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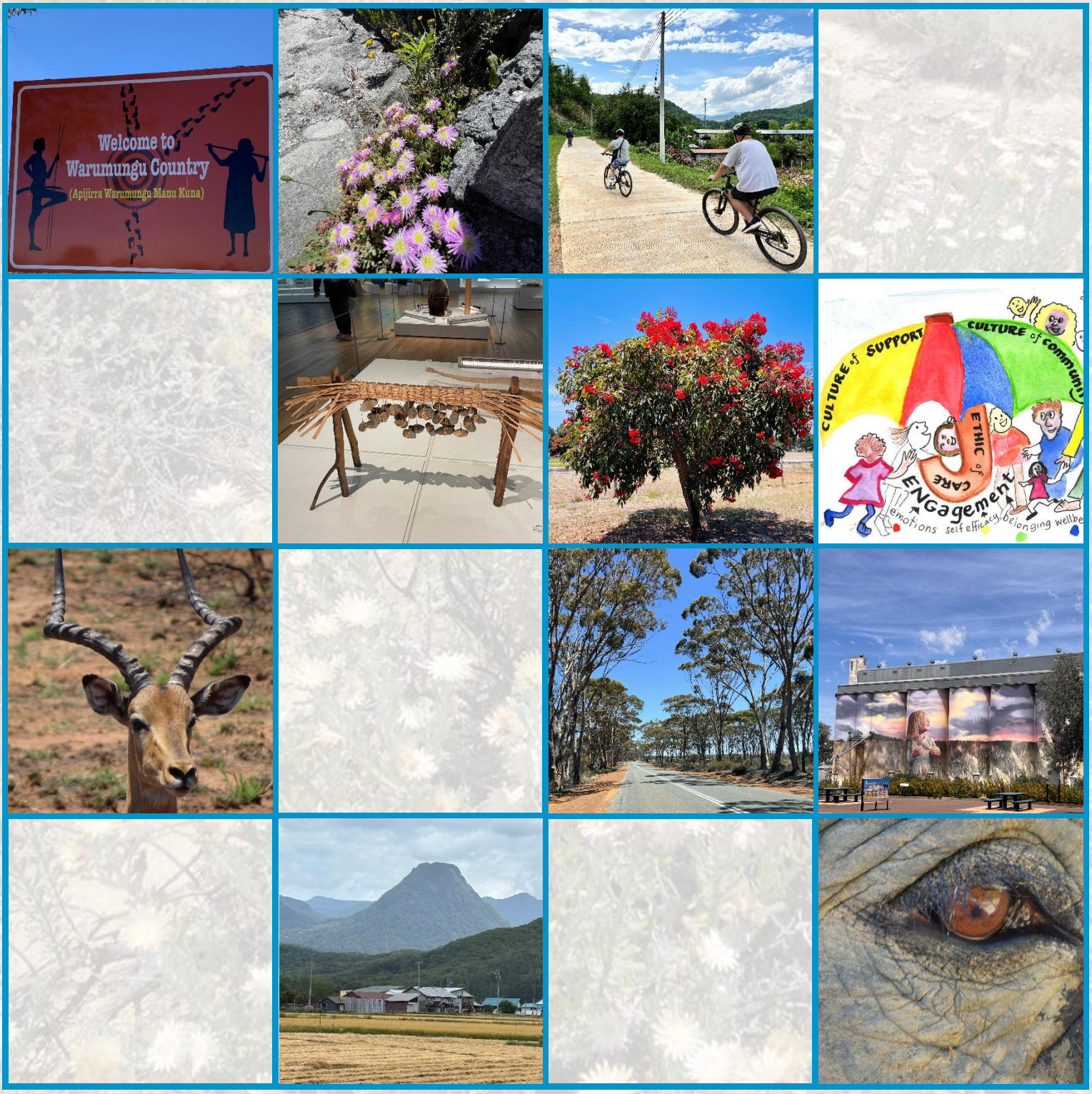

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The *Australian and International Journal of Rural Education* is the Journal of the Society for the Provision of Education in Rural Australia (SPERA). It serves as an international medium for educators and researchers with an interest in rural education

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What's Rural About Rural Education Research?

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Abstract

This issue offers readers a broad range of articles that discuss various aspects of rural education in different learning settings in Australia, South Africa, Tanzania, Thailand and Japan. One of the common threads we bring out in this editorial is about the 'rurality' of rural education research. Drawing on the articles we provide an answer to the question: 'what's rural about rural education research?' We conclude that rurality in rural education research reflects teaching and learning. It is contextual, based on the place, where knowledge is generated from the rural. Importantly too, it draws from the realities that make rural education unique. Rural education research reflects the values of the place and uses methodologies which give voice to the people of rural communities. It is relational rather than transactional. It is not the opposite of research in urban areas, and it should not be seen as a reaction to metrocentric views of the rural as being in some kind of deficit. As you read through this set of articles, we encourage you to take time to consider how rurality intersects with education and research.

Keywords: *rurality, rural education, research, rural values, rural realities, rural knowledges*

Introduction

> *Standing on the banks of the mighty Clarence river, I watch students learn about landscape and landforms, but in this same process they also learn about human movement, biology, and the interaction that occurs between human architecture and the architecture of the natural world. It is holistic learning experience that allows connections to be made between different parts and how these parts form to make the whole; the place, their place. The Clarence becomes the classroom and the silent educator. The fast-moving water, the wildlife, the rowers out in the water, the shopping trolley laid to rest on the banks of the river – these are all connected to a particular moment in time here. The students see how one element influences all others and, as part of this, knowledge is co-constructed in a place that is constantly evolving and shifting as these differential elements interact. I see now that the rural is generative in nature. Dr Christopher Hudson, observational research notes.*

The above observational notes are taken from a current research project investigating school success in rural New South Wales, Australia. We leverage these observational notes to make a strong assertion at the outset of this editorial: rural places are generative in that they create

knowledge and connection between knowledges. Rurality is not a passive bystander or a constant. It is variable, contextual, and an active participant of knowledge creation (Harry et al., 2024; Knight et al., 2024; Wooltorton et al., 2022). Too often in educational research there exists place unconsciousness and the context is not brought into the conversation as relevant to the research. As part of this, we quite often see rurality positioned as a footnote, a side quest, a nice-to-know contextual shrug off, and we maintain that this does not advance knowledge *in* the rural, *for* the rural. In other words, just because a project occurs in or studies something in a rural place, does not necessarily make it rural education research. It is therefore timely to return to the question that Bill Green asked us to consider when it comes to our research and practice, "*What does the adjective 'rural' do*?" (2013, p.17).

In this editorial, we wish to draw a line in the sand between research that is simply set in or is about 'the rural' and research that deeply, actively engages with rural places as separate and unique contexts. We advocate for two calls to action: (1) if rural is claimed to be the focus of the research, then place needs to be brought to the front of consciousness and described in detail as a core component of the research, and (2) deficit discourses about rurality need to be countered, shifting to ones that focus on the generative nature of rurality. Only by actioning these calls are we able to answer the question which is the focus of this editorial: what's rural about rural education research?

To emphasise this even further, we use the analogy of a vehicle. We cannot consider rurality to be universal, else we forget that many different parts make up a vehicle, and different vehicles have different parts of different, size, shape, order, structure, and purpose, albeit falling under the same classificatory umbrella as a vehicle. What we continue to see in rural education research is a lack of descriptive analysis of the rural 'parts' in a particular moment in time; the industry, the local knowledges, the geology, the social relations, and the interactions that occur between them all that culminate in a deep understanding of place—the rural social space (Reid et al., 2010). Without an examination of the parts, 'rural' is used as a blanket cover all term for something that is not metropolitan—the same vehicle, but different and lacking because of this difference. We must shift this rhetoric.

Through this issue, we bring to light the importance of educational researchers foregrounding place in their research. Many of these contributing authors examine the parts of their rural 'vehicle', describe them and their relationships, and demonstrate how one rural place might be considered different to another. By doing this, we shift our perspective to the generative nature of rural places and, as others before us have noted, a 'pedagogy of the rural' (Walker-Gibbs et al., 2018) which places as its focus not on what we bring to rural places, but on what rural places teach us about ourselves and others.

Articles

Staley, Freeman, Seamer, and Papatraianou report on a study that followed a program designed to increase phonological awareness in three Northern Territory (Australia) rural schools. Perhaps unsurprisingly given the evidence they and others report (Carroll, 2016; de Witt & Lessing, 2016), the intervention resulted in positive improvement for the students. The authors note that "*when rural educators can access professional development and hone their own skill set, they can implement practices which unlock student capacity at an age where children are primed for oral language acquisition*" (p.13). Herein lies a problem for rural education. It is quite likely that rural teachers (especially in the Northern Territory) are not going to be able to access the professional development they need. Without it, they may be less likely to recognise barriers to phonological awareness such as otitis media induced hearing loss (Sharma et al., 2020). Further, in many Aboriginal communities of the Northern Territory where English is not the language spoken at home, children may have trouble recognising the foreign sounds of English. One should be asking

why is this such an issue for rural communities when, presumably, it is not such a problem for urban communities?

Taylor, McDonald, O'Dea, Manning, and Cosby examined how perceptions, gender, and role models shaped the agricultural career aspirations of 495 high school students in the Gippsland region of Victoria, Australia. They found that positive perceptions of agriculture and the presence of sector-specific role models were the strongest predictors of student interest. Interestingly, the authors found that gender and parental occupation did not significantly influence career choices, but social exposure through role models had a direct and positive impact on career interest within the agricultural space. By focusing on a regional ecosystem where the agri-food sector was the primary economic driver, the authors demonstrate how the rural acts as a distinct social network that shapes student self-efficacy with industry, specifically in agriculture.

Khoza explored the factors influencing learner engagement in classroom questioning within rural Life Sciences classrooms in KwaZulu-Natal, South Africa. They identified six key factors affecting engagement, such as learner anxiety, language barriers, and teacher orchestration of questions. Engagement was also shaped by whether topics like the history of life resonated with learners' religious or traditional beliefs. This article contributes to the issue's theme by positioning rurality as a complex pedagogical strategy to better understand student engagement, rather than merely as a reference to geographic location. In doing so, Khoza presents the rural as a unique psychological landscape, whereby building cultural and religious understanding is necessary to maximise rural students' engagement in subjects such as Life Science.

Swai and Burton investigated the integration of vocational skills into secondary curricula in rural Iringa, Tanzania. Guided by Open System theory, they found that stakeholders saw vocational education as crucial for fostering self-reliance and bridging the youth unemployment gap. However, they noted that implementation is hindered by systemic barriers such as resource scarcity, theft of school materials, and a lack of scheduled practical sessions. The authors highlight the often delicate and contextual interplay between the enactment of national curriculum policy and local survival strategies in rural places that are under-resourced.

Duchesne, Avitaia, and Brown drill down into the ways non-traditional students experience belonging and feel supported at regional campuses of the University of Wollongong, Australia. They take a strengths-based approach with a starting point of that all students can and should feel a sense of belonging during their university experiences. The authors consider the particularity of places – down to specifics such as tearooms – and their role in creating a "*culture of community and support*" (p. 81). Importantly, their work highlights how a sense of belonging contributes to student success, including retention. They close with the assertion that "*place, identity and relationships were all visible contributors to belonging… Rather than separate models of belonging these elements interacted with one another.*" (p. 82) This contributes to our argument of rural places as generative, not simply a passive context.

James and Keenan unpack the type of 'place' study hubs are in their article. These study hubs have successfully played a part in increasing Australian regional/rural/remote students university participation rates through their place-based and community-centric nature (Baker et al., 2025; Keenan, 2025). As with the previous article (Duchesne et al.), the authors identify some of the 'little', often quite practical things, that make a place feel welcoming and inclusive. They argue that these regional hubs are third spaces and as such "*they foster a culture of learning and community engagement*" (p. 97) in regional, rural and remote areas in addition to their directive to provide academic support. Again, this article – as do so many in this issue – argues for a nuanced, deep consideration of place in the role of regional, rural, and remote educational experiences.

Schmude, Whannell, Tighe, and Munday report on the development and trial of a toolkit for teaching academics to better support their regional, rural, and remote students to be engaged

with their studies. The toolkit was designed to help alleviate the barriers their off-campus students may experience compared to on-campus counterparts who have more ready access to university supports in-person and whose disengagement may be noticed sooner. The authors found that the toolkit enabled earlier intervention with disengaged students with enhanced outcomes, and minimal additional workload for the teaching academics. This article highlights that when the physical place of students is considered, technology can assist universities to proactively close the transactional distance, an important factor to consider in the ongoing effort to widen university participation (Australian Government, 2024).

James, Hogan, and Thiele tackle another thorny issue of workload for rural teachers in the context of well-intentioned philanthropic initiatives designed to support preservice teachers' rural, regional, and remote placement experiences. Philanthropy undoubtedly creates opportunities (Rowe & Di Gregorio, 2025), especially for schools and communities that struggle to find resources to make programs work well (Roberts et al., 2021). But the authors here describe the additional work that this creates as "*cruel optimism*" (p. 121) where staff take on extra tasks as intermediaries for the sake of the greater good (see also Rowe & Di Gregorio, 2025). The dynamic the authors describe creates a conundrum for rural educators who see a need and a solution to a problem, but then have to make it work. Of course, the potential negative impact of philanthropy is just one of many reasons why rural teachers feel stress and leave (see for example Williams et al., 2022) but one of the key lessons from James and colleagues' study is that apparent benefits of programs and interventions may not be perceived that way by teachers.

Next, Byth, Nash, Bradbury, Fitzgerald, White, and Kardaris tackle an old chestnut about pre-service teacher placements in non-metropolitan schools. Like others (for example Hudson et al., 2021; Thiele et al., 2024; Versland et al., 2022), they argue for place-based approaches that are not seen as just another alternative to metropolitan placements, but as a contextually nuanced experience that is controlled and led by people from the rural space. The basis for concern in this article and others that report on pre-service placement options, is the need to attract and recruit staff to rural schools. This is a long-standing issue that comes up time and again in the literature (Guenther et al., 2023). Rural experiences for undergraduate students can have a profound impact, but clearly, as Byth and colleagues suggest, they are not enough to adequately build a pipeline of rural teachers who not only are attracted to rural communities, but who want to stay. This is perhaps more of a problem now than it was in previous decades when there was an excess of graduates in metropolitan areas.

The issues reported here are global concerns, as Ajani notes in his article in the context of South Africa. He discusses pre-service teachers' use of critical thinking and creative problem-solving skills through Self-Regulated Learning, Technological Pedagogical Content Knowledge, and Social Justice Pedagogy. Ajani also highlights resource and infrastructure limitations, which have a significant impact on rural pre-service teachers' motivation to work in rural schools. However, Ajani's work demonstrates that teaching coupled with a strong curriculum that encourages collaboration, critical thinking, creativity, and communication, can and does make a positive difference to student perceptions of their experience at university.

Louth and Sanderson take a more optimistic and positive approach to the issue of rural workforce attraction. Using a visual methodology, the authors explore how images connect teachers to place. Their work describes the importance of 'place-consciousness' (see also Louth, 2025; Macdonald et al., 2025; Thiele et al., 2023) to build connections with their environment. Similar to Hudson's reflections at the start of this editorial, they focus on "*natural beauty, serenity, and time to enjoy outdoor pursuits, where participants felt these helped them to cope with the pressures of teaching*" (p. 172). These connections add to the social connectedness that is often an intrinsic part of life in rural communities. By doing this, the authors enable us to see the

richness of rural life, countering arguments of deficits which Ajani and James and colleagues have addressed in their work.

Erawan, Erawan, Kaosa-ard, Kanawapee, and Chowwachart share findings that identify key attributes for beginning teachers in remote Thailand who participated in the Kru Rak Thin Project which aims to 'grow your own' rural teachers. They surveyed beginning teachers, their principals, and their mentor teachers. They found these program participants were well-suited to their new profession in their home-locales in part because they "*have a strong connection to the familiar local environment … [and] can see the benefits of their contributions to the community and feel appreciated for their efforts*" (p. 207). These findings support the need for beginning teachers to be community-ready not just classroom-ready (White, 2019).

Finally, Coffey-Oates and McNaught use the Social-Ecological Framework to shine a light on the various barriers rural and low socio-economic students if they want to enter medical school. They stress that limits to accessing medical school are not due to students lacking motivation or ability, but a variety of complex, interwoven factors from the systemic level down through individual experiences. The cumulative effects of these entrenched barriers can blunt rural youth aspiration and seem almost a deliberate deterrent, despite the crisis level in rural medical workforce shortages. These barriers and calls for reforms from stakeholders echo those we have heard perennially in the field of rural education (Guenther et al., 2023), many of which stem from a lack of consideration of rurality or of the generative nature of place.

Rural Connections

The Rural Connections article for this issue details the underpinning themes of rurality of a Summer School for international postgraduates delivered by the authors Hernan Cuervo, Yoshihito Ii, and Maiko Aoki in 2025. By sharing the conceptualisations and theories intentionally used to plan and deliver the Summer School, the authors contribute to the Journal's mission of "*strengthening the research and practical links between Australian and international rural education*". Theirs is an example of deliberately centring *the rural* in rural education and education research. Beyond the specifics of the Summer School itself, their piece adds to our issue's theme by reinforcing that conscious effort is required to ensure 'good' rural research and practice.

Book Review

Cuervo reviews *Educated Out* by Mara Tieken (Tieken, 2025). He pulls together many of the threads of rurality that authors in this issue have highlighted. The book tracks the journey of nine students who attended an elite college in New England. Noting that earlier in this editorial we pushed back against deficit discourses of rurality, the reality that Tieken describes in the American context is "*spatial injustice*" (p. 5). The issues of rural marginalisation/othering, under-resourcing, failed meritocracy, misrecognition, and deficit discourses repeatedly come to the fore. This is despite the apparent hopefulness that marks the start of their college journey, and the persistence they exhibit. Cuervo also picks up on another theme of 'resistance':

> *For these students, attending an elite college is an act of resistance: "kids from here" aren't expected to go to an elite school, and they have little help getting there. When they arrive, they learn that many college opportunities aren't available to them, that belonging is often provisional, and that after graduation, they can't return home. (*Tieken, 2025, p. 16*).*

The 'portraits' that Tieken creates are sadly reminiscent of many rural young people in other places across the globe, who have to learn to leave (Corbett, 2007), or leave their home Country, language, and culture behind to attend boarding or residential schools (O'Bryan, 2021) with an expectation that they will be 'resilient' (Mander & Lester, 2021; Rutherford et al., 2020).

Summing up

Putting these contributions for this issue together, we can see the complexity of rurality in its relationship to education. What we see reported are many of the challenges associated with rural people's ongoing engagement in education, from the early years through to university and beyond. In the early years, as reported by Staley and colleagues, we see problems associated with teaching phonological awareness that would never exist in an urban context. While schools in urban settings certainly have students whose first language is not English, to the best of our knowledge, there are none that have a cohort of Indigenous students who speak a traditional language or creole, and who have not learned early literacy skills in their first language. Byth and colleagues respond to the seemingly intractable problem of rural teacher recruitment, suggesting that rural placements are inadequate on their own as vehicles for building a rural teacher workforce. Swai and Burton's article about vocational education in secondary schools highlights the failures of systems and school structures to adequately prepare rural young people in Tanzania for future work. And reading Cuervo's book review, we could also see the many challenges of rurality coming to the fore.

But it's not all bad news! Taylor and colleagues' finding that the rural acts as a distinct social network, shows the potential strength of social capital that learners can draw from. Erawan and colleagues offer similar suggestions, stressing how important local connections are for students returning to their home communities. Similarly, Louth and Sanderson's findings about the recognition of natural beauty among rural teachers new to the space, offers an alternative frame of reference in addressing recruitment and retention of rural teachers.

Further, despite the challenges identified in several articles, it is evident that many problems have a solution. This is evident in Duchesne and colleague's work, which shows how within a culture of community and support, non-traditional university students can feel an even stronger sense of belonging than traditional students. Cuervo, in his Rural Connections article highlights how negative perceptions of rurality from urban students can shift with the right connections so they become rural allies. In a South African rural context, which might otherwise be characterised with deficits, Ajani demonstrates how good curriculum and teaching strategies can ameliorate the apparent challenges. Khoza, also in South Africa, demonstrates how barriers to engagement in the life sciences can be broken down when teachers understand students' anxieties and recognise how important language is (also noted by Staley and colleagues). Schmude and colleagues also offer solutions to problems of distance students' engagement and retention at university. Their work highlights how easy to use tools can facilitate better communication/feedback with students and may support sustained engagement outcomes for rural students.

So, What's Rural about Rural Education Research?

We now return to the question posed by the title to this editorial: What's rural about rural education research? Clearly, as Cuervo and colleagues point out in their Rural Connections article, there is something about the 'right to be rural'. This is an ontological statement that speaks to the lived experiences of rural education researchers. One might argue that researchers from outside rural spaces or with no experiences of rural life, have no place *doing* rural education research. How then might the rural-curious approach and do 'good' rural research? Authors in this issue have also spoken about the epistemological aspect of their work. Picking up on Hudson's opening quote, knowledge that is generated from place has a certain legitimacy that is often not recognised by those outside the rural. This is not to suggest that knowledge systems derived from the metropolitan world have no place in the rural—they do. But knowledge production—which is arguably what research is all about—must be grounded in the knowledge of the place where it is created. Louth and Sanderson, in their article, conclude with an important

statement: "*If fostering rural consciousness in early career teachers can change the deficit narrative associated with these locations, then the adaptability and mindfulness of these teachers can result in deeper connection to community values*" (p. 187). Replacing the word 'teacher' with 'researcher' would make the statement equally true. There is something in this that speaks to the axiology of rural research (Downes et al., 2021), where what is right for the rural comes to the fore.

In most of the articles in this issue, rural students, teachers, parents and community members are given voice to express what is important to them. Recognising and honouring them is perhaps a key entry point for new-to-rural researchers, following White and colleagues' advice "*to enter a new place, policy space, or heated discussion with curiosity and cultural humility*" (2024, p. 265). Rural education research is centred on the values of the rural, speaking back to the assumptions of the metropolitan, that so often dismisses or homogenises the values of those in rural communities. Finally, there is a methodological answer to the question we posed. As some of our authors have pointed out the strength of many rural communities lie in the relationships that draw people together. Rural research is, therefore, intentionally relational in its methodology. This is particularly true of rural Indigenous communities where 'yarning' (a conversational approach) is applied (Bessarab & Ng'Andu, 2010), where the conversation in research flows from relationship, not from some kind of transaction (Ober, 2017). The 'rural' in rural education research is, therefore, about place-based knowledge, relationships, values, and being rural.

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Explicit Phonological Awareness Instruction in Three Rural Northern Territory Preschools

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Abstract

Phonological Awareness is an important skill set that supports later reading proficiency. This paper reports on a preschool oral language and phonological awareness project developed as a research and practice collaboration between three rural primary schools and a regional university. This research used the *Phonological Awareness Skills Test* to assess and monitor preschool (3–5-year-old) participants' Standard Australian English phonological awareness skills. The test includes sixteen subtests with six questions for each subtest to assess the subskills that make up the overarching 'umbrella' concept of phonological awareness. This paper investigates whether explicit preschool classroom-based phonological awareness teaching and small group literacy activities had a significant effect on the phonological awareness skills of the 110 rural preschool children who participated in this study. On average, the improvement in students' phonological awareness skills as measured by the test was statistically significant at the whole cohort, and individual school levels. Two participating schools experienced a very large effect size, and one school experienced a moderate effect size. These results affirm the positive impact that explicit phonological awareness instruction and associated activities can have on rural students' phonological awareness skill development. Furthermore, based on this finding, we call for education policy makers to ensure rural preschool educators across Australia have access to the professional development and resources necessary to implement this evidenced-based approach to teaching foundational language and literacy skills beyond these three rural Northern Territory schools.

Keywords: *phonological awareness, preschool, rural education, explicit teaching*

Introduction

There is an extensive body of literature on rural education, some of which documents rural education disadvantage (e.g. Gossner et al., 2025; Guenther et al. 2023), including reduced student literacy achievement in rural Australian communities (Sullivan et al., 2018). This is important to note because language and literacy skills underpin contemporary schooling, and students who have more early language and literacy experiences tend to begin formal schooling at an academic advantage over students who have not had these experiences or do not have these early skills (Stanovich, 1986). These students also typically go on to develop comparatively stronger language and literacy skills throughout their schooling, which enables them to realise

educational and vocational aspirations, within or beyond their community. To this end, the link between a child's early phonological awareness skills and success in later reading acquisition is well established in the literature (e.g. Ayres, 1995; Gersten, et al., 2007; Konza, 2014; Piasta & Hudson, 2022; Department of Education, 2023; Snow, 2020).

Phonological awareness is a broad concept, which encompasses subskills related to the ability to identify and manipulate sounds in words. For young Standard Australian English-speaking learners, the process of developing phonological awareness in the early years begins with forming an understanding of the larger units of sound, including the ability to identify words in speech, and syllables and onset-rime in individual words. Typically developing students, then progress on to acquiring the more complex skill of phonemic awareness (Castles, et al., 2018). Phonemic awareness is the ability to identify and manipulate individual phonemes in words and is strengthened as students learn about the alphabetic principle (Seamer, 2022). In preschool, all these skills are developed orally as students are taught how to perceive and produce Standard Australian English sounds in the context of meaningful (and pseudo) words.

A body of research exists, dating back over 30 years, regarding early phonological awareness for young children. For example, Lundberg et al.'s (1988) study of 235 Danish children found early phonological awareness training can lead to improved reading outcomes in primary aged children and the positive effects of phonological awareness intervention persisted until grade two, but that explicit instruction was required. Ayres' (1995) article supports Lundberg et al.'s (1988) findings and indicates that this work can be successful in large group, and whole class settings. Further, Kjeldsen et al.'s (2014) longitudinal study of 209 students from kindergarten to grade nine showed phonological awareness training at the class level yielded strong outcomes for decoding until grade three and comprehension until grade nine. But, as noted by Piasta and Hudson (2022) "*scientific findings do not teach children to read. Teachers do*" (p. 201).

Despite decades of research findings, phonological awareness instruction has not generally been well understood by teachers (Cheesman et al., 2009) and the implementation of intentional teaching in this area has not been widespread or embedded in Australia (Wilson, 2014). When phonological awareness instruction is provided in Australian schools, it is increasingly likely to be through a scripted program. Because teachers may have a limited understanding about *why* and *how,* the implementation of phonological awareness programs (if present) tends to be ad hoc.

Poor implementation of phonological awareness instruction has been a concern in Australia for some years, but is particularly relevant, when considering student populations with limited exposure to early literacy experiences, for whom early, explicit intervention has been shown to be greatly beneficial (Anthony & Francis, 2005). *A share in the future - Review of Indigenous education in the Northern Territory* (Wilson, 2014) found explicit phonological awareness instruction was largely absent in whole school literacy approaches being implemented in schools across the Northern Territory, despite being designed to address the needs of students with reading difficulties (Wilson, 2014). The same review (Wilson, 2014) recommended that all schools in the Northern Territory implement explicit teaching, assessing, and monitoring of students' phonological, phonemic and phonics knowledge and skills.

Background

This article reports on preschool data from the first year of the Rural Oral Language and Literacy (ROLL) project which was developed as a research and practice collaboration between speech pathologists and educators in three place conscious rural primary schools and a regional university in the Northern Territory, Australia.

The project grew out of concerns school staff had about the early oral language and literacy skills of the rural preschool children in their classrooms. Leadership noted that the foundational skills they expected were no longer present when children arrive on the mat on the first day of school.

These rural schools applied for and received funding to design a project to address a local problem of practice. For these rural schools, and these school leaders to focus on phonological awareness was remarkable, because at the time of the project it was not in line with the widespread practice of implementing whole-language approaches being used and advocated for by other (or neighboring) rural Northern Territory schools (for example see Chatto, 2021).

This work grew from an action research agenda developed by school leadership with a strategic focus on partnership (Thiele et al., 2024), to change the patterns of reading development in their schools. It was a school leader who contacted the university partner to facilitate project design, data collection and analysis in collaboration with a leadership team made up of representation from all three schools. The leadership team reported that they wanted to further develop their understanding of their students' Standard Australian English oral language and early literacy learning skills so that classroom instruction could be better tailored to meet their students' developmental learning needs.

Within this context, the ROLL project sought to examine the effects of early phonological awareness instruction in early years classrooms and provide tools and professional learning to the teachers of the three schools involved in the project. Phonological skills were the focus of assessment to measure the effectiveness of the project. The first year of the project included six weeks of weekly classroom visits, plus three parent workshops (topics were: talk and your child; books and your child; play and your child). Classroom instruction included weekly whole class level lessons led by the first author, as well as small group follow up with games to practice the skills taught. Parents received a letter about the class session with suggestions and activities for extending the classroom learning at home.

Teachers were expected to repeat the activities for their students throughout the week. Children's phonological awareness skills were developed through teacher led, oral phonological awareness lessons, games, rhymes and story reading. Instruction included showing students how to produce the sounds being taught (elsewhere in the literature these are called "*mouth moves*," see Mesmer and Kambach, 2022). This article reports the data collected from the preschool students participating in the project across three schools over one school year.

The main objective of this present study was to investigate whether explicit classroom-based phonological awareness teaching and small group learning activities implemented as part of the ROLL project had a significant effect on the phonological awareness skills of the rural preschool children who participated in this study. Based on this objective, two research questions were considered:

1. Did the project's phonological awareness instruction and hands-on learning games, have a statistically significant impact on the phonological awareness skills of the preschool children who participated in the study overall? (cohort level data)
2. Did the project's phonological awareness instruction and hands-on learning games, have a statistically significant impact on the pre- and post- PAST test performances of the students at each school? (school level data)

Methodology

The data presented here were collected as a part of the ROLL project which took place across two school years and included students in Preschool and Transition (the first formal year of schooling in the Northern Territory) classes. This research was approved by the University's Human Ethics Research Committee, and the Northern Territory Department of Education. Given this project was funded by a Northern Territory Department of Education innovation grant and viewed as an attempt to transform classroom practice, all enrolled children and their teachers were required to participate in the project, though they could elect to opt out of inclusion in the research. That is, they could opt to have their data excluded from the research component of the

study. Even though all teachers elected to have their data included in the study, there were varying levels of teacher buy-in and participation across schools and classrooms. This is a reality of school-based research, even when the project has been conceived of, designed and funded by educators.

For each year of the study, teachers and teaching assistants in the three school's preschool and Transition rooms (19 educators and 13 classes each year) participated in one day- long professional development seminar on emergent literacy, oral language and phonological awareness presented by speech pathologists and external education collaborators. Teachers then received six classroom visits by a speech pathologist who modelled a whole group session including a read-aloud, introduction of specific sounds and letters and a phonological awareness skill.

Small group activities were then delivered to give students a chance to learn and practice the phonological awareness skill, as well as model games for teachers to use to support the development of the skill. Many of the materials used in this project came from existing Department of Education resources specifically developed for students in the Northern Territory. The images of people, animals and objects were designed to be familiar to children living in this context.

Author Positionality

The primary author Bea Staley is an academic and speech pathologist who has lived and worked in the Northern Territory for over a decade. Bea was recruited by school leadership and funded to design and deliver this project. The second author Leonard Freeman has been a teacher-linguist and principal in the Northern Territory and has expertise in teaching early language and literacy skills in Northern Territory Schools. Leonard completed the statistical analysis for this project. He also supported the assessment process across the three schools as well as co-authoring this manuscript. Jocelyn Seamer is a literacy consultant with years of experience in school leadership in the Northern Territory. Though Jocelyn was not directly involved with the implementation of the ROLL project, the first three authors have other relevant collaborations and Jocelyn shared in the writing of this manuscript. Lisa Papatraianou is an academic with expertise in qualitative methodologies and joined the project to support the analysis of the qualitative data, Lisa was a co-author on this manuscript.

Participating Schools

Three rural primary schools participated in this project. These schools were within 15 minutes' drive of each other. These schools frequently worked together and experienced some movement of students between the three schools. The location of the schools represents a rural community, characterised by homes on 5-acre blocks. The preschoolers often wore cowboy boots and conversational themes included big knives (for fishing) and snakes. These preschools were well established, and each school had at least one very experienced or committed preschool teacher. These preschools were on the property of the primary school the children would go on to attend. They each had large outdoor play spaces and students spent time outside engaged in a variety of free play opportunities including dramatic play and water play. The Index of Community Socio-Educational Advantage (ICSEA)[1] scores of the three schools ranged from 925 at the low end to 975 at the high end, placing them just below the national average (986). It should be noted that the average ICSEA score of schools operated by the Northern Territory Department of Education and Training is 845 and only 9% of Northern Territory schools have an ICSEA score above the national mean of 1000.

[1] The Index of Community Socio-Educational Advantage (ICSEA) is an index Australian schools use to allow for comparison of schools. Similar scores would suggest similar socio-educational backgrounds.

