internet as a means of reaching young people in regional areas and encourage the integration of online delivery as an essential component of outreach.

The cost barrier is often perpetuated by a lack of accurate and easily accessible information for students and families. Providing timely and relevant information may help to reduce negative perceptions often associated with higher education, either on behalf of the students themselves or those projected upon them by family, school or community influencers (Bennett et al. 2015). The new model encourages people to be future-focused and to realise the far-reaching benefits of higher education (Raciti & Dale, 2019) through an emphasis on higher employment rates, higher average starting salaries, higher earning potential and the improved quality-of-life of university graduates, their families and communities (Raciti & Dale, 2019).

Academic achievement
Burnheim and Harvey (2016) note that for regional students lower higher education participation rates by comparison to metropolitan students are related to lower school achievement and retention. Year 12 completion rates and Australian Tertiary Admission Ranks (ATARs) are significantly lower in the regions (Cardak et al., 2017). A wide body of evidence cited by Cardak et al. (2017), suggests that throughout all phases of education, regional students experience inferior educational outcomes compared to urban students. Lower levels of high school completion clearly impact negatively on regional higher education participation. The conclusions reached in recent studies, including *A Critical Interventions Framework* Part 1 (Naylor et al., 2013) and Part 2 (Bennett et al., 2015) and Gale et al. (2010), all identify early and sustained outreach designed to inform aspiration for higher education and increase achievement and retention rates in schools as a matter of priority. Schools in low SES and regional/remote areas are more likely to experience resourcing issues, including number of teachers, and less access to high quality teaching resources, which are known to play an important role in retention and achievement, particularly of Year 12 students (Naylor et al., 2013). These factors suggest that regional and low SES students will already be at a significant disadvantage in their preparation for university study by the time they reach Year 9 (Gale et al., 2010) reinforcing Gale's principles of people-rich, early, long-term and sustained outreach intervention to nurture aspirations.

The literature highlights the lack of resources available to students from regional areas, including information to help people make informed choices regarding post-school options (Carson, 2009). Careers advice in schools is not mandated and can be very limited in rural and regional schools. There is an obvious gap in the provision of information and support which must be bridged through online outreach. Implementing activities designed to address the gap in preparedness for underrepresented regional students is crucial. Research suggests that school curriculum enhancement and support is a very high priority and university outreach programs must assist schools to strengthen curricula and to support and develop academic achievement (see Bennett et al., 2015; Burnheim & Harvey, 2016; Naylor et al., 2013). Stone (2017) and Devlin and McKay (2016) outline the importance of program design and using a range of activities, multi-media and content that genuinely represent the students' experiences. The model of outreach participation discussed here was designed to facilitate interaction through a range of methods, including discussion boards, videos, assessment tasks, and learning communities.

Motivation/aspiration
Whilst there is evidence that non-metropolitan students are less likely to aspire to higher education than metropolitan students (Bennett et al., 2015; Burnheim & Harvey, 2016; Gale et al., 2010; Halsey, 2018), in many cases it may have more to do with access than aspiration. Harvey et al. (2016) note that many young people in the regions seek employment or a Technical and Further Education (TAFE) pathway straight out of school. They also explained that many of the careers advisers who participated in their study believed that the Year 12 students who

were considering going directly into employment were struggling with decisions regarding post-school plans (Harvey et al, 2016). Joyce (2019) found that some young people experience a misalignment between job aspiration and educational intention, with many students' career aspirations not aligned with their educational plan, leaving them either over or underqualified. These findings further reinforce the need to provide timely access to the resources, opportunities, and networks of people to support the aspirations and decisions of people in the regions (Gale & Parker, 2013). Of key importance in outreach to communities underrepresented in higher education is the critical understanding that the underrepresentation does not necessarily equate to less desire or ability but demonstrates the very real societal, spatial, and institutional obstacles and exclusions that negatively shape disadvantaged students' aspirations, knowledge, and academic preparation (Burke, 2017).

