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Leveraging Local Knowledge: Exploring how to Support Regional, Rural and Remote Students' Career Development

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Abstract

Australian higher education participation continues to expand, yet in unequal ways. Regional, rural, and remote (RRR) student participation is stubbornly stalled, despite sustained research and policy initiatives to support these cohorts. To address this complex issue, we interviewed 10 RRR principals in Queensland and Victoria to explore specific challenges that face RRR communities, as well as collate strategies and solutions. Our findings highlighted the importance of leveraging and developing local knowledge and expertise to equip students with careers education, as well as the need to promote a positive narrative about RRR community life. A key theme that emerged from participants was the need to dispel the myth that students needed to leave their communities to achieve their goals or find career success. The findings from this paper point to a need for educational outreach programs to continue to develop context-specific, locally informed programs and support that align with RRR communities' values and ways of life.

Keywords: *Australia, career development, local knowledge, outreach, regional, rural and remote communities*

Introduction

Regional, rural, and remote (RRR) student participation in Australian higher education continues to be disproportionately low compared to the overall population. Koshy (2019) found that RRR students comprise only 20.6 per cent of higher education students compared to 28 per cent of the total Australian population (also see Australian Bureau of Statistics, 2018). The sector is yet to see significant change in the percentage of RRR students (Burnheim & Harvey, 2016; Napthine et al., 2019), despite the introduction of a demand-driven system (from 2008-2017) where caps were lifted on student numbers. National statistics further show that students from RRR communities are less than half as likely to gain a university qualification by the time they are 35 years old,

compared to their metropolitan peers (Napthine et al., 2019). Even as substantial government funding and support initiatives have contributed to improving outcomes in specific cases, the overall widening of higher education participation has not improved the outcomes of RRR secondary students (Dollinger et al., 2020). A recent independent review into RRR education commissioned by the Australian government, showed there is a persistent relationship between location and educational outcomes when data for the various measures is aggregated (Halsey, 2018). This review also suggested that RRR students continue to lag behind their urban counterparts in National Assessment Program – Literacy and Numeracy (NAPLAN) results (Halsey, 2018). This evidence, and other research findings, continue to confirm that RRR students face severe logistical, geographical, financial, and emotional barriers that can hinder their ability or motivation to study at university (Bunn et al.,2019; Burke et al., 2017; Halsey, 2019).

One reason equity in higher education participation has long been a key policy concern is that the attainment of higher education can not only shape one's youth experiences but can also extend its influence over their lifetime. For example, acquisition of a university degree has been closely linked with individuals' occupational opportunities (Australian Bureau of Statistics, 2016; Cardak et al., 2017; Cassells et al., 2012). Therefore, unequal opportunities for RRR students to access higher education can have longer-term implications for their career aspirations and options. Although children and young adults from RRR areas are no less likely to hold aspirations for university, particularly when young, they are more likely than other students to be motivated by potential short-term employment outcomes and financial benefits (Morris, 2012; Stone, 2017). Often, RRR students link university study to leaving their local community (O'Shea et al., 2019; Ronan, 2020). As Alloway and Dalley-Trim (2010) suggested, "*it was the case that most of the students were looking onward and, in line with this in many instances, outward – away from their rural communities – in order to accommodate and fulfil their aspirations for the future*" (p. 121). In this study, we attempt to show how challenging and breaking down these assumptions and stereotypes through mobilising regional and local resources and engaging industrial partners can create a positive narrative about the enabling factors drawn from these communities to foster students' aspirations. Specifically, this study intended to address two research questions. First, what are the challenges facing schools in RRR communities to develop students' aspirations for higher education and career? Second, what strategies have been employed in RRR communities to develop students' aspirations?

Literature Review

Research suggests that decision-making processes associated with post-school planning begins from an early age (Alloway et al., 2004). Adolescence is seen as a key age to prepare students for the transformation from school to the world of work, where fostering reasonable educational and occupational aspirations are key developmental goals for this stage (Alsaker & Olweus, 2002; Yeung & McInerney, 2005; Yun & Min, 2015). A study by Fleming and Grace (2014) found students' career interests relative to aspirations are highest in Year 7, while (Gore et al., 2017) found career interests can begin in Year 5. Gore et al. (2015) also challenged the assumption that younger students only hold 'fantasy' aspirations, and found that younger students' aspirations were similar older students, with older students choosing slightly more prestigious occupations.

The development of educational and career aspirations is a complex process, involving assumptions and evaluations about an individual's present and future surroundings abilities, interests, values, and motivations (Zipin et al., 2015). Previous studies identified three broad factors that interact with each other to shape young people's aspirations: personal characteristics; schooling experiences; and social and cultural environments (Butler, 1999; Gemici et al., 2014; Quaglia & Cobb, 1996; Stipek & Gralinski, 1996; Tang, Pan, & Newmeyer, 2008). The educational and occupational preferences of adolescents differ from one another according to gender, academic achievement, economic status, ethnicity, religion, parental occupation and

education, access to opportunity structures and educational resources (Gutman & Schoon, 2012; Akos et al., 2007; Urmila, 2016).

Although factors at an individual level play an important role in shaping students' higher education and career expectations, research suggests that schools can make a significant difference. Adolescents spend a substantial part of their lives at school and thus the school environment is of particular importance. Schools can provide the social, intellectual, and moral reference points outside the family through which adolescents can gauge the importance of their own developing values and goals (Yeung & McInerney, 2005). Previous studies have demonstrated that a positive school environment could encourage students to make greater efforts to fulfill their goals in both academic and social domains (Butler, 1999; Stipek & Gralinski, 1996). Educators at this stage need to scaffold students' wider understanding of their postsecondary options by encouraging them to articulate and explore their skills, helping them to familiarise themselves with vocational competencies and classifications of industries and jobs (Yun & Min, 2015). Existing studies also confirm the important role career development practitioners play in forming students' occupational aspirations. Career practitioners in schools offer a wide range of services including career advising and counselling, job hunting strategies, testing and assessment to students in both one-to-one and group formats (Furbish, 2002; Niles & Karajic, 2008; Yates et al., 2017).