Across the three schools, there were 7 preschool classes, 5 preschool teachers, 4 teaching assistants, and 151 preschool students who participated in the project. Table 1 (below) presents the school demographics. The data presented here includes the 110 preschool students who sat both the pre- and post- phonological awareness testing.

Table 1: ***School Demographic Data***

Primary School	Total enrolment	Teaching staff	Indigenous enrolment	Students with language background other than English	Number of Preschool classes
A	340	24	12%	7%	2
B	252	19	22%	14%	2
C	335	31	24%	20%	3

Note. This table includes data from school records as well as Myschool.edu.au

Method

This research used the *Phonological Awareness Skills Test* (PAST) (Zgonc, 2010) to assess and monitor each preschool participants' Standard Australian English phonological awareness skills. This tool was selected as it was already in use in School B and the researchers were confident the PAST was a reliable, valid tool for the purposes of this project. The PAST is administered to each child individually by an educator and takes 10-20 minutes per student.

The PAST includes sixteen subtests with six questions for each subtest to assess the subskills that make up the overarching 'umbrella' concept of phonological awareness. Each test-item is scored correct or incorrect and is worth one mark. Student performances on the PAST are therefore marked out a total possible score of 96 points (16 subtests x 6 items = 96).

Pre- and post- intervention assessments were conducted to measure the effect phonological awareness instruction had on students' skills. Before the ROLL project commenced, the PAST was administered to determine each participant's initial phonological awareness score. The timeline for initial assessment varied between schools. Some schools assessed in late Term 1 (February-April), others not until early in Term 2 (April – July). For post-testing, the PAST was readministered across schools in Term 4 (October-December). The same instrument was used for both pre- and post- assessment, with no alterations made. It was judged that enough time (at least six months) had passed between the administration of pre- and post-tests to avoid concerns about participants giving memorised answers from their pre-test.

The statistical analyses presented focus on measuring the size and significance of the mean (average) improvement in student's performance on the PAST assessment. Specifically, the total raw test score (out of a possible 96) that students achieved on the PAST when it was administered before (pre-test) and after (post-test) the classroom-based phonological awareness teaching and learning activities.

It was not an option to include a control group for the study. All preschool classes participated in the project and all teachers and teaching assistants participated in related professional learning. Implementing the program across the three schools maximised the number of preschool students who participated resulted in the absence of an experimental comparison group. This is a natural constraint of real world, school funded and school-based research.

Results

The following research hypotheses were tested in this study:

H0: There was no significant improvement in the phonological awareness (PA) skills of the preschool students who participated in this project after they had received explicit PA instruction and participated in hands-on PA learning games.

H1: There was a significant improvement in the learners' phonological awareness (PA) skills after they received explicit PA instruction and participated in hands-on PA learning games.

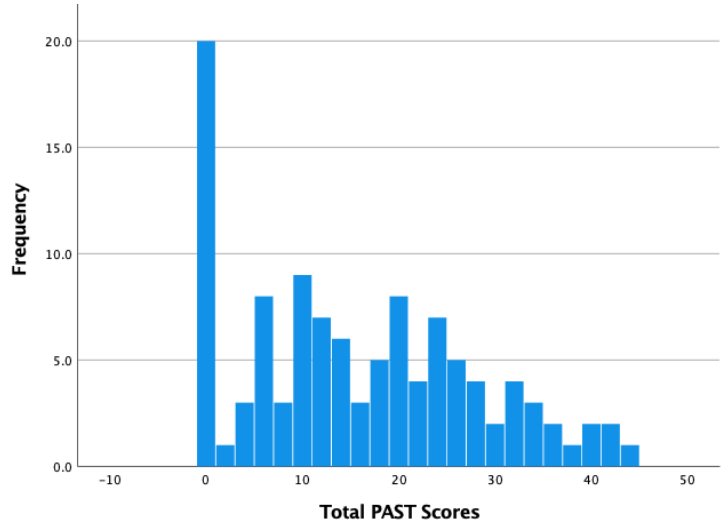
Participants

Across the three schools, 151 preschool students participated in the ROLL project and 124 students participated in the PAST pre-test. Of these 124 preschool students, 110 (89%) also participated in PAST post-testing. Our analyses seek to determine if the ROLL project's explicit teaching and learning activities had a statistically significant effect on students' phonological awareness (PA) skills, as measured by the PAST assessment. The analyses are therefore limited to matched student data. We only use data gathered from the test performances of the 110 students who sat PAST tests that were administered both before and after the PA teaching activities in their preschool classrooms.

Descriptive Statistics

The 110 preschool students who sat the pre- PAST test and achieved a mean (average) total score of 15.45 points (SD = 12). Figure 1 (below) presents a visual summary of the distribution of the total PAST scores achieved by this cohort of preschool students. Viewing data in a frequency histogram can be helpful for understanding and describing the shape and spread of results (Australian Bureau of Statistics, n.d.). Frequency histograms are presented and interpreted in this paper to develop our understanding of the shape and distribution of individual student achievement and the change in individual student's total test scores from the pre- to the post-test at both the whole cohort level and school level.

Figure 1: ***Distribution of PAST Test Scores (Pre-)***



Like a bar chart, histograms present a visual display of frequencies using columns plotted on a graph. The Y-axis (vertical axis) represents the frequency count, while the X-axis (horizontal axis) represents the total of the variable being measured (i.e., total PAST test scores). The height of each column in Figure 1, shows the frequency (or number) of students who achieved a total PAST test score that lies within the specific range of values assigned to each column on the x-axis. In Figure 1, the scale along the x-axis ranges from zero to 50 PAST test marks (points). No student

achieved a score outside of this range the first time the PAST was administered early in the school year. Small columns with intervals of two points have been used from each column along the x-axis. In Figure 1, each student's performance on the PAST pre- test has been sorted (allocated/placed) into the column with the interval range that corresponds (is inclusive) of the total score that the student achieved.

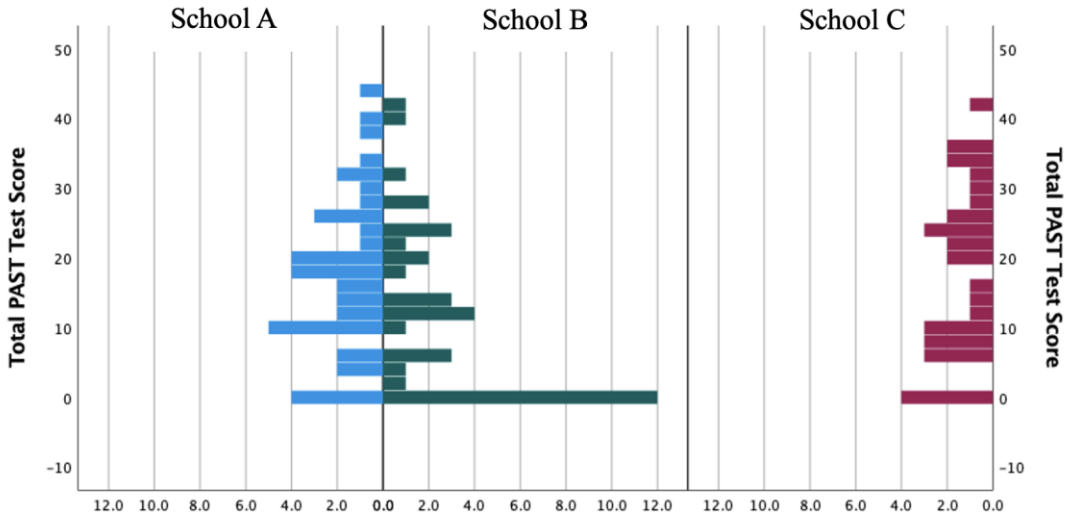
Interpreting the histogram, we can see that the first column presented on the left-hand side of the graph, which includes total PAST test scores of either zero or one, was the most frequent column. The height of this first column shows that 20 preschool students (or 18% of the preschool cohort with matched data) achieved a total PAST test score of either zero or one point. This means that prior to implementing the PA teaching and learning activities in these preschool classrooms, nearly one in five students only answered a maximum of one of the 96 PAST test-items (questions) correctly.

Table 2: ***The Mean Total PAST Scores for Each School (Pre-)***

School	A	B	C
Number of participants (N)	33	37	40
Mean school	17.5	11.7	17.2
Standard Deviation	2.8	2.7	1.9

Figure 2 shows the distribution of total scores achieved by students on the pre- test grouped by the school they attend. Interpreting these histograms, we can see that 12 students from school B achieved a total score of either zero or one point on the PAST in Semester 1. Almost one-third (32%) of the 37 preschool students from school B, therefore achieved a total score of either zero or one out of a possible score of 96 on the PAST pre-test. Figure 2 also shows that the total PAST score achieved by students from both schools A and C on the pre-test were more evenly distributed across the range of student achievement (0 - 45 points) when compared to the PAST test results of students from school B.

Figure 2: ***Total PAST Test Scores (Pre-) by School***



Investigating change in Student Achievement From Pre- to Post- Test (Whole Cohort)

Table 3 reports the descriptive statistics for the mean total PAST scores for all students with matched assessment data (n=110 students). The mean total score achieved by this cohort of rural

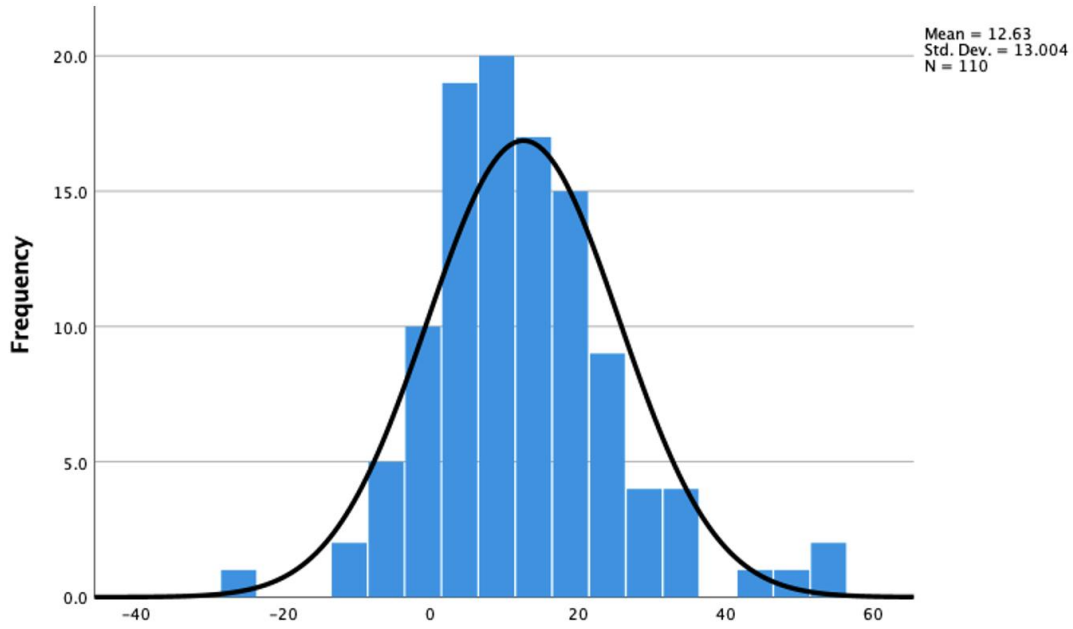
preschool students on the PAST post-test was on average, 12.63 points (SD = 13) higher than their score on the pre-test. Table 3 also reports that the mean total score on the post-test improved on average by 82% when compared to the pre-test mean total score.

Table 3. ***Comparing Mean Total PAST Scores Pre- and Post- Test***

Whole cohort (n=110 students)	**Mean Score (M)**	**Standard Deviation (SD)**	**M Difference**	**Total score improvement %**
Pre-test (Sem 1)	15.45	11.96	12.62	82%
Post-test (Sem 2)	28.07	15.99		

Figure 3 presents a visual distribution of the change (difference) in student achievement on their two attempts at the PAST. The x-axis represents the change in student total test scores from the pre- to the post- test. The scale on the x-axis ranges from -40 to +60 points. To represent this range of values (data) in this histogram, an interval range (bin size) of five points has been used for each column.

Figure 3: ***Change in Students' PAST Test Scores (Pre- and Post-)***



Difference in Student Achievement on PAST (Pre and Post)

The tallest bars on the histogram in Figure 3, are distributed around the central value (mean). The height of the bars also typically decreases the further they are from the center. Overall, the shape of the distribution of the difference (change) in preschool students' PAST scores is normally distributed. In a normally distributed population, 68% of the population lie within one standard deviation ($\pm 1SD$) of the mean. Given the mean change in total test scores was 12.63, the relatively normal distribution and one SD = 13, we can interpret from this data that most of these preschool students improved their total score on the PAST by between 0 to 26 marks. Outside of this range of values, the frequency with which the difference in student achievement on two PAST assessments had a higher or lower value decreases.

With an understanding of the distribution of the change in tests scores in this dataset established, we now analyze the size of the difference in students' pre- and post- test performances to determine if the improvement in student achievement is statistically significant.

The paired samples t-test is the statistical tool used to determine if we can be 95% confident that improvement we have measured in the mean total PAST scores of these preschool students was significant and did not simply occur by change. As the probability that the explicit teaching activity had no effect on the population (i.e., the null hypothesis is true) decreases, we gain greater confidence that the alternative hypothesis (H1) is more plausible than the null hypothesis (H1).

The results of the paired samples t-test that we used to test whether our hypothesis is a good explanation of the pre- and post- test student achievement data are presented in Table 4 (below).

Table 4: ***Paired Samples T-test for the Pre- and Post- Tests (Whole Cohort)***

Whole cohort (110 students)	**Mean Score (M)**	**Standard Deviation (SD)**	**t**	**DF**	**Sig. (2-tailed)**
Pre- test (Sem 1)	15.45	11.96	-10.184	109	<0.001
Post- test (Sem 2)	28.07	15.99			

The paired sample t-test analysis found the difference of -12.62 marks (BCa 95% CI [-15.05, -10.37] between the mean total score achieved by preschool students from these three schools on the pre- and post-tests, to be statistically significant, $t(109) = -10.18$, df=109, $p<0.001$). That is, after students had participated in explicit PA teaching and learning activities, the improvement in their PA awareness skills on the second PAST assessment was statistically significant. This finding does not support the null hypothesis that the PA teaching intervention had no effect on student learning. Instead, this finding provides support for the alternative hypothesis. That is, the chance of getting these data (statistical findings) if the alternative hypothesis is true are quite high. After implementing the explicit PA teaching and learning activities in the ROLL project, we observed a statistically significant improvement in the PA skills of these rural preschool students.

We then used Cohen's d (see equation below) to calculate the size of the change (effect size) in student achievement from the pre- test ($PAST^1$) to the post- test ($PAST^2$).

$$\text{Cohen's } d = \frac{\overline{X}_{PAST}2 - \overline{X}_{PAST}1}{\sigma_{PAST}1} = \frac{28.07 - 15.45}{11.985} = 1.05$$

A value of $d = 0.2$ or less is interpreted as a small effect size, 0.5 is considered a medium effect size and anything over 0.8 a large effect size (Field, 2018). Inserting the relevant values into the Cohen's equation we found a large effect size of 1.05. Interpreting these statistics, the increase in total achievement (test score) of these preschool students on the post- test ($PAST^2$) was on average for 1.05 standard deviations higher than mean total score these students achieved on the pre-test ($PAST^1$).

Investigating school-level change in student achievement from pre- to post- tests

This project was implemented across three schools, in the following section, the school level data are presented and analysed. Analysing the school level data helps us understand the degree to which the improvement in this cohort's mean test scores was uniform across schools or isolated within a school.

Table 5: ***Descriptive Statistics for Pre- and Post-Tests (School-level)***

School	n	Mean (SD) Pre- Test (PAST[1])	Mean Post- test (PAST[2])	Mean difference	Total score improvement (%)
A	33	17.55	31.76	14.21	81%
B	37	11.68	28.97	17.29	148%
C	40	17.2	24.2	7.00	41%

Figure 4: ***Bar Chart of Mean Total PAST 1 (Pre-) and PAST 2 (Post-) Scores by School***

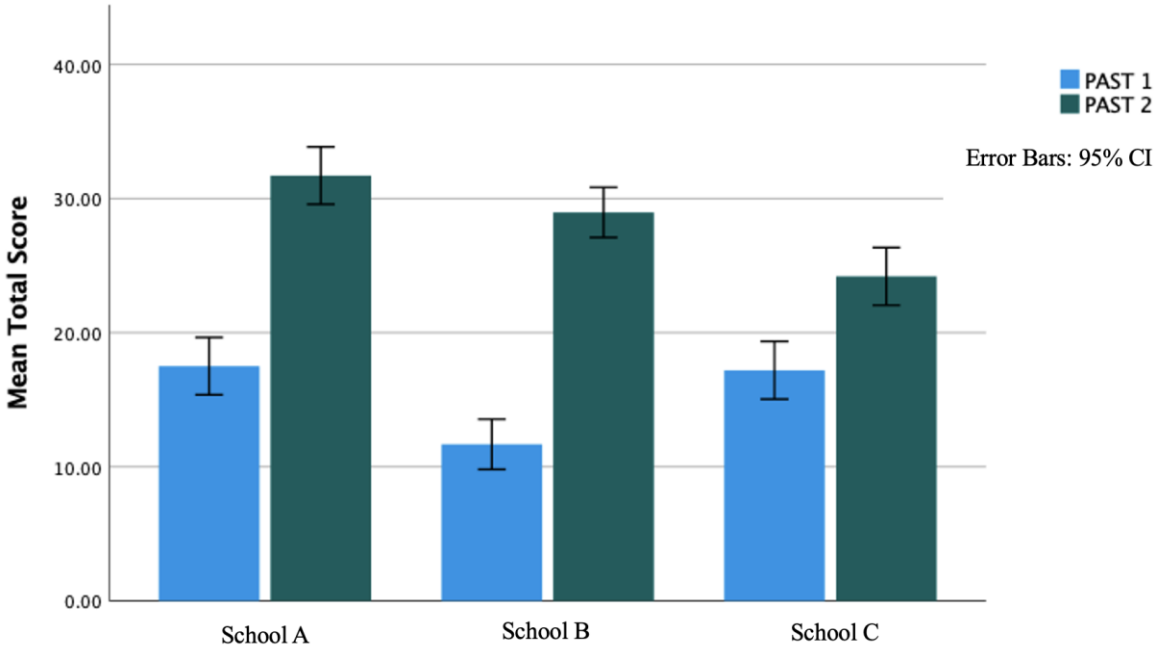


Table 4 presents the findings of the analysis of the change in the PAST results from schools A, B and C. After participating in the ROLL project, students from school A achieved a higher average PAST score (PAST[2] M = 31.76, SE = 2.7) than before they received explicit PA teaching (PAST[1] M = 17.55, SE = 2.10). The paired samples t-test reported that the mean change of -14.21 PAST marks (BCa 95% CI [-18.61, -10.50]) by school A students on the Post- test, was statistically significant, $t(32) = -6.71$, $p = 0.001$. The average improvement by school A students on the PAST Post- test was found to represent a very large effect size of $d = 1.18$.

School B students, on average, after participating in the ROLL project also achieved a higher total PAST test score (PAST[2] M = 28.97, SE = 2.59) than the pre- test (PAST[1] M = 11.68, SE = 1.97). The mean difference in students' Post- test score of -17.30 marks (BCa 95% CI [-21.22, -13.55], was found to be statistically significant, $t(36) = -9.37$, $p = 0.001$, and is interpreted a very large effect size of $d = 1.54$.

On average, school C students also achieved a higher total score on the PAST after they had participated in the ROLL project (PAST[2] M = 24.2, SE = 2.55) compared to their initial Pre- test (PAST[1] M = 17.2, SE = 1.79). The difference of -7.00 points (BCa 95% CI[-11.42, -2.93]) in school C students' average total PAST scores was found to be statistically significant, $t(39) = -3.29$, $p = 0.007$. The change in mean total achievement on the PAST at school C had an effect size of $d = 0.52$, which is interpreted as a moderate impact (change/improvement).

Table 6: ***Paired Samples T-test of Pre- and Post- PAST Scores for Schools A, B and C***

School	n	Mean PAST 1-PAST 2	SD	t	DF	Sig. (2-tailed)
A	33	-14.21	12.08	-6.71	32	0.001
B	37	-17.30	11.23	-9.37	36	0.001
C	40	-7.00	13.47	-3.288	39	0.007

In participating in this study, teachers also reported they enjoyed the professional learning, the modelling of practice and in-class support. The provision of practical resources, and support for small group instruction and assessment were seen as strengths of the ROLL program.

In the post-educator survey, all educators agreed that the project: provided new information to support students' learning of sounds; initiated changes in their practice that has improved students' knowledge of letter names, sounds, and other phonological awareness skills; introduced them to new picture books that will continue to be used in their classrooms, and; has been fun and engaging for both staff and students.

Discussion

In the *Independent Review into Regional, Rural and Remote Education,* Halsey (2018) states "*the key challenge for regional, rural and remote education is ensuring, regardless of location or circumstances, that every young person has access to high quality schooling and opportunities*" (p.78). This was a school-initiated research project where the schools partnered with a regional university to access professional development and support to trial implementing high quality evidence-based teaching practices.

Here, leadership identified a contemporary problem of practice, applied for funding, and approached the university seeking partnership and expertise. This collaboration enabled teaching staff to improve their skills in an area of need and then develop the phonological awareness skills of their young learners. Further, collaborating researchers were able to demonstrate the impact classroom implementation of phonological awareness activities had on the students' emergent literacy skills. While informal reporting, including anecdotes, were a positive outcome of the project, the collaboration with the university included quantitative data analysis. This meant the size of the positive impact was measured and presented in a report the school could share with the Department of Education. Overall, teachers, administrators and the school community were encouraged by the positive impact and results of the study.

Data from post- instruction testing indicated that students' phonological awareness skills positively changed over the duration of the project. Despite the variance in school demographics, teacher buy in and implementation, overall, there were positive changes in the skills of students' phonological awareness skills. This change was statistically significant, supporting the hypothesis that explicit, intentional instruction in phonological awareness had a positive and significant effect on the phonological awareness skills of the rural preschool students who participated in this study.

It should be noted that the pre-test data indicated that students who attend these three schools, were on average starting at different baselines. That is, the skills their children started preschool with were different (i.e., statistically significant), but the difference measured in mean phonological awareness skills for each school in post-testing was not different (i.e., not statistically significant). It is important to note that in this research we did not see a Matthew Effect (Stanovich, 1986), where the children who started with more advanced skills made the

most gains. On average, students made gains across schools and classes, and those who started behind closed the gap.

That is, despite some schools having students present to preschool with more developed phonological awareness skills, when everyone received the same explicit instruction, at the end of the program we found this school level disparity had been ameliorated. Arguably this phonological awareness instruction provided a safety net that helped close the gap for these rural students in these key emergent literacy skills. This finding warrants careful consideration if we are genuinely committed to achieving equitable and excellent outcomes for all Australian students.

The primary limitations of this research are realities of a school-based intervention, designed and driven by school leaders seeking to trial an intervention designed to upskill teachers and address an important area of practice. Firstly, the lack of a control group means it's difficult to know whether the large and positive change observed in participating students' pre- and post-test scores is due to the intervention or another factor (de Vaus, 2007). The appropriateness and ethics of using control groups in school-based education research is a concern commonly raised by educators because assigning some students or classes to a control group, will mean those students will be denied access to an intervention that may be beneficial for their education (Gopalan et.al, 2020).Secondly, the fact school leadership sought out this intervention and actively encouraged staff to participate, may also mean the teachers who participated in this study were more engaged and thus more likely to try and to perceiver with implementing the modelled explicit phonological awareness activities in their classrooms.

That said, the large effect size we saw suggests that the documented change in students' skills exceed what would be expected over time, development and classroom practice alone. Recall the effect size for school A is 1.18, for school B is 1.54 and for school C is 0.52. Hattie (2008) categorises an effect size > 0.4 a moderate improvement, such as the one observed at school C, is unlikely to occur in the absence of intentional, explicit instruction in phonological and phonemic skills. Based on our finding that phonological awareness instruction was associated with either moderate or large effect size improvement across all participating schools, we think this successful collaboration and the positive impact it had on rural students' learning, is a story worth sharing.

There is an existing international literature base recommending explicit phonological awareness programs with young school aged learners (see. Gersten et al., 2007; Konza, 2014). Here we have applied the evidence-based teaching strategies in three rural schools with preschool learners, aged 3-5 years. This research is "*not only asking 'what works' but also 'what works for whom under what conditions*'" (Petscher et al., 2020, p.s 276).

This work is about nuancing practice for a rural Northern Territory context to demonstrate that focused school initiatives can be successful. Our results align with the broader literature, and our experience with these teachers and students and the outcomes of the study has us believe that intentional and explicit teaching of these phonological skills with our youngest learners will lead to similar results for other children in rural Australian contexts. In the future we would better plan for data collection to capture caregiver perspectives, and the impact (if any) of the caregiver workshops and weekly parent letters home with activity suggestions. Further research in remote Northern Territory schools with predominantly Aboriginal students is needed.

We view the communities in this study (and indeed rural communities) as "*dynamic and emergent*" (Corbett & d'Entremont, 2024, p. 2) and we believe this work demonstrates "*current, useful practices that entail socially just education*" (Cuervo, 2016, p. 203). The large gains in the students' phonological awareness skills in this study indicate that when rural educators can access professional development and hone their own skill set, they can implement practices which unlock student capacity at an age where children are primed for oral language acquisition.

Further, professional development focused on training teachers to implement phonological awareness activities has the potential to generate sustained benefits, contingent upon the continued application of the program with future cohorts of rural preschool students.

Conclusion

Phonological awareness development in the early years has been shown to be a substantial predictor of students' later reading ability (Konza, 2014; Lonigan, 2007; Storch & Whitehurst, 2002). We believe these results are not simply a one off, which can be explained by an invested teaching cohort, and a school-initiated research project. We designed a program focused on teaching young children phonological awareness skills because the literature suggests this is where you can have a big impact in developing children's reading readiness (e.g. Department of Education, 2023; Snow, 2020).

Note that of these 110 rural preschool children, a large proportion started preschool with few to no phonological awareness skills. By supporting teachers to deliver a phonological awareness program that was enjoyable and effective, where the implementation periods were short and frequent, our littlest learners started their first year of formal schooling with the skills they would need to become reading ready. We saw that teaching young children to first identify phonemes then later manipulate them was feasible and fun. Phonological awareness is a first step in learning to read, but an important one that gives all our students, including rural preschoolers, a strong foundation to become fluent readers.

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How Perception, Gender, Parental Occupations and Role Models Shape Gippsland Secondary School Students' Agriculture Career Choices

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Abstract

This article explores the factors influencing Gippsland secondary school students' career aspirations in agriculture, examining the role of perceptions of agriculture and agricultural careers, gender, parental occupation, and career role models.

Utilising data from the Raising Aspirations and Careers Education in Agriculture Gippsland (RACE Gippsland) project, survey responses from 495 high school students were analysed using chi-square tests and Spearman's rank-order correlations. Positive perceptions of agriculture significantly correlated with career interest, for both males and females. Gender and parental occupation in agriculture had no significant influence on students' career choices and the presence of a career role model within the agricultural sector was a strong predictor of career interest.

The research underscores the need for targeted interventions to improve agricultural literacy, enhance career exposure, and encourage student engagement in agricultural careers. It provides valuable insights into understanding the agricultural career aspirations of secondary school students. This research analyses factors impacting career aspirations of secondary school students within the agricultural sector, which is rare in the literature.

Keywords: *rural, secondary school students, career aspirations, agriculture*

Introduction

Secondary school students are the future of our society. Every year, students are faced with the important choice about what they want to do with their lives, and this choice directly impacts our society as they join the workforce. Young Australians are aspiring only to a limited number of professions within fields such as healthcare, education and engineering due to the job security, stability and career progression offered (Binks et al., 2018). Many fields are consequently being neglected, with one of these being agriculture (Cosby et al., 2022).

Agriculture is the cornerstone of Australia's economy. Supporting a significant component of Australia's gross domestic product, at 82.4 billion Australian dollars in 2023/2024, agriculture directly employs over 315,600 people (Australian Bureau of Agricultural and Resource Economics and Sciences, 2025). Over 1.3 million people are also indirectly employed in roles associated with research, transport, banking, and marketing that centre on servicing the agriculture industry (Australian Food and Agriculture Industry Taskforce, 2024). Despite the importance that agriculture has on Australian society, students have a limited understanding of the industry in general and what careers are available (Brandt et al., 2017). This is contributing to a decline in interest in pursuing agriculture-related careers (Binks et al., 2018).

Literature Review

There are significant challenges to attracting people to a career in agriculture. One major barrier stems from the common perception that agriculture relates only to labour-intensive work (Girdziute et al., 2022). This misconception conceals other opportunities within the field, including roles in sustainability, technology, scientific research and business management (Melchior & Newig, 2021). The disconnect to agricultural workplaces has left many careers within the space invisible to the public. Careers involving agricultural engineering, precision farming or data analytics, for example, are very rarely showcased, and this has resulted in a limited awareness of their existence (Melchior & Newig, 2021).

There is a major disparity between metropolitan students and rural students with regards to employment and career aspirations. Rural and regional students have lower attainment rates for tertiary qualifications and have limited access to post-school training, contributing to higher unemployment rates in rural areas (Archer et al., 2024). To prevent the need to migrate for education, it is crucial to raise rural and regional students' awareness of careers within the agricultural space (Archer et al., 2024).

In this review of the literature, factors related to career choices including perceptions, gender, parental occupation and role models are discussed. Social Cognitive Career Theory (Lent & Brown, 2019) and its application to agricultural careers will then be reviewed. Finally, the rationale for the current research project will be made and hypotheses presented.

Perceptual Barriers to Careers in Agriculture

Agricultural literacy refers to understanding agriculturally related scientific and technologically based processes, as well as the broader environmental and social significance of agriculture (Brandt et al., 2017). One recent study found that developing agricultural literacy in school-aged children through formal education is critical (Cosby et al., 2022). Many students struggle to understand the diversity in agriculture and have more knowledge about science, technology, engineering, and mathematics careers (Brandt et al., 2017). Although rural-based students hold higher informal agricultural knowledge compared with students of an urban population, there still exists a gap in knowledge of what a career in agriculture means (Whitehead & Estepp, 2016; Woodroffe et al., 2017). Students residing in a rural or regional location can remain unaware of the careers on offer without a direct connection to agriculture (Woodroffe et al., 2017).

Disconnection to careers in agriculture prevents awareness of available career options, prompting missed opportunities to contribute to the agricultural workforce in unique and creative positions within regenerative and sustainable agriculture, food innovation and precision farming (Melchior & Newig, 2021; Lans et al., 2020). To develop their agricultural literacy and knowledge surrounding careers in the field, students must gain a genuine interest in agriculture (Brandt et al., 2017). This interest may stem from learning that agriculture will make a positive impact on society or that agriculture is important for feeding the future of the world. There are several factors that will impact how students will gain these perceptions of agriculture and the influence of their parents and other role models is vital (Gore et al., 2015). This study aims to

examine how these perceptions of agriculture impact student's interest in the field and seeks to explore patterns in the data related to perceptions.

Gender Barriers for Women in Agriculture

One deterrent to young people in Australia joining the agricultural workforce are the challenges that women in agriculture face (Newsome, 2021). Agriculture remains to be a male-dominated field. Women make up a significantly smaller percentage of the agricultural workforce in Australia, with only 31% of agricultural workers identifying as female (Australian Bureau of Statistics, 2024). Historically, women have faced challenges pursuing careers in agriculture and being recognised as a farmer (Hamrita, 2021). Studies examining the impact of traditional gender roles on occupational choices found that males are more likely to pursue careers in agriculture due to the perception that it is a male-dominated field associated with masculine traits (Conlon et al., 2023).

Gender stereotypes and societal expectations strongly shape women's career choices, prompting many to discount agriculture as a viable pathway and instead pursue more socially acceptable careers in healthcare, education, and the arts (Olsson & Martiny, 2018; Dunlap & Barth, 2023). Despite on-farm roles frequently being viewed as masculine, enrolments in agriculture, environmental and related tertiary studies show that approximately 60% of students are women (Department of Industry, Science and Resources, 2024). These patterns align with the findings of this study, which examines how gender norms impact student's interest in agriculture and aims to discover patterns in the data related to gender.

Impact of Parental Occupation on Agricultural Career Interest

Parents provide direct guidance and support when it comes to choosing a career (Gore et al., 2015). They also model career-related attitudes and behaviours (Cullaty, 2011). Recent studies have examined the impact that parental occupation can have on a student's career aspirations. Familial influence is one of the most influential factors in the career determination of secondary school students (Noack et al., 2010). It is common for students to choose the same career path as their parents, due to the familiarity and past exposure to the profession (Noack et al., 2010). Students with parents working in the agriculture industry, for example, gain valuable exposure to the industry and are more likely to positively perceive it as a career pathway (Abdul Rahaman et al., 2023). Lacking this exposure and guidance surrounding agriculture has been found to negatively impact one's perception of the field, diminishing interest in pursuing it (Cancino, 2022). The following study seeks to explore how parental occupation impacts student's likelihood to pursue a career in agriculture, particularly when the parent's careers are related to the field.