Regional communities are frequently more concerned with their young people securing paid work than pursuing higher education which may not be viewed as relevant for the desired future (Halsey, 2018). Some have suggested that attitudes and beliefs about the value of education are rarely challenged and not easily changed in regional and remote areas (Cardak et al., 2017; Naylor et al., 2013). Furthermore, the generational effect means that young people from regional areas may not have role models from whom they can draw inspiration for aspiring to university, and who can provide advice on the benefits of higher education (Bennett et al., 2015). To address this barrier, videos in the outreach model utilise role models from similar backgrounds. Participants in the pilot study had an opportunity to virtually 'meet' young university students who they could identify with and 'experience' a day in their life as a student. Exposing those underrepresented in higher education to relatable positive role models helps to combat issues of low-level awareness of educational opportunities post-school (Cardak et al., 2017). The recent work of Bennett et al. (2015) confirms that high school students connect and respond to university student role models from similar backgrounds.

According to Gale and Parker (2013), outreach programs need to be carried out as early as possible and to be long-term and sustained. Many current mainstream outreach programs are implemented solely in schools in already curriculum burdened classrooms with 'additional' programs competing for time. The outreach model here seeks to overcome the challenge of early, long-term intervention through a series of sustainable resources which can be accessed on demand, enabling students to seek out accurate, relevant information. Modules can be accessed at any time, depending on the stage and resource needs of the participants, including beyond the school gate with families, community members, and those not currently studying. Whilst the pilot program did implement the modules as a tool within the classroom, this facilitated an introduction to the technology and a demonstration of effective engagement with the program.

A study conducted by Galliott and Graham (2015) concluded that timely career information and guidance is essential for students and families to enable them to make use of the resources and opportunities and achieve optimal future outcomes. Extensive research in the field, including recent findings from Bennett et al. (2015), Gale and Parker (2013), Gore et al. (2017), and Raciti and Dale (2019), reinforce the importance of early outreach as studies confirm that students are forming career interests at a young age. Fleming and Grace (2014) found that student aspirations were highest during Year 7, however, location, family circumstance and access to opportunities often leads to lower academic achievement and limiting post-school pathways. Young people from regional backgrounds aspire but they may not have the encouragement, support or resources necessary to help them navigate their choices and determine the appropriate post-school pathway. Effective outreach programs require development of ongoing relationships between young people and those who can offer guidance relating to their situation and goals.

Family backgrounds and attitudes are crucial in shaping educational and career aspirations and must be challenged through the provision of relevant resources within homes, schools and communities in regional areas (Cardak et al, 2017). Fleming and Grace (2015) concluded that outreach programs play an important role in increasing confidence of participants in relation to their perceived self as a university student. Young people must see the relevance between education and their desired career or job.

The outreach model discussed here, embedded with inspiring stories of people who disengaged from school and returned years later to excel when studying subjects they were passionate about, helps to increase confidence and motivation to pursue higher education. The model has been specifically designed to demonstrate the relevance of higher education to students, parents and community members through strong career links, reinforcing pathways and positive role models from similar backgrounds working or studying in a variety of fields (Halsey, 2018). Inspiring those in regional communities to navigate information on potential careers early on is essential to setting an expectation of progressing to higher education before young people disengage.

There is no 'one size fits all' model of successful outreach, and communities require information and initiatives tailored to the needs of the region and its population, industry, resources, geographical location and history. The *Independent Review into Regional, Rural and Remote Education* (Halsey, 2018) found that for many students in rural, regional or remote schools, determining what they would like to do after finishing school may be limited by the lack of advice and information about post-school pathways, careers and preparing for them.

Findings

The pilot study examined the impact of the outreach model delivered to 36 regional schools over a 12-month period in 2017, investigating students' awareness of higher education and how the design of the modules appealed to them through innovative technology, engagement and presentation. As the findings from the study reflect only one year, they are limited in terms of scope, duration and comparison data. However, qualitative feedback from students (n=2372) and teachers (n=99) shows that the online modules help to increase student awareness of and aspiration for higher education.

Implementing the new outreach model through the pilot project resulted in 87 per cent of student respondents indicating that they have an increased understanding of higher education, with 92 per cent finding the modules helpful, engaging and informative. Feedback received through the completion of surveys by teachers supervising student participation in the program across each of the modules was positive to a range of post-program questions. Of the teachers who responded to the surveys, 78 per cent indicated that they believed the program influences students' views that university might be achievable, 82 per cent acknowledged the benefits of their students engaging with online modules, and 84 per cent identified the program as having a positive impact on their students.