In Australia, there are various programs designed to develop school students' career-related knowledge, skills, and attitudes, assisting them to make informed decisions about their study and/or work options and enabling their effective participation in working life at both the national and state levels. For instance, *Future Ready: A student focused National Career Education Strategy*, is a national program led by The Australian Curriculum to prepare students for their future careers (Australian Curriculum, Assessment and Reporting Authority, n.d.). In Victoria, the state government budgeted $6.9 million in 2020-21 to fund a range of programs which support students, including those at risk of disengagement, to understand and participate in school, training, and employment pathways. These projects included *Skilling the Bay*, *the Knox Innovation Opportunity and Sustainability Centre*, *Project REAL* and the *Northern Centre for Excellence in School Engagement* and *The Geelong Project* (State Government of Victoria, 2019). Additionally, some of these programs also intended to improve students' career management capacity by offering students' more comprehensive information about their career options.

To foster students' education and career aspirations a collaborative effort is required from schools, universities, and other partners. University outreach programs have become widely established and function to expose secondary students to a variety of professions, provide them with information about different careers and recruit them into degree programs (Kesidou & Koppal, 2004; Nadelson & Callahan, 2011; Swift & Watkins, 2004; Thompson & Consi, 2007). Outreach and widening participation interventions promote or enable behaviours and opportunities that lead to a successful higher educational trajectory (Carrillo-Higueras & Walton, 2020; Kinnane et al., 2014). There is a growing recognition that university outreach programs that only engage students could be inadequate, and a broader approach which includes industry partners would better provide students with relevant authentic learning experiences. Involvement of industry partners could create opportunities for disseminating 'real-time' relevance to prospective employees (Wolf et al., 2020). Teachers who have limited understandings of certain occupations may struggle to foster students' expectations; therefore, the engagement of industry partners could address these gaps in teacher knowledge (Jeffers et al., 2004; Woodroffe et al., 2017). Collaboration among schools, universities, industry, and business can create a network for exchanging knowledge and harnessing expertise for the benefit of both educational and industry partners (Briscoe et al., 2016). Such mutually beneficial arrangements have become increasingly attractive in a rapidly changing environment to

contribute to individual students' aspirations as well as wider community development and prosperity (Temple et al., 2001; Wolf et al., 2020).

In response to research showing close proximity to a campus may positively impact students' aspiration for higher education and further influence their career expectations and options (Cooper et al., 2017) there has been an increase in the number of programs targeting students in RRR communities (Ellis et al., 2008). Metropolitan school-aged children may have incidental encounters with universities (e.g., driving or walking by one) which could normalise the prospect of attending university. On the other hand, students from outer regional areas, for instance, can be located over 100 kms away from their nearest regional campus. To alleviate disparity between regional and metropolitan areas, the National Regional, Rural and Remote Tertiary Education Strategy (Napthine et al., 2019) recommended increasing the number of Regional University Centres (RUCs) to encourage students to pursue a university degree while staying closer to home. There are currently 16 centres established across Australia (Department of Education, 2018), and the Australian government has announced plans to invest an additional $21 million over four years to establish nine additional RUCs and strengthen the existing support network (Australian Government, 2020). It is worthwhile to note that community influence has certainly been a rare subject of outreach programs that target students in RRR areas (Dollinger et al., 2020). This neglect of community inclusion and funded support may contribute to lower access and participation rates for RRR students by enabling specific notions about university to take a firm hold within the community. Such a situation could potentially cause a deficit mindset (see Valencia, 1997) where regional or rural communities may not believe their youth are suited to university life and/or certain occupations and thus perpetuate misunderstandings about who 'belongs' in higher education and therefore see little value in engaging with university outreach initiatives (Welch, 2007).

Theoretical Framework

The multi-faceted nature of factors that shape higher education and career aspirations (e.g., personal, contextual, structural), enabled researchers to draw on the insight of many theoretical perspectives including Social Cognitive Theory (Bandura, 1977) and Capital Theory (Bourdieu, 1997). Our study was informed by Zipin et al.'s (2015, p. 236) conception of 'Emergent Aspirations', which was developed based on Williams' (1977, p. 132) 'Structures of Feeling' and Moll et al.'s (1992) 'Funds of Knowledge' concepts. The 'Emergent Aspirations' concept was employed in this study due to its applicability to dispelling the stereotype of RRR communities. According to Zipin et al. (2015), emergent aspirations refer to "*emergent senses of future potential, grounded in lived cultures, which hold possibility for imagining and pursuing alternative futures*" (p. 227). Students from power marginalised backgrounds are encouraged to enact their agency through perusing and viewing futures through their own community lens and exceed historical social-structural limits that have traditionally persisted in their community (Zipin et al., 2015).

Bourdieu's (1990) concept of habitus, which refers to "*a system of cognitive and motivating structures*" or "*dispositions*" which function "*as principles that generate and organize [perceptions and] practices*", has been used to interpret student aspirations (p. 53). In habitus there is a "*strategic calculation—an estimation of chances … in relation to a probable, 'upcoming' future*" (Bourdieu, 1990, p. 53). Such "*habituated aspirations*" (Zipin et al., 2015, p. 234) embodying the possibilities-within-limits of given social-structural positions, often imply a deficit perspective to understand the aspirations of RRR students. The 'habituated aspirations', which reflect a past-into-present perspective based on the rational calculation of possibilities, rely on students' "*feeling*", "*sensuousness*" and "*imagination*" (Zipin et al., 2015, p. 236). Such a perspective inverts the systemic deficit view in which schools see less well-off families and communities "*as places from which children must be saved or rescued, rather than places that, in addition to problems (as in*

all communities) contain valuable knowledge and experiences that can foster … educational development" (Zipin et al., 2015, p. 237).