The Relationship Between Career Role Models and Agriculture Career Interest

There has also been significant importance placed on having a role model for ones preferred career (Kricorian et al., 2020). This role model can be in the form of a friend, family member, teacher, peer or family friend. Role models have major influence over a student's likelihood of choosing a specific career (González-Pérez et al., 2020). By showcasing the possibilities of professions within the field, role models can assist students to move past misconceptions about agriculture (Noack et al., 2010). Role models can also enhance students' self-efficacy by enabling them to believe in their ability to not only succeed in agriculture but find a true connection and purpose within the industry (González-Pérez et al., 2020). This is a central concept of Social Cognitive Career Theory (Lent & Brown, 2019). This study seeks to establish the impacts that agricultural career role models have on secondary school students' likelihood of pursuing a career in agriculture.

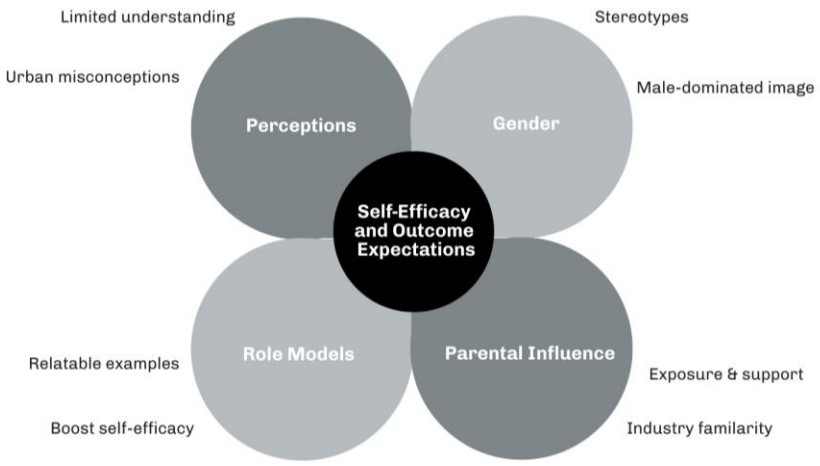
Social Cognitive Career Theory and Agricultural Careers

There is currently a growing body of work on vocational psychology that seeks to examine vocational behaviour, improve career interventions and inform policies surrounding issues in career development (McIlveen, 2015; McIlveen & McDonald, 2019). One of the overarching theories of career development is the Social Cognitive Career Theory (Lent & Brown, 2019). This theory examines the interplay of various factors including gender, environment, social influences and learning experience, which collectively shape an individual's career trajectory and self-efficacy (Lent & Brown, 2019). Social Cognitive Career Theory explores how an individual's confidence in their ability to successfully accomplish tasks will determine their willingness to pursue a career (Lent & Brown, 2019). It explores the impact of role models and how they influence an individual's career (Wang et al., 2022).

Self-efficacy and outcome expectations are central to Social Cognitive Career Theory (Sheu et al., 2018). Sources of self-efficacy and outcome expectations include performance accomplishments through mastery experiences, vicarious learning by observing others and verbal persuasion and encouragement from others (Lent et al., 2017; Abbasianchavari & Moritz, 2021). These factors influence how confident an individual feels about their ability to achieve a career goal (Conklin et al., 2013) and influences what they believe the consequences of achieving that goal will be (Lent et al., 2017). Career role models provide a source of self-efficacy through persuasion and vicarious experiences and stories they may share (Conklin et al., 2013).

Social Cognitive Career Theory explores how role models and gender fit within the theory (Lent & Brown, 2019). There is research on gender and self-efficacy, gender and outcome expectations and gender and career interests (González-Pérez et al., 2020). Past Social Cognitive Career Theory research has explored impacts on the adult workforce. However, to date, research in vocational psychology has not strongly examined the career aspirations of young people in agriculture, particularly those from a rural background (McIlveen, 2015). As shown in Figure 1, perceptions, gender, parental occupation and role models interact to influence students' self-efficacy and outcome expectations, which are key determinants of career interest and choice (Lent et al., 2017; Conlon et al., 2023). These factors shape how students view their capabilities and future in agriculture.

Figure 1: ***Overview of Barriers and How They Interact***



The Current Research Project

Past research has not yet considered the interplay of each of these factors on secondary school students' agricultural career interests and choices. It is therefore imperative to expand research in this area to determine how to increase interest in this field and encourage young people to develop their understanding of the world of work and consider agricultural careers. This will contribute to addressing the workforce shortage within the field due to the aging population, enhance overall food security with more food production and boost regional economies by creating jobs (Lans et al., 2020).

Victoria is one of Australia's leading producers and exporters of food, with over 60% of its land used for agricultural activities (Department of Jobs, 2024). In Gippsland specifically, the agri-food sector is the largest contributor to the economy, representing $7 billion of Gippsland's $15.8 billion gross regional product (Department of Jobs, 2024). The agricultural industry is becoming increasingly important in the Gippsland region as other industry sectors decline. The reduction of the native timber (East Gippsland Shire Council, 2021) and mining industries (O'Loughlin et al., 2024) in particular, are limiting employment opportunities for both the current and future generations. Despite the vitality of the agriculture sector in this region, evidence suggests that even students in these rural regions have limited knowledge about the industry and what careers exist within the industry (Cosby et al., 2022). Due to the increased need for food production for our growing society and the importance of economic development in the region, it is vitally important to raise rural and regional students' aspirations to pursue further study and a career in agriculture (Cosby et al., 2022).

The original project team delivered the RACE Gippsland project to increase access to learning opportunities, improve knowledge of future pathways and career options, and enhance engagement and connections with role models in agriculture across the Gippsland region. This study will use data collected from the Industry School Partnership activity as part of the RACE Gippsland project to understand how perceptions, gender, parental occupation and role models impact the likelihood that secondary school students will seek a career in agriculture. Better understanding the relationship between different predictors of career interests and choices in this context will assist with improving future interventions.

Guided by Social Cognitive Career Theory, the following hypotheses are proposed.

Hypothesis 1

Students with more positive perceptions of agriculture and agricultural work will be significantly more likely to express interest in pursuing a career in agriculture. According to Social Cognitive Career Theory, outcome expectations directly influence interest and career choice. When students perceive agriculture as a meaningful or innovative field, their likelihood of considering it as a career should increase (Cosby et al., 2022).

Hypothesis 2

Male students will be significantly more likely than female students to express interest in pursuing a career in agriculture. Gender differences in career aspirations are well-documented within Social Cognitive Career Theory, often due to differential socialisation, perceived self-efficacy, and access to gender-typed role models. Past research has found that agriculture is often stereotyped as a male-dominated field, which can deter female students from seeing themselves in such roles (Conlon et al., 2023).

Hypothesis 3

Students whose parents are employed in agriculture or related industries will be more likely to express interest in pursuing a career in agriculture. Social Cognitive Career Theory highlights the

role of contextual influences, including family background and social support, in shaping career decisions. Exposure to agriculture through parental occupation may enhance self-efficacy and normalise agricultural work as a legitimate and desirable career path (Abdul Rahaman et al., 2023).

Hypothesis 4

Students who report having access to career role models in agriculture will be more likely to express interest in pursuing a career in agriculture. Role models serve as powerful sources of vicarious learning and can significantly influence students' self-efficacy and career aspirations, particularly in fields where students lack direct experience. Social Cognitive Career Theory emphasises that access to supportive figures can counteract perceived barriers and foster greater interest in each career (Conklin et al., 2013).

Materials and Methods

Data present in this paper was collected from a convenience sample of secondary school students following the completion of the RACE Gippsland project delivered between 2020-2023. The participants in this program were secondary school students in years seven to twelve who attend school in Gippsland Victoria, Australia (N = 546). The data collected is ordinal data and is not normally distributed and therefore, the non-parametric Spearman's rank order correlation was utilised to examine these relationships.

Survey Questions

Students were asked to complete a survey containing both close-ended and open-ended questions. Participation in the survey was voluntary, and the students could cease their participation at any time. The survey data used a subset of the pre-existing dataset collected in the RACE Gippsland project and includes 23 questions relevant to the student's future studies, career aspirations, agriculture and agricultural careers. Ethics approval was granted on 05 February 2021 through the Central Queensland University Human Research Ethics Committee (Approval Number HEA22822).

Statistical Analysis

All statistical analysis was conducted using software program SPSS (IBM Corp, 2024). Descriptive statistics were run for each variable. Hypothesis testing was conducted through completion of a non-parametric Spearman's rank order correlation and chi-square tests of independence.

Given the nature of the variables involved, different statistical methods were appropriately selected. To test Hypothesis 1, a non-parametric Spearman's rank-order correlation was used to assess the relationship between students' ordinal perception scores and career interest (Field, 2018). For Hypotheses 2–4, chi-square tests of independence were conducted to examine associations between the categorical variables of gender, parental occupation, and role models, and career interest (Pallant, 2020). Two a priori power analyses were conducted using G*Power version 3.1.9.7 (Faul et al., 2007) to determine the minimum sample size required to test the study hypotheses. As four inferential tests were planned, the post-hoc Bonferroni correction was therefore utilised to set the p value to a significance value of 0.0125 to reduce the risk of a type 1 error.

An assumption for chi-square tests is that each cell must have expected counts of no less than five. When examining the cell counts for hypothesis four, it was evident that this assumption was not met. To address this issue, for all chi-square tests, the categories of 'strongly agree' and 'agree' were combined into one category of 'agree', and 'strongly disagree' and 'disagree' were combined into one category of 'disagree' (see Table 2). Frequency counts for perceptions of agriculture for the 5-point Likert scale are detailed in Table A1 (see Appendix). When conducting

the analysis, pairwise deletion was utilised to exclude cases with missing data. Hypothesis four relates to the question: 'do you have a family member or family friend who owns a farm or works in agriculture', to which some students answered, 'I don't know'. Due to the ambivalence of this answer, this data was removed from the analysis.

Participant Information

There was a total of 546 participants, with 278 male and 217 female. Data screening identified that 22 people did not report their gender. 16 people reported that they were non-binary and 13 people responded with prefer not to say. Data was recoded into 1 for male and 2 for female, with individuals identifying as non-binary and prefer not to say being removed from the dataset. The final sample size for our study was 495 participants. The ages of participants ranged from 12 to 19 (M = 14.62, SD = 1.367) and the year levels ranged from year 7 to year 12 (M = 8.82, SD = 1.940).

Results

Data Screening and Assumption Testing

Frequency counts for all variables were examined (see Table 1).

Table 1: ***Frequency Counts for Parental Occupation and Role Model in Agriculture (n = 495)***

Variables	Male	Female	Missing data
At least one parent who works in agriculture	20	18	301
No parent who works in agriculture	83	73	
Career role model/knows someone who works in agriculture	156	116	98
Does not know someone who works in agriculture	74	51	

Frequency counts for all variables were examined (see Table 2).

Table 2: ***Frequency Counts for Perceptions of Agriculture for the 3 Point Likert Scale (n = 495)***

Item	Disagree	Neutral	Agree	Missing
1. I could do something I am interested in and good at in agriculture (n= 435)	109	158	168	82
2. Agriculture is important to the future of the world (n = 312)	5	40	267	205
3. I could earn good money in agriculture (n = 437)	35	143	259	80
4. I can make a difference to the future of the world in agriculture (n = 440)	88	177	175	77
5. Agriculture is interesting to me (n = 446)	96	162	188	71

6. I am interested in pursuing a career in agriculture (n = 437)	170	153	114	80

The Impact of Perceptions of Agriculture: Hypothesis 1 Supported

The first hypothesis being tested is whether those with more positive perceptions of agriculture will be more inclined to seek a career in agriculture. Gender differences were examined through isolating data for males (see Table 3) and females (see Table 4).

Table 3: ***Correlations Table for Male Participants and Their Perceptions of Agriculture (n = 278)***

Variable	I am interested in pursuing a career in agriculture	I could do something I am interested in and good at in agriculture	I could earn good money in agriculture	I can make a difference to the future of the world in agriculture	Agriculture is interesting to me
I could do something I am interested in and good at in agriculture	.728* *n* = 244				
I could earn good money in agriculture	.426* *n* = 243	.544* *n* = 245			
I can make a difference to the future of the world in agriculture	.563* *n* = 245	.547* *n* = 247	.453* *n* = 246		
Agriculture is interesting to me	.601* *n* = 242	.679* *n* = 244	.445* *n* = 243	.569* *n* = 245	
Agriculture is important to the future of the world	.167 *n* = 155	.327* *n* = 156	.519* *n* = 156	.268* *n* = 157	.261* *n* = 162

Note. * indicates $p < .001$.

Table 4: ***Correlations Table for Female Participants and Their Perceptions of Agriculture (n = 217)***

Variable	I am interested in pursuing a career in agriculture	I could do something I am interested in and good at in agriculture	I could earn good money in agriculture	I can make a difference to the future of the world in agriculture	Agriculture is interesting to me
1. I could do something I am interested in and good at in agriculture	.674* *n* = 185				
2. I could earn good money in agriculture	.239* *n* = 187	.358* *n* = 184			
3. I can make a difference to the future of the world in agriculture	.438* *n* = 188	.507* *n* = 184	.376* *n* = 187		
4. Agriculture is interesting to me	.401* *n* = 184	.449* *n* = 181	.281* *n* = 184	.502* *n* = 184	
5. Agriculture is important to the future of the world	-.139 *n* = 140	-.043 *n* = 138	.347* *n* = 141	.171 *n* = 141	.284* *n* = 148

Note. * indicates $p < .001$.

The Impact of Gender: Hypothesis 2 Rejected

The second hypothesis being tested is that there is an expected relationship between gender and interest in a career in agriculture, such that males will be more likely to be inclined to seek a career in agriculture. A chi-square test of independence was performed to examine the relationship between gender and the likelihood of seeking a career in agriculture (see Table 5). The relationship between these variables was not significant, χ^2 (2, N = 434) = 4.61, p = .100, indicating no link between gender and likelihood of seeking a career in agriculture.

Table 5: ***Observed and Expected Counts of Gender and Interest in a Career in Agriculture from a Chi-square Test of Independence (n = 434)***

			How much do you agree with the following statement: I am interested in pursuing a career in the agriculture industry			Total
			Disagree	Neutral	Agree	
Gender	Male	Count	88	84	73	245
		Expected Count	96.0	85.2	63.8	245.0
	Female	Count	82	67	40	189
		Expected Count	74.0	65.8	49.2	189.0
Total		Count	170	151	113	434
		Expected Count	170.0	151.0	113.0	434.0

The Impact of Parental Occupation: Hypothesis 3 Rejected

The third hypothesis being tested is whether those with parents in agriculture-related occupations will be more inclined to seek a career in agriculture. A chi-square test of independence was performed to examine the relationship between parental jobs in agriculture and likelihood of seeking a career in agriculture (see Table 6).

Parental occupation was split into related to agriculture and not related to agriculture. This was further screened through combining parental occupation into the category of at least one parent in agriculture. Furthermore, the categories of 'strongly agree' and 'agree' were combined into one category of 'agree', and 'strongly disagree' and 'disagree' were combined into one category of 'disagree'. Therefore, the three categories are 'disagree', 'neutral' and 'agree'. The relationship between these variables was non-significant, χ^2 (2, N = 171) = 2.02, p = .36. This indicates no link between parental occupation and likelihood of seeking a career in agriculture.

Table 6. ***Observed and Expected Counts of Parental Occupation and Interest in a Career in Agriculture from a Chi-square Test of Independence (n = 171)***

			Parent Job in Agriculture		**Total**
			No Parent in Agriculture	At Least One Parent in Agriculture	
How much do you agree with the following statements: I am interested in pursuing a career in the agriculture industry	Disagree	Count	56	8	64
		Expected Count	52.8	11.2	64.0
	Neutral	Count	47	11	58
		Expected Count	47.8	10.2	58.0
	Agree	Count	38	11	49
		Expected Count	40.4	8.6	49.0
Total		Count	141	30	171
		Expected Count	141.0	30.0	171.0

The Impact of Career Role Models: Hypothesis 4 Supported

The fourth hypothesis being tested is whether career role models and having a family member or family friend who owns a farm or works in agriculture has a significant impact on the likelihood of choosing a career in agriculture. A chi-square test of independence was performed to examine the relationship between a career role model and likelihood of seeking a career in agriculture (see Table 7). The relationship between these variables was significant, χ^2 (2, N = 358) = 16.69, p <.001. This indicates a link between career role models and likelihood of seeking a career in agriculture.

Table 7: ***Observed and Expected Counts of Career Role Model and Interest in a Career in Agriculture from a Chi-Square Test of Independence (n = 358)***

			Does anyone in your family, or a family friend, have a farm or work in agriculture?		
			Yes	No	Total
How much do you agree with the following statements: I am interested in pursuing a career in the agriculture industry	Disagree	Count	79	58	137
		Expected Count	94.5	42.5	137.0
	Neutral	Count	88	36	124
		Expected Count	85.6	38.4	124.0
	Agree	Count	80	17	97
		Expected Count	66.9	30.1	97.0
		Count	247	111	358
Total		Expected Count	247.0	111.0	358.0

Discussion

Career development theories are used to understand why people develop interests and how this shapes their career choices (McIlveen, 2015). Social Cognitive Career Theory was used in the context of this study to explore how to improve career interventions by examining the influence between gender, environment, social influences and learning experiences, which all combine to develop an individual's self-efficacy in their career field and influence career interests and career choices (Lent & Brown, 2019).

Perceptions

The first hypothesis was that students with more positive perceptions of agriculture would be more inclined to seek a career in agriculture. According to Social Cognitive Career Theory, lacking a personal connection to agriculture reduces the likelihood of pursuing it as a career (Lent & Brown, 2019).

Under Social Cognitive Career Theory, task self-efficacy is a strong predictor of career interest (Sheu et al., 2018). However, the items measured to test this hypothesis primarily assessed general self-efficacy by evaluating interest in pursuing a career in agriculture. In the present study, it is argued that the belief that one could do something they are interested in and good at in agriculture approximates self-efficacy, with a particular focus on the phrase 'could do'. Furthermore, the belief that agriculture is important for the future of the world, the expectation of earning a good income in agriculture, and the belief that one could make a difference to the world through agricultural work are considered indicators of outcome expectations, as they indicate a range of outcomes that can be obtained by pursuing work in agriculture (Luc, 2020). Finally, career interest is conceptualised as being related to the belief that agriculture is interesting.

Findings indicated that for both males and females, belief that agriculture is important to the future of the world did not significantly correlate with career interest in agriculture. This indicates that disclosing to someone that agriculture is important to the future is not a good predictor of persuading them to pursue agriculture. This aligns with other findings from recent studies that have identified various factors influencing individuals' decisions to pursue agricultural careers (Feldpausch et al., 2019; Hand et al., 2023). A study conducted by Feldpausch and colleagues found that students' attitudes towards agriculture, their agricultural knowledge, perceived

behavioural control and career planning were the most influential factors in predicting intentions to enter agricultural-related careers (Feldpausch et al., 2019).

These findings that self-efficacy is the strongest predictor of career interest indicate the importance of increasing self-efficacy within this population (Feldpausch et al., 2019). Building self-efficacy and fostering interest may be done through aligning individual interests with agriculture and offering hands-on experiences for students to participate in agricultural-related activities (Brandt et al., 2017; Roy, 2023). Merely providing information is insufficient to inspire agricultural careers and it is crucial that intervention programs instead prioritise fostering the self-efficacy of students (Feldpausch et al., 2019). Most students in the study held positive views of farming and agriculture, highlighting potential for engagement through targeted efforts.

Gender

The second hypothesis was that males would be more inclined to seek a career in agriculture, reflective of historical trends related to gender norms in male-dominated industries like agriculture (Conlon et al., 2023). The results from this study indicated that there were no significant differences between the genders, which is inconsistent with past literature exploring gendered career preferences (Dunlap & Barth, 2023). The observed and expected counts for males and females did not significantly differ and therefore, the null hypothesis was accepted. At this age, the expected gender differences are not being observed.

Unlike other traditionally male-dominated fields including engineering and construction, results from this study indicate that there is no gender disparity within a career in agriculture (Dunlap & Barth, 2023; Huijsmans et al., 2021). One explanation for this discrepancy from the norm is the unique geographic context of the sample used. The sample of participants for the study were exclusively from rural and regional farming communities in the Gippsland region, where both males and females are likely to have comparable local knowledge of agricultural jobs and career opportunities within the field (Brandt et al., 2017). This indicates that exposure to agriculture plays a role in shaping career aspirations in students (Brandt et al., 2017; Binks et al., 2018).

It is also important to consider broader national trends. In Australia, approximately 60% of students enrolled in agriculture-related degrees are women (Department of Industry, Science and Resources, 2024). This indicates that existing stereotypes about agriculture being a male-dominated field, particularly in production-related roles, are not barriers to female participation at a tertiary level or secondary school level, as findings from this study suggest.

Parental Occupation

The third hypothesis was that students with parents working in agriculture-related occupations would be more likely to seek a career in agriculture. However, the findings of this study indicate that there is no link between parental occupation and likelihood of seeking a career in agriculture. The observed and expected counts for no parent in agriculture and at least one parent in agriculture did not significantly differ and therefore, the null hypothesis was accepted.

These results are not consistent with the literature, which indicates that direct exposure to the agricultural industry through parental involvement plays a critical role in driving initial curiosity and enthusiasm for careers in this field (Abdul Rahaman et al., 2023). This may be due to other impacting factors including broader perceptions of agriculture, access to education and opportunities, peer influence and exposure through school programs contributing to shaping students' career ambitions (Whitehead & Estepp, 2016). These findings highlight the importance of considering these multiple influences when designing intervention programs to increase overall interest in agricultural-related jobs (Noack et al, 2010). Additionally, for this variable, many students chose not to disclose parental occupation in their responses. The final sample size for this participant test was 171 students, below the power analysis recommended size of 222, which means that this test was potentially underpowered.

Role Models

The fourth hypothesis was that students with access to career role models in agriculture would be more likely to express interest in pursuing a career in agriculture. Results supported this hypothesis, with findings indicating that career role models were statistically significant predictors of students seeking a career in agriculture. This demonstrates that knowing someone who works in the agriculture industry, be that a family member, friend or family friend, can positively influence students' interest in agriculture-related careers (Olsson & Martiny, 2018). This highlights the importance of social exposure through one's social network.

It would be particularly interesting to examine the gender of these career role models and understand how this affects students' career aspirations, especially among female students (Olsson & Martiny, 2018). Due to the historical underrepresentation of women in agriculture, identifying whether female students relate more to female role models in the field may be able to provide valuable insights into these motivations (Kricorian et al., 2020). The findings of these studies could inform strategies to encourage gender diversity within agricultural careers by providing relatable role models (Olsson & Martiny, 2018). Through the exploration of the interplay between gender and role models, researchers could understand how targeted mentorship influence career decisions within this context.

Theoretical Implications

Results from this study indicate that no matter one's gender or parental occupation, with a positive career role model, one can be influenced into developing a genuine interest in agriculture. This will assist in developing targeted interventions to promote more student interest in the agriculture sector (Kricorian et al., 2020). Examining how the different factors interact is crucial to determine how to boost self-efficacy, persuasion and outcome expectations. The implications of this research link to vocational psychology and how one can use career development theories to improve career interventions and inform policies surrounding issues in career development (McIlveen, 2015). Implications of this research also relate to Social Cognitive Career Theory and demonstrate how various factors including perception, gender and social influence impact an individual's self-efficacy and their willingness to pursue certain careers (Lent & Brown, 2019).

Practical Implications

While there was no direct relationship between gender and career aspirations, there were gender differences in how perceptions of agriculture could predict career interest. Theoretical influences for using Social Cognitive Career Theory include the importance of self-efficacy beyond outcome expectations (Conklin et al., 2013). The presence of a role model was a predictor of career interest, and this may indicate that role models provide vicarious learning experiences and offer persuasion that encourages students to feel they could do something they are good at and interested in within agriculture (Kricorian et al., 2020). Results from this study indicate that it is more than career information or information about how important agriculture is. It is evident that students need exposure and experiences to supercharge their self-efficacy (Sheu et al., 2018).

Limitations and Future Research

The study has limitations due to the localised nature of the sample of students being from rural and regional towns. This research could be generalised to other rural communities, but not to all of Australia. This is a limitation due to most of Australia's population residing in metropolitan areas (Binks et al., 2018). The findings of this study challenge the existing standards for women in urban populations, where exposure to agriculture may be limited (Brandt et al., 2017). It is important to note that this was a cross-sectional study, meaning that data was collected at a single time point, which prevents an analysis of how the relationship between gender and

agricultural career aspirations might evolve over time. Future longitudinal research could provide deeper insights into how societal and cultural shifts influence these dynamics (Zaremohzzabieh et al., 2022).

Another limitation was the exclusion of diverse gender identities by only considering male and female genders. There were 16 participants who identified as being non-binary and 13 participants who preferred not to say their gender, and it would not have been appropriate to include them in the results due to the discrepancy in size between the groups.

There were several methodological limitations of the current research. Doing repeated testing of the same sample can increase the risk of a type 1 error, so a Bonferroni correction was applied. The impact of this, however, was that the sample size was potentially not sufficient to find the statistical impacts that were expected.

It was expected that there would be a relationship between parental occupation and agricultural career interest. However, due to participants non-response, the sample utilised fell short of that needed for sufficient power (n = 222). While there were observed practical differences, this was not statistically significant at the p value that was set. Furthermore, the power analysis found that the minimum power needed was 222, however, the gender and parental occupation sample was 194, which indicates that the non-significant results obtained may have been due to insufficient power for this test.

Future research could use an experimental design to examine the impact of gender-specific role models, where female students could be provided with the opportunity to interact with female role models working in their desired career. This would allow researchers to understand the impact of relating with one's role model from a gender perspective (Olsson & Martiny, 2018). Given the diverse nature of jobs in agriculture, future research should also aim to capture role models jobs and explore if the type of role has an impact on career aspirations. While the current research excluded non-binary students from the analysis, future research should investigate non-binary student's aspirations in agriculture. Future studies may also benefit from building a talent pool in metropolitan areas to examine whether findings from this population differ due to early exposure to the agriculture fields based on proximity (Brandt et al., 2017).

Conclusion

To have high job satisfaction, students should be interested in their career. To support the growth of Australia's agricultural industry, society should explore ways to increase students' interest in agricultural-related jobs. The Gippsland region is especially in need of growing the agriculture industry due to the increased need for food production and the importance of economic development. Findings from this study indicate that perceptions make a significant impact on career choice and there are no significant differences between genders or parental occupation when it relates to the likelihood of choosing a career in agriculture. Findings also indicate that social exposure to a career through role models has a direct and positive impact on career interest within the agricultural space. Future career development and education activities can be strengthened using agricultural role models.

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Appendix

Table A1: ***Frequency Counts for Perceptions of Agriculture for the 5 Point Likert Scale (n= 495)***

Item	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Missing
1. I could do something I am interested in and good at in agriculture (n= 435)	41	68	158	117	51	82
2. Agriculture is important to the future of the world (n = 312)	2	3	40	119	148	205
3. I could earn good money in agriculture (n = 437)	15	20	143	199	60	80
4. I can make a difference to the future of the world in agriculture (n = 440)	24	64	177	135	40	77
5. Agriculture is interesting to me (n = 446)	32	64	162	108	80	71
6. I am interested in pursuing a career in agriculture (n = 437)	74	96	153	90	24	80

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Factors Influencing Life Sciences Learners' Engagement in Classroom Questioning: A Case of Learners from Rural Contexts

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Abstract

Learner engagement in Life Sciences classroom questioning has been seen as a driver of meaning-making. However, research suggests that this engagement is minimal in rural science teaching contexts. The purpose of this study was to investigate factors that influence rural school Life Sciences learners' engagement in classroom questioning. A conceptual framework consisting of several theoretical positions regarding science classroom questioning was developed to ground the study. Using a qualitative case study approach, data were collected through open-ended questionnaires. The 128 questionnaires were analysed using a qualitative content analysis. This analysis yielded six categories that characterise inhibiting and enabling factors to classroom questioning engagement. These categories include teacher orchestration of classroom questioning, teacher perception of questioning, learner preference and perceptions of questioning, learner anxiety and resilience, learner resonance with the topic, as well as language issues. I argue that it is important for Life Sciences teachers to realise these factors, especially issues of learner anxiety and language. A recommendation from this study is that teachers need to be trained in strategies that can be used to deal with the factors that inhibit Life Sciences learners' engagement in classroom questioning.

Keywords: *classroom questioning, engagement, Life Sciences learners, rural context*

Introduction

Classroom questioning is a core pedagogical practice that shapes learners' cognitive engagement, conceptual understanding, and the co-construction of science knowledge (Chin, 2007; Smart & Marshall, 2013). Through the strategic use of questioning, this pedagogy engages learners cognitively and promotes critical thinking and reflective learning (Chin & Brown, 2000). Hence, scholars in science education have always advocated for teacher and learner engagement in classroom questioning (see Chin, 2007; Khoza & Magadlela, 2025). Engagement in science classroom questioning encompasses the teacher asking questions and learners responding, as well as learners asking questions either to the teacher or to fellow learners. This study focuses on factors that influence Life Sciences learners' engagement in classroom questioning. In the South African context, Life Sciences is one of the subjects (amongst Physical Sciences and Natural Sciences) that involves complex biological concepts that require engagement in questioning to foster both conceptual understanding and application to real-life contexts (Siphukhanyo & Olawale, 2024). Furthermore, according to Zhang and Lamb (2025), questioning enables learners to articulate ideas, challenge misconceptions, and connect biological concepts. While learner engagement in science classroom questioning is considered significant for the construction of knowledge, it is not always a given that learners will engage. In the science teaching context, engagement is mediated by individual learner characteristics such as prior knowledge and

motivation, as well as other related issues like classroom dynamics and school-related factors (Harris & Williams, 2012; Reeve, 2012), hence the need to investigate these factors in specific science teaching contexts. In rural Life Sciences classrooms, these dynamics often take on distinct forms shaped by contextual realities perpetuated by linguistic challenges for both the teacher and learners (Seah et al., 2025). Therefore, the problem regarding classroom questioning in this study is seen from the perspective of teachers and learners in rural science classrooms. Rural classrooms in this study are defined as classrooms that are situated in schools in remote areas characterised by infrastructural limitations such as poor road access, under-resourced and overcrowded classrooms (Maphalala et al., 2023), and a lack of basic science resources and laboratories (Soyikwa & Boateng, 2024). In the South African context, rural classrooms differ from urban classrooms in the sense that rural classrooms are populated with learners from low socio-economic households (Hlalele, 2014) who exhibit language challenges and often face cultural practices and community expectations that shape their aspirations. Therefore, such learners come to science classrooms with limited exposure to formal scientific discourse and prior experiences that may not align with the science ways of explaining (Soyikwa & Boateng, 2024). Therefore, some learners from this context may struggle to engage in questioning and scientific discourse (Farrell & Tharpe, 2024). Against this background, in this study, I sought to investigate factors that influence learner engagement in Life Sciences classroom questioning. By foregrounding the voices and experiences of rural Life Sciences learners, I seek to illuminate both enabling and constraining factors by addressing the following research question: *What factors influence rural school Life Sciences learners' engagement in classroom questioning?*

Review of Related Literature

The purpose of this literature review is to provide an overview of research related to questioning practices in science classrooms generally. I begin by presenting literature on teacher questioning practices and then move to how learner engagement in classroom questioning may occur.

Within broader learner engagement pedagogy, teachers ask questions for different instructional purposes (Ainley, 2012). For example, teachers can ask questions to organise the classroom, give instructions, scaffold learners' thinking, as well as drive classroom discourse (Kawalkar & Vijapurkar, 2013). In science classrooms, questions can be asked by the teacher or the learner as per the Initiation-Response-Evaluation/Feedback interaction (IRE/F) pattern developed by Sinclair and Coulthard (1975). The teacher asks questions at the "I" level, thereby inviting learners' contributions or at the "E/F" level to follow up on the learner's contribution. Literature is replete in terms of the types of questions that the teacher can ask to facilitate engagement (see for example, Khoza & Msimanga, 2022; Tytler & Aranda, 2015). What can be gleaned from these studies (amongst others) is that teacher questions are categorised in terms of their purpose at different points during science lessons. Literature advocates for following up on learner response through extended and challenging questions (Khoza & Msimanga, 2022; Bansal, 2018). The authors argue that such questions can lead to heightened interaction. Effective questions asked in a psychologically safe learning environment support learning by probing for understanding, encouraging creativity, stimulating critical thinking, and enhancing confidence, thereby engaging learners in a dialogic discourse (Bansal, 2018). However, teachers can also ask poor questions that can inhibit learning by creating confusion as well as limiting creative thinking (Chin, 2007). Unfortunately, observations of classroom-based instructors have shown that lower-order questions are frequently used (see Khoza, 2023), usually due to teachers' attitudes and lack of knowledge of questioning (Eshach et al., 2014).