Teachers indicated that the modules were well-designed and that they encouraged student engagement, thereby providing a crucial ongoing link and presence with the university. Students gained greater access to resources and information that explained the relevance and long-term benefits of higher education. After viewing the range of university student videos, high school student participants reported that they were able to visualise themselves turning their interests and passions into a future career. Through the online modules, students virtually experienced what it's like to be a university student and saw how they too could develop the skills required to live out of home, establish a sense of belonging at university, and independently navigate

support services. Based on feedback from pilot participants, the presence of university role models appears to have added value to the program and increased students' interest and engagement with the content.

Students reported that they enjoyed participating in the program and found the interactive modules engaging and informative. Students completed activities where they were asked to actively seek out detailed, meaningful and tailored information regarding specific courses, careers and pathways. A number of participants reported that the online modules challenged their thinking and encouraged them to step outside of their comfort zones to consider careers that they may otherwise not have. Many students reported a strong connection to activities which challenged their decision-making and opinions on certain types of post-school pathways. Participants reported activities helped them to feel more confident and reassured of potential future pathways and how to navigate them successfully. The following quotes from students in different years and at different high schools, exemplify the impacts on their thinking:

> *This module is really helpful, it helps break down and explain an overwhelming decision* [for our future career and uni choices]. (Year 10 student, Boorowa Central School)

> *It was fun and I liked that the quizzes made us think more about ourselves and what we would like to do after high school.* (Year 9 student, Tumbarumba High School)

> *Talking about my goals and aspirations helped me want to achieve them more.* (Year 9 student, Griffith High School)

> *I liked the idea of the career wheel that I got to spin a few times. The parts where I spun the wheel and had to share why I thought the career would be good/bad for me was great! Sometimes, I think of a career, and just straight away shut the idea down because I can't see myself doing it, but when I was faced with the challenge of deciding why it would or would not suit me, I found that sometimes I would start to change my opinion on it.* (Year 10 student, Gundagai High School)

> *I now know the subjects I need to choose for my HSC which is a huge help.* (Year 10 student, Gundagai High School)

> *Even though I still don't have a perfect idea of what I want to do in my future, I'm closer than I was before. I now have a better idea of what I want for my future, as well as how I can get there once I decide. Your videos about the student lives were great, I feel a lot better knowing that even if I go to university still a bit unsure about what I would like to become, I will get there eventually even if plans change along the way.* (Year 9 student, Wagga, Wagga High School)

As evidenced from the comments, students gained increased exposure to opportunities and information about university they may not have otherwise been able to access or consider. Reassurance was a recurring theme in student feedback with several young people commenting that the videos of students' lives were helpful in highlighting what university might actually be like as well as the relevance of courses and pathways to careers. The online modules provided a vehicle for students to gain vital information and increase their confidence to pursue post-school pathways and navigate their future careers. Students reported feeling empowered to search for information independently within a supportive environment.

Discussion

This paper examines a study of the impact of an online outreach program delivered to regional NSW and Queensland schools in 2017. The innovative multi-modal delivery enriched learning opportunities, sparking students' curiosity, encouraging them to connect with the content. Students were challenged to learn more about the relevance of their personal interests, passions and attributes and how they could lead to post-school study and their future careers. Aligning with the findings of Devlin and McKay (2016), students reported being ready to embrace the technologies that provided increased flexibility and access to resources, highlighting the critical importance of: 1) challenging dominant outreach models that, in this case, are simply not suitable for non-metropolitan populations, and 2) adapting practices to best fit the needs of those we are attempting to engage.

The project produced additional implementable outcomes, including, careers advisers indicating their desire for the online modules to be readily available in future. That is, pilot schools will continue using the online modules to complement students' learning and to aid in post-school pathway navigation, in-home discussion and career planning. The modules provided scope for schools to tailor engagement to the needs of their students and the unique elements of their community.