Reflecting on the various aspirations of young people in power marginalised regions including emergent, habituated, and doxic, Zipin et al., (2015) suggests, "*we need to take seriously all future-tending impulses among the young… we must work with impulses as they arise, treating them generously as well as being pragmatic about them*" (p. 242). Therefore, in this article, we explore with a pragmatic lens what barriers or challenges have faced young people in RRR communities and what strategies, developed or implemented by their school, have supported them. The development of learning activities by integrating cultural resources of life-based contexts could assist with transforming students' diversities into pedagogical assets (Moll & Gonzalez, 1997). Appadurai (2004) suggested that an effective capacity to aspire requires exercises in local teaching and learning which increase the ability to navigate the cultural map in which aspirations are located and to cultivate an explicit understanding of the links between specific wants or goals and more inclusive scenarios, contexts and norms among the marginalised student. Emergent aspirations, according to Zipin et al. (2015), are neither sufficient nor necessarily constructive to power marginalised students, however, "*at an ethical level we do valorise the emergent as a locus of sense-making processes that can exceed the capture of constraining institutions, systems and structures, generating alternative vectors which could move in more socially just directions*" (p. 243).

The Study

This study was a part of a broader research project funded by the National Centre of Student Equity in Higher Education (NCSEHE) to explore the perceptions of students, carers, and educators' needs and experiences towards higher education pathways and career options. As part of the project, the research team conducted ten interviews with RRR principals from Queensland and Victoria to explore the challenges facing schools in RRR areas. We specifically focused on strategies for developing RRR students' aspirations and career knowledges and what practices have been implemented to mobilise regional and local resources to create authentic learning experiences for students to format their expectations for higher education and occupations.

Schools were initially shortlisted according to their Australian Statistical Geography Standard (ASGS) classification in Victoria and Queensland. For the purposes of this study, it was determined that outer regional, remote and/or very remote schools should be targeted to ensure an inclusive regional and remote representation. As an intersection with the geographical locality of the school, additional variables including percentage of Indigenous enrolment (minimum of two per cent and eight per cent in Victorian and Queensland schools respectively) and socioeconomic status as determined by a below-average Index of Community Socio-Educational Advantage (ICSEA) value were also considered. An invitation letter with a plain language statement was sent to targeted school principals to seek their participation. A total of ten principals were recruited to participate in the interviews, constituting five Victorian and five Queensland schools and as Table 1 illustrates, our participants met our above-stated criteria.

Table 1: ***Demographic Details of Interview Participants***

Participant ID	ICSEA	Indigenous Enrolment	ASGS Classification	State
P1	903	27%	Very Remote	Queensland
P2	915	27%	Very Remote	Queensland
P3	975	2%	Outer Regional	Victoria
P4	905	16%	Outer Regional	Victoria
P5	982	3%	Outer Regional	Victoria
P6	960	18%	Very Remote	Queensland
P7	958	11%	Outer Regional	Queensland
P8	959	2%	Outer Regional	Victoria
P9	938	12%	Outer Regional	Victoria
P10	927	27%	Very Remote	Queensland

Considering the objective of the study, a qualitative approach is appropriate. A semi-structured interview protocol, comprised of warm-up and in-depth interview questions, was developed to elicit the participants' 'lived experiences'. This particular type of interview was used as the method to collect data because of its ability to construct the meanings that participants attributed to their actions, including their beliefs, values, knowledge, and expectations (Marshall & Rossman, 2006). Due to the COVID-19 restrictions, all interviews were conducted in May of 2020 online over Zoom, Webex, or MS Teams. The duration of the interviews ranged from 45 minutes to 75 minutes, with each being recorded digitally and transcribed by a professional transcription service. A thematic analysis was performed with all data coded into Nvivo. To maximise the consistency and reliability of the analysis process, all analyses were performed by at least two members of the research team. This method created a data set (Gioia et al., 2013) from which Treasure et al.,'s (2008) three-step analytical approach of describing, comparing, and relating major themes was adopted.

Findings

We have organised our data below under two categories: 1) challenges facing schools in RRR communities and 2) strategies for developing and supporting student aspirations.

Challenges Facing Schools in RRR Communities

Principals of schools in RRR communities reported several challenges for fostering their students' aspirations for higher education and careers, including the lack of industry knowledge, constraints of resources, and the mismatching between students' and the industrial partners' expectations. One theme that emerged around students' lack of industry knowledge was the high number of graduate teachers with limited knowledge of the wider vocational and employment markets. One principal, for instance, estimated that one-third of their teachers were very new to the profession (Participant 2). He went on to explain that this was problematic because most new teachers came straight from university and had very limited working experience. While these teachers could provide insight into university life for students, they often struggled to relay information about working in industry. The participant also noted that younger, less experienced teachers may not feel competent to talk about different occupation

options or provide students with updated work-related information about careers in fields outside of education. In fact, the lack of industrial knowledge was a barrier not only for teachers but also for some principals. In many cases, principals found it difficult to keep abreast with the latest industrial movements and job markets in their regions:

> *We have been doing a lot of work up here recently with the Victorian Skills Commissioner and looking at areas of career opportunities in the Mildura and Sunraysia region. The Victorian Skills Commissioner came up and said that the horticulture and agricultural industry in Sunraysia is alive and booming. Also, there is an untapped oil well and there are dozens and dozens of jobs out there. The principals of the secondary schools who were in the room at that time, myself included, looked at him and said "what are you talking about?" There is a number of industry leaders in the room, such as the CEO from Lower Murray Water. There were representatives from one of the transport haulage companies, one of the major car dealerships, and one of the large commercial air conditioning and refrigeration companies. They are all saying that they have got jobs in logistics, technology, and etc., however, they cannot get anybody to apply for those jobs. (Participant 9)*

Such experiences shared by the principals suggest that it may not be fair to assume that educators who work in regional or remote schools are naturally familiar with the specific economic and industrial structure in those areas, the shortages in workforce, and the available job opportunities. The disparity in information between potential employers and schools remains a key barrier for educators in RRR areas to mobilise community and regional resources to help their students understand different industries and prospective careers (Fleming & Grace, 2014; Vernon et al., 2018). One participant noted that their school had introduced a careers subject in Year 9 and 10 to help support student career understanding but that the initiative was too new to be evaluated yet.