Although teachers may value questioning in science classrooms, learner contributions are necessary as they also drive the overall classroom interaction. Depending on lesson goals, teachers can allow learners to ask questions to seek clarity and extend their understanding of science content (Kaya & Temiz, 2018). According to Webb et al. (2019), when learners engage in

questioning by providing responses to teacher questions or asking questions themselves, they can monitor their own thinking and learning by offering ideas. Hardman (2020) categorised learner talk into brief learner contribution, extended learner contribution, learner closed question and learner open question. While learner responses to teacher questions can drive interaction and allow the teacher to detect misconceptions (Khoza, 2023), the significance of learner-generated questions in the learning process has been argued in previous literature (see for example, Almeida, 2012; Herranen & Aksela, 2019; Kaya & Temiz, 2018). Learner-generated questions can activate prior knowledge and promote deeper knowledge elaboration, enabling learners to concentrate on content and evaluate their understanding (Eshach et al., 2013). This practice allows them to articulate their current understanding, establish connections between concepts, and identify areas of confusion. However, the literature suggests that learners seldom ask questions during instruction (Eshach et al., 2013). For example, asking a question in class can evoke feelings of exposure and vulnerability. Cavanagh (2014) argued that when learners are exposed to vulnerability, they tend to reserve their views due to a lack of confidence. Sometimes language issues play a role where learners may lack proper scientific language to contribute to classroom questioning (Karlsson et al., 2019; Tagnin & Ní Ríordáin, 2021). In rural settings, this is often compounded by linguistic challenges, where learners speak a home language different from the language of instruction (Salloum & Boujaoude, 2020) while science content itself is a new language (Khoza, 2024). As a result, teachers need to provide learners with supportive guidance in a safe and encouraging environment, scaffolding their use of scientific language, clarifying concepts, and creating opportunities for all learners to engage in questioning. This approach is essential not only for conceptual understanding but also for fostering learner confidence and engagement in science learning, which can be a variable in rural contexts. Another reason reported in the literature for learners not to ask questions is the limited time available to develop and articulate questions (Chin & Brown, 2000). Thus, some researchers have recommended 'wait-time' as well as allowing learners to cognitively engage with the question before verbalisation (Khoza & Nyamupangedengu, 2018).

While the literature canvassed here contributes to our understanding of classroom questioning, there remains a distinct gap in research that investigates factors influencing learners' engagement in classroom questioning in science classroom settings, particularly in the Life Sciences classroom. Life Sciences bridges concrete observable phenomena with theoretical explanations, which may present unique pedagogical opportunities for questioning-based instruction. As argued above, rural Life Sciences classrooms often face unique challenges, such as under-resourced classrooms and socio-cultural dynamics that may interact with barriers to classroom questioning. Furthermore, the prevalence of terminology in the Life Sciences subject necessitates teachers to engage learners in discourse through questioning (Tagnin & Ní Ríordáin, 2021).

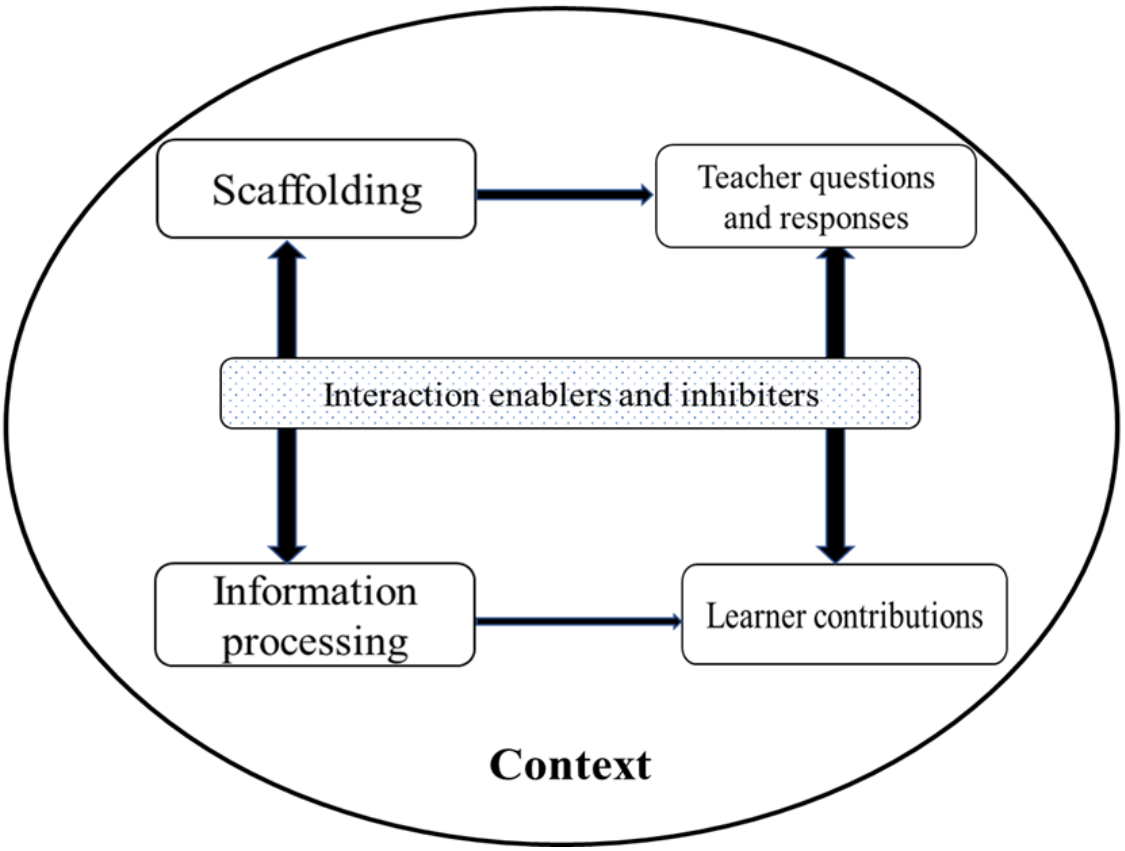
Theoretical Perspectives

In designing this research, I drew from various constructs to underpin factors that influence the engagement of Life Sciences learners from rural contexts in classroom questioning (see Figure 1).

In Figure 1, I begin by acknowledging the contextual nature of classroom questioning. In this study, the context is Life Sciences classrooms in rural schools. Investigating classroom questioning in this context highlights how learning can be supported through classroom questioning, such that learners can articulate scientific concepts. The theoretical framework for this study recognises that classroom questioning involves two or more players: the teacher and learners, who learn from the teacher and from each other. While the role of the learner is to contribute to classroom interaction through answering and asking the teacher questions, the role of the teacher is to ask questions and respond to learners' contributions. Learners' contributions can be both answering questions posed by the teacher as well as asking questions

either of the teacher or possibly other learners. Theoretically, teacher questions and responses to learners are underpinned by the notion of scaffolding from Vygotsky's (1978) socio-cultural theory. The emphasis in Vygotsky's theory is that individuals learn in a socially mediated context, and social interactions heavily shape their learning. Classroom questioning provides this social interaction where the teacher is a more knowledgeable other. From this theory, I also draw from Vygotsky's concept of the Zone of Proximal Development (ZPD), which views learner development as the gap between what they can achieve independently and what they can accomplish with guidance or collaboration. This guidance emerges when there are tools to provide the necessary scaffold (Wood et al., 1976) – in this case questions.

Figure 1: ***Theoretical Perspectives of the Study***



To theoretically ground learner contributions, through questions and responses to teacher questions, I draw from the information processing model developed by Atkinson & Shiffrin (1968). Using their model, I argue that learners internalise the question through their senses and then process it to make decisions regarding how they respond. Learners can select which questions to answer and what questions to ask during classroom interactions. Learners do this by identifying concepts, recalling their meanings, and forming a mental representation of the combined message (Anderson, 2004). Once the question is understood, learners generate their response by retrieving relevant information from memory or curriculum materials and manipulating this information to construct their answers (Jakobsson et al., 2024) and even ask further questions, thus actively engaging in classroom questioning. For the purposes of this study, I assume that in the science teaching context, classroom questioning is influenced by specific enabling and inhibiting factors which this study is seeking to reveal. I hypothesise that enablers and inhibitors may be situational, psychological and content-related.

Research Design and Methodology

This study addresses the research question: *What factors influence rural school Life Sciences learners' engagement in classroom questioning?* It uses a qualitative methodology, drawing from the interpretivist paradigm (Cresswell & Cresswell, 2018). This approach allowed me to delve deeper into learners' thinking regarding their perceptions of classroom questioning. I used an exploratory case-study strategy (Hamilton & Corbett-Whittier, 2013), where the case was defined in terms of context: Rural Life Sciences classrooms.

Participants

The participants were 128 learners from two public high schools located in the province of KwaZulu-Natal, South Africa. They were in Grades 10 and 11, and were selected using purposive and convenience sampling methods on the basis that they were studying Life Sciences in a rural context and were available to engage in the study. Both schools are located far from town and serve communities which are mostly dependent on government grants. This study was approved by the University of Pretoria, Faculty of Education, ethics committee under protocol number EDU096/23, and all ethical protocols, including learners' and parents' consents, were sought before collecting the data.

Data Collection

Data were collected through the distribution of an open-ended questionnaire (See Appendix A). The questions were specific to engagement in Life Sciences classrooms. An initial questionnaire was piloted with 5 learners whose data are not included in this study. The learners were then interviewed, asking them about the clarity of the questions. This led to the refinement of the questionnaire. For example, the first question was initially phrased as 'Between open-ended and closed-ended questions, which ones do you prefer?'. During the pilot phase, I realised that there was a need to first ask learners if they ask questions (items 3 and 6) to reveal their preference before asking for motivation. Many learners responded to the questionnaire. Although I asked closed-ended questions in items 3, 5 and 7, this does not qualify the study as quantitative. The purpose of these questions was to 'lead' the learners into the more open-ended questions.

Data Analysis

To analyse the questionnaires, a qualitative content analysis was employed, where the goal is to condense the raw data into categories that assist in addressing the research question (Hsieh & Shannon, 2005). Together with an independent researcher, we coded 10 questionnaires to establish initial codes by allocating the phrases that characterise some of the aspects that influence the learners' engagement in classroom questioning. Discrepancies were resolved through discussion, thereby increasing intercoder agreement and ensuring trustworthiness. Table 1 shows some of the codes used.

I then coded the rest of the questionnaires. The coding process was iterative, involving continuous comparison and memo-writing, as suggested by Braun and Clarke (2006), to ensure depth and consistency in category formulation. The codes were then reduced into meaningful categories. These codes and categories were then clustered into thematic categories reflecting enabling and inhibiting factors.

Table 1: ***An Example of the Coding Process***

Extract from questionnaire	Allocated code
The teacher does not give us a chance to ask questions… she asks questions.	Teacher as authority
I want to ask questions but sometimes I am afraid to ask because of my English… some learners will laugh at me	Role of language of communication
Even if I know the answer, I keep quiet until the Mrs X points at me because I am not sure of my answer	Learner confidence
Mr X asks difficult questions when he starts the lesson and most of us keep quiet…	Nature of teacher questions
I think the teacher should ask us challenging questions but not too challenging	Nature of teacher questions
I write down my answers and correct myself afterwards… I prefer not to answer because I might be wrong.	Learner confidence and anxiety
Sometimes I know the answer but I don't know how to put it.	Lack of scientific terms
I ask questions but Mrs X does not answer us. She says we must find out ourselves	Teacher approach to learner questions

Findings

Analysis of data revealed several factors that influence learners' engagement in classroom questioning. These factors are categorised into the six themes presented in Table 2 below. It is important to note that these themes are interrelated.

Category 1: Teacher Questions and Responses to Learner Contributions

The first category is about how Life Sciences teachers ask questions as well as how they respond to learner contributions. Here, learners allude to not being given enough time to process the questions; the complexity of the questions asked; the clarity in the questions asked; as well as teachers' response to their contributions. Extract 1A suggests that there is no clarity in the way in which teacher questions are structured. Therefore, the learners must "*read between the lines*". Another learner shared the same sentiments by stating, "*The teacher asks too many questions at once and I don't know which one to answer*" in support of clarity in questioning practices. Extract Extracts 1B and 1D show the lack of 'wait-time' during classroom questioning by arguing that while they are still trying to make sense of the question, the teachers become impatient and end up answering their own questions. In terms of ways in which teachers respond to learner contributions, Extract 1E reveals that there are usually no follow-ups on their responses. This was also supported by another learner who said, "*I get discouraged when the teacher says nothing after I have answered the question… she just continues teaching us*". 1C reveals that the learner does not like long questions because they are difficult. Another learner writes, "*I usually engage when I can see something and talk about it*", to suggest that where questions are accompanied by visuals, this acts as an enabling factor. Since questioning in science classrooms also involves learner-initiated questions, the learners shared practices related to their initiated questions in Life Sciences classrooms. While Extract 1H is about teachers 'parking' learners' questions that are deemed irrelevant and not asked at the right time, Extracts 1G and 1H are about the behaviour

and teachers' implicit and explicit messages when learners ask questions. These extracts reveal that learner questions may not be valued by some Life Sciences teachers and learners in the class.

Table 2: ***Categories of Factors Influencing Life Sciences Learners' Engagement in Classroom Questioning***

Category of factors	Examples of evidence from data
Teacher questions and responses to learner contributions	Extract 1A: I don't understand his [the teacher] questions and sometimes I have to read between the lines to get what he is asking
	Extract 1B: I engage when I am given enough time to think about the question. In many cases, the teacher does not give us time so that we understand the question well and it is frustrating.
	Extract 1C: The teacher likes long questions and I get confused because they are difficult. This is why I prefer to not answer questions and wait for the answers from my friends.
	Extract 1D: The teacher does not give us enough time to understand the questions… she answers them.
	Extract 1E: The teacher must correct you if you are wrong and tell you what is the correct answer and make you understand.
	Extract 1F: The teacher should say if I am wrong or right… sometimes she does not say.
	Extract 1G: If we ask, we are afraid that maybe he would shout at us that we not listening.
	Extract 1H: … whenever I ask a question, I am always told that this will be done next week and it is never answered.
	Extract 1I: I do engage but not always because I ask a lot and my teachers and other learners don't like it. They think I am wasting time.
Teacher perceptions of questioning	Extract 2A: The teacher thinks we are stupid because she does not ask us many questions. She gives us all the information even when I want to answer questions.
	Extract 2B: I don't think our teacher likes to ask us questions because she teaches and teachers without asking us anything
	Extract 2C: The only time I answer questions is during a test because in our class, we sit and listen.
	Extract 2D: We are asked questions when the lesson starts and after that, we just listen to the teacher telling us the information.
	Extract 2E: A lot of time, we are asked "what do you understand by…"
Learner anxiety and resilience	Extract 3A: Even if they laugh, I understand if I ask questions
	Extract 3B: Even if I don't know, I like to challenge myself with hard questions if the teacher asks
	Extract 3C: I always push myself to understand other learners when they argue on the question asked so that I can also answer and ask questions
	Extract 3D: Sometimes I'm afraid of learners that they would laugh at me then I have shy
	Extract 3E: Because sometimes I get scared to talk in front of other learners. I answer if I am sure of my answer.
	Extract 3F: I do not know how to ask… my questions are not put correctly.
	Extract 3G: I don't like it when the teacher just calls me if my hand is not up because I freeze and get scared to answer even if I know the answer.
Learner preference	Extract 4A: If there is someone that does not understand clearly, she/he could get help fast… I do that a lot because if I ask questions that relate to me, I can understand

Category of factors	Examples of evidence from data
and perceptions of question types	Extract 4B: I like short questions because they are easy to answer. Long questions become complicated for me and I get confused. Extract 4C: Long questions help you to learn the life sciences content well because they introduce you to more things that you did not know… Extract 4D: When you I have the knowledge, I can engage and ask questions… I like to share the knowledge I have especially with the question that says "Describe something", when the teacher says describe something, I think carefully and practice that in my mind. Extract 4E: I like hearing more of others' opinions as it helps me understand the topic. If others ask long questions, I get excited because I can also provide my view. Extract 4F: I like asking long questions because I gain information about the topic and challenging my knowledge. Extract 4G: Hard questions because it makes me to concentrate and work hard to find those answers. Extract 4H: I prefer short questions because I can easily get them correct but the teacher always asks hard questions. Extract 4I: The teacher has to ask questions that we can relate to and about things we can see and be able to explain because we need to talk about science even when are at home. But the teacher does not ask us these questions.\
Learners' resonation with the Life Sciences topics	Extract 5A: I do not engage when questions do not speak to me because I may not have an opinion about the topic because it doesn't interest me. Extract 5B… like with how life began on earth, I never engage or ask questions because I do not believe in it. Extract 5C: I ask questions with other topics and not others. For example, I prefer to keep quiet when we do how life began. I am a Christian and do not believe in that. Extract 5D: The reason is that some topics bore me and when I am bored, I don't ask questions or answer the teacher. Extract 5E: We were doing plants and I don't like plants. I lose interest whenever the teacher talks about plants because I am like "why should we do plants?"
Language	Extract 6A: Name of words become difficult and other words are hard to understand and say… Extract 6B: I am not sure how to ask questions because sometimes I don't understand the terms and I give up. Extract 6C: Some words are just difficult to pronounce and it gets challenging to say to the teacher that you don't understand because he will ask what is it that you don't understand and I will struggle to say it. Extract 6D: The teacher does not allow us to answer in Isizulu and some things make sense to me in this language. Sometimes I ask in my language and other learners correct me. Extract 6E: To be honest, when I think of the questions, I think in my language and then struggle to say that in English.

Category 2: Teacher Perceptions of Questioning

The second category reveals that teachers may have perceptions which inhibit learners' engagement in classroom questions. Although the extracts in Table 2 seem to be about how learners perceive their Life Sciences classrooms, what can be gleaned is that some seldom ask questions because the teacher does not seem to value classroom questioning. Extracts 2A and 2B reveal a learner's concern regarding how their teacher views them. Close to what these learners shared, another learner wrote, "*there are no questions to answer in our class… it is the teacher who tells us the information and we take notes*". This is corroborated by Extract 2C, where the learner shared that they are only allowed to answer written questions during a test or an exam. When questions are asked by the teachers, it is usually at the beginning of the lesson (see Extracts 2D and 2E). Therefore, where teachers do not ask questions throughout the lesson, this becomes a factor that inhibits learners from engaging in classroom questioning.

Category 3: Learner Anxiety and Resilience

The third category pertains to learner anxiety and resilience, characterising both inhibiting and enabling factors. In terms of inhibiting factors, Table 2 shows how some learners experience anxiety when they have to answer or ask questions due to other learners laughing at them; how to structure their initiated questions; and being unsure of their responses. Anxiety emerges as a clear inhibitor of learner engagement in classroom questioning. However, in terms of enabling factors, some learners reported that despite feeling anxious, they 'push' themselves to put their thinking across, thus revealing resilience as a contributing factor to their engagement. For example, one learner (see Extract 3C) shared that they ask and respond to questions even if they are unsure of their contributions. Another learner wrote, "*Some learners would laugh if I answer in the wrong way, but I don't care… I continue to ask questions*". Despite apparent risks, they persist in asking and responding to teacher questions in their Life Sciences classrooms.

Category 4: Learner Preference and Perceptions of Question Types

In this category, learners' preferences and perceptions of question types related to both the teacher questions as well as learner-initiated questions. While one learner's preference in Extract 4A is about the learner-initiated questions, another learner in Extract 4I relates to the questions asked by the teacher. These two extracts reveal the issue of contextualised questions that help learners link the science content to what they experience in their everyday lives. While some learners prefer short questions (see Extracts 4B and 4H), others prefer long questions and questions that request them to "*describe*" (see Extracts 4C, 4D and 4F). Another learner in Extract 4D noted that they prefer "*hard questions*" from the teacher. Their preferences seem to stem from their perceptions regarding various types of questions. For example, learners described that hard and long questions challenge and engage them in a science discussion, as seen in another learner's questionnaire who wrote, "*when I think deeply about the question [long questions] I know I am learning*". Others, like in Extract 4E, described that when they ask long questions, they can provide their view, thus participating in classroom questioning.

Category 5: Learners' resonation with the Life Sciences topics

Regarding the fifth category, the nature of the topics taught plays a role in whether learners engage in classroom questioning or not. Learners who engaged in this study mostly shared how some topics that do not resonate with them, based on several aspects like interest and religion, inhibit them from participating. As shown in the extracts (see Table 2), learners' engagement in questioning is impacted by whether they resonate with the topics or not. This resonance emerges from interest and being knowledgeable about the topic (see Extracts 5A, 5D and 5E). Specifically, Extract 5E reveals the learner's questions regarding why they should engage in certain topics like plants. Some learners' resonance with the topic emerges from religions and

cultures. For example, the learner in Extract 5C described how their religious beliefs prevent them to not engage during the teaching of topics like the history of life on earth.

Category 6: Language

The last category centres on issues of language. Data reveal language as an inhibitor to engagement in classroom questioning. Although not many learners alluded to this factor, the few who described the complexity of terminology and how it is difficult for them to pronounce the scientific terms (see Extracts 6A and 6C). One learner wrote, "*Some words you can't even say in your own language… it is just that English [scientific] term*" to describe the difficulty of technical terms in science. The learners further described a lack of opportunity for them to ask questions and respond to teacher questions. For some, meaning is lost as they think in their languages and then translate their thinking to English (see for example, Extract 6E). This struggle means they end up not participating in class questioning.

Discussion

This study reveals both enabling and inhibiting factors that can influence rural learners' engagement in classroom questioning in Life Sciences. How teachers ask questions at the Initiation level of the Initiation-Response-Evaluation/Feedback interaction pattern, depends on the instructional purpose, and determines how learners will respond (Kawalkar & Vijapurkar, 2013). Learners note a lack of clarity in questions as an inhibitor of their engagement in classroom questioning. Participants in this study described clarity as relating to the conciseness of the questions and whether questions are closed-ended or open-ended (Chin, 2007). They want to understand what the question requires them to do so that they can tailor their responses accordingly. Another point they raised relates to how the teachers seldom respond to their contributions. Data in this study suggests that teachers continue with the lesson without engaging with learner contributions. This is consistent with findings reported by Rop (2002), who highlights the paradoxical nature of classroom questioning, noting that it carries conflicting meanings due to the competing pressures present in daily classroom interactions: teachers often feel constrained by time and unable to accommodate extensive learner questioning. Like Rop (2002), Whittaker (2012) found that learners' questions are sometimes perceived as disruptions to the structured flow of lessons, potentially threatening classroom control and the ability to cover required content. This is a factor that inhibits learners from participating in questioning, potentially compromising their understanding and engagement in class, especially for those who value interaction and active learning. Literature describing questioning strategies in science classrooms emphasises the role of teacher follow-ups at the evaluation level of the Initiation-Response-Evaluation approach (Khoza & Msimanga, 2022; Bansal, 2018), even though some learners in this study seem to prefer being told if their answer is right or wrong. In other words, follow-up moves serve as critical junctures where classroom discourse can be expanded through prompting, revoicing, or juxtaposing student ideas. Where teachers use classroom questioning to follow the learners' responses and understand their thinking, deeper knowledge elaboration can be ignited, which also supports learner-initiated questions (Almeida, 2012). In this way, teachers can maximise learner engagement.

Although this study found that Life Sciences teachers do ask questions when teaching, it also became clear that they do not provide enough time for learners to process the questions, thereby inhibiting the learners from engaging. Providing learners with enough time to process information is explained by the notion of 'wait-time'. An & Childs (2023) found that 'wait-time' allows learners to join the classroom interaction and produce lengthy responses to teacher questions. By contrast, where teachers fail to 'wait' after asking a question, this makes learners lose interest in engaging in questioning, even if the learners know the answer. Rowe (1986) found that the average wait time in classroom interactions was one second or less. If a learner

did not respond within this brief period, teachers would often repeat or rephrase the question, pose a different question, or call on another learner. Even though rephrasing the question is desired in some cases, a lack of wait time may disturb learners' processing of the question, as some learners noted in this study. To explore the impact of extended wait time, Rowe (1986) trained teachers to pause for three to five seconds before responding. This adjustment led to significant improvements in both the quantity and quality of learner responses. Learners provided longer answers and engaged more with the content. Therefore, wait-time should be embraced to allow learners to answer teacher questions as well as ask questions since they would have had ample time to identify the necessary science concepts, recall their meanings, and form a mental representation of the combined message (Anderson, 2004).

Data in the current study further reveal that learners' preference and perceptions of questioning type may influence their engagement in classroom questioning. Some learners described preferring short and straightforward questions, while some expressed a preference for lengthy questions that challenge their thinking. Some preferred contextualised questions and questions that are accompanied by visuals. A factor which emerged as enabling learning and engagement was contextualising questions to assist learners to personally relate to some Life Sciences topics. This also helped learners cross the border from beliefs perpetuated by factors like religion and culture (as mentioned by some learners) to understanding science as a way of explaining natural phenomena. Although issues of religion versus science can also be found in urban schools (Billingsley, 2013), religion and cultural backgrounds are more prevalent in rural settings because such communities tend to maintain closer ties to traditional practices, belief systems, and collective identities compared to urban contexts. For example, Borgerding (2017) suggested that leveraging 'rural' funds of knowledge can help bridge the gap between learners' deeply rooted beliefs and science. Hence, contextualising science and leveraging learners' prior knowledge (including religious and cultural beliefs), especially in the introduction phase of lessons, can motivate learners and increase their interest in learning science (Davidsson & Granklint-Enochson, 2021). Thus, in a study by Zhang and Chen (2024), Life Sciences learners favoured contextualised and scenario-based questions and appreciated questioning approaches that minimised teacher dominance.

Although the learners in this study generally value questioning in Life Sciences classrooms, their confidence, anxiety, and resilience significantly influence their engagement. In rural settings, anxiety has been noted as an influence on learner confidence and engagement (Hlalele, 2014). Some learners reported lacking the confidence to ask or respond to teacher questions, while others experienced anxiety. This anxiety often stemmed from teachers' attitudes and questioning styles, as well as from learners' fear of providing incorrect or inadequate answers, which affected their morale (Özbuğutu, 2021). A study revealed that the primary factor contributing to this anxiety was the fear of negative evaluation—the apprehension of being judged unfavourably while speaking in front of the class, particularly when not volunteering (Cooper et al., 2018). Asking a question in class can evoke feelings of exposure and vulnerability, thus overshadowing learner curiosity and engagement in classroom questioning. Therefore, learners need an inclusive and motivating environment for them to engage with Life Sciences questions through motivation and cultivating resilience (Skinner & Pitzer, 2012). This is because rural learners often face low confidence levels. This inclusion can take the form of appreciating their contextual background and prior knowledge about various science topics during classroom questioning (Chen et al., 2017).

While language is seen as a tool for engagement in science classroom discourses (Semeon & Mutekwe, 2021), findings in this study suggest that it is an inhibitor for learners to engage in classroom questioning. Learners cited the inability to put their points across due to science terminology and difficulties expressing themselves in the language of teaching and learning. This is not surprising as rural learners often face linguistic challenges (Probyn, 2015). Learners for

whom language is a barrier to engagement require inclusive classrooms and, in this context, effective use of questions to support learning is a particularly powerful pedagogic tool. Therefore, teachers should be encouraged to ask open-ended questions as well. This finding builds on existing literature. For example, according to Tagnin and Ní Ríordáin (2021), teachers need to allow learners to use their own languages through code-switching and translanguaging. This may alleviate the problems of a lack of learner-initiated questions as reported in some studies (Watts & Pedrosa de Jesus, 2010). Furthermore, in this study (as seen in Table 2), it seems like teachers do not allow them to use their own vernacular, thus inhibiting them from participating in classroom questioning. Hence, English second-language speakers like those in rural schools may require more time to comprehend, process, and navigate scientific concepts than native English speakers during classroom questioning. Studies have also reported language as a factor that influences learner engagement in science activities, thus impacting their achievement (see for example, Prinsloo et al., 2018; Salloum & Boujaoude, 2020). Arguably, learning a subject like Life Sciences depends on the learner's ability to develop scientific language using English. In other words, learners should not only be competent and familiar with ordinary English registers but also be able to build substantial linguistic skills to engage in classroom questioning (Binothman et al., 2024).

Conclusion and Recommendations

This study aimed to investigate factors that influence Life Sciences learners' engagement in classroom questioning in a rural teaching context. Data reveal factors including how their Life Sciences teachers orchestrate questioning; teachers' perceptions of questioning; learners' preferences and perceptions of question types; anxiety and resilience of learners; as well as language issues. These factors interactively serve as both enablers and inhibitors of Life Sciences learners' engagement in classroom questioning. What is novel about this study is its rural context, where the voices of learners are often neglected. Orchestrating classroom questioning necessitates a need for awareness of such factors in rural science teaching contexts. These findings carry implications for science teaching in rural schools. For example, the learners' struggles with language, teacher responsiveness, and cultural resonance with topics signify how rurality is not just a geographic condition, but a pedagogical constraint. A recommendation from this study is that in rural Life Sciences teaching contexts, teachers must be cognisant of these factors to maximise learners' engagement in classroom questioning. Teachers should understand the anxiety as well as the language barriers that rural learners experience when engaging in classroom questioning. The findings in this study also suggest that teacher education programmes need to equip Life Sciences teachers with various tools and strategies on how to deal with learner anxiety and language barriers. Such strategies can involve how to build learners' resilience to overcome anxieties, language barriers and other contextual issues during classroom questioning.

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Appendix A: Questions Included in the Open-ended Questionnaire

1. What kind of questions do you think should be asked by your Life Sciences teacher during lessons?
2. What role do your teacher's questions play in your learning of Life Sciences content?
3. Do you usually answer questions from your teacher? State Yes or No.
4. If you wrote "yes" in question 3, explain why you answered questions from your Life Sciences teacher. If you wrote "no", in question 3, explain why you do not answer questions from your Life Sciences teacher.
5. Do you engage in discussions during your Life Sciences lessons? State Yes or No
6. If you wrote "yes" in item 4, how do you engage? If you wrote "no", why do you not engage?
7. Do you ask questions in your Life Sciences lessons? State Yes or No
8. If you wrote "yes", explain why you asked questions. If you wrote "no", explain why you do not ask questions.

Australian and International Journal of Rural Education

Integrating Vocational Skills Into Secondary Curricula: The Views of Teachers, Students and Parents From Rural Iringa, Tanzania

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Abstract

This study explored the views of teachers, students, and parents from Rural Iringa on the integration of vocational skills into the secondary education curriculum. The study employed a case study design and was guided by the Open System theory. The study sample comprised teachers, students and parents, who were selected by using purposive and convenience sampling techniques. Data were collected through semi-structured interviews and focus group discussions and then analysed thematically. The findings revealed that teachers, students, and parents held positive views regarding the integration of vocational skills into secondary education in rural areas. They viewed vocational skills as paramount in bridging the unemployment gap, encouraging innovation and enhancing technological advancement in rural areas. However, several challenges hindering the implementation of vocational education were found, including a shortage of practical sessions, theft and the inadequacy of teaching and learning materials. The study concludes that integrating vocational skills into secondary education is necessary for rural youth by equipping them with the skills needed to thrive in the global labour market. This would put them in a position to contribute to sustainable development.

Keywords: *vocational skills, challenges, views, secondary education*

Introduction

Vocational education is globally recognised as critical for preparing students to serve in the workforce (Organisation for Economic Co-operation and Development (OECD), 2023; Eichhorst et al., 2013). In many countries with emerging economies, the rate of unemployment among youth who have completed their secondary school studies is very high (Lindemann & Gangl, 2025). Consequently, United Nations Educational Scientific and Cultural Organization (UNESCO, 2024) emphasises the importance of vocational education in offering pathways to employment by equipping youth with relevant skills to enhance their employability and smoothen transition to the labour market. Additionally, Sustainable Development Goal (SDG) 4 places emphasis on increasing the number of youth with technical and vocational skills relevant for employment and entrepreneurship (United Nations Department of Economic and Social Affairs, 2018). By reaching youths in rural communities with vocational education, we can foster social mobility and reduce structural inequality.

In Australia and Slovakia, vocational education has been integrated into secondary school curricula to bridge longstanding gaps in educational achievement and workforce preparedness. Baláž

and Dokupilová (2025) report that in Slovakia, vocational education offers a more direct route to employment compared to general secondary pathways. However, their evaluation of the *Linking Secondary Education and Practice* scheme revealed notable disparities in vocational education outcomes, influenced by factors such as program type, the field of study, and the socioeconomic profile of each region. In Australia, vocational education and training (VET) is reported to help address regional skill shortages by providing practical, accessible training, especially for those without traditional academic skills. Remote training is most common in Queensland and Western Australia, highlighting the need for local delivery (Jobs and Skills Australia, 2023).