The new model demonstrates the impact and the potential to raise regional awareness of higher education and enhance aspiration for further study. Results of implementation of this model in more remote contexts would likely differ from the regional contexts in the pilot areas as the school visits by outreach officers would be more challenging and costlier to coordinate, highlighting the need to further address the very real barriers of distance and cost identified by Gale et al. (2010). Whilst increased use of livestream video could be employed to combat these potential program disadvantages, no technology or virtual engagement can truly replace people-rich interactions.

The study results concluded that online outreach would not be effective in isolation or as the only medium of engagement with young people. This finding is reinforced by Stone (2017) who reported in relation to online undergraduate courses that regular and structured contact between the institution and the student is important in providing connection and direction along the student journey. As expected, participating teachers and students overwhelmingly reported that nothing replaces the power of face-to-face engagement and felt strongly that those connections still need to be made between the university and the community. Limitations to online delivery also include heavy reliance on technology and internet connectivity as well as continued reliance on teachers or careers advisers to encourage students to engage with the content. As discovered, the traditional outreach principles require some refinement to suit regional and rural contexts and online components, whilst proving their value, they must be part of a scaffolded and more holistic program.

Through the development of a blended outreach model, the approach discussed here enables students from regional and remote areas to engage in a resource-sustainable way, whilst providing necessary face-to-face contact and campus experiences where possible. The new model adopted a strategic approach to outreach by focusing on key areas of impact and activities which address the common barriers to higher education participation. To combat the compounding disadvantage that people in regional areas may experience due to their geographic location, online programs can provide greater access to information, key university staff and role models, enabling people to participate in post-school decision-making on a more level playing field.

It is well-established that technology and online resources increase opportunities, participation and inclusion for people in regional areas and play an increasingly important role in outreach for

education (Devlin & McKay, 2016; Stone, 2017). Universities can engage and support students that may be more geographically isolated than their metropolitan counterparts by building learning communities beyond traditional brick and mortar confines. Incorporating online elements into the delivery of university outreach programs provides greater scope and flexibility for participants, whilst increasing sustainability of initiatives and utilising limited resources most efficiently. Key findings from Bennett et al. (2015) is that more effective outreach programs focus on high school and mainly familiarise students with a university environment, academics, support staff and current students studying a variety of courses. The new model provides a vital avenue to implement effective and sustainable outreach programs in the regions because it enables greater access to resources and addresses the key barriers to higher education participation for non-metropolitan students.

Conclusion

This paper addresses a number of issues impacting transition to higher education for people in regional Australia and suggests strategies that can be collectively developed to combat common barriers and make a genuine, long-term difference for non-metropolitan communities. Revealing the potential of university outreach to increase regional aspirations for higher education through the introduction of more innovative and multilateral delivery in Australia, the outreach model presented here highlights how such barriers might be addressed sustainably and at scale. Regional outreach must move away from the dominant model of school and cohort based to a more flexible approach that demonstrates awareness of the communities we are engaging with and the people who call them home.

Using one institution's approach, our research suggests that an online blended outreach model has the potential to increase the aspirations and participation of regional students. The results of this project provide an evidence base for the suitability of online outreach programs, as an adjunct to face-to-face programs, enabling engagement with schools and communities that might otherwise not be able to participate in traditional outreach programs. Addressing these issues early through targeted achievement raising (Burnheim & Harvey, 2016) in the regions via tailored online programs could connect students with the necessary information and tools for them to make informed decisions regarding post-school study at a time when career aspirations are high (Gore et al., 2017; Zacharias, 2017). This potentially could encourage academic achievement and result in an increased number of regional students participating in higher education.

As outlined, the development of enhanced university outreach programs to increase the regional participation rate in higher education poses an extremely complex and multidimensional challenge. Australian universities must rise to the challenge of significant locational disadvantage and educational inequalities, reflect on learnings and use evidence to develop more holistic outreach programs to engage with schools and communities in regional and remote areas. Changes to traditional outreach models, including more widespread use of technology and innovative approaches to ensure scope, scale and successful return on investment will improve academic outcomes, increase awareness of, nurture aspirations for and facilitate access to higher education (AIHW, 2014), ultimately increasing regional higher education participation rates.

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