Besides the lack of knowledge, some principals identified a possible mismatch between the needs of industrial partners and students' skills. Participant 5 shared a less successful outreach activity in their school. As agriculture is a major industry in the region, the school used to organise Year 7 students to visit local farms and invite the farmers to introduce farming knowledge and activities. However, farmers available for the outreach program were senior in age and displayed a lack of enthusiasm for engaging the children in hands-on activities on their farm and only talked randomly about their farming lives, such as sitting in the ute. The principal described it,

> *We've got old snoozer farmers that get around and they're old fellas and what they really want from the students is somebody to sit in the ute and listen to their bullshit, maybe open the gates for them. They have no real work experience for them (Participant 5).*

The principal went on to note that while that was "*gold*" for some students, most students were disappointed in the experience if they were not able to have a "*serious adult conversation with a mentor*".

In addition to the two major challenges reported above by participating principals, there were also some minor issues facing schools in RRR communities to develop effective activities fostering students' aspirations for both higher education and occupations. Due to a common shortage in school staff, leaders in regional and remote schools normally bear a larger workload and putting together available resources to engage industrial partners requires time. As Participant 3 suggested, "*if I ever had the time to actually put together a list of all the different activities and places, employment groups, and organisations that offer career education opportunities, that might be really useful.*" Another principal identified gender stereotypes as an issue in school activities that offer workplace mentoring and experiences for students. "*It would be ideal to rotate students through a broad range of careers and to de-normalise those gender*

stereotypical careers" (Participant 5). One program that was mentioned during interviews that helped combat gender stereotypes was 'Beyond Broncos'. Participant 2 commented,

> *Beyond the Broncos Officer is paid for by the Broncos rugby team to visit twice a week to chat with Indigenous girls and focus on goal setting and special guests visit… But do you know who they target? They actually employ, they pay for a, we call it a Beyond Broncos Officer, two days a week to come here at school, to target our Indigenous girls. Isn't that awesome? Isn't that just fabulous? And then they bring out a team, and get footy prints, and Justin Hodges and all these other people come out, and they come once a term and focus on goal setting and all that sort of stuff, for our Indigenous girls. It's just brilliant. (Participant 2)*

Principals often welcomed the prospect of guest speakers, especially those promoting a positive narrative about regional, rural, or remote living. As Participant 6 described, "*You don't have to leave town to keep your education going… [you can live locally] and still have goals and ambitions*."

Strategies for Developing Students' Aspirations

Although there are many barriers facing schools in RRR communities to develop activities for fostering students' higher education and career aspirations, principals in our study shared different strategies they employed for coping with the challenge through engaging industrial partners. Many principals emphasised the importance of connecting students with adults from the local community to create opportunities for students to be exposed to authentic learning environments for career related knowledge. For example, Participant 3 commented that,

> *I think probably the most powerful activity that we have done at our school is to get people to come back who have been in training or employment or who have been to university. People who have been working 20 years in a particular business come back to actually share their stories with the kids. That is really valuable to get ex-students to come back and talk about their pathway and their decisions, and what they did at school and what they did after school to help them along their way with their careers, and to talk about how careers can change in a role over time, too. Because teachers are very good at talking, and we can talk and talk at our kids. But often it is not until someone from outside the school comes in that it actually becomes authentic and makes sense to them. (Participant 3)*

Other principals echoed such views, highlighting the great value of graduates from the school helping current students to develop occupational expectations. Participant 1 explained that they ran similar career programs where they invited ex-students who had graduated and worked in the local region to talk about their jobs. Another principal emphasised the importance of careers interviews, where specialised career practitioners helped students reflect on their skills and ambitions, as they noted, "*Career interviews at Year 9 are a fantastic insight into learning strengths and areas of interest, [they] give some great leads as to what students can pursue as they go into Year 10 and beyond*" (Participant 4). In addition to alumni, some principals suggested leveraging personal networks such as former colleagues in other industries and family members in regional companies as resources which could be mobilised and brought into school to support career activities. For example, Participant 7 mentioned that "*I work with QMEA, which is Queensland Resource Academy and we have worked with them, I actually know the CEO and have known her for over 30 years, we worked in TAFE together*."

Many principals stressed that career exploration activities should be integrated into the curriculum rather than implemented in a disperse and one-off approach. Participant 7 shared a successful program with Origin Queensland Gas Company (QGC), which is part of international oil and gas firm Royal Dutch Shell. Origin QGC's major business is to develop methane reserves within the Surat Basin of Queensland, the region where the school is located. They noted, "*I have worked with them, well I actually know the CEO, for over 30 years. And rather than the one-off*

courses, which you know are a dime a dozen now, we worked with them to actually develop a programme… that is strongly connected to industry from grade 7 to 10" (Participant 7). A geologist of the company visits the school regularly and connects subject knowledge with relevant jobs in their company. Such visits have become a part of the school's curriculum and the geologist not only drops into the classroom and talks to students but carefully designs the activities to create a link between the curriculum and work-related knowledge and skills, contributing to the achievement of desired outcomes. Another good practice example was provided by Participant 5, who described a program at their school which leads students to work experiences through inquiry-based learning:

> *Cows Create Careers is just an amazing program put up by the dairy industry to promote the industry and the jobs within it. In this program the kids actually look after calves, so we get calves from a local dairy farm. They bring them into school, the kids of Year 7 and 8 look after the calves. Then we have to travel to Terang or somewhere like that, and they do a presentation. The kids keep diaries and then they do a project, a research project. At the end they have a big gala day and announce it. The focus is getting kids interested in the dairy industry, and it really is. I think it would be fantastic if other industries like wool or meat could do the same thing for students. I think that is probably one of the best things I have seen from an industry group and promotion of different careers in their industry. (Participant 5)*

Some participants argued that to engage students with work experiences an authentic learning environment is indispensable. Educators should not only instil cognitive concepts and knowledge about different careers but also create the opportunity for students to 'feel', 'touch', and 'immerse':

> *It is important and useful for students to being out in the community and in contact with people outside of the schools to see how organisations such as Country Fire Authority and the local [volunteer organisation name] association really works. It will help students to get a sense of their community and contribute to their community. (Participant 3)*

> *I also think to get kids involved we need to do more hands-on and stop talking at them. Don't just say this is what a goat dairy looks like. This is how a goat dairy operates, you go and shovel the manure over there. You get the feed over, and things like that. I think kids get a sanitised version of how things operate and then when it comes to the face-to-face and they have actually got to do some work. (Participant 10).*

Participants also noted several local university outreach programs. For example, Participant 1 spoke about CQUni Connect as their school's most valuable partnership program because it supports regional students from several schools to attend the Rockhampton campus for a week-long trip and make friends. They explain, "*My students love the CQ Uni Connect program… they go to Rockhampton, they go to uni and TAFE campuses and get lots of ideas from the facilitators about what careers they could be do*" (Participant 1). Another program mentioned by Participant 2 was UQ's Young Achiever Program that runs like a camp and helps ease students into city life.