In Africa, countries are increasingly adopting vocational training as a strategy for tackling unemployment and addressing the skills gap in the labour market (Afeti, 2018). Nations like South Africa, Kenya and Ghana have implemented vocational training programmes to align student skills with the labour market demands and promote self-employment. In Kenya, this approach has historical roots: VET has been integral in the African indigenous education system since the pre-colonial era (Akala & Changilwa, 2018). According to Kehinde and Adewuyi (2015), vocational skills are crucial not only for economic development but also for fostering multicultural transformation and reducing dependence on foreign aid. Thus, contemporary vocational training programmes build on this rich tradition, aiming to meet the needs of the current labour market by enhancing self-reliance and economic resilience.

In Tanzania, the 1967 Education for Self-Reliance (ESR) policy accorded vocational education and training a significant role by emphasising integration of education with productive work, aiming to equip individuals with the skills necessary to contribute effectively to their communities (Ahmad, 2014). Consequently, practical subjects with practical concepts, such as crafts and agriculture, were introduced at different levels of education, including secondary school education. However, despite ESR's ambitions, its implementation faced significant challenges, particularly in teacher preparedness and resource alignment. For instance, a study on revitalizing ESR in Tanzania found that many teachers, including in-service ones, lack training to integrate outdoor learning experiences into classrooms (Msimbe & Ndemo, 2024). Recognizing the importance of vocational skills in addressing these gaps, the Tanzanian government reintroduced vocational subjects into the secondary school curriculum to better align skills with job market demands, reduce unemployment, and promote local production (United Republic of Tanzania, 2024)

Integration of vocational skills into the secondary education curriculum is a strategic move to ensure youths acquire employability skills that align with national and international plans (Mayega, 2018). Such plans include the United Nations Development Goal 4, which emphasises inclusive and equitable quality education and lifelong learning (United Nations, 2018). Additionally, the 2050 Tanzania Development Vision envisions a nation with an education system that equips students with vocational training skills aligned with the industrial demands to overcome development challenges both at the regional and international levels (United Republic of Tanzania, 2024). To attain the vision, schools need to develop skilled individuals to meet the demands. The Education and Training Policy of 2014 (2023 edition) advocates creation of a knowledgeable, skilled and proficient community of Tanzanians who can contribute meaningfully to national development and withstand competition in the labour market (United Republic of Tanzania, 2023a)

Although technical secondary schools have been in place for quite a long time, historically they served very few people because of their relatively small number. For example, until 2021, vocational education was offered in only nine out of 5,216 secondary schools. Hence, most students ended up acquiring theoretical knowledge without the vocational skills required in today's world of work (United Republic of Tanzania, 2020). In 2024, the government implemented further reforms in education by equipping 96 secondary schools to provide vocational education, ensuring that the education offered meets the set criteria, including the presence of working tools. This has become a concern as the young individuals who could have been useful in the development of the nation are left unutilised due to a lack of necessary skills, including vocational skills. While

this reflects a significant policy commitment to promote investment in vocational education, it is equally important to understand how this integration is perceived 'on the ground'. Therefore, this study sought to solicit stakeholders' views regarding the integration of vocational skills into the secondary education curriculum in Tanzania, focusing on opportunities and challenges that may be encountered in the process. Taking a case study of two of the existing old vocational centres in one region in Tanzania offers instructive insights for rural education globally, particularly in the contexts grappling with agrarian economies, youth unemployment, and the tension between formal education

The research questions of this study are;

1. What are the views of rural secondary school teachers, students, and parents in Iringa District regarding the integration of vocational skills into the secondary school curriculum?
2. What challenges do teachers, students, and parents in rural Iringa face in implementing the integration of vocational skills into the secondary school curriculum?

Literature Review

A Brief History of Vocational Education and Development

Historically, vocational education evolved from medieval apprenticeship models to modern school-based systems aimed at bridging education with employment (Pavlova & Huang, 2013). Currently, countries around the globe have been pursuing integration of vocational schools in education to promote social inclusion and economic mobility, particularly for underserved populations. For example, in Germany, the dual system combines classroom instruction with hands-on training (Ayeni, 2015), while Finland allows students from the age of 16 to freely choose between vocational and academic tracks, where over 42% of students opting for vocational pathways (Merilainen & Olson, 2019).

The foundation of vocational training in Tanzania dates back to the 1940 Apprenticeship Ordinance, which was later reinforced by the 1974 Vocational Training Act and institutionalised through the 1994 legislation that established the Vocational Education and Training Authority (VETA) (Redecker et al., 2000). Building on this historical trajectory, the 2025 secondary education curriculum reform which is presently under implementation introduced vocational subjects—such as civil, mechanical, and electrical trades, agriculture, and ICT—aligned with the National Vocational Awards (NVA Levels 1–3). While this represents significant structural progress, Msangi and Mwila (2024) argue that vocational education should begin even earlier, at the primary level, to cultivate foundational skills and foster a stronger mindset geared toward self-reliance. Despite these reforms, major implementation challenges persist—particularly in rural areas where awareness of and access to vocational pathways are often limited. As Rugakingira and Onyango (2022) note, the lack of practical integration, inadequate school resources, and poor alignment between vocational curricula and industry needs contribute to a continual gap between policy and practice. This underscores the pressing need for a more coherent and inclusive approach to vocational education in Tanzania's secondary school system, particularly in rural areas. Rural areas in Tanzania are administratively defined by Wineman et al. (2020) as those governed by District Councils. They are characterised by low population density, agriculture-based economies, limited infrastructure, and minimal access to education services. Iringa Rural District fits this classification and has long been recognised as a center for technical training, being home to Ifunda Technical Secondary School, established in 1942 under colonial legislation. The rural economy here is largely driven by agriculture, masonry, carpentry, and animal husbandry, all of which require practical skills—making it an ideal setting for integration of vocational skills into the school curriculum.

Importance of Integrating Vocational Skills in Secondary Education

It has become apparent that vocational education is seen as a solution to youth unemployment and a path to self-employment. It equips youth with practical skills for self-reliance in a skills-based economy (Akanbi, 2017) and fosters independence and cultural growth. Globally, vocational education supports sustainable livelihoods in the self-employment settings. OECD (2023) outlines four priorities for future-ready systems: labour-market relevance, lifelong learning, inclusion, and digital innovation. Embedding vocational education in rural secondary schools is vital for equipping learners with practical skills and bridging socio-economic and technological gaps.

Across Africa, vocational education is increasingly recognised as vital for Africa's Sustainable development. According to McGrath et.al (2020), transformative VET can address historical inequalities by equipping individuals and communities with skills for equitable livelihood, social mobility and participation in economic transformation, aligning with UNESCO's vision for a comprehensive skills system that supports long-term development. Additionally, Atangana and Tabi (2022) revealed that vocational education links sub-Saharan Africa with Industrial growth. In Tanzania, where formal jobs are limited, vocational education helps youth start small businesses without needing higher education (Mayega, 2018). Therefore, providing vocational education to citizens remains a long-standing goal—from Nyerere's 1967 vision to modern VETA programs—though implementation and teacher capacity remain challenges.

Although numerous studies have addressed the impact of vocational education on youth employment and entrepreneurship, very few have investigated the integration of vocational skills into Tanzania's secondary school curriculum—especially from the perspectives of teachers, parents, and students. This study fills that gap by exploring stakeholders' views on how vocational skills can be meaningfully embedded in the secondary school curriculum, the mechanisms for integration, and implementation challenges.

Theoretical Framework

This study is guided by the Open System Theory, originally developed by Von Bertalanffy in the 1930s, and later expanded by Emery and Emery (2004). The theory views organisations, including schools, as dynamic systems composed of interdependent parts that interact with and adapt to their external environments. According to Lunenburg (2010), this systems approach is rooted in the Aristotelian idea that understanding the whole is essential to individual components. Applied to education, the Open System Theory involves four key components: inputs, transformation processes, outputs, and environmental feedback as shown in Figure 1 below. These components provide a useful framework for analysing how schools function as living systems—particularly in the implementation of new programs like vocational education. In the context of this study—*Integrating Vocational Skills into Secondary Curricula: Teachers', Students', and Parents' Views from Rural Iringa, Tanzania*—the Open System Theory helps conceptualise how stakeholder views (teachers, students, parents) relate to the success or limitations of integrating Vocational skills in rural secondary schools.

To begin with, vocational education is viewed as a crucial component of the secondary school system. This includes: Vocational subjects aligned with community needs (e.g., agriculture, carpentry), qualified teachers and trainers, adequate workshops, learning materials and supportive policies and professional development. In rural areas like Iringa District, inputs are often constrained by limited resources, making it essential to assess how stakeholders perceive the adequacy and relevance of these components.

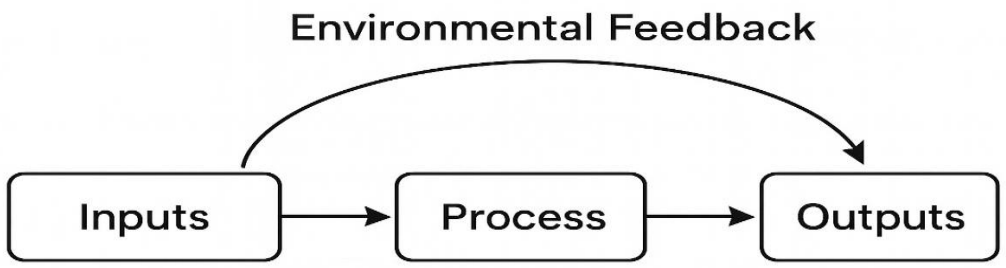
The process includes curriculum design and delivery by competent teachers; use of real-world, contextualised learning experiences and engagement in shaping program relevance. Teachers' professional competencies, students' motivation, and parents' support all influence the

effectiveness of these vocational programs. The research investigates how these groups perceive this transformation process in rural school settings.

The expected outputs include students equipped with improved transition from school to work and empowerment for self-employment. Stakeholders' views help assess whether these outcomes are being realised, or if gaps remain due to deficiencies in inputs or processes.

Finally, environmental feedback reflects the adaptability of the school system to its external conditions—cultural, economic, and geographical. In rural Iringa, where production activities are primarily agricultural or informal, feedback helps determine whether vocational programs are relevant to local livelihoods and how they might be refined.

Figure 1. ***Theoretical Framework of Vocational Education Integration***



Source: The Open System Model by Emery (2004)

In rural areas like Iringa, where livelihoods depend on agriculture, carpentry, masonry, and informal trade, vocational education must reflect these local realities. Guided by the Open System Theory, effective vocational education requires inputs such as relevant programs and skilled teachers, which are transformed through curriculum delivery into practical outcomes—students equipped with skills suited to their environment. To be meaningful, vocational education must prepare students to address real-life challenges in their communities, ensuring the education system remains responsive and sustainable.

Methodology

This research employed a qualitative study approach to explore how vocational skills are integrated into secondary education in rural Tanzania. This method is well-suited for rural education research as it captures local context, challenges, and community dynamics (Roberts & Guenther, 2021). Recognizing the influence of cultural, economic, and policy factors (Kline et al., 2013), the study provided in-depth, descriptive insights into the lived experiences of teachers, parents, and students—offering depth that quantitative methods may miss.

The researchers employed a multiple-case study design to examine participants' views on integrating vocational skills into the secondary education curriculum in the sampled rural schools (Creswell & Creswell, 2017). The sampled schools provided a unique institutional and community-based context, shaped by historical engagement with vocational education.

Selection of Study Area

This study was conducted in Iringa Rural District within Iringa Region in Tanzania administratively defined as a rural area by Wineman, et al. (2020). In this context, 'rural' refers to areas outside municipal and town councils, characterised by lower population density, limited infrastructure, and reduced access to services such as electricity and vocational resources. Rural is also defined by Trading Economics (n.d.) as geographical areas where primary production occurs and where populations are located in a variety of concentrations.

Iringa Region was purposefully selected due to its historical significance in vocational education. It hosts the oldest Technical secondary school, founded in 1942 and is among the nine government-recognised technical secondary schools in Tanzania. This made the region particularly

relevant for a study focusing on the implementation and outcomes of vocational education within secondary curricula in rural contexts. While the Iringa Region encompasses both urban and rural districts, the two schools selected for this study are situated within Iringa Rural District, aligning with Wineman et al. (2020) and the National Bureau of Statistics (2023) in their definition of rurality.

Iringa Rural District was further selected because it hosts some of the oldest secondary schools among the 96 schools designated by the government for the implementation of vocational skills integration. The selected schools predate the introduction of vocational streams and possess extensive experience in delivering both vocational and general secondary education. Their historical and educational context provided a unique opportunity and explore the practical challenges associated with the implementation of vocational education reforms in a rural setting where agriculture is the main economic activity.

Selection of Study Participants

A total of 30 participants were selected for this case study using a combination of stratified convenience sampling, purposive sampling, and convenience sampling approaches, depending on the category of participants.

Twelve students were selected from Form Three classes, using stratified convenience sampling based on their vocational specialisation: civil, mechanical, and electrical trades. Form three students were selected because they had already specialised in vocational streams. Each subgroup included at least two representatives per school to ensure all streams were covered. Table 1 outlines students' selection by skills and gender.

Table 1. ***Illustration of the Sample Size of Form 3 Students From School X and School Y***

School *X*		Sex		
		Girls	**Boys**	**Total**
S/No	**Types of Skills**			
1	Civil based skills	1	1	2
2	Electrical based skills	1	1	2
3	Mechanical based skills	1	1	2
	Sub Total	3	**3**	**6**
School *Y*		**Girls**	**Boys**	**Total**
1	Stream 1	0	2	2
2	Stream 2	0	2	2
3	Stream 3	0	2	2
	Sub Total	**0**	**6**	**6**
Total		**3**	**9**	**12**

Source: Field data

As Table 1 shows, there were no girls in form three classes at School Y, which is why they were not included in the study sample. However, the sex criterion did not affect the research results and conclusion. Pseudonyms were assigned to the sampled schools to keep their identity hidden.

Four parents were selected based on their availability and ease of access, with assistance from school heads (convenience). Those who had previously attended parent–teacher meetings and had children enrolled at the time were more readily reachable, making them convenient

participants for the study. While this approach facilitated data collection, it may have excluded less-accessible households an acknowledged limitation.

Nine teachers were purposively sampled based on their subject expertise and a minimum of three years of experience teaching vocational subjects. Two heads of schools within the selected case study context were included for their administration insights. Additionally, one secondary education officer and two ward education officers were purposively selected by virtue of their administrative and policymaking roles in in the implementation of vocational education at district and ward levels.

Data Collection Procedures

The researchers used semi-structured interviews to collect information from parents, teachers, school heads, and education officers. The semi-structured interviews were used because of their flexibility in receiving detailed information from respondents. Each interview session took an average of thirty to forty minutes per participant. An interview guide, an audio recorder and a notebook for note-taking were used as tools during the semi-structured interview sessions. A total of 18 participants were interviewed, including school heads, secondary education officers, ward education officers and parents. This number was the point of saturation. For triangulation and in-depth discussion purposes, each participant was interviewed using a one-on-one mode. After realizing that the participants were no longer producing new responses during the interviews, we stopped recruiting more participants. In other words, the saturation point determined the sample size used in the interview session (Braun & Clarke, 2013).

This study also used focus group discussions to obtain information from students who were purposively and classified into strata based on the criteria described above. The researchers conducted two focus group discussions on issues related to the topic under scrutiny (Krueger, 2014). Each of the focus group discussions involved six students. The groups formed at School X had three girls and three boys each, while those at School Y had only six boys, as shown in 2 above. Each focus group discussion took 40 to 45 minutes. The participants in the focus group discussions were asked questions that prompted them to share their opinions.

Data Analysis

The data obtained through interviews and focus group discussions were voice-recorded, transcribed and coded. The data were subjected to thematic analysis by following the six steps proposed by Braun and Clarke (2013). First, the researchers familiarised themselves with the data by reading and re-reading the transcriptions word-for-word to understand them. In the second step, the data were coded by grouping ideas with similar meanings. In the third step, the codes were combined to generate themes. The data were organised and categorised into themes such as employment opportunities, industrialisation, and innovations among others. In the fourth step, the researcher reviewed the themes to check if the themes were consistent with the data and made sense (Saldaña, 2021). In the next step, the researcher defined and named the themes under the research questions. Lastly, the findings were compiled into a report, where some transcriptions of participants' voices were used as supporting evidence.

Trustworthiness

To ensure trustworthiness of the study, the researchers adopted Lincoln and Guba's (1985) established framework, which proposes four key criteria to be met: credibility, dependability, transferability, and confirmability. Credibility was addressed through systematic data analysis and iterative revisions of the results and interpretations. Reflexivity was maintained throughout, with regular team discussions to critically examine emerging interpretations, thereby enhancing confirmability.

Dependability was achieved through sustained engagement with the data, ensuring consistency in interpretation across multiple readings. An audit trail was maintained, documenting all changes to coding structures, thematic patterns, and analytical decisions, particularly those arising during mapping and member-checking processes.

To ensure transferability, the study provides detailed methodological descriptions to enable comparison across similar rural and regional educational contexts. Verbatim quotations from participants are provided in the report to ensure authentic representation of voices from the field, while visual figures are used to clarify the reasoning underpinning thematic interpretations.

Ethical Issues

The researchers requested an introductory letter from the University of Dar es salaam. This letter enabled them to obtain a permit from the Iringa Regional Administrative Secretary and from the District Executive Director of Iringa rural district to conduct the study in the areas of their jurisdictions. In the field, the researchers verbally requested the participants to be involved in the study. Before the focus group discussions and the interviews started, the participants were given an informed consent form to read and to sign as proof of their willingness and readiness to participate in the study. The researchers used pseudonyms instead of the real names of participants to represent their voices. This is in line with Scholars such as Shamim and Quresh (2013), who argue that it is vital to ask participants to willingly partake in the study by signing an informed consent form and protect their identities by maintaining anonymity in data analysis and reporting. Again, the researchers avoided plagiarism by paraphrasing, citing and quoting relevant information from different sources such as articles, books and dissertations, among others.

Findings and Discussion

Theme 1: Stakeholders' Views on Vocational Integration

The findings indicated that the stakeholders had different views on the integration of vocational skills into the secondary education curriculum as presented below.

Self-employment. The study participants had a view that vocational integration would help address the pressing issue of unemployment currently facing Tanzania. Both teachers and students had a view that vocational integration is a solution to unemployment in Tanzania. According to them, integration of vocational skills into secondary education will help mould students into individuals who can employ themselves. One of the interviewees said "*A participant emphasised the practical importance of vocational education for employment and industry readiness*". Another participant agreed by commenting that the educational policy must dictate that vocational education begins at lower grades. The respondent said:

> *The Tanzania Education Policy 2014 stipulates about self-reliance education, which requires every student to be self-reliant,… It started with the primary school students, but now it seems to be vital to all students pursuing basic education from primary school to Form Four since their education ends up on papers without any application in life (Interview with Teacher 7 of School Y).*

The issue of unemployment was addressed by another respondent who went in the same line as the above by cementing their view on skills that prepare individuals for self-employment. The stakeholder said:

> *We know exactly that our nation is suffering an unemployment threat, and we know that one day we will be at home where we can employ ourselves to survive. We can do electric installation, vehicle maintenance, welding, and metal fabrication, to name but a few (FGD: Student 1, of School X).*

A key point to note from the participants' views is that they were aware of and concerned with limited job opportunities and hence they insisted on preparing individuals who are proactive toward self-employment as a means of survival. These views underscore the transformative role of vocational education in addressing structural unemployment in rural Tanzania. As supported by Mtebe & Raphael (2020), vocational training empowers students to employ themselves and adapt to local economic needs. From the lens of Open System Theory, this theme reflects how stakeholder inputs (curriculum content, delivery) are shaped by and respond to environmental feedback, particularly youth unemployment. Similar findings have been reported in Kenya and Ghana, where vocational education has been found instrumental in equipping youth for informal sector employment (Akala & Changilwa, 2018; Afeti, 2018). The findings also align with Tanzania Development Vision 2050, which envisions a population equipped with practical and job-ready skills with which individuals can create their employment opportunities and contribute meaningfully to the economy (United Republic of Tanzania, 2024). This underscores the need to emphasise vocational education to create job creators rather than job seekers.

Technological Learning. The study findings show that vocational skills are part and parcel of technology. The study participants had a view that embedding vocational subjects in the secondary curriculum may boost the growth of technology. One interviewee said, *"Vocational education is inseparable from technology—it brings students closer to understanding and applying it in real life"* (Interview with WEO).

The quotation delineates that vocational skills enable students to interact with modern technology, which encourages problem-solving skills in everyday life. This was supported by another participant who argued that vocational education would help teachers and students to interact with technological devices like computers and projectors, which have currently become very useful in teaching and learning. The interviewee said: "*As a Science teacher, I now use software or internet-generated figures to simplify my teaching process, reducing the difficulty of drawing figures on the chalkboard*" (Interview with Teacher 9 of School Y).

The findings imply that vocational education significantly aids individuals in navigating technological advancements, saving time, and making lessons enjoyable. Today's world requires skilled personnel for equipment maintenance, which calls for students to be exposed to technological information. For instance, the world is moving from chalkboard presentation to digitalised presentation, where the use of projectors and computers is becoming part and parcel of the teaching process (Atangana & Tabi, 2022). Additionally, the OECD report (2025) shows that the integration of vocational skills enhanced acquisition and created new pathways for technological advancements in Ukraine. In Tanzania, people need to learn vocational skills because knowing how to use modern devices is not enough, since we also need to know how to repair them when maintenance is required. This aligns with the demand for 21st-century skills as technological literacy is fundamental for self-employment and entrepreneurship. Integrating vocational skills into the secondary school curriculum responds to technological trends and equips students with the skills that they need to be meaningfully functional in the current world. These skills are important for rural communities; the offer rural people a pathway to job opportunities in the technology-led world.

Stimulator of Competition in Innovation and Entrepreneurship. Findings indicate that vocational skills positively promote innovative minds among youths in rural areas. Innovation converts opportunities into marketable ideas. However, the stakeholders had varied perceptions. For example, one teacher said:

> *Through Vocational skills in secondary education, innovation in terms of product-making strategies and marketing is inevitable. The form four graduates who will not receive a chance to go for further studies will use the skills they have to invent various products (Interview with Teacher 6 of School X).*

This argument was further supported by other stakeholders who emphasised the importance of vocational skills in this era by saying; "*Although innovation cuts across academic and vocational subjects, innovation in Vocational skills seems to take dominance, unlike in academic subjects, because vocational subjects place emphasis on practical activities.*" (Interview with Parent 5).

The findings imply that integration of vocational skills into secondary education is positively viewed as a stimulator of competition in innovation and entrepreneurship. This concurs with Nyerere's philosophy of Education for Self-reliance, which called for schools to produce innovative individuals who can employ themselves and contribute to national development (Nyerere, 1967). It also aligns with the Tanzania Development Vision 2050, which seeks to ensure that the focus of education is to prepare innovative and skilled citizens (United Republic of Tanzania, 2024). Additionally, in the context of rural education, the integration of vocational education will equip students with hands-on skills that are directly applicable to their local context. Thus, integrating vocational skills into the secondary education curriculum is a critical step towards creating a community with individuals who are self-reliant and innovative, as envisioned by Nyerere. It is a key to realizing the Tanzania Development Vision 2050 and the 2030 Sustainable Development Goals (United Republic of Tanzania, 2024; United Republic of Tanzania, 2023b).

Theme 2: Challenges of Integrating Vocational Skills in Rural Secondary Education

Theme 2 examines the challenges that constrain the integration of vocational skills into secondary education. Various challenges encountered in the process of implementing the integration of vocational skills in the secondary education curriculum were pinpointed by stakeholders.

Few Practical Sessions. The findings show that teachers rarely run practical sessions in secondary schools, which prevents the full integration of vocational skills. Teachers reported facing problems in both vocational and science subjects, with theoretical content allocated more time than practical sessions. They argued that having more practical sessions would enable students to master vocational skills throughout their four years of secondary education. This was affirmed by one teacher who said, "*Street workers excel in practical Vocational skills, so practical sessions may be extended to allow students to practice more (Interview with Teacher 4 of School X)*". This quote emphasises that practical activities should be allocated more time in secondary schools. Through practical activities, students can practice the intended skills and gain a better understanding, hence developing self-confidence and competence. Teacher 4's argument was supported by another teacher who commented on the shortage of practical sessions which makes students lose interest and motivation, resulting in a reduction in ambitions to participate in practical tasks and avoid their practical examinations. The teacher insisted on the importance of valuing fieldwork, enabling students in learning by doing. The teacher said, "*It is true that students enrol to take vocational subjects, but they often lack serious engagement in practical sessions, which is essential for hands-on skills like Surveying or Carpentry*" (Interview with HoD1 of school X). Stakeholders acknowledged both the potential and the challenges of integrating vocational skills in rural schools.

The findings shed light on a key structural and pedagogical challenge in the delivery of vocational education, where students do not participate meaningfully in practical sessions. As per the Open system theory perspective, the low level of students' engagement in practicals disrupts the internal processes of the education system. Without the active participation of students in the learning of vocational subjects like survey and carpentry, producing the desired outputs (skilled and job-ready individuals) may not be possible. Practical subjects like carpentry and surveying are essential throughout activities. This systemic weakness has also been illuminated by Winberg and Hollis-Turner (2021), who emphasise the need for sequenced practical tasks that blend conceptual, technical and contextual knowledge to build competencies of the expected vocational graduates. Accordingly, Cathelina and Mala (2019) revealed that students in India had insufficient practical knowledge due to a lack of practical sessions, highlighting the need for educational

practitioners and policymakers to optimise theory-practical sessions. Additionally, Msangi and Mwila (2024) found that without rich practical engagement, vocational education risks producing graduates who are theoretically knowledgeable but practically underprepared. The findings mean that the integration of vocational education in secondary education would be meaningful if theory and practice are integrated.

The Challenge of Theft. Stakeholders raised a concern over theft, citing the tendency of some people to steal public property from government institutions because of their selfishness and other factors. One stakeholder said, "*parents raised concerns about theft and mismanagement of vocational resources*". The doubt shown by this stakeholder was completely similar to that of one parent who shared her experience in relation to government industries, which ceased to operate due to theft as one of the causes. The parent said, "*I if the workshops with their equipment will stay longer, I am worried that the same thing will happen in schools if the government establishes them...*"(Interview with Parent 10). This concern underscores the urgent need for strict accountability and transparent management of vocational school resources to prevent theft and ensure the sustainability of practical training.

The findings indicate that stakeholders believe there are unfaithful government servants who misuse public property to satisfy their personal interests. This discourages investment and threatens the sustainability of workshops, which disrupt practical training and demoralise both students and teachers. Without improving the systematic adaptability and transparency, the education system will remain vulnerable and there will be long-lasting impediments to the efforts to achieve the integration of vocational skill in education in Tanzania. This possible challenge should be taken as an observation that may help the government to put some measures in how to protect public properties. Cases of public property being stolen from educational institutions have been reported in many other places, especially in Africa (Ncala, 2022; Edward, 2024). For instance, Edward (2024) in Kenya reports that weak financial control systems in Vocational Institutions in Nyeri increased the risk of mismanagement and loss of institutional resources. In this regard, if we want to embed vocational skills in our secondary education successfully, there must be strong legislation with which administrators can be held responsible for their corrupt practices in the implementation of vocational education programmes.

Inadequate Teaching and Learning Materials. Teachers and students from school X complained about the scarcity of teaching and learning materials such as books, practical equipment, and workshop tools. The stakeholders from school X expressed disappointment in the long existence of this challenge. "*A participant emphasised the practical importance of vocational training for employment and industry readiness*".

This challenge was also emphasised by a student with similar views to the quote above. Some of the materials used do not suit the current curriculum. The student said:

> *In a big technical secondary school like this, you wonder we don't have even enough books, our teachers have decided to use old books to teach us regardless the presence of the current syllabus, not only that but also the practical tools we are using are not moving with time. (Focus Group Discussion: Student 1 of School X).*

The integration of vocational skills in secondary education faces challenges due to inadequacy of teaching and learning materials. To manage this, the government should invest heavily in vocational education and ensure teachers have adequate resources. Practical materials and books may not accommodate a big number of students, and some teachers may not be professional. For instance, Atsumbe et al. (2012) report that teachers' incompetence is a challenge to the implementation of vocational programmes in Nigeria, as they found that most of the technical teachers teaching Technical and Vocational Education subjects in secondary schools in Kogi State were grossly incompetent. Also, Wu (2004) reports that the implementation of vocational education in Taiwan succumbs to a shortage of professional vocational teachers, resulting in a weak

connection between schools and industries and inadequate student preparation for work. Thus, apart from investing more in teaching and learning materials, there is also a need to train teachers to make them competent and able to prepare the youth for the world of work by sufficiently imparting to them relevant vocational skills.

Conclusions and Implications

This research explored the following research question: What are the views and challenges of teachers, students, and parents on the integration of vocational skills into the secondary school curriculum?

It is evident that the integration of vocational skills into the curriculum of secondary education is essential, as it would enable the graduates to enter the world of work, which is currently very competitive. The findings show that vocational education in rural Tanzania will make the rural youth creative by equipping them with the skills needed to thrive in the global labour market, thus making them viable to contribute to sustainable development. In the lens of Open System Theory, this means that education should be an adaptive entity that interacts within its external environment, including the labour market, industrial needs, and community demands. It underlines the importance of aligning the secondary school curriculum with the real-world inputs and outcomes. Embedding vocational training in the secondary education curriculum would make secondary education more relevant, i.e., an education that prepares students to fit into the current workforce. Lessons from the findings underscore the need for context-responsive education in rural areas, advocating for localised curricula and cross-sector collaborations to equip learners with self-employment skills, including entrepreneurship and small business development

The integration of vocational education into the secondary school curriculum faces three main challenges related to inadequate teaching resources, shortage of practicals and theft. Insufficiency of resources hinders the construction of necessary infrastructure, procurement of training materials, and recruitment of skilled instructors, which affects students ' access to quality practical skills. The shortage of practical sessions undermines skills acquisition while the recurring cases of theft discourage investments and threaten the sustainability of workshops. These challenges imply that without targeted investments and stronger governance mechanisms, the integration of vocational education into secondary education will continue to fall short of its intended goals. Addressing resource gaps, expanding opportunities for practical training, and enforcing stricter accountability measures against theft are critical for enhancing the system's responsiveness to environmental demands as emphasised by the Open System Theory. Failure to do so risks perpetuating skill deficits, reducing the employability of graduates, and weakening the overall contribution of vocational education to national development.

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Building Belonging for Regional Student Retention in Higher Education: A Case Study

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Abstract

Belonging has been identified as important to student retention, engagement, achievement and wellbeing in higher education. It has been challenging for universities to foster, particularly in non-traditional student cohorts and in regional areas. This article aims to identify how belonging has been experienced and supported on four regional campuses of one Australian university (University of Wollongong) enrolling a high proportion of non-traditional students. It focuses on belonging's role in the students' successful progress beyond the first year of their university studies. The study examines the experiences of students through focus groups discussing what aspects of their campuses had contributed to students' success. This study extends previous work on belonging by describing how belonging is successfully cultivated in regional campuses through specific staff and student interactions that had built a culture of community and support, and how the belonging that resulted contributed to student retention. The study's findings demonstrate how principles from theory and research about practices that support student belonging can be successfully enacted in a university setting with students from regional and equity backgrounds.

Keywords: *belonging, retention, student engagement, regional, higher education*

Introduction

Student belonging is a challenge for universities in Australia and internationally and is significant because of its role in student retention, engagement, achievement and wellbeing (Crawford, 2024). Belonging has proven difficult to engender in university contexts, particularly for students from non-traditional backgrounds—those first in family to attend university (O'Shea, 2021), of low Socio Economic Status (SES) (Gopalan & Brady, 2019), students from regional, rural and remote contexts (Bunn & Lumb, 2024), students who are Aboriginal, Torres Strait Islanders (Carter et al., 2018) or ethnic minorities (Gummadam et al., 2016). The *Australian Universities Accord Final Report* (Australian Government 2024, section 4.3) argued that universities need to find new ways to support student belonging. In this paper we demonstrate the processes through which student belonging is supported, supporting retention and achievement.

By focusing on regional contexts, this paper contributes to understanding of how belonging can be fostered in non-traditional student cohorts. The article reports part of the findings of a 2019 study of four regional campuses at the University of Wollongong. The aim of that study was to identify strategies that contribute to the success of students at the University of Wollongong's regional campuses. 'Success' was defined as progression beyond the first year of study. This draws from Devlin and Mckay's (2019) definition and is aligned with first in family students' views of success (Delahunty & O'Shea, 2019). As student belonging was a strong theme that arose in the data, this article focuses on characteristics and campus led strategies that contributed to that sense of belonging. While previous research has identified the significance of belonging in higher education (Crawford, 2024), this study extends these findings by describing how belonging is successfully cultivated in regional campuses through specific staff and student interactions, and how it contributes to student retention.