However, leaving the classroom is not necessary for an authentic learning experience. Participant 5 gave the mock interviews run by the school as an example:

> *Industry professionals from the community were invited to the school and students were encouraged to dress up, in suit and tie, and go through a real interview process with them. Students enjoyed the program and feedback was positive about their experiences.*

All the strategies and good practices shared by the principals indicated that the negative narrative about RRR communities could be dispelled, at least to some extent, by educators' innovative and creative deployment of locally available resources with input from industrial and

higher education partners. The strategies that principals employed also highlighted the necessity and importance of collaborative inputs from different players, including the school, university, industry, and other organisations and associations.

Discussion and Conclusion

Prior to the release of the Bradley Review of Higher Education (Bradley et al., 2008) which identified regional and remote students as one of the most severely underrepresented equity target groups in higher education in Australia, the aspirations of students living in regional and remote communities were not a priority on the Australian research agenda. Following the Bradley Report, a considerable number of studies showed a broad range of personal, contextual, and structural factors interact in particular ways with students based in RRR locations and affect their aspirations and expectations for higher education (Alloway & Dalley-Trim, 2010; Dollinger et al., 2020; Zipin et al., 2015). Indeed, context plays a significant role in shaping young people's aspirations for both higher education and careers because certain features of the environment in which children grow up may serve as a filter that distils perceptions of structural factors and possibilities and as a source of information about their future options (Lent et al., 2000). As we have seen in our study of RRR communities, the contextual barriers that have presented themselves included lack of industry knowledge, due to a lack of professionals in the local community and teacher background and training, which may offer limited knowledge on available careers. These issues may be partly attributable to the regional, rural, or remote locations of the communities, with principals underscoring the importance of students being able to see industry (e.g., professionals working in the city) or educational pathways (e.g., TAFE or university campuses) first-hand. But the issue is not location alone. Some principals noted that there were successful industry jobs around their communities and successful partnerships with industry, such as engineering, farming, mining.

Therefore, the task of further developing positive aspirations for higher education and different occupational options for RRR communities is not just to eliminate perceived barriers, but to also explore creative, context-specific strategies and programmes. Our findings support this argument by showcasing several examples, as described by principals, of schools partnering with community members, industry, universities and/or TAFE to create opportunities for students to explore and realise aspirations. This view echoes that of Woodroffe et al. (2017) who demonstrated that career education in rural communities could be reinvigorated by mobilising local professional networks and educational opportunities, some of which rural educators were previously unaware of despite them being on their doorstep. Yet as Zipin et al. (2015) suggested students from power marginalised communities also need to explore aspirations outside of their constrained habitus, and that the path forward hinges on complex initiatives that challenge emergent, doxic, and habitus aspirations. They further argued that two key dimensions are required for emergent aspirations to be brought into effective expression and agentic mobilisation towards alternative futures: resourcing and capacitating. The strategies and good practices that our participating principals shared offer empirical examples of the resourcing and capacitating exercises. In Halsey's (2018) review of RRR education in Australia, he also suggested that "*improvement in education is achieved by exploring how existing resources can be used more effectively, not just by allocating more of them*" (p. 2).

More importantly, by engaging regional industrial partners, the experiences of principals who participated in this study helped show that local RRR communities can make a meaningful contribution by exerting positive, context-rich knowledge on students. This should be further developed with more targeted professional development opportunities for local school staff to learn about a range of careers and the emerging opportunities for RRR students. Meanwhile, pursuing higher education and different occupational options does not necessarily equate to the necessity for RRR students to leave home. Indeed, there are many jobs in local industries and

regional companies for prospective graduates, which used to be out of both the educators' and students' knowledge. It could be problematic to assume that educators always stay up to date with jobs that are available within and outside communities (Woodroffe et al., 2017). In prior studies (for example, see Alloway & Dalley-Trim, 2010), it was found that rural students' aspirations were driven by pragmatic considerations of how they could escape from what they perceived to be restrictive features within their communities. Further education and training represented a 'ticket out of town' for them, without which their horizons would be severely limited. Rural students emphasised the instrumental value of education in allowing them to escape from rural communities where they could see little hope of employment. It should be acknowledged that due to the structural changes in Australian economy, the loss of agricultural and manufacturing work has reduced the available employment in many regional and outer-suburban areas, and incomes are on average higher in the cities in comparison to that in regional communities (Wood, 2018). Such circumstances may help explain regional students' inclination to leave their communities for career opportunities and success.

The findings of our study indicate an alternative pathway for RRR students to aspire for upward mobility, without leaving the environment with which they are familiar and to which they would like to commit. By engaging industrial, higher education, and other organisational partners, school leaders in RRR communities can establish a network for knowledge and information sharing. As Briscoe et al. (2016) suggested, networks enable the amplification and mobilisation of knowledge, making it move through individuals, groups, divisions, and organisations. Such knowledge sharing networks also display the potential to create ongoing social contact (Watson et al., 2002), through which educators could synthesise information and scaffold the process of students' aspiration formation. The career activities run in participating schools not only show students various possibilities for future study and work but also light the pathway to desirable ends step by step.

Alongside our finding that there is a need to create a more positive narrative about RRR life, is the suggestion that research and practice should continue to investigate how online learning can be optimally offered to RRR communities. While the online university cohorts already contain a higher proportion of students from RRR backgrounds, there are concerns over the equitable (or inequitable) support offered to these online RRR-based students (see Stone et al., 2019). The negative experiences of online students have the potential to create ripple effects, because adults in RRR communities may be less likely to recommend online study options (Dollinger et al., 2020). Stone and O'Shea (2019) highlight the importance of building flexibility into online course design that could particularly enable part-time students, or those with carer responsibilities, to have success in their studies.

Our study highlights the importance to empower and support RRR teachers and local communities to creatively tackle existing barriers to postsecondary participation. This includes resourcing, either in the form of additional funding for programs that link to industry, or career counsellor and teacher professional development to ensure broader industry knowledge. Learnings drawn from this study are expected to illustrate the need to continue to create a positive narrative about the RRR communities and debunk the myth that students must leave their communities to continue their learning. By drawing on previous studies, working with relevant stakeholders, utilising existing relevant community structures, and disseminating relevant information in appropriate ways, there is potential to bring about real change relating to rural students' aspiration for higher education and careers. The desire to be close to family and friends, the strong commitment to, and identity of, community, and obligations as carer or working on the family farm, in some cases kept young people from pursuing higher education because it meant leaving their obligations behind. However, the bond to one's home should not be a barrier for rural and remote youth to imagine, look forward, and crave for a future with

higher education and a wide breadth of job options (Ellis et al., 2008; Fleming & Grace, 2017; Kinnane et al., 2014).

References

Akos, P., Lambie, G. W., Milsom, A., & Gilbert, K. (2007). Early adolescents' aspirations and academic tracking: An exploratory investigation. *Professional School Counseling, 11*(1), 57-64. https://doi.org/10.1177/2156759X0701100108

Alloway, N., & Dalley-Trim, L. (2010). Looking 'outward and onward' in the outback: Regional Australian students' aspirations and expectations for their future as framed by dominant discourses of further education and training. *The Australian Educational Researcher, 37*(2), 107-125. https://doi.org/10.1007/BF03216925

Alloway, N., Dalley, L., Patterson, A., Walker, K., & Lenoy, M. (2004). *School students making education and career decisions: Aspirations, attitudes and influences*. Department of Education, Science and Training. https://www.voced.edu.au/content/ngv%3A13120

Alsaker, F., & Olweus, D. (2002). Stability and change in global self-esteem and self-related affect. In *Understanding early adolescent self and identity: Applications and interventions.* (pp. 193-223). State University of New York Press.

Appadurai, A. (2004). The capacity to aspire: Culture and the terms of recognition. In V. Rao & M. Walton (Eds.), *Culture and public action* (pp. 59-84). Stanford University Press.

Australian Bureau of Statistics. (2016). *Characteristics of employment, Australia, August 2015*. https://www.abs.gov.au/ausstats/abs@.nsf/7d12b0f6763c78caca257061001c-c588/3c48183914417l4eca258113001877b2!OpenDocument

Australian Bureau of Statistics. (2018). *Education and work, Australia: 2018*. https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/6227.0May%202018?OpenDocument

Australian Curriculum, Assessment and Reporting Authority (n.d.). *General capabilities and career education*. https://www.australiancurriculum.edu.au/resources/general-capabilities-and-career-education/

Australian Government. (2020). *Better university funding arrangements: more transparent and accountable funding*. https://www.dese.gov.au/more-opportunities-regional-australia

Bandura, A. (1977). *Social learning theory*. Prentice-Hall.

Bourdieu, P. (1990). *The logic of practice*. Stanford University Press.

Bourdieu, P. (1997). The forms of capital. In A. H. Halsey, H. Lauder, & P. Brown (Eds.), *Education: Culture, Economy, Society* (pp. 46-58). Oxford University Press.

Bradley, D., Noonan, P., Nugent, H., & Scales, B. (2008). *Review of Australian Higher Education: final report*. https://apo.org.au/sites/default/files/resource-files/2008-12/apo-nid15776.pdf

Briscoe, P., Pollock, K., Campbell, C., & Carr-Harris, S. (2016). Finding the sweet spot: Network structures and processes for increased knowledge mobilization. *Brock Education, 25*(1), 19-34. https://doi.org/10.26522/brocked.v25i1.432

Bunn, M., Bennett, A., & Burke, P. J. (2019). In the anytime: Flexible time structures, student experience and temporal equity in higher education. *Time & Society, 28*(4), 1409-1428. https://doi:10.1177/0961463X18787649

Burke, P. J., Bennett, A., Bunn, M., Stevenson, J., & Clegg, S. (2017). *It's about time: Working towards more equitable understandings of the impact of time for students in higher education*. Retrieved from https://www.newcastle.edu.au/__data/assets/pdf_file/0008/350864/TIME_ONLINE.pdf

Burnheim, C., & Harvey, A. (2016). Far from the studying crowd? Regional and remote students in higher education. In A. Harvey, C. Burnheim, & M. Brett (Eds.), *Student Equity in Australian Higher Education: Twenty-five years of A Fair Chance for All* (pp. 143-162). Springer Singapore.

Butler, R. (1999). Information seeking and achievement motivation in middle childhood and adolescence: The role of conceptions of ability. *Developmental Psychology, 35*(1), 146-163. https://doi:10.1037/0012-1649.35.1.146

Cardak, B., Brett, M., Bowden, M., Vecci, J., Barry, P., Bahtsevanoglou, J., & McAllister, R. (2017). *Regional student participation and migration: Analysis of factors influencing regional student participation and internal migration in Australian higher education*. https://www.ncsehe.edu.au/publications/regional-student-participation-and-migration-analysis-of-factors-influencing-regional-student-participation-and-internal-migration-in-australian-higher-education/

Carrillo-Higueras, F., & Walton, T. R. (2020). Perceptions and intentions of secondary students in rural Australia to progress to university. *Higher Education Research and Development, 39*(4), 627-642. https://doi:10.1080/07294360.2019.1685942

Cassells, R., Duncan, A. S., Abello, A., D'Souza., & Nepal, B. (2012). *Smart Australians: Education and innovation in Australia.* Retrieved from https://www.researchgate.net/publication232814798_Smart_Australians_education_and_innovation_in_Australia#read

Cooper, G., Baglin, J., & Strathdee, R. (2017). *Access to higher education: Does distance impact students' intentions to attend university?* https://www.ncsehe.edu.au/publications/access-to-higher-education-does-distance-impact-students-intentions-to-attend-university/