Belonging in Higher Education: A Literature Review

In a review for the 2024 *Universities Accord*, Crawford identifies three theoretical frameworks on belonging in higher education—place-based, identity-based and relationship-based. However, belonging is also understood as a complex multi-layered and dynamic process (Guyotte et al., 2022) in which all three orientations likely co-exist. This conceptualisation recognises that belonging may be experienced in a variety of ways in different spaces and relationships, interacting with and contributing to several identities over time and space.

Allen et al. (2021) define belonging as *"the subjective feeling of deep connection with social groups, physical places, and individual and collective experiences" (p. 87).* According to their framework, belonging emerges from a combination of personal competencies, opportunities and motivations to belong, and perceptions of belonging drawn from experiences. This latter contributor of experience in particular points to the importance of relationships (connections between people) as being at the centre of efforts to build a sense of belonging. It is not simply a matter of an individual's skills or motivation, but those characteristics being enlivened by affordances in university experiences for belonging to be experienced and built.

Within this relational view of belonging, at the university end, programs or services themselves are less likely to build belonging than are the interactions that occur within them. Indeed, based on a review by Allen et al. (2024), studies of belonging in universities have found relationships, the practices of educators, opportunities for connection and environments that are inclusive of diverse groups to be key influences. Crawford et al.'s (2024) longitudinal study of *Student Experience Survey* data showed that student experience, connection to other students outside of classrooms, and 'support to settle', predict belonging. Despite this evidence about the importance of relationships, connection and support, universities continue to struggle to apply this for regional, rural and remote students and other students from non-traditional backgrounds (Australian Government, 2024; Bunn & Lumb, 2024, Crawford et al., 2024, Cuervo et al., 2023).

Other conceptions of belonging focus on place, with Guyotte et al. (2021) describing 'nomadism' as students moved from a starting location (understood in terms of identity as well as physical place) through their relations and connections in various spaces, to experiences of belonging, 'unbelonging' (Cuervo et al., 2023) and identities in those spaces. Place may also be associated with identity, as has been described for rural, regional and remote students (Bunn & Lumb, 2024), though Webb et al. (2024) argued this identity of place interact with class and other identities in important ways to influence higher education participation.

Identity is an important element of belonging at university (Bunn & Lumb, 2024; Cook & Cuervo, 2022; Delahunty & O'Shea, 2021; Burke et al., 2016) and no doubt contributes to the variation in students' experiences evident in studies such as Cook et al., (2022) and Cuervo et al., (2023). Importantly for the current study, non-traditional groups such as first-in-family, low SES, and

regional, rural and remote students have reported difficulty identifying themselves as capable (Burke et al., 2016) or as fitting into higher education (Delahunty & O'Shea, 2021). Identity has also been shown to be important to belonging for marginal groups such as ethnic minority (Gopalan & Brady, 2019) and Indigenous (Carter et al., 2018) students. Finding others of a similar background and experience (Cuervo et al., 2023), forming trusting relationships with teaching staff (Burke et al., 2016), and feeling known or recognised (Bunn & Lumb, 2024) have all been reported in the literature as contributing to identities of belonging and capability for non-traditional students.

Institutional belonging has been a target pursued by universities as indicated by its inclusion in the 2024 *Australian Universities Accord*. Connections between the student and the institution are the focus, though there is a range of definitions of what this means. Kahu & Nelson (2018) frame this as an 'educational interface' between student and university factors. Students' identity as valued members of the institution (Crawford et al., 2024), and the university as a place where they feel they belong (Ahn & Davis, 2020) are also involved. Crawford (2024) also argued that 'institutional belonging' does not sufficiently capture relational, place or identity views that might mean students feel belonging to particular places or during particular experiences rather than to the university as an institution. Allen et al. (2024) noted a variation in belonging experiences, arguing that measures of institutional belonging are not framed to capture these.

Belonging is mentioned as important in multiple studies of Australian regional student success in retention and completion of university courses (Tinto, 2017, 2023; Kahu & Nelson, 2018; Matthews et al., 2018; Ostini et al., 2020). More broadly, Gilani et al. (2024) found a near perfect correlation between belonging and students' intention to persist with their studies at varying time points in a degree. Tinto (2017) argued that the result of students perceiving themselves as vital members of a campus community is a sense of commitment that links "*the individual to the group or community even when challenges arise*" (p.4). This results in students being more inclined to persist despite the many adversities which can face those undertaking university study.

Belonging has been shown in research to contribute to student achievement (Allen et al., 2024; Larsen & James, 2022; Gummadam et al. 2016). Sotardi (2022) found that belongingness to university—defined as being seen as valued members of the institution—was related to academic achievement, at least in part through students' social self-efficacy and metacognitive strategies. Sotardi argued that feelings of belonging to the university bring confidence for social interaction and reflection on progress in learning, contributing to academic achievement. Larsen and James (2022) also linked belonging to achievement through self-efficacy that can be nurtured by the student-educator relationship. A related aspect of self which Burke et al. (2016) found related to belonging at university, is capability. Their research found that some students who were from non-traditional backgrounds, or who had entered university through an alternative pathway, could feel anxiety around their capability.

Belonging has been linked to student engagement (Kift, 2024). Kahu & Nelson (2018) identified belonging as one of four mediators of student engagement, along with self-efficacy, emotions, and well-being, with the mediators interacting with and influencing each other. They introduced the educational interface as a construct describing the intersection between student and university factors influencing student success. They argue that this interface influences and itself is influenced by belonging alongside self-efficacy, emotions and wellbeing. In this model, these four mediators influence one another. More recently Kahu et al. (2022) identified interpersonal engagement (supportive relationships) and academic engagement (feeling a 'fit' with their course) as specific forms of engagement described by students. These could link to belonging.

Students' sense of belonging has also been demonstrated to influence their wellbeing and more general health. In a large-scale United States survey, Gopalan & Brady (2019) found that belonging predicted stronger persistence, engagement and mental health in college (higher

education) students. In another United States survey of college students, Romeo et al. (2024) found that the extent of emotional support (the number of people with whom they could discuss personal concerns) influenced belonging, which influenced wellbeing. In Australia, Picton et al. (2017) likewise found friendships supported wellbeing through the support they offered.

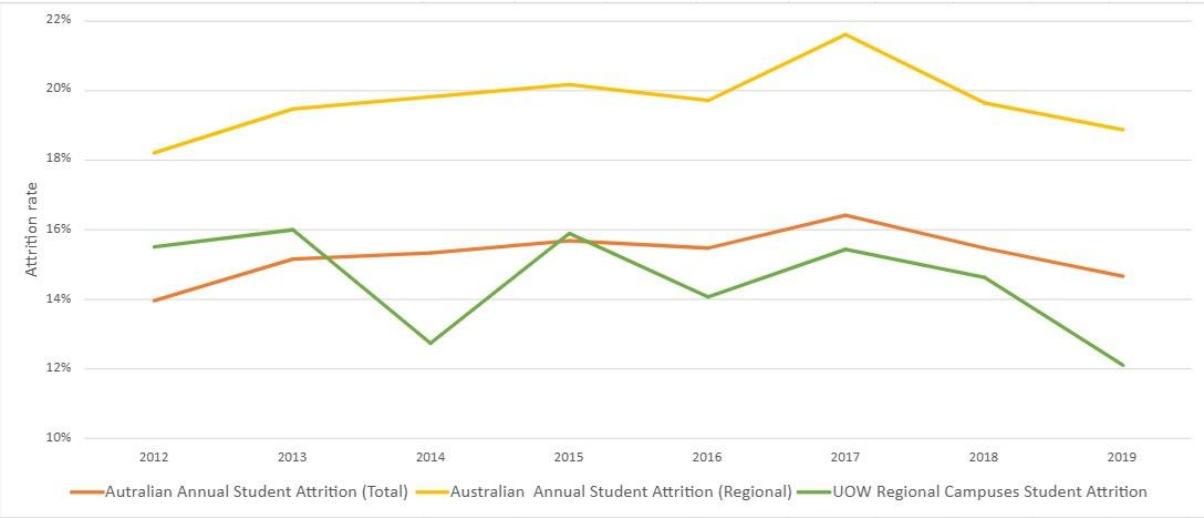
Ensuring all students achieve a sense of belonging is a complex task. Several studies have focussed on the experience of regional, rural and remote students at metropolitan universities in Australia. These studies find varying mixes of benefits and disadvantages in studying 'away from home' for different individuals (Cook et al., 2022), intersections between socioeconomic status and place in educational disadvantage (Webb et al., 2024) and a strong role of identity but also of the importance of access to more than a place to study for students' success (Bunn & Lumb, 2024). Ostini et al. (2020) found that staff at five Australian universities framed regional students in terms of their level of 'access' to university and that a shift was needed to student-centred lenses of belonging and individual person.

In a report of the challenges for access and participation in higher education of those from regional, rural and remote communities, and the role of Country University Centres in improving access and participation, Bunn & Lumb (2024) found that many regional, rural and remote students felt marginalised when studying at metropolitan campuses and experienced loss of financial and social resources on leaving their homes to study. Online degrees do not necessarily remove all the barriers to study for regional, rural and remote students. Bunn & Lumb found they may allow students to remain at home while they study but can result in feelings of isolation and reinforce variable access. The authors found that Country University Centres provided a dedicated space for study, identity, community and support for the students they interviewed. The current study looked at how these and other benefits contributed to belonging for students at the regional campuses of one Australian university, and what they revealed about the ways belonging contributed to student engagement, wellbeing and achievement.

Context of the Study

The University of Wollongong is made up of a network that extends to the regional districts Southern Highlands, Shoalhaven, Eurobodalla and Bega Valley in southeast New South Wales, Australia. Whilst one campus is in a sizeable regional area and hosts up to 500 students in a variety of programs including graduate medicine and social work, the others are in smaller more rural towns and range from 50 to 250 students in Nursing, Teaching, Business and Arts degrees. These regions are classified as Inner and Outer Regional. They have lower than state average household income, lower year 12 completion rates, lower Tertiary education attainment rates reaching as low as 2% in some pockets, and higher than average populations of Indigenous youth (Informed Decisions, 2025). Despite this, attrition data for the University of Wollongong's regional campuses 2012-2019 showed lower annual attrition than both national regional and total attrition figures (see Figure 1). This prompted the research study into what was contributing to the campus students' success.

Figure 1: Comparison of National and University of Wollongong's Regional Student Attrition Data 2012-2019



While changes in reporting methods make extending the data to the current day problematic, there are indicators that the trend has continued, with other kinds of success also evident. Between 2020 to 2024 student data from the University of Wollongong shows that regional campus students consistently achieved higher grades than their metropolitan campus counterparts in the same subjects, translating to an average subject mark for regional students between 4 and 8 marks above their metropolitan peers (University of Wollongong, 2025a). Uptake of student support services is also stronger at the University of Wollongong's regional campuses whereby students were far more likely to attend learning skills workshops with up to 47% in 2019 and between 70%-100% of regional campus students in 2024 attending optional cohort based learning skills workshops compared to under 5% on the university's major campus (University of Wollongong, 2019 and 2025b). The 2023 Student Experience Survey National Report indicated that "*Students have historically rated their sense of belonging to their institution relatively low at both the undergraduate and postgraduate coursework level*" (p. iv) reporting a positive sense of belonging by 46.3 per cent of all Australian undergraduates in 2023 (Quality Indicators for Learning and Teaching, 2024). By comparison, up to 63% of the University of Wollongong's Regional campus students indicated a strong sense of belonging in this same survey. Notably, this is despite the regional campuses enrolling large numbers of students from equity groups that have not been associated with such positive outcomes including: first in family, Indigenous, low SES, regional, rural and remote. It is worth investigating how this strong sense of belonging has been created, as a guide for ongoing efforts to build belonging for non-traditional students, including students in regional areas.

Method

The aim of this study was to examine how belonging has been experienced and supported on the University of Wollongong's regional campuses, and its role in students' successful retention. It re-examines data from a study conducted in 2019 whose aim was to explore what contributed to the success of students at the University's regional campuses, with success defined as continuing with their degree beyond the first year. It is important to note here that this meant the participants in the study were all defined as successful students. The deliberate strengths focus of the research meant the experiences of those who hadn't been successful (or had chosen not to continue in study) were not captured. As shown in Figure 1, attrition is low on these campuses. The focus of the study was the contribution of the regional campuses, with questions such as,

'how would you describe your campus?' and 'what about the campus has contributed to your success?' A qualitative design was employed to allow the researchers to directly capture the experiences and reflections of students and staff about their campus. This aimed to develop deep and versatile insights into the lived experience of regional transition and retention practices.

In 2019, focus groups of staff members and students on each of four regional campuses discussed what had contributed to students' success at university. In total, 19 staff members and 20 students were involved in the focus groups, following invitations to all students who had progressed beyond their first year and all staff on the campuses. Student equity group membership reflected the large proportion of non-traditional students studying on the University of Wollongong's regional campuses as shown in Table 1. Thirteen of 20 student participants identified belonging to at least one further equity grouping in addition to living and studying in a regional area, with 2 students in four to five equity groupings. The study was monitored and approved by the University of Wollongong's human research ethics committee: UOWHREC 2019/230.

Table 1: Student Participant Equity Groupings

Equity group	Regional	Low SES	Disability	Indigenous	Remote	First in Family	Two or more groupings
***n* (%)**	20 (100%)	10(50%)	3 (15%)	2 (10%)	3 (15%)	13 (65%)	13 (65%)

Transcripts were analysed thematically for contributions to student success, using Braun & Clarke's (2022) stages of familiarisation, inductive identification of codes by researchers separately, then coming together iteratively to compare codes, discuss, name and refine the themes identified, and develop a codebook of how the data fit into the various themes. For this article, two of the researchers returned to the data to explore themes of identity, place and relationships in belonging, and analysed how these related to the themes of 'culture of community' and 'culture of support' that had previously been identified. This article aims to identify how belonging has been experienced and supported on the University of Wollongong's regional campuses, and its role in student success.

Results and Discussion

Belonging

Despite being members of multiple equity groups that are traditionally associated with low levels of belonging to university, the regional students in this study expressed a strong sense of belonging to the campus where they studied. Belonging was evident in all focus groups, with 49 mentions of what researchers termed the theme of a 'culture of community'. When asked to describe their campus, responses included "*friendly*", like "*a family*" (21 mentions by students), "*belonging*", "*connection*" and "*being known*".

> *Speaker 4: Well, I mean like Will said, it's like a little family type thing, so we notice if one of us is struggling just in general, and everyone knows everyone, so everyone says hi and stuff. And very welcoming. (Student, C3)*

'Belonging' meant students felt known and welcomed, opening the door to support from their peers. Social recognition—both being recognised and recognising oneself as a student—was identified by Bunn & Lumb (2024) as an important contributor to belonging for regional students at university. At these campuses, 'being known' went beyond simple recognition, to others

'noticing if one of us is struggling'. For this student, 'knowing everyone' referred to students as much as to staff. Comments in staff focus groups showed that a goal of staff was ensuring students felt known, and that they themselves were known by the students. One staff member commented:

> *I think we do the basics well. I'm not saying we do them perfectly, but we know their names, we know back stories, we know a little bit about their challenge. We're pretty open with students. Staff are pretty open with students and welcoming, so there is a lot of sharing about each other's lives, experiences. It happens formally and informally. (Staff, C2)*

'Being known' was mentioned nine times in the student focus groups, among whom most participants were first in their family to attend university, and all were regional. Previous work with first in family students has shown the importance of 'fitting in' and belonging for engaging with university (O'Shea et al., 2024). Being recognised as a member of the student group was particularly valuable to that process. It was an important contributor to the community culture and the sense that they were part of a 'family' on the campus.

"We notice if one of us is struggling" in the original quote identifies the struggling one as "*one of us*". Identifying with someone who is struggling makes it an accepted part of the experience for these successful students. This is an example of the power of belonging as identity. It shows the importance of belonging to feelings of capability to undertake university study (Burke et al., 2016). Tinto (2017) also recognised that one benefit of belonging is that the individual is linked to the community when challenges arise.

Being known personally themselves was a benefit of this culture that contributed to interpersonal belonging (Kahu, 2022). The small size of the campuses undoubtedly played a role in students feeling known and seen. However, this was also the case on the largest campus (C4) which had over 500 students enrolled in 2019, whereas the other campuses enrolled between 50 and 250 students in that year. As one student from campus 4 said, "*I feel like on this campus you don't feel like you're just a number. You're not just somebody walking around on campus. The people know who you are." (Student, C4)*

One of the benefits of belonging is the trust that is developed between staff and students, and between various members of staff as well. Burke et al. (2016) noted the importance of relationships of trust for students' access to support, while Bunn & Lumb (2024) found this was key to the effectiveness of the Country University Centres in their study. Student focus groups described these trusting relationships with one participant stating that staff are *"…in the trenches with you".* Another student noted *"Everybody takes a role in ensuring success, starting from the tutors… to the admin support staff… and also the support services…".* Students made little distinction between professional and academic staff and often did not know their title or role but referred to staff simply by first name and saw them as student allies: *"they're part of your team"*.

Belonging is built by regional campus staff making themselves known to students. They always use their first names and share personal stories and challenges as part of orientation and workshops to build rapport with students. Many staff members having a similar background to the students, assists with this rapport and contributes to students' identity, as they find others from a similar background among both staff and students on their campus. Cuervo et al. (2023) noted the importance of this for students' belongingness identity. Bunn & Lumb (2024) also identified the importance of Country University Centre campus staff coming from the local community. It means that students recognise others like them among the students and among the staff. Even though they are 'non-traditional' university students, they can identify themselves as a member of the university community on their campus. Staff sharing stories of their backgrounds also builds a partnership between staff and students. Picton & Kahu (2021)

described these as contributing to engagement through belonging. A campus manager explained:

> *We're really lucky at this campus that most of the staff members who interact with students regularly have been through a regional campus journey. Wiping everything out, we always have that in common with our students. That's an instant connection and sharing our story is just another way to emphasise that, hey, we're all on this journey together, and we want you to get through university and complete university, and we understand the struggles and the challenges and the challenges outside of university as well.' I think that's an instant connection. That's a way that we connect with our students and provide them with that additional support (Campus manager, C2)*

A staff member at another campus described how she communicates this to students:

> *I think that the people who come and see me know stuff about me as well. It goes both ways. I hope they really came to know what your story is or if they say to me, "How did you, how is it that you can get this so that you can explain this?" And I go, "Because I'm from the same side of the tracks as you are." It's part of that kind of developing rapport or making stories. (Staff, C1)*

Knowing and being known by tutors and other campus staff fosters belonging and promotes students' willingness to seek help, ask questions and engage. This accords with Burke et al.'s (2016) finding that relationships of trust increase the likelihood that students will seek support from those staff members. As one student explained,

> *Whenever there's a question I have, if I think it's ridiculous I can always approach you guys and you can tell me everything about it and I can walk away with more knowledge and more understanding and stuff, so it's been good for the little questions here and there that I'm like, "Oh I don't know if I should ask but I'll do it anyway." And then I'll walk away and I'm like, "Who's that that said that?" And I'm glad that I had that chat with them, I understand better. (Student, C3)*

How Belonging Contributes to Students' Success at University

Delahunty & O'Shea (2021) identified feelings of 'fitting in' as important to first in family student belonging, contributing to identity as a student. For regional students in the current study, shared identity as 'being in the same boat' and 'having a shared experience' enabled even more than feeling 'at home'. It enabled social engagement, and through that, academic engagement (Kahu et al., 2022):

> *It's the staff, It's the people, everyone's sort of having a shared experience here. Everyone's sort of in the same sort of boat. So just slowly and surely you start asking the questions. People bounce off each other, and positive, really critical conversation ensues. That's all I can really put it down to is just the people, the environment. It's more relaxed. There's no sort of pressure. (Student, C2)*

Sotardi (2022) established links between belongingness at university and students' self-efficacy suggesting that this may strengthen their interactions with the institution in academic, social and professional services spheres, as is described in the quote above. In relation to the professional services sphere, findings of the current study showed that because of their sense of belongingness, and particularly the relationships they had developed with academic and professional staff, students felt comfortable to approach staff for help. This may also explain the higher rates of attendance in learning development workshops at regional campuses reported earlier (University of Wollongong, 2019, 2025b).

Sotardi (2022) defined belonging in terms of students feeling valued by the institution. One staff member reflected on her own experience studying at the campus and noted the importance of being valued, for students' academic belonging. She suggest that this results in persistence:

> *I think too it reflects in that students feel valued. I remember my experience as a student here, I felt valued. And that was an important part of my growth throughout the degree and the reason why I stuck around. Because people knew who I was and appreciated what happened in tutorials when we all talked together and things like that. I think it's the same now. I think students feel valued, and if they feel valued, they'll stick around, they'll see it through, and they'll get over their various challenges that they may have in their study. (Staff member and a former regional student, C2)*

Kahu and Nelson (2018) theorised belonging as a moderator of student engagement, alongside wellbeing, positive emotions and self-efficacy. The 'educational interface'—interaction between student and university factors—was what influenced those moderators, and through them, engagement. In students' comments the *relational* education interface is the key influential facet. Cultures of community and support are expressed through relationships and interactions between staff and students that result in belonging, contributing to other moderators of positive emotions and wellbeing and through them, to engagement, and ultimately success in terms of retention. This recalls Tinto's work on student persistence that is supported by social networks that foster engagement (Tinto, 2023). Students' engagement is stimulated by the sense of community and support they receive, as one student described: *"you want to do the campus proud, and you want to do yourself proud and I think being on the regional campus it's really easy to do that because of the support you have." (FIF Student, C1).* Students' sense of belonging grows from their integration into the social as well as academic life of the campus. Their wellbeing is supported by knowing that others—both students and staff—care about them. This goes a long way to explain the success in learning experienced by students at the regional campuses of the University of Wollongong, beyond their successful progression.

Comparisons With Lack of Belonging on a Metropolitan Campus

The strong belonging of the regional students in this study contrasts with studies of metropolitan campuses, which show regional students tend not to feel known or that there were others like them there (Cuervo et al., 2023). Some students recognised this, comparing their experience to one they had had, or imagined, at a metropolitan campus.

> *And I think people get to know you and recognise if you're in trouble, which I know for me last year, one day Bronte (admin) just caught me in the kitchen and just said something and I was like, "Yes, I really do need some help." Whereas I finished my nursing degree last year, but I have been to three other different unis and never finished a degree, and they were all in the city and it was because they were big monsters. It's very easy to just slip out if you're having any trouble. No one's kind of tracking you. (Student, C1)*

Another student compared the ease of relationship with campus staff with the one she had with lecturers based at the metropolitan campus:

> *I think talking to tutors, the tutors and staff, the teachers and stuff, have been... it's a lot easier because you just see them around campus and they're quite relaxed, so you can just have normal conversation and you feel comfortable to be able to talk to them about other issues, not necessarily regarding to the class. So, I find that is a big thing because normally, with other teachers, you get very nervous or scared to approach them. But, down here, they're just so easy to talk to. (Student, C3)*

This contrast drawn between their experience of belonging as students on a regional campus, and their sense of belonging associated with the metropolitan campus—alongside the importance of being known and of trusting relationships with staff—suggests that it is campus

belonging rather than institutional belonging that contributes most significantly to students' wellbeing, engagement and retention. The role of relationship in belonging is obvious, but consideration of place in belonging is important here too. These students were based at a regional campus and had lectures that were delivered from the metropolitan campus. They may have had some tutorials online and others on their regional campus. The student above is expressing strong belonging to their regional campus and lack of belonging in the relationship with their lecturer from the metropolitan campus. Thus, some students experienced both belonging and unbelonging at the same time, associated with different 'places' (on campus and online relationships).

It may be that on large metropolitan campuses belonging is also achieved in particular places rather than the institution as a whole. Belonging may be achieved in smaller units such as within courses or individual subjects, while in other places on the campus or in their degree they feel unbelonging. Edwards et al. (2021) identified belonging in a chemistry subject, for example. If this is the case, then measurement of belonging to the institution in large scale surveys may understate the level of belonging felt by some students, as suggested by Crawford et al. (2024) and Allen et al. (2024). It also suggests that attention to the interpersonal factors identified here is important in strengthening belonging, particularly for non-traditional students, including those from regional, rural and remote areas. Relationships, place and identity are all important in considering support for belonging at university.

Persistence Through Difficulty

While the culture of community was important to the students' success, it was not sufficient on its own. Rather, this was partnered with a culture of support upheld by academic and professional staff and students. Barriers to study for regional students have been detailed by others (e.g. Devlin & McKay, 2019). The non-traditional students in this study experienced many of the difficulties noted by other studies of students from equity groups, including challenges of mental health, financial difficulties and understanding university processes (Delahunty, 2022). In this study such stories were almost invariably told in the context of how they had been supported through the difficulty, by staff members. For example:

> *I am only meant to clean toilets and make coffee and cart food around for other people for the rest of my life. What was I thinking? Who was I kidding? And then met Rachel (inclusion and access) who was just like, "no, you are meant to be here. Let's talk about your mental health". (Student- Mature age female, low SES, FIF, Regional, C1)*

Or other students

> *It's a nice little family and I like that this campus is so small because you have that bond with all your classmates that you can go to the movies outside of school. They'll message you and go, "Hey. You okay? Noticed you were a bit off in class. Do you want to talk about it? Catch up for a coffee or something?" So, I think that that strong community is definitely here and it's very helpful. (Student, C4)*

As a student explained, the sense of community and belonging and the support that existed within it enabled students to persevere with their studies despite challenges that exist for them. The following statement followed a discussion of difficulties encountered at the university's regional campuses, including difficulties with technology, distance travelled to campus, and a limited set of subjects available to study. The student's comment emphasises the importance of the relational interface, and the belonging it engenders, to students' success in the face of difficulty.

> *And fundamentally, when all the stuff is stripped away, 'cause it is just stuff, it's the essence of what a community is and the people in it - that's the really important stuff that makes you come back and makes you stick and endure (Student, C1)*

Determination to continue despite barriers and difficulties is both an individual and a collective resource, supported by identity as a member of a regional campus community, which is also part of place. This recalls the notion of 'sisu' described by Delahunty & O'Shea (2025) in relation to first in family students, as a communal as much as an individual determination to overcome adversity. Tinto (2017, 2023) also wrote of the value of community for students' persistence through difficulty. Students in the current study spoke about how they supported one another when difficulties arose, for example:

> *And I think everyone, because you all get to know each other so well, everyone's very aware. Everyone's antenna's up if something's a bit awry with somebody and I think people are very supportive of that person and making sure they're okay. I mean that definitely, in our year, I'm sure it's in every class, just happens. (Student, C1)*

How Cultures of Community and Support Were Deliberately Built by Staff

Whilst each campus had a distinct identity based on location, size and programs offered, and despite differences in experience (campus, equity group, difficulty experienced), there was remarkable convergence of students' conviction that the community and support were the aspects of their campus that enabled them to persist with their studies. Focus groups with staff concurred (again irrespective of campus or role) and revealed that neither the culture of community nor its link to student belonging was accidental. Rather, a culture of support was developed and enacted by staff on the campuses alongside this (25 mentions). Staff made deliberate choices to be available for students, for example, with the result that accessibility of staff was mentioned by 21 staff and 12 students in the focus groups.

Spending time in the 'tearoom' and at orientation and other events contributes to the sense of community and support as these staff members explained:

> *We all send email and, say, they will come to our office, formally make an appointment, and things like that, but the amount of times you're just in the tea room, and you say to somebody, "How are you going?" and they say, "Actually, I'm struggling with this assignment," and it's just that opportunity to say, "Oh, have you spoken to a tutor about that, or do you want to get some extra help with that?" or whatever it is, and you have that opportunity to direct them somewhere purely out of a relaxed conversation. – (Staff, C2)*
>
> *Speaker 5: Well, we're visible.*
>
> *Speaker 4: The orientation, even the whole program of orientation, I feel it's important for me to be around even if I just give my little talk for a few minutes, 'cause then they see me. So that's a strategy, that they got to know me. (Staff, C3)*

Another part time staff member described how her work schedule is guided by student needs:

> *In terms of a practical sense, one of the things I do to make my job work … in terms of the students, is that I try to be as flexible as possible from the point of view that I had. I'll try to be here from early in the morning if someone needs me. Not my best time, but definitely happy and right through and too late at night. If I know there's business students around, then I'll make my last appointment after their last tutorial. But also, in terms of the way that people can access me. (Staff, C1)*

The deliberate building of the cultures of community and support at each campus, that was shared by and influenced decisions of all the staff members involved, suggests a key underpinning of efforts to strengthen belonging in students. This agrees with Bunn and Lumb's (2024) observation that staff members' approach to supporting students is key to regional campuses' effectiveness.

Allen et al. (2024) found similar contributors to belonging to those identified by students and staff in the current study: relationships, practices of educators, opportunities for connection, inclusive environments where they felt welcome. The students and staff at the University of Wollongong described how these contributors were woven together from the cultures of community and support that had been established and were continually sustained by the choices and actions of staff, and then by students as they experienced that culture. The existence of these contributors was not accidental. Rather, they were supported by campus managers who helped maintain a focus on student support and community on their campuses. On one campus staff members described how the manager did this with regular support meetings of all staff, and modelling and encouragement for supporting students:

> *We've had some very deliberate meetings about what the processes would be, who would deal with which problems... It was made really clear from the start. It wasn't accidental and the culture of care there, but I think if you're talking about building blocks, it's calming. It is definitely very deliberate the way things have worked out.*
>
> *Speaker 3: She (the manager) is always going, what's the best option for the students? Then she goes with that. You can see it in everything. I've started like, it's that kind of way of thinking is rubbing off on me as well. I'm like, "Is this working? How can we make it better?" It's all from her.*
>
> *Speaker 4: It gives us permission to have that culture of care. That that's our priority so that we always think, how can this be better for the students and to be advocates for the students?*
>
> *(Staff discussion, C1)*

A Journey Towards Achieving Academic Belonging

In describing what had contributed to their success, several students described how the culture of support offered alongside the community culture helped them to journey from a place of not feeling academic belonging, to belonging:

> *Friendliness and just feeling welcome, and there's no such thing as a stupid question. It kind of is quite daunting, as a mature-age student, to come back and be educated. It's a different type of education as well. All the support that's out there has just been marvellous, and the understanding of some of the anxieties and overwhelming feelings that go with that, all stop and [then] amazing. (Mature Age Student, C4)*
>
> *I think for me coming here, in high school I just sort of sat in the middle a little bit, and coming here and having the support that we have and realizing oh I'm actually pretty capable of doing this, and my results showing that I was actually doing pretty well, was a bit of a shock and I just sort of wanted to keep going and keep doing well for this campus because they had fostered that for me (Student - High School Leaver, Female, First in Family, Regional, Low SES, C1)*

These student stories illustrate the development of identities of capability (Burke, 2016) and of academic belonging (Kahu, 2022) as a journey with movement towards a place of belonging (Guyotte et al., 2021) through experiences in the educational interface of students with the university, including trusting relationships with its participants that include students as well as academic and professional staff. This is why the 'culture of community and support' that was identified on these regional campuses was such an important developmental context (place) for their belonging and success. The intersection of identity, relationship and place in belonging is evident here. These need not be considered separate models of belonging (Crawford, 2024); in this study, student and staff descriptions of their campuses and how they achieved academic belonging there show all three dimensions—place, identity and relationship—at work.

Limitations and Suggestions for Future Research

Tracking belonging data longitudinally is difficult due to changes in definitions and measures. A limitation of the data reported is that it relates to a specific period (2012-2019). While there are indications that the effects have continued beyond this period as reported earlier, this cannot be definitively established. The 2024 *Universities Accord* shows that belonging remains a challenge for universities and is even more important in the current age. The findings of the current study are an important reminder of the value of community and support for building belonging. Further research could confirm that these cultures remain at regional campuses and investigate the extent to which they are experienced by individuals during their university journey. This may reveal subgroups who do not experience belonging on campus.

The current study focused on how a sense of belonging had been fostered on regional campuses of one university, as we sought explanations of remarkably low attrition rates of students at those campuses (see Figure 1). We recognise that a sense of belonging attached to the local community, family or other social groups can also contribute to students' wellbeing and success at university (Delahunty & Crawford, 2024). Understanding these processes could help universities to consider other ways of supporting students studying remotely or those who do not experience belonging to their university towards success.

Regional campuses at the University of Wollongong are distinct spaces that have supported belonging of their student cohorts, despite their non-traditional backgrounds. Identifying units or spaces within a larger campus or the wider university in which students similarly express belonging could provide an opportunity to investigate and compare how this belonging is grown and supported, and to determine whether the processes at the University of Wollongong's campuses are particular or hold features in common with other spaces that support belonging. Investigating whether cultures of community and support are essential to belonging in other university contexts will be important to identifying which elements need to be built into universities' efforts to engender belonging in their students, and how this can effectively be done to scale, particularly when these students are from non-traditional groups.

Conclusion

As the data presented here demonstrates, belonging can be achieved for non-traditional cohorts of students, and indeed can be stronger than that of traditional students. The culture of the unit or campus where students study is essential to this. Twin cultures of community and support contributed and were an important developmental context for journeys to belonging and success described by the regional students in this study. Challenges and barriers to study could be overcome through community and support that both drew on and resulted in belonging. These cultures were deliberately nurtured and sustained by staff, and this may be the key to increasing belonging at universities, whether for traditional or non-traditional students. Place, identity and relationships were all visible contributors to belonging in the participants' stories of their journey to belonging at university and what had supported them to succeed. Rather than separate models of belonging, these elements interacted with one another and are important considerations for the support of belonging among regional students.

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The Role of Place in the Widening Participation Functions of Regional University Study Hubs

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Abstract

The Regional University Study Hub program aims to enhance higher education participation for individuals from regional, rural, and remote areas in Australia. This paper explores the significance of place in the success of Regional Hubs as an equity tool to bridge the educational gap between regional/rural/remote and urban populations. Through mixed-method research, including interviews and ethnographic observations, findings reveal that a place dedicated to study, appropriate facilities and amenities, and extended access hours are important factors in the widening participation functions of the Regional Hubs. The study also theorises on the type of place that Regional Hubs are by suggesting that they are 'third places'. By providing a distraction-free environment and necessary resources, Regional Hubs not only support student success but also promote a culture of learning within regional, rural, and remote communities.

Keywords: *widening participation, regional education, third places, regional university study hubs, Australian higher education, Place-based education*

Introduction

The Regional University Study Hubs program (shortened to Regional Hubs) is a government-funded initiative that seeks to increase the number of people from regional, rural, and remote areas in Australia participating in higher education (Baker et al., 2025; Davis & Taylor, 2019; Stone, et al., 2022). People from regional, rural and remote areas participate in higher education less than those from metropolitan areas (Barnes et al., 2024); data from the 2021 census shows that of the 1,788,109 tertiary students, less than one per cent are from areas with very remote and remote classifications (Australian Bureau of Statistics, 2021). Regional Hubs act as an equity tool designed to help address the regional/rural/remote-urban gap in accessing higher education. Recent research indicates that Regional Hubs are successful in widening participation, particularly due to their place-based nature, their staff, and their partnerships with their local communities and higher education institutions (Baker et al., 2025; Keenan, 2025).

The aim of this paper is to demonstrate the role of place in the widening participation functions of Regional Hubs, as well as to contribute to the broader theoretical discussion of what *type* of place Regional Hubs are. Place is an important consideration in the equitable access to higher education; the physical distance between university campuses and regional, rural, and remote communities as well as the associated economic and social costs of moving to a Metropolitan area are two examples of place-based barriers to equitable access (Brett et al., 2015; Cooper et

al., 2017). Moreover, young people who chose not to leave their place to access education or employment in metropolitan areas often face social sanction or stigma (Cook & Cuervo, 2020). While 'place' has emerged in the literature as a consideration in the widening participation agenda, there is still a considerable gap which this article seeks to fill. We do so by first explaining what Regional Hubs are and then detailing the existing literature on the relationship between place and widening participation, before discussing the methods and background to this research. We then present the results of this research that pertain to the relationship between place and widening participation. Specifically, how the following place-based characteristics contribute to the widening participation functions of the Regional Hub:

- A place dedicated to study,
- The facilities and amenities within the place (the Regional Hubs), for example Wi-Fi and kitchens,
- The physical space within the place,
- How access and extended access to the Regional Hubs can enhance the widening participation effect.

We conclude the article with a discussion about what *type* of place Regional Hubs are; we suggest that Regional Hubs can be considered as 'third places'. Third places are a designation of a place that is neither home nor work, where a person can spend time without cost or obligation and contributes to the betterment and strength of their community (Yuen & Johnson, 2017). In presenting this discussion, we link Regional Hubs, place, and widening participation to the theoretical concept of a Third Place, and in doing so provide ontological clarity on the type of place that Regional Hubs are.

What are Regional Hubs?

Regional Hubs are community-owned and run facilities that provide students in regional, rural, and remote communities access to tertiary education without the need to relocate to metropolitan areas. Regional Hubs offer high-speed internet, academic and administrative support, a connection to peers, which creates a learning environment that fosters student success (Baker et al., 2025; Keenan, 2025). Regional Hubs are also a dedicated place to study, and in many communities, they are the only place that has a group of users with the shared intention to study (e.g. libraries). Regional Hubs are partnered with universities (although the intensity and latitude of these partnerships vary across the program), which enables students to pursue a wide range of courses while remaining embedded in their local communities. This model not only enhances accessibility but also strengthens local workforce development by supporting students to gain qualifications relevant to their region's needs (Keenan, 2025).

In 2018, the federal government began to fund the Regional University Study Hubs program, and since then the program has experienced rapid expansion: the number of Regional Hubs has increased to fifty-six since 2018 through five cohorts of funding (Department of Education, 2025a). This program expansion was driven by—and in the context of—several key educational reviews, including the Halsey Review, the Napthine Review, and the Australian Universities Accord (Keenan, 2025). Department of Education data from October/November 2024 shows that 12,253 students have used a Regional University Study Hub since the program's inception, and in 2024 5,270 students used a Regional Hubs, 32% more students than in 2023 (Department of Education, 2025b).

The Relationship Between Place and Widening Participation

Widening participation refers to the purposeful attempt to increase the number of students from equity groups starting and completing higher education to comparable levels of the general population (Tham et al., 2023). This study relies on the definition within the 'Widening

Participation Agenda' as defined by Grant-Smith et al (2020, p. 9) who write that the widening participation agenda is an attempt "*to increase the participation of students from these underrepresented social groups to levels which reflect their representation in the broader Australian population.*" In the context of this study, the underrepresented group is people who live and work in regional, rural, and remote areas.

There is a fundamental link between widening participation for people from regional, rural, and remote areas and 'place', as place is the "*key to the unequal distribution of [higher education] opportunities*" (Leaney & Mwale, 2021, p. 980). Those who live in regional, rural, and remote areas in Australia live in places with significantly fewer higher education opportunities, where higher education can be seen to be less worth than the considerable cost of obtaining it (Fray et al., 2020), and sometimes experience pressures to remain in community (place) for work, community, or family obligations (Delahunty, 2022; Fray et al., 2020). We feel it is important to note that these barriers to higher education are not *inherent* to regional, rural, and remote places, but instead result from the complex interplay between government policies, economic structures, socio-cultural factors, and the tyranny of distance. Furthermore, we acknowledge that widening participation—both theoretical and in practice—is similarly burdened with degrees of nuance. For example, Lumb et al. (2022, p. 61) suggest that the neoliberal widening participation agenda for regional, rural and remote Australia reduces these communities into statistical units and in doing so "*obliterates place, local interests, even the idea of community*" (for additional critiques of widening participation see: Harwood et al. (2016), Thomas (2001) and Burke (2012)).

These place-based barriers underscore the importance of place-based initiatives for widening participation, such as the Regional Hubs and the Regional Partnership Pool Project Program (Singh et al., 2023). The importance of place-based initiatives has been recognised in the Australian Universities Accord, with the recommendation that there should be "*more targeted, place-based and community-focused*" approaches to outreach and initiatives (Australian Universities Accord Review Panel, 2023, p. 129). The importance of place is also evident in the limited extant literature on the Regional Hubs; Bunn and Lumb's (2024) evaluation of the Country Universities Centre (an affiliated network of Regional Hubs) found that having access to a dedicated place to study was an important factor in the Country Universities Centre's success. This factor was also echoed by Stone, King, et al., (2022), and Baker et al (2025, p. 11), the latter of which said that "[Country Universities Centres] have created a new population of university-educated people by virtue of supporting localised study for those that are more place-bound or place-attached." The role of place was similarly echoed in our own research, and this paper builds on the existing literature and contributes to underscoring the importance of place in the success of Regional Hubs' in widening participation.

Defining Third Places

Third places are a conceptual designation or classification of place that enables us to think about the form and function of a place. Third places are informal, socially neutral environments that foster community interaction and civic life, and are typically characterised by accessibility, inclusivity, and conversational engagement; these are features that distinguish them from more formal or transactional public spaces. This conceptual designation has its ontological roots in Ray Oldenburg's idea that there are third places that are not home (the first place) or work (the second place) that serve a common good (Oldenburg, 1999; Oldenburg & Brissett, 1982). These third places are a common good for society as they "*foster sociability*" and provide a space for interactions between strangers (Williams & Hipp, 2019, p. 68). Oldenburg claims that these third places are "*crucial*" to civil society and have a far wider impact than just socialisation between strangers but instead supports the wellbeing of communities and improved social cohesion (Oldenberg, 1989, as cited in Williams & Hipp, 2019, p. 68).

While there are several scholars concerned with third places (such as Jeffres et al., 2009; Klinenberg, 2018), and those who theorise about the production of social spaces (such as Bhabha, 1994; Lefebvre, 1991; Soja, 1996), Oldenberg's theory of the third place has been used in this article because of its established typological application. Oldenburg's concept of third places was initially centred around cafes, coffee shops, community centres, general stores, and bars, but also drew on historical equivalents such as the *agora* in Greece and the American tavern in the American Revolution (Oldenburg, 1999, 2013). However, the boundaries of what could constitute a third place has expanded significantly to include art galleries (Slater & Jung Koo, 2010), online games (Steinkuehler & Williams, 2006), community libraries (Harris, 2007), university libraries (Fang, 2008), and others (see the following for more examples: Banning et al., 2010; Brown, 2017; Mair, 2009). We argue that Regional Hubs can be included in the list of third places.

Methodology

This paper is a result of the research "*We want to build a culture of learning in our community*": The widening participation functions of the Regional University Study Hubs Program, an Equity Fellowship that was conducted in 2024-2025. This fellowship, funded by the Australian Centre for Student Equity and Success and hosted by the University of Technology Sydney (UTS), explored the widening participation mechanisms of the Regional Hubs. Ethics was granted for this research by the UTS Human Research Ethics Committee (ETH24-9301).

We employed a mixed-method methodology that included interviews and ethnographic observations during site visits. We also conducted a survey that was administered to the management of Regional Hubs. However, this has been excluded from this article as only the results of the interviews and ethnographic observations have contributed to this argument. Fifty-seven interviews were conducted with participants from nine Regional Hubs in all six Australian states and the Northern Territory. The nine chosen Regional Hubs represent variation in cohort funding (e.g., were at different stages of maturity), geographic location, and operating models. Interviews were conducted with staff and students of Regional Hubs as well as community stakeholders, typically those involved with the governance of the Regional Hubs. The full list of Regional Hubs we visited and the number of participants by participant-type is below in Table 1.

Table 1. An Overview of the Nine Regional Hubs which Participated in this Research

Regional University Study Hub name	State or Territory	Cohort	Number of participants	Staff	Student	Community
Uni Hub Spencer Gulf, Port Pirie	South Australia	1	8	2	3	3
Uni Hub Spencer Gulf, Port Lincoln	South Australia	3				
Study Hub West Coast	Tasmania	1	12	5	4	3
Regional University Centre Goondiwindi	Queensland	1	6	3	1	2
Country Universities Centre Cape York	Queensland	3	5	2	2	2
Taree Universities Campus	New South Wales	2	8	4	2	2
Wuyagiba Bush Uni	Northern Territories	2	4	2	2	
Great Southern Universities Centre	Western Australia	2	4	2	2	
Country Universities Centre Ovens Murray	Victoria	2	8	3	2	4

These interviews were semi-structured and were conducted primarily in-person during site visits, but some did occur over video conference. Participants were recruited through a modified snowball sample technique which utilised staff at Regional Hubs to identify potential participants, as well as participate in the research themselves (Negrin et al., 2022). Following the interviews, the audios were transcribed, and an organic thematic analysis was conducted in NVivo; this organic thematic analysis involved coding the files several times to best understand the raw material (Braun & Clarke, 2006; Fereday, 2006; Galletta, 2012). The purpose of the interviews was to better understand how the participants use the Regional Hubs, their perceived impact on education enrolment and attainment rates, and the perceived value they add to regional, rural and remote communities.

Keenan conducted ethnographic observations during site visits before and after interviews occurred. The ethnographic observational tool was designed to capture Keenan's practitioner expertise during site visits and was based on, among others, the frameworks proposed by Angrosino (2007) and FitzGerald and Mills (2022) (for more, see: Daniel & Harland, 2018). A more detailed account of the methodology can be found at Keenan (2025, pp. 21-31).

Results

The concept of *place*, and the role of place in widening participation, emerged as a key theme in our analysis of the data: rather than simply referring to the Regional Hubs as a physical location, participants described the Regional Hubs as places that shaped their education experiences, routines, and sense of belonging. In the interview data, themes relating to access and place-based dimensions were prominent. When participants were discussing the role of Regional Hubs in widening participation, nearly a third of all responses were related to place-based elements (such as access, location). This demonstrates a clear conceptual link between widening participation and place and is reinforced in the ethnographic observations that Keenan made. Keenan's field notes consistently highlight how Regional Hubs users interact with the physical environment, particularly how they used the space and responded to its atmosphere. These observations demonstrate how Regional Hubs are not just study spaces, but environments that fostered comfort, routine, and importantly, return visits (all of which are aligned with the idea of third places).

When the corpus of evidence is analysed as a whole, we suggest that the concept of place of the Regional Hubs contributes to its widening participation functions through being a place dedicated to study, a place with appropriate study infrastructure, and an accessible place. These three themes are explored below

A Place Dedicated to Study

One of the key themes that emerged from the interviews was the importance of having a dedicated place for study—distinct from the distractions and demands of home or work. This theme was particularly salient among student participants who described the Regional Hubs as enabling focused, sustained engagement with their coursework. These insights were not prompted by direct questions about space or place but surfaced organically in participants' reflections on what supported or hindered their learning.

For many participants, the Regional Hub provided a physical and psychological separation from their domestic environment. One student, reflecting on the challenges of studying at home with young children, described how the lack of a proper workspace and constant interruptions made it nearly impossible to concentrate. The student said:

> *Because I have to do [study] around work. My kids are always around me around work […] I started [studying] at home, so I was doing it in the bedroom and there was no desk or anything, so I was using my nightstand with multiple books, sitting on an uncomfortable chair. The kids are still screaming in the background and because my youngest at that point would've been just over a year old, she still obviously, [mimics baby sound] a lot. The attention span was not there to really take it in and so my husband actually was like, why don't you just go sign up to the thing? […] So yeah, I don't think I would've been able to really focus on it and actually knuckle down and get it done, because I'll be able to finish it before the 18-month mark and I think that's only purely because I've got this space." – Student Interview Participant*

This quote from the participant speaks to how the Regional Hubs reduce external distractions and give them a place to "*knuckle down*" and complete their coursework. An additional distraction in the home that was identified by many participants was animals and livestock; one participant discussed how it is difficult to study at home as their family and "*sixty million animals*" distracted them. Therefore, having an ability to leave home and access a place that was free of animals and associated distractions enabled them to succeed in their studies. Considering that many students in regional, rural and remote areas have pastoral/farming backgrounds and occupations, we suggest that this could be a considerable problem for many students from regional, rural and remote backgrounds.

The sentiment of the Regional Hubs being a place free of distractions was echoed in other comments from student participants. One participant said that having a place that was neither home nor work that they could exclusively focus on their studies was the key to their study success. Many of the distractions that female participants mentioned were centred on domestic labour around the home, such as washing, childcare, and other domestic chores. Therefore, the Regional Hubs as a place reduced not just the distractions but also acts to enable women to succeed in their studies through reducing gendered labour expectations.

The ethnographic observations suggest that the dedicated study areas within the Regional Hubs are designed to support a range of student needs. Observations of these facilities revealed that multiple rooms serve different functions, allowing students to choose areas for individual study or spaces designed for collaboration with peers and other users of the Regional Hubs. These purpose-built environments are equipped with all the necessary infrastructure and technology, including high-speed internet, computers, printing facilities, and video conferencing, to create a positive and effective learning space. By providing a well-resourced learning environment, the Regional Hubs reinforce their role as essential places for academic success, particularly for those balancing competing demands at home.

The significance of distraction-free environments is supported by research on cognitive load and learning: distractions can impair memory, increase fatigue, and reduce the efficiency of study (Schmidt, 2020). In this context, the Regional Hubs function as spatial interventional that help level the playing field for students in regional, rural and remote communities by offering access to study environments more commonly available to students in urban and metropolitan areas.

A Place with Appropriate Study Infrastructure

Beyond providing a distraction-free environment, the Regional Hubs were consistently described by participants as places equipped with the infrastructure necessary for effective study. This theme emerged through both the interview narratives and ethnographic observations, where students and staff highlighted how access to reliable facilities and amenities directly supported educational engagement and persistence. Facilities and amenities that were identified include high-speed internet, second screens (monitors), laptops and computers, conference rooms, air conditioning/heating, free or low-cost food, and free or low-cost toiletries, such as deodorant and period products

Kitchens were a noted facility in both Keenan's observations and mentioned in the staff and student interviews. For example, one student said that having everything she needs to study, including a kitchen, in one comfortable place allows her to "*zero in*" on her studies. Another student discussed how the kitchen in the Regional Hub encouraged her to take breaks in her study and allowed her to dedicate more time at the Regional Hub as she did not have to leave the place to buy or make meals. She said:

> *I love that there's a kitchenette here. It's got everything that you need, so I can pretty much bring my breakfast, lunch and dinner here if I need to. Sometimes I do spend the whole day here. My house is freezing, so I really appreciate the heating … it's like I don't even need to have a cup of tea or coffee, but I make it part of my routine. It also causes me to have a break, so I'm not sitting at the computer all the time." – Student Interview Participant*

The student's reference to their house being cold is not a unique experience to this student and is one of the many financial and social pressures that students experience (Devlin & McKay, 2018). Staff are aware of these financial and social pressures, and many discussed how they try to make the Regional Hubs a place that meets the needs of the students by providing the necessary facilities and amenities that students may go without. This does not just extend to heating, but also to providing snacks and other items that students might need; Keenan observed many Regional Hubs offering snacks, such as muesli bars, at either little or no cost. Keenan also

observed how some Regional Hubs offered period products and deodorant for their students. These facilities and amenities alleviate the financial pressures of studying, in effect widening participation, but also enhancing the wellbeing of their students. This is summarised well by the below quote from a staff participant:

> *I just think students, because they're not earning money, a lot of people they can't afford to turn on the heater, things like that, so to have a place where you can come and you can be warm. It sounds a bit hypothetical, whatever, but it gives you a sense of wellbeing that makes it one less onerous thing. You've got all these studies that at least you're warm and you're not freezing. They even have snacks, [I] think that's just lovely." – Staff Interview Participant*

The importance of having access to reliable and high-speed internet was recognised by many participants in this research, including one staff member who said that many in their region did not have internet at home therefore having access to internet at the Regional Hub was a "really big driver" for some of the students. As regional, rural and remote areas across Australia have poor internet access (Archer et al., 2024; Parke, 2024), the ability for Regional Hubs to provide high-speed free internet widens participation through filling a deficit in a student's study infrastructure. Other technology that Regional Hubs offer was also mentioned frequently by participants in this research, such as the availability of computers and laptops, video conferencing tech, and dual screens were some of the common technological facilities and amenities that students valued. This is demonstrated in the below quote from a student participant:

> *Access to internet is really good and the facilities are really good. I can do a Zoom if I need. I can type up my assignments with Word and those kinds of apps and that. That's probably the biggest tick." – Student Interview Participant*

In the ethnographic observations, Keenan observed that the physical environment of the Regional Hubs plays a significant role in student engagement. For example, the reception area is the first point of contact for students and contributes to the overall experience that students have in the place. Keenan observed friendly and approachable staff at reception areas, which contributes to the feeling of welcoming and belonging, which can make students feel more connected to the Regional Hubs. This sense of connection is particularly important in the context of this study, as regional, rural and remote students often feel isolated or disconnected from their university or higher education in general (Bunn & Lumb, 2024).

The provision of appropriate study infrastructure is not just a matter of convenience; it is a widening participation function of Regional Hubs. Not only do these facilities, amenities, and physical space all fill an infrastructure gap, they also contribute to the environment of the place in which students feel welcome and like they belong there. As this feeling of belonging and welcoming is a contributed factor in student retention and academic success (O'Keeffe, 2013; Woods & Hinton, 2019), this should be considered a widening participation function of the Regional Hubs.

Extended Access to the Regional Hubs

Underpinning the widening participation function of a dedicated place to study with appropriate facilities and amenities was the access to the Regional Hubs itself; for many students, extended access to a Regional Hub was not simply a convenience, but instead a precondition for participation. Students frequently mentioned that accessing the Regional Hub outside of traditional business hours was a reason that they used the Regional Hub. This is demonstrated in the below quote from a student participant, who said that even though their Regional Hub is meant to be open from 9am they can usually gain access from 8am:

> *I really like having a physical place to come … I love that they have afterhours access here, because I do like to start a bit earlier so I can come in - although they say they're open from 9:00 but there seems to always be someone here from 8:00 anyway. – Student Interview Participant*

The importance of this access was echoed by other students, with one pointing out that the library closed at 17:00 so being able to use the Regional Hub at nighttime and have all the study infrastructure they need got them "*over the line*" to complete their studies. The importance of access was also recognised by the staff of Regional Hubs. For example, one staff member said that they had changed their opening hours to be responsive to the needs of medical students who wanted to study before their shift started at 07:00. By opening at 05:00 it allowed the students to access the space and study while they were "*still fresh*." Other staff recognised the importance of flexible access to the Regional Hubs, with one saying:

> *When we first got the fob out of hours I would drive home, you know, from grocery shopping and I would see a car in the car park, and I would be like yes someone is there using it … Or, like, driving to town on a Saturday morning and seeing two or three cars there and be so excited. – Staff Interview Participant*

It should be noted that access and extended access to Regional Hubs can also raise safety concerns for students, particularly female students. For example, one female participant was concerned about accessing the Regional Hub at night due to a blind corner and minimal lighting. However, when the issue was raised with staff the issue was addressed increasing the student's safety and their ability to study at a time that suits them. The student's original words are below.

> *I study at night too, I at first - was a bit weird because of the corner, and as soon as I said something to the [staff] they're like, they put mirrors up and they put floodlights on, and I feel totally safe coming to study and then leaving by myself, as a female, at 9:00 pm at night, which is important. – Student Interview Participant*

This quote from the student re-enforces the relationship between extended access, safety, and widening participation. While in this instance the participant was already using the Regional Hubs during extended hours, the increased safety made the place more welcoming and hospitable. This is articulated well by a student at a different Regional Hub who said that they fit visiting the Regional Hubs around their life, which often means they visit the Regional Hub at night. The participant said:

> *Because I usually study around about late hours of the night, between eight and ten, just because I knock off work, I have to go home, do all the things, have dinner, then I go to the [Regional Hub] and study for a couple hours. Because [the Regional Hub] has that security system, and all that kind of stuff, even in some of the study areas they have lockable doors, just tap ones, which also I always do it when I'm there alone, just because being a female in a way, it's always scary going somewhere by yourself, even when you know the facility is safe, it's still nerve-wracking, you're always extra cautious. So just having that accessibility, and knowing that it's a safe environment, and that there's all these precautions in place to make sure you're safe, I think definitely makes me feel a little better. – Student Interview Participant*

The role of access and extended access to study spaces is supported by international evidence, which suggests that there is a relationship between access and longer opening hours of places (Delafontaine et al., 2011), and there are positive educational outcomes associated with extended access hours when there are safety measures in place (Budzise-Weaver et al., 2024). Further to this, the role of convenience is widely established in the literature; when students can access a place at a time that is convenient to them, they are more likely to use it (Connaway et al., 2011).

To conclude the results of this research, we suggest that the role of place in the Regional University Study Hub program is significant when assessing their widening participation functions. When students can safely access a place dedicated to study that has appropriate facilities, amenities, and a welcoming environment, then they are more likely to succeed in their studies. As students in metropolitan areas have more access to these types of places, it is widening the participation of students in regional, rural and remote areas to have equitable accesses to places where they can succeed in their studies.

Regional Hubs as 'Third Places'

The preceding analysis highlights the importance of *place* in the ability of Regional University Study Hubs in widening participation for students from regional, rural, and remote areas. While the operational and educational functions of the Regional Hubs are well documents, there remains a gap in the literature theorising the *type* of place they represent. We suggest that Regional Hubs can be conceptualised as *third places* as they meet most of the characteristics of third places. Oldenburg (1999) provides eight characteristics of sociability that should be considered when ascertaining if a place constitutes a third places (for more see: Vaux & Langlais, 2021). We have condensed these eight characteristics into the below table and have indicated if Regional Hubs meet the characteristic.

As Table 2 indicates, Regional Hubs meet five of the eight characteristics defined by Oldenburg. Our data suggests that Regional Hubs meet most of these characteristics and partially meets others. For example, while access to the Regional Hubs often requires enrolment in higher education and registration for a keycard or fob, there are no socio-economic or cultural barriers to entry. This supports the idea of Regional Hubs meeting the leveller characteristic, where students from diverse backgrounds share a common space and purpose.

Table 2. Comparison Between the Eight Characteristics of Third Places and Regional Hubs

Third Place Characteristic	**Does the Regional Hub meet this characteristic?**
Third places are neutral ground, as users have little obligations to others in the space, individuals are free to come and go, and different views can be expressed.	Yes
The rank or status of individuals in third places is of little importance to their use or access. There is no precondition to be able to use a third place, such as a membership.	Partial
Conversation is a key activity of the third place.	Partial
Third places are accessible, accommodating, and comfortable.	Yes
There are regulars at third places who contribute to the environment or 'vibe' of the place.	Yes
Third places are homely and low profile, without extravagance or pomp.	Yes
There is a playful mood at third places.	Partial
Third places are viewed as homes away from home by individuals because they get a sense of being at ease or being at home when using the space.	Yes

Although study, and not conversation, is the primary activity of Regional Hubs, participants frequently described the social dimensions of Regional Hubs—sharing meals, chatting with staff, and forming informal peer networks. These interactions, while not always central, contribute to a sense of community and mutual support. One student described how the kitchen space encouraged breaks and casual conversation, reinforcing the Regional Hub's role as a welcoming and socially engaging environment. Keenan's ethnographic observations also noted the presence of regulars who shaped the atmosphere of the Regional Hub, contributing to its identity as a familiar and comfortable space.

Furthermore, the idea of Regional Hubs as "*home away from home*" was echoed across interviews with students who use Regional Hubs. Students spoke of feeling safe, supported, and at ease, particularly when escaping the distractions or pressures of home. For female students, this often included relief from domestic labour and/or caregiving responsibilities. The physical design of the Regional Hubs, which include quiet study rooms, communal areas, and approachable staff, reinforced this sense of belonging.

Conceptualising Regional Hubs as third places helps us understand their broader social function. Beyond academic support, they foster a culture of learning and community engagement in RRR areas. Keenan's observations noted a shift in local attitudes toward higher education in communities with a Regional Hub—suggesting that the presence of a third place dedicated to study can influence not only individual outcomes, but also collective aspirations. This aligns with Oldenburg's view of third places as serving a "*common good*," and helps clarify the role Regional Hubs play in their communities.

Discussion and Conclusion

This research has implications for both practice and theory. We have demonstrated that *place* is a critical factor in the widening participation functions of Regional University Study Hubs. Specifically, our findings show that Regional Hubs support students' success by:

1. Reducing distractions and domestic pressures, particularly gendered household labour, thereby enabling healthier study habits.
2. Providing appropriate facilities, amenities, and study infrastructure in a comfortable, welcoming environment that encourages students to return regularly.

These functions align closely with the characteristics of third places. Regional Hubs offer neutral, accessible, and low-profile environments where students feel at ease, a home away from home. While study is the primacy activity, participants also spoke about informal conversations, shared routines, and a sense of community, suggesting the Regional Hubs foster sociability in ways that extend beyond academic tasks. This supports our interpretation and classification of Regional Hubs as third places.

For practitioners and policymakers, these findings underscore the importance of intentionally designing Regional Hubs with the concept of *place* in mind. The physical and social environment of a Regional Hub is not incidental; it plays a central role in enabling students to engage with their studies. Designing future Regional Hubs with the principles in mind from the outset, rather than retrofitting them later, could enhance their effectiveness and ensure they meet the needs of RRR communities.

There are several other implications of this research that either fall outside the scope of this paper, or areas where future research can address. For example, the role between place and identity has been widely established in the literature (such as Easthope, 2009), as has the relationship between student identity and student success (such as Bliuc et al., 2011). Therefore, future research could investigate the role of place informing student identity at Regional Hubs and the widening participations implications of this. Furthermore, the role of gender has not

been explored in detail in relation to the Regional Hubs, despite women making up 75% of all Regional Hub users (Department of Education, 2025b). Future research should be conducted to assess if Regional Hubs can be considered feminist third places and explore other gendered elements of the Regional University Study Hub program.

In conclusion, Regional University Study Hubs have been shown to widen participation in higher education (Keenan, 2025), and this study highlights *place* as a central mechanism in that process. When students can safely access a distraction-free, well-equipped, and welcoming space—one that supports both academic and social needs—they are more like to succeed in their studies. Conceptualising Regional Hubs as third places helps us understand not only their educational value, but also their broader role in fostering a culture of learning and inclusion in regional, rural, and remote communities.

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Supporting University Academics in Proactive Outreach to At-risk Students

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Abstract

This article examines the trialling of an academic support toolkit that aimed to place teaching staff in the initial outreach role to at-risk students studying at a regional Australian university, while ensuring minimum additional workload. Many regional and rural tertiary students, particularly those of mature age with family and work commitments, must study by distance and the support processes available to them should provide equivalent opportunities for success as on-campus students. This article describes one regional Australian university's implementation of a technology solution to enhance the outcomes for regional and rural university students. The technology toolkit developed was focused on providing teaching academics with the key information about student engagement and progress daily to allow them to make informed decisions about student support requirements. Examination of student completion, engagement, and disengagement before and after the toolkit implementation and an analysis of Unit Coordinator surveys indicated the approach was effective, most noticeably due to academic-led early outreach. The implementation of the toolkit also afforded a reduction in the transactional distance between the student and teaching staff.

Keywords: *retention, engagement, outreach, student support, student success*

Introduction

Retention and engagement continue to be significant and growing priorities in universities around the world (Tight, 2019). This has been exemplified in Australia with the Australian Universities Accord (Department of Education, 2024), where a main objective is to significantly increase the participation of under-represented student cohorts. These cohorts include students with historically lower retention and engagement, those from low socio-economic backgrounds, people with disabilities, rural and remote communities, and mature age students (Department of Education, 2024). The Australian Universities Accord continued the Australian Government's focus on under-represented students described by Bradley et al. (2008). Improving engagement in the higher education system is often achieved through making university study more equitable and accessible, especially for these under-represented student cohorts (e.g. Lawrence et al., 2024; Thomas et al., 2021). This involves universities offering comprehensive, efficient and effective student support at-scale.

This paper presents the findings from a pilot study that placed academics as the main participants in early detection of and outreach to students who may be at risk of disengaging with their unit of study. From this point in the article, these students are referred to as at-risk students. The aim of the study was to improve retention and engagement, and greater holistic student support.

Literature Review

Many people in regional and rural settings in Australia who wish to study at the tertiary level. Those of mature age who have family, community and work commitments often undertake that study online. Webb et al. (2024, p. 12) argue that the decision to study by distance also includes factors such as "*symbolic and cultural barriers to participation related to moving away and identity challenges*". Considering the geographic size of Australia and that about 28% of the population reside in regional and rural areas (Taylor et al., 2025), there is an imperative to provide equitable tertiary opportunities for all people, irrespective of residential location and circumstance to reflect the Australian Government's long-term commitment in this area (Australian Government Department of Education, 2023; Bradley et al., 2008).

The University of New England, Australia, has specialised in providing distance tertiary education since the 1950s and commenced online delivery in the 1990s. This mode of delivery has ensured that a large percentage of its student cohort come from non-traditional university student backgrounds. The institution has a strong history of positive student feedback for teaching quality, consistently receiving five-star ratings from the Good Universities Guide for overall student experience (The Good Universities Guide, n.d.). Yet the institution faces a substantial challenge, having one of the highest non-completion rates among Australian universities, with a 24.5% attrition rate for students commencing bachelor level studies in 2022 (Australian Government Department of Education, 2023).