D'Angelo, B., & Dollinger, M. (2021). Provision of equitable careers education in Australia: The case for middle years outreach programmes. *Journal of Vocational Education & Training*. https://doi.org/10.1080/13636820.2021.1975798

Department of Education. (2018). *Employment outlook to May 2023.* https://cica.org.au/wp-content/uploads/Employment-Outlook-to-May-2023.pdf

Dollinger, M., D'Angelo, B., Naylor, R., Harvey, A., & Mahat, M. (2021). Participatory design for community-based research: A study on regional student higher education pathways. *The Australian Educational Researcher, 48*, 739-755. https://doi.org/10.1007/s13384-020-00417-5

Ellis, B., Watkinson, J., & Sawyer, J. (2008). Working together to make things happen: New on-campus higher education opportunities in a regional centre. *The Australian Educational Researcher, 35*(3), 71-88. https://doi:10.1007/BF03246290

Fleming, M. J., & Grace, D. M. (2014). Increasing participation of rural and regional students in higher education. *Journal of Higher Education Policy and Management, 36*(5), 483-495. https://doi:10.1080/1360080X.2014.936089

Fleming, M. J., & Grace, D. M. (2017). Beyond aspirations: Addressing the unique barriers faced by rural Australian students contemplating university. *Journal of Further and Higher Education, 41*(3), 351-363. https://doi:10.1080/0309877X.2015.1100718

Furbish, D. S. (2002). A Snapshot of New Zealand Career Practitioners. *Australian Journal of Career Development*, 11(2), 13–17. https://doi.org/10.1177/103841620201100204

Gemici, S., Bednarz, A., Karmel, T., & Lim, P. (2014). *The factors affecting the educational and occupational aspirations of young Australians*. National Centre for Vocational Education Reserch. https://www.ncver.edu.au/__data/assets/file/0021/9516/factors-affecting-aspirations-2711.pdf

Gioia, D. A., Corley, K. G., & Hamilton, A. L. (2013). Seeking qualitative rigor in inductive research: Notes on the Gioia Methodology. *Organizational Research Methods, 16*(1), 15-31. https://doi:10.1177/1094428112452151

Gore, J., Holmes, K., Smith, M., Fray, L., McElduff, P., Weaver, N., & Wallington, C. (2017). Unpacking the career aspirations of Australian school students: Towards an evidence base for university equity initiatives in schools. *Higher Education Research and Development, 36*(7), 1383-1400. https://doi:10.1080/07294360.2017.1325847

Gore, J., Holmes, K., Smith, M., Lyell, A., Ellis, H., & Fray, L. (2015). *Choosing university: The impact of schools and schooling.* National Centre for Student Equity in Higher Education. https://www.ncsehe.edu.au/publications/choosing-university-the-impact-of-schools-and-schooling/

Gutman, L. M., & Schoon, I. (2012). Correlates and consequences of uncertainty in career aspirations: Gender differences among adolescents in England. *Journal of Vocational Behavior, 80*(3), 608-618. https://doi:10.1016/j.jvb.2012.02.002

Halsey, J. (2018). *Independent Review into regional, rural and remote education. Final report*. Department of Education and Training. https://www.dese.gov.au/quality-schools-package/resources/independent-review-regional-rural-and-remote-education-final-report

Halsey, J. (2019). Rural and remote education and the fundamentals of leading for all. *The Australian Educational Leader, 41*(4), 8-11. https://search.informit.org/doi/10.3316/ielapa.989136983592472

Jeffers, A. T., Safferman, A. G., & Safferman, S. I. (2004). Understanding K-12 Engineering outreach programs. *Journal of Professional Issues in Engineering Education and Practice, 130*(2), 95-108. https://doi.org/10.1061/(ASCE)1052-3928(2004)130:2(95)

Kesidou, S., & Koppal, M. (2004). Supporting goals-based learning with STEM outreach. *Journal of STEM Education, 5*(3/4), 5. https://www.jstem.org/jstem/index.php/JSTEM/article/view/1125

Kinnane, S., Wilks, J., Wilson, K., Hughes, T., & Thomas, S. (2014). *'Can't be what you can't see': The transition of Aboriginal and Torres Strait Islander students into higher education*. https://www.notredame.edu.au/__data/assets/pdf_file/0020/2882/SI11-2138-OLT-Final-Report-FINAL-Web.pdf

Koshy, P. (2019). *Equity student participation in Australian higher education: 2013-2018*. National Centre for Student Equity in Higher Education. https://www.ncsehe.edu.au/wp-content/uploads/2020/04/NCSEHE-Equity-Student-Briefing-Note_2013-18_Accessible_Final_V2.pdf

Lent, R. W., Brown, S. D., & Hackett, G. (2000). Contextual supports and barriers to career choice: A social cognitive analysis. *Journal of Counseling Psychology, 47*(1), 36-49. https://doi:10.1037/0022-0167.47.1.36

Marshall, C., & Rossman, G. B. (2006). *Designing qualitative research* (4th ed.). Sage Publications.

Moll, L. C., Amanti, C., Neff, D., & Gonzalez, N. (1992). Funds of knowledge for teaching: Using a qualitative approach to connect homes and classrooms. *Theory Into Practice, 31*(2), 132–141. http://www.jstor.org/stable/1476399

Moll, L., & Gonzalez, N. (1997). Teachers as social scientists: Learning about culture from household research. In P. M. Hall (Ed.), *Race, ethnicity and multiculturalism: Policy and practice* (pp. 89-114). Garland.

Morris, E. W. (2012). *Learning the hard way : Masculinity, place, and the gender gap in education*. Rutgers University Press.

Nadelson, L., S., & Callahan, J. (2011). A comparison of two engineering outreach programs for adolescents. *Journal of STEM Education, 12*(1/2), 43-54.

Napthine, D., Graham, C., Lee, P., & Wills, M. (2019). *National regional, rural and remote tertiary education strategy – Final report*. https://www.dese.gov.au/access-and-participation/resources/national-regional-rural-and-remote-tertiary-education-strategy-final-report

Niles S.G., & Karajic A. (2008) Training career practitioners in the 21st century. In: J.A. Athanasou & R. Van Esbroeck (Eds). *International Handbook of Career Guidance* (pp. 355-372). Springer.

O'Shea, S., Southgate, E., Jardine, A., & Delahunty, J. (2019). 'Learning to leave' or 'striving to stay': Considering the desires and decisionsof rural young people in relation to post-schooling futures. *Emotion, Space and Society, 32*, 1-8. https://doi:10.1016/j.emospa.2019.100587

Quaglia, R. J., & Cobb, C. D. (1996). Toward a theory of student aspirations. *Journal of Research in Rural Education, 12*(3), 127-132. https://sites.psu.edu/jrre/wp-content/uploads/sites/6347/2014/02/12-3_2.pdf

Ronan, C. (2020). "Should I stay, or should I go?": The mobility paradigm in widening participation for regional, rural and remote students. *International Students in Widening Participation, 7*(1), 34-47. https://novaojs.newcastle.edu.au/ceehe/index.php/iswp/article/view/145

State Government of Victoria (2019) *Career education*. https://www.education.vic.gov.au/school/teachers/teachingresources/careers/Pages/default.aspx

Stipek, D., & Gralinski, J. H. (1996). Children's beliefs about intelligence and school performance. *Journal of Educational Psychology, 88*(3), 397-407. https://doi:10.1037/0022-0663.88.3.397

Stone, C. (2017). *Opportunity through online learning: Improving student access, participation and success in higher education.* National Centre for Student Equity in Higher Education. https://www.ncsehe.edu.au/wp-content/uploads/2017/03/CathyStone_EQUITY-FELLOWSHIP-FINAL-REPORT-1.pdf

Stone, C., & O'Shea, S. E. (2019). My children… think it's cool that Mum is a uni student: Women with caring responsibilities studying online. *Australasian Journal of Educational Technology, 35*(6), 97-110. https://doi:10.14742/ajet.5504

Stone, C., Freeman, E., Dyment, J. E., Muir, T., & Milthorpe, N. (2019). Equal or equitable? The role of flexibility within online education. *Australian and International Journal of Rural Education, 29*(2), 26-40. https://journal.spera.asn.au/index.php/AIJRE/article/view/221

Swift, T., M. , & Watkins, S., E. . (2004). An Engineering primer for outreach to K-4 education. *Journal of STEM Education, 5*(3/4), 67-76.

Tang, M., Pan, W., & Newmeyer, M. D. (2008). Factors influencing high school students' career aspirations. *Professional school counseling*, *11*(5), 285-295. https://doi.org/10.1177/2156759X0801100502

Temple, J., Tayebjee, F., & Pearce, R. (2001). *'From outreach to engagement: fostering civil society through educational partnerships'.* Paper presented at the 8th Annual Conference of the Coalition of Urban and Metropolitan Universities, Vancouver, Canada.

Thompson, M. K., & Consi, T. R. (2007). Engineering outreach through college preorientation programs: MIT discover engineering. *Journal of STEM Education: Innovations and Research*, *8*(3-4), 75-82.

Treasure, E., Chadwick, B., Gill, P., Stewart, K., & Burnard, P. (2008). Analysing and presenting qualitative data. *British Dental Journal, 204*(8), 429-432. https://doi:10.1038/sj.bdj.2008.292

Urmila, S. (2016). Positive parent-child relations and girls' vocational aspiration. *Journal of Psychosocial Research, 11*(1), 177-182.

Valencia, R. (Ed.). (1997). *The evolution of deficit thinking: Educational thought and practice.* The Falmer Press.

Vernon, L., Watson, S. J., & Taggart, A. (2018). University aspirational pathways for metropolitan and regional students: Implications for supporting school-university outreach partnerships. *Australian and International Journal of Rural Education, 28*(1), 87-103. https://journal.spera.asn.au/index.php/AIJRE/article/view/167

Watson, D., Townsley, R., & Abbott, D. (2002). Exploring multi-agency working in services to disabled children with complex healthcare needs and their families. *Journal of Clinical Nursing, 11*(3), 367-375. https://doi:10.1046/j.1365-2702.2002.00623.x

Welch, A. (2007). The city and the bush. In R. Connell, C. Campbell, M. Vickers, A. Welch, D. Foley, & N. Bagnall (Eds.), *Education, Change and Society*. Oxford University Press.

Williams, R. (1977). *Marxism and literature*. Oxford University Press.

Wolf, S., Burrows, A. C., Borowczak, M., Johnson, M., Cooley, R., & Mogenson, K. (2020). Integrated outreach: Increasing engagement in computer science and cybersecurity. *Education Sciences, 10*(12), 353-375. https://doi:10.3390/educsci10120353

Wood, D. (2018). *Pushing water uphill*, https://grattan.edu.au/wp-content/uploads/2018/03/Pushing-water-uphill.pdf

Woodroffe, J., Kilpatrick, S., Williams, B. and Jago, M. (2017) Preparing rural and regional students for the future world of work: Developing authentic career focussed curriculum through a collaborative partnership model. *Australian and International Journal of Rural Education*. *27*(3), 158-173. https://journal.spera.asn.au/index.php/AIJRE/article/view/143

Yates, J., Hooley, T., & Bagri, K. K. (2017). Good looks and good practice: the attitudes of career practitioners to attractiveness and appearance, *British Journal of Guidance & Counselling*, *45*(5), 547-561. https://doi.org/10.1080/03069885.2016.1237615

Yeung, A. S., & McInerney, D. M. (2005). Students' school motivation and aspiration over high school years. *Educational Psychology (Dorchester-on-Thames), 25*(5), 537-554. https://doi:10.1080/01443410500046804

Yun, S., & Min, S. (2015). Analysis on occupational preference, career, aspiration and career attitude maturity of middle & high school students. *Indian Journal of Science and Technology, 8*(S7), 664-673. https://doi:10.17485/ijst/2015/v8iS7/70469

Zipin, L., Sellar, S., Brennan, M., & Gale, T. (2015). Educating for futures in marginalized regions: A sociological framework for rethinking and researching aspirations. *Educational Philosophy and Theory, 47*(3), 227-246. https://doi:10.1080/00131857.2013.839376