The issue of high attrition among non-traditional students accessing tertiary study, particularly during the initial transition has been described in Australia over an extended period. Several affective factors contribute to this situation. Wylie (2005) argued that students' decisions to terminate their tertiary study were part of a short-term cyclic process and involved poor adjustments in their academic and social self-worth. Attrition, particularly for non-traditional students, is highest during the first six to eight weeks following commencement (Wylie, 2005). Morison and Cowley (2017), in a study investigating attrition with non-traditional students in an Australian tertiary enabling course, argued that interventions to address attrition "*must focus on developing more personal interventions with students as early as possible*" (p. 342). Linden et al. (2023) argue that "*there is a small window of opportunity at the beginning of semester for a university to provide commencing students with timely and targeted support*" (p. 626).

A study at Southern Cross University (Farr-Wharton et al., 2017) investigated how the student-lecturer exchange was associated with student engagement, course satisfaction, achievement and the intention to leave study prior to course completion. It was demonstrated that the level of engagement, course satisfaction and intention to leave university were fully mediated by the nature of the student-lecturer relationship when factors relating to demographics and socio-economic status were controlled. It was argued that, while attrition is often associated with demographic factors, the student-lecturer relationship played an important role in student retention.

Student support in Australian universities is usually provided through two primary areas. Academics provide support through the teaching and learning involved within units of study. Additional requirements are met by professional staff employed to provide support outside the boundary of the teaching and learning context. The work culture at the university level may challenge academics to engage at a level that allows them to meet student's individual learning needs. Many academics work in an environment where publishing academic work is highly

regarded and rewarded, in preference to that of successful teaching. This situation, often referred to as 'publish of perish', was described by Kampourakis (2016), when he stated that *"This is what the phrase 'publish or perish' encapsulates. Either you publish like crazy or you are out of the competition. But is publishing all that matters? What about teaching?"* (p. 250). Any solution that attempts to engage academics more fully in the direct support of students needs to ensure that it is highly effective and time efficient and recognised as such by teaching academics. Stone (2017) argues that online teachers play a crucial role in *"building teacher-student and student-student relationships"* (p. 8). She argues that the online teacher must be present and engaged to appropriately connect students with their online learning cohort and that this increases the likelihood of persistence in their study.

One useful technique used in online learning environments to understand the nature of the academic-student relationship is the theory of transactional distance. Moore (1997) argues that transactional distance, composed of the psychological and communication distance between the learner and educator, has a profound impact on the quality of the learning experience and outcomes achieved. Transactional distance has three components. The first is the program structure, which is a measure of the program's responsiveness to learners' needs. The second is the instructional dialogue between the educator and student, comprising "*purposeful, bi-directional, constructive communication*" (Roach & Attardi, 2021, p. 859). The final component is learner autonomy, which is the extent of self-management available within the context of the learning environment. In an online learning environment, the educator's goal is to reduce the transactional distance as much as possible to ensure a high quality of communication is maintained. This is achieved when the instructional dialogue is high and the program structure is low. A highly structured program, where the learning experience is explicitly managed by the program itself, rather than the educator, results in a reduction of the opportunity for interaction between the learner and educator. This results in an increase in the transactional distance.

Transactional distance and student satisfaction have been identified as challenges for online tertiary education. The choice of technology used to facilitate online teaching and learning affects the transactional distance achieved. Thoms and Eryilmaz (2014) demonstrated that the choice of software used to support learning and the interaction between the educator and student was associated with student satisfaction. Wildlich and Bastiaens (2018) reported that for online learning contexts the transaction distance between students and the learning technology "*is the single most important predictor of [student] satisfaction*" (p. 222).

Linden et al. (2023), in a study at a regional university in Australia where online delivery is used, attempted to reduce attrition by a reduction in the program structure in the early transition phase. They updated the institution's Learning Management System sites to reduce complexity and the cognitive load on students. Support was also provided to Unit Coordinators to assist in the identification of disengaged students. In weeks 3 and 4 of the semester, a list was provided to Unit Coordinators which included contextual information in relation to each student's learning situation. Disengaged students were identified based on non-submission of a low stakes assessment task and/or nonengagement with the unit Learning Management System site. Identified students were contacted by a support team with a view to supporting the student to reengage with the unit material. Several shortcomings in this approach were described including the work demand on the Unit Coordinator to develop the list of disengaged students, the management and documentation of the communication between the Unit Coordinator and the support team and the high workload involved in contacting and supporting the disengaged students. Considering that the research project involved 191 units with a high proportion of commencing students, the workload involved would have been substantial.

Pilot Study Design

Due to the high rate of attrition at the institution, a project was proposed using technology that would facilitate a reduction in the transactional distance between academic staff and students. The solution to be developed aimed to improve student retention and engagement by supporting academics to understand students at the individual level, with a focus on undertaking proactive outreach to at-risk students. It was hypothesised that this enhanced understanding would facilitate higher quality academic-student relationships, reduce academic-student transactional distance and improve student satisfaction and retention. The research questions that guided the project were:

- What form would a technology solution take that would enhance academic presence in online units?
- What student related information would support academics in engaging more closely with students and allow the identification of students at risk of disengagement with learning?
- How effective was the technology solution in supporting student success?

The intervention required staff to use an additional technological tool in their teaching. Whatever was developed needed to be incorporated into the work practices of academics and support staff with minimal increase in workload and no additional funding requirements. Following consultation with the academic staff involved in the project, the approach used comprised two steps.

Background information about each student was provided to the Unit Coordinator in an Excel spreadsheet. This was updated weekly and included each student's email address, university email address and the alternative private email address provided at the time of enrolment. The key previous engagement data also included in the spreadsheet were:

- Number of unit attempts
- Unit enrolment date
- Whether the student was Higher Education Participants and Partnerships Program identified
- The course the student was enrolled in
- The year the course was commenced
- The trimester the course was commenced
- The number of completed credit points completed successfully to date
- Any advanced standing credit points awarded
- Current course Grade Point Average
- The number of previous successful unit completions
- The number of previous unit failures
- The number of previous unit withdrawals
- The current progress rate
- Any relevant progress flags, for example there were risk several factors, including if the student has been enrolled in their current course for greater than 10 years, whether the student had previous progression issues and whether the current Grade Point Average was less than 4.

The second source of information provided was a weekly email to the Unit Coordinator listing those students in the unit who had either not logged into the Learning Management System, which was important to identify initial engagement issues, and those students who had not logged into the Learning Management System in the previous 10 days. A summary of the current overall enrolment situation in the unit was also provided. Based on this weekly email, students with engagement issues were identified. Unit Coordinators used an email template to initiate contact with the student. This was emailed to both the student's university and personal email addresses. If the email was not successful in establishing contact, an attempt could be made to

contact the student by phone, if the Unit Coordinator considered this appropriate. This approach ensured that a student who may have disengaged from their study was contacted by the Unit Coordinator within a short period. Depending on the outcome of the contact attempt, the Unit Coordinator could then refer the student for additional support to any additional expert support required.

Support was provided to academics in the form of weekly professional development sessions facilitated by the project team, to help in the instances where a student responded to the initial outreach and disclosed further needs. Academics were guided in how to complete a referral to wider university support services. These sessions had guest speakers from different university support services, such as the Indigenous education community, counselling, and accessibility supports. A secondary aim of these sessions was to give academics and support services opportunities to learn more about each other's work and effective ways to collaborate.

The research component of the pilot project utilised a case study design with the case limited to units from within the Faculty of Arts, Social Sciences and Education. The study used mixed methods data collection (Depoy & Gitlin, 1998). Mixed methods data collection is recommended in case study research to allow for enhanced depth of analysis and understanding of the case being investigated (Creswell & Plano Clark, 2018; Yin, 2018). In this study, an exploratory sequential design was used with an initial analysis of student unit outcomes being completed followed by an analysis of the qualitative data available from Unit Coordinators (Creswell & Plano Clark, 2018). This allowed for the investigation of potential reasons why the intervention influenced student outcomes. Quantitative data were obtained from the university student records system and analysed using inferential tests of difference. Qualitative data were obtained from an online survey completed by Unit Coordinators. This was analysed using interpretational analysis, where the qualitative data was coded and themes were identified that summarized the data (Borg et al., 2007).

Ethics

The analysis was undertaken with University of New England Human Research Ethics Approval (no. HE23-134).

Participants and Data Collection

The project initially identified 15 units where the intervention would be used in trimester 2, 2021. The university administration system was interrogated and the results for students in these trimesters were identified and downloaded. Four units were removed from the analysis either because the enrolment in either trimester was less than 15 students, or because there had been a substantial change in the enrolment between the target trimesters, which was set at ± 30% or greater. The data analysis involved two comparisons. The first compared the outcomes for trimester 2, 2020 to trimester 2, 2021 for the 11 units that met the criteria for inclusion. The second compared the outcomes for the eight first year units involved in the trial in trimester 2, 2021 with all other first year units in the same trimester.

Table 1 summarises the enrolment for the units included in the data analysis for 2020 compared to 2021 illustrating the range of disciplines included and the consistency of enrolment across trimester 2 2020 and trimester 2 2021. The unit name has been deidentified to show only the discipline and year level of the unit.

Table 1: ***Unit Enrolment Comparison—Trimester 2, 2020 to Trimester 2, 2021***

Number	Unit	Year Level	2020	2021	% Enrolment Change
1	Early Childhood Education	1	50	37	-26.0
2	Literacy Education 1	1	85	105	23.5
3	Literacy Education 2	3	170	195	14.7
4	STEM education	1	134	162	20.9
5	Health education 1	3	27	29	7.4
6	Health education 2	3	77	71	-7.8
7	Languages	1	85	81	-4.7
8	Colonialism	1	42	33	-21.4
9	Music	1	61	68	11.5
10	Linguistics 1	1	53	43	-18.9
11	Linguistics 2	1	66	58	-12.1

The data comparison for trimester 2, 2021 involved a total of 625 students in the intervention group, with 2117 students in the control group. At the conclusion of the project, each Unit Coordinator was requested to respond to a survey available through Qualtrics. Ten Unit Coordinators responded to the survey. The prompts in the survey collected mainly qualitative data in relation to the participants' experience using the new intervention to engage with students.

Findings

Unit Outcomes Analysis

Analysis of the unit enrolment and grade data was completed using SPSS version 30. Student grades were sorted into four categories. Students who had achieved any passing grade were categorised as PASSED, while students who had withdrawn their enrolment in the unit at any time were categorised as WITHDRAWN. Students who had completed all assessment in the unit, but had not achieved the required passing mark, were categorised as FAIL. Those who had not completed all required assessment tasks and were still enrolled at the end of the trimester were categorised as INCOMPLETE. The initial analysis of the differences in the outcomes for the units was completed using a chi-squared test, with the trimester 2, 2020 results acting as the control and the trimester 2, 2021 results being the treatment group ($\chi^2 (3)=26.836$, $p<0.001$). A statistically significant result was identified, indicating significant differences in group proportions for one or more of the categories. The chi-squared tests for both analyses included a post hoc Z-test with Bonferroni correction to identify significant differences within the categories. Table 2 summarises the counts and percentages.

Table 2: ***Contingency Table for Student Group Versus Outcome, Trimester 2, 2020 Compared to Trimester 2, 2021***

Category	2020 T2	2021 T2	Total	% Change
PASSED	618 (46.3%)	718 (53.7%)	1336	+7.4*
WITHDRAWN	178 (48.0%)	193 (52.0%)	371	+4
FAIL	18 (58.1%)	13 (41.9%)	31	-16.2
FAIL INCOMPLETE	88 (69.8%)	38 (30.2%)	126	-39.6*

***** Significant at the p< 0.05 level

The chi-squared test compared the outcomes for students in trimester 2, 2021 based on their involvement in the intervention also identified a statistically significant difference ($\chi^2(3)=16.926, p<0.001$). Table 3 summarises the counts and percentages for each group.

Table 3: ***Contingency Table for Student Group Versus Outcome, Trimester 2, 2021***

Category	Intervention	Control	Total
PASSED	396 (63.7%)	1176 (55.7%)	1572*
WITHDRAWN	184 (29.4%)	681 (32.2%)	865
FAIL	9 (1.4%)	44 (2.1%)	54
FAIL INCOMPLETE	36 (5.8%)	212 (10.0%)	248*

***** Significant at the p< 0.05 level

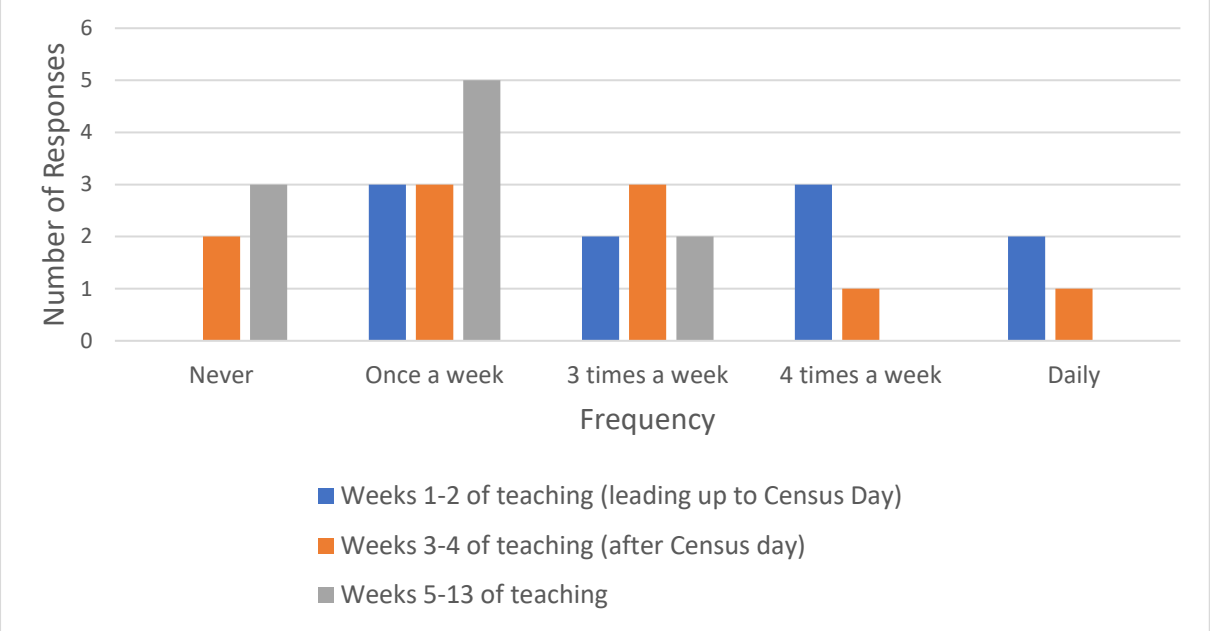
Significant differences were reported for both comparisons for the PASS and FAIL INCOMPLETE categories, but not for the WITHDRAWN or FAIL categories. In both comparisons, there was a significantly higher number of students in the PASSED category and a significantly lower number of students in the FAIL INCOMPLETE category for units that utilised the intervention. It should be noted that a percentage reduction was recorded for the FAIL group in each comparison, however the relatively small number of students in this category did not result in a statistically significant difference.

Survey Analysis

Ten Unit Coordinators responded to the prompt asking if the unit dashboard provided them with all the information they required. Two indicated that too much information was provided, seven that it was the right amount, while one stated that insufficient information was made available. When asked how important it was for them to have access to the unit dashboard information in the future, five indicated it was extremely important, four that it was very important and one that it was moderately important.

The reported frequency of use of the dashboard is shown in Figure 1.

Figure 1: ***Response to: 'How Often did you Look at Your Unit Dashboard at Different Points Throughout the Trimester of Teaching?' (n=10)***



It is evident that Unit Coordinators used the unit dashboard frequently during the first two weeks of the trimester, with eight accessing the data at least three times a week. The continuing usefulness of the dashboard is illustrated with seven Coordinators using the dashboard on at least a weekly basis between weeks five and 13. This suggests that student engagement information is useful to Unit Coordinators throughout the trimester and the data should be available on a continuous basis, rather than only during the initial transition.

The usefulness of each of the components of the student's information was rated for importance using a scale from a low of 0 = Not useful to a high of 5 = Extremely useful. A summary of the results is shown in Table 4. The responses have been ordered by the mean result.

These ratings indicate that Unit Coordinators rate most highly alternative options for contacting students and their progression in terms of previous attempts at the current unit and more broadly within their course of study. These options provide Unit Coordinators with background on a student's potential for success in the unit and the means by which contact can be initiated by several different means if required. This was supported by comments made in relation to the ratings for this prompt. For example:

> *It was extremely useful to be able to get contact details, but also a picture of the student's study profile. It was of great significance.*
>
> *It was great to have the dashboard, so I could access the details to contact them. It also helps to learn about students and level of their progress.*
>
> *The dashboard was a significant resource. While it did not affect the way that I interact with or support every single student I teach, it make me aware of details for a number of students which I could not have known otherwise to do with their history and individual profile… It greatly reduced my workload around investigation and monitoring of students and in communicating with student by having access to their emails and phone numbers.*

Table 4: ***Response to: 'How Useful did you Find Each Part of the Students' Information in the Unit Dashboard?' (n=10)***

Prompt	Minimum	Maximum	Mean ($\bar{X}$)
Alternate email address	5	5	5
Number of previous attempts at your unit	4	5	4.78
Course unit withdrawals	3	5	4.50
Course unit fails	3	5	4.50
Mobile phone number	3	5	4.44
Course unit completions	2	5	4.17
Enrolled course	0.5	5	4.22
Progress flags	1	5	4.17
Unit enrolment date	0.5	5	3.78
Course complete Credit Points	0.5	5	3.56
Study mode (On campus/Online)	0.5	5	3.56
Year student started course	0.5	5	3.50
Current course progress rate	0.5	5	3.44
Current course GPS	0.5	5	3.44
Study rate (Full time/Part time)	0.5	5	3.44
Trimester student started course	0.5	5	3.06
Course Advanced Standing	0.5	5	2.83

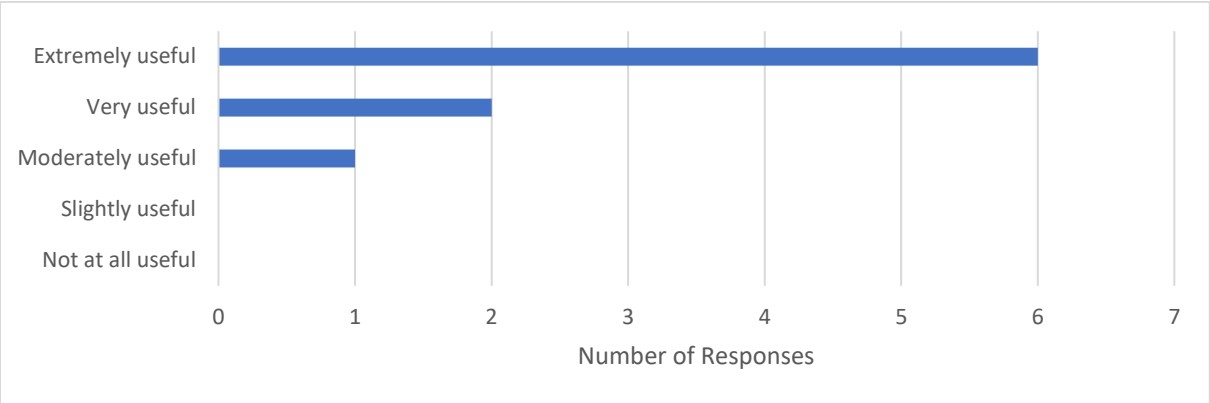
Having an alternative personal student contact method to use, in conjunction with their university email, was identified in other Unit Coordinator comments.

> *I got a much higher/faster response rate by emailing student's personal email and giving them a call. This was very useful in dealing with time-critical issues around withdrawal deadlines and assessment submission.*
>
> *One student had enrolled in the unit 4 times. I used her contact details from the dashboard to access her phone number. This student suffers from anxiety/depression & PTSD as a result of domestic violence. We stayed in regular phone contact.*
>
> *Calling a student [by phone] to submit the assessment, as I noticed no submission of the assessment in Moodle page.*

These comments illustrate the importance of having multiple contact methods for students. The University mandates that students are only allowed to communicate with staff using their university email. Though the long-term practice of staff has been to use the student's university email to initiate contact, it appears essential that contact using personal emails and phone numbers is required.

One key aspect of the intervention that was considered of importance to student retention was the early identification of students who may be at risk. Most Unit Coordinators found the notifications of student activity in the unit Learning Management System extremely useful. The responses are summarised in Figure 2.

Figure 2: ***Response to: How Useful to you Were the Notifications in Helping Reach out to Students who Appear to be Disengaged?***



Unit Coordinators reported several specific cases where the notification system played an essential role in their initiation of support for students.

> *I was able to have more specific and frequent communication with students from the beginning regarding significant dates, which I think encouraged good reflection about whether to stay in the unit this time around. I was also more on top of students who didn't complete initial assessments, and ended up having to impose very few late submission penalties in the unit overall. This is actually resulting in the grade pattern going up a few points I think.*
>
> *Once I sent an email to the student that was inactive and I found out about her difficult time, so I could arrange an individual tutorial to get her to complete the unit.*
>
> *Many but not all students then acted following me reaching out e.g. responded to my email and were more likely to talk to me and reach out for help in the future or logged onto Moodle independently and continued with their study.*
>
> *One student towards the end of trimester had stopped logging in. This student had been VERY active and was up to date with all assessments. I would not have noticed that he was no longer logging in because he wasn't on my 'radar' as a student to monitor however this trigger showed me that he had suddenly stopped checking Moodle and sure enough after emailing him he had separated from his partner and was not able to continue with his study regularly. I would not have likely noticed this until he had not submitted an assessment, so it was caught earlier.*

These comments highlight the reduction in transactional distance between the academic and student through communication that is more frequent and specific to students' circumstances. The capacity for the academic to rapidly identify changes in the pattern of access to the Learning Management System at the individual student level is also described, allowing for appropriate support to be provided in a timelier manner.

Discussion

Students from regional and remote Australia are challenged to engage successfully with tertiary study, particularly those who study by distance. Universities that cater to the needs of these students must be committed to and provide a teaching and learning environment that meets the support needs of these regional and remote students and maximises their success through early intervention. This was emphasised by Mathews et al. (2018) in their assessment of university support services for regional and remote students transitioning into tertiary education.

The intervention described here targets the often-ignored area of the university lecturer-student relationship (Tormey, 2021). The use of the intervention was associated with statistically significant and beneficial shifts in grade outcomes. Specifically, students in the PASS category—those who had successfully completed a unit in which the intervention was employed—increased by 7.4% compared with the same units in the previous year when the intervention was not used. Students in the FAIL INCOMPLETE category decreased by 39.6%. These trends were supported by the comparisons made between the intervention and control groupings.

This result suggests that the early identification of a student at risk of disengagement and the subsequent actions taken to enhance engagement between the student, Unit Coordinator and support services have supported students to reengage with their study. It has also provided improved grade outcomes and an increased pass rate.

These statistically significant improvements were accompanied by qualitative evidence from Unit Coordinators that indicated that the intervention provided them with important background information on their students. This information supported them in understanding their students better and engaging with them in a way that students' needs were better supported.

It was hypothesised that a reduction in the transactional distance (Roach & Attardi, 2021) using the technological intervention would improve the grade outcomes for the students and reduce attrition. This hypothesis was well supported in this study. Unit Coordinators reported an improvement in their understanding of the students' individual needs and in their capacity to better support those needs. The intervention has supported an increase in the frequency of instructional dialogue that is purposeful, bi-directional and constructive (Roach & Attardi, 2021).

Research questions 2 and 3 relating to the type of information that would support academics to engage more closely with their students and the effectiveness of the technology solution in supporting student success, appear to have been well addressed in this study. The background and current engagement data provided to Unit Coordinators was well received and they described a range of benefits that arose from its use. Student outcomes at the unit level have improved significantly. However, the form of the technology solution which involved the use of Excel spreadsheets suffered similar issues to those described by Linden et al. (2023). Unit Coordinators did not report any substantial challenges using the spreadsheets with no adverse workload comments made. However, the authors of this article who were involved in producing them experienced a substantial workload due to the manual approach involved. For this strategy to be viable in the long term, a solution that provided online access and with automated data access would be required. The process of updating the system to provide this level of access is ongoing.

Limitations

The quantitative analysis included 11 units with a comparison made between two trimesters. While this involved many students, with about 1,000 students enrolled in each of the control and intervention groups, it is a small sample size compared to the total number of units. While the findings in this study supported the wider implementation of the intervention more broadly across the university, additional research is required with a larger evidence base.

One limitation that must be considered is the influence of the COVID-19 epidemic. This was controlled for as much as possible in the 2020 versus 2021 comparison by focussing on units without a substantial change in enrolments. The second comparison of the control group with other units from within 2021 only, further controlled for this potential influence.

A second limitation in the design of the intervention centred on the referral process where an at-risk student was referred to the specialist support services available in the university. The referral was done using an informal approach and was usually done with an email from the Unit

Coordinator to the specialist support area. Following referral, there was no process to support communication between the parties involved. The institution provides several different support services which are located and staffed in units that do not necessarily have direct lines of communication, either with each other or the teaching staff. It was also the case that, once a Unit Coordinator referred a student to a support service, there was no communication process established within the project to allow ongoing communication between the Unit Coordinator and support personnel to support a coordinated approach. A further complication arose because email communication did not allow for the effective ongoing transfer of information between the teaching and support staff. A central referral system included in the technological intervention which is accessible to relevant personnel across the institution appears appropriate, ensuring that an appropriate record is kept of the support provided. The requirements of the recent Support for Students Policy (https://www.education.gov.au/support-students-policy) mandated by the Australian Government for universities would also support this approach.

The final limitation is the relatively small number of responses available from Unit Coordinators, which limits the depth of the study. Following successful completion of the pilot project, an ongoing project, titled the Atrium project, was implemented across the university which will allow for an in-depth and long-term data collection and analysis to be completed. .

Conclusion

This pilot study sought to gauge the impact of academics proactively contacting at-risk students studying at a regional Australian university using a technological solution, with the aim of reducing the transactional distance between the student and teaching staff. It was hypothesised that this would improve student retention and engagement at the unit level. The data analysis for the trial, confirmed an increase in the successful completion of the unit by students and a corresponding reduction in disengagement and subsequent withdrawal. The success of this pilot study has led to a major scaling up of the approach and the development of a web-based application, called Atrium, to be used internally by all academics at the institution, allowing data-informed outreach to at-risk students and referrals to support services.

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The Hidden Work of Giving: Academic Intermediaries Role in Rural, Regional, and Remote Teacher Professional Experience Placements

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Abstract

Philanthropic initiatives designed to support preservice teachers' rural, regional, and remote placement experiences aim to ensure equitable educational opportunities for these school communities by attracting early career teachers and addressing critical teacher shortages. These initiatives provide valuable funding and placement opportunities for preservice teachers, but they also create significant work for academic and professional staff at universities that are tasked with facilitating philanthropic relationships for rural, regional, and remote placements. This paper critically examines how professional experience academics navigate the demands of rural, regional, and remote-focused philanthropic initiatives. Drawing on Berlant's concept of cruel optimism, we explore how the promise of social good becomes entangled with institutional precarity and unsustainable workloads. We argue that in the absence of institutional support and workload recognition, philanthropic initiatives are at risk of being unsustainable.

Keywords: *Philanthropy, professional experience, academic intermediary, cruel optimism, rural regional remote*

Introduction

Philanthropy has gained prominence in higher education institutions, operating as a strategic mechanism aligned with the broader marketisation trends of neoliberal education reforms (Parker et al, 2023). Such neoliberal reforms have transformed initial teacher education to reflect entrepreneurial approaches and market driven logics, for example, initial teacher education providers are now judged by student satisfaction scores, graduate employability, performance standards, and standardised curricula (Aydarova, 2022; Skourdoumbis & Rowe, 2025). Framed as a means to enhance higher education institutions' innovation and competitiveness, philanthropic partnerships deliver tangible benefits such as widened student participation, improved graduate employability, and enhanced ties with industry (Parker et al, 2023). Roberts et al. (2021, p.8), argue that philanthropy is "*critical in addressing issues long overlooked by systems focused on metro-normative understandings of education*" and plays a significant agenda-setting role by creating sustainable opportunities which benefit preservice teachers while addressing community needs. From this perspective, philanthropy is positioned as a key factor in shaping educational outcomes, particularly when it supports professional experience placements in rural,

regional, and remote schools and contributes to addressing persistent issues of teacher retention and workforce stability.

While the value of philanthropy in expanding educational opportunities is well established in the literature (Kurz & Parreira do Amaral, 2023; Reckhow & Snyder, 2014; Saltman, 2010), less attention has been paid to how philanthropic partnerships are formed, negotiated and sustained within higher education institutions. Emerging research has observed that philanthropic partnerships introduce complex demands on academics tasked with managing donor relationships (Czerniewicz & Cronin, 2023). These demands often translate into extensive administrative work to align higher education institution programs with donor expectations, creating a risk that academic agendas are distorted by donor priorities which privilege short term projects over longer term goals and systemic reform. Conceptually, Seddon and Billett's (2004, p. 10) notion of "*social partnership*" is useful in understanding this tension. While collaborations between public, business and civil society actors are framed as "*mutually beneficial, innovative relationships that address common societal aims*", they caution that resulting philanthropic funding frequently fails to cover the infrastructure costs required to sustain such partnerships. Thus, Seddon and Billett highlight how the promise of collaboration can mask significant resource gaps and hidden burdens for institutions. Such complexities underscore the need for higher education institutions to critically assess philanthropic partnerships to ensure they support, rather than hamper, academic integrity and institutional independence. Our paper contributes to this emerging research by offering new insights into the lived experiences of academics working at the intersection of philanthropy and initial teacher education.

Academics who manage philanthropic partnerships perform complex labour that cuts across multiple domains including, navigating university systems, supporting students and schools, overseeing placement logistics, and stewarding donor relationships (Coll & Eames, 2000). They are often described as "*boundary spanners*" (Aldrich & Herker, 1977, p.220), mediating between institutional and external domains by filtering information, translating expectations and facilitating collaboration. Their work also resembles "*boundary crossing*", which involves not only mediating but actively moving between and bridging different social or professional spheres (Kilpatrick at al., 2002, p.xi). This crossing entails a deeper entanglement. Rather than simply translating across domains, these academics inhabit multiple worlds, simultaneously carrying the burdens of each. Despite its value, this boundary work remains largely invisible within higher education institutional workload models and is often unrecognised in performance metrics (Frølund & Ziethen, 2016). Drawing on Berlant's (2011) concept of cruel optimism, we argue that while philanthropic partnerships promise access, opportunity, and social good, they also entangle boundary spanners and crossers in contradictory pressures, ethical tensions and material strains that undermine the conditions of their work.

To develop this argument, the paper proceeds in four parts to address the question: How do initial teacher education academics work in the space between the philanthropist or funders and beneficiaries. First, we discuss how philanthropy has become a viable financial mechanism for expanding access to regional, rural and remote professional placements within initial teacher education programs. Second, we expand on our conceptual framing of Berlant's (2011) cruel optimism alongside Frølund and Ziethen's (2016) idea of the academic intermediary to explore the philanthropic work being undertaken in initial teacher education. Third, we examine the intermediary role of professional experience academics and explore how their responsibilities with philanthropic initiatives intersect with broader issues of workload and recognition. Finally, we turn again to Berlant's conceptualisation of cruel optimism as a critical lens for understanding the contradictions and complexities of academic work within philanthropic partnerships.

Philanthropy in Initial Teacher Education

Successive government reports in Australia have emphasised the need to equip preservice teachers with the skills and cultural awareness necessary to thrive in unique and often underserved settings, particularly in regional, rural and remote communities (Halsey, 2018; Scott, 2023). While most government schools in Australia exist outside metropolitan cities (e.g., 63% in Queensland) (Queensland Government, 2023), most initial teacher education programs reinforce metro-centric norms. Roberts et al. (2021) argue that this reflects a lack of *"rurality"* (p. 106) at the policy level, which is particularly absent in the Australian Professional Standards for Teachers that are used to inform and accredit initial teacher education programs. However, amid escalating teacher shortages, which are particularly acute in regional, rural and remote areas, there has been a renewed policy focus on improving initial teacher education pathways to prepare and support teachers to work in these communities. The Australian Government recently noted *"the need for funding models to support rural and regional placements, due to prohibitive accommodation and travel costs"* (Scott, 2023, p. 65).

Such issues were addressed in the *Independent Review into Regional, Rural and Remote Education* (2018) conducted by John Halsey. While this review highlighted that preservice teachers undertaking placements in regional, rural and remote locations face *"issues and costs their counterparts in urban areas do not have to worry about"* (p. 7), Halsey also promoted regional, rural and remote placements as an effective way to attract teachers to these regions. As a means of addressing cost barriers, the *National Teacher Workforce Action Plan* (Australian Government: Department of Education, 2022) proposed providing financial support for preservice teachers undertaking regional, rural and remote placements, including a $2,000 'top-up' for those travelling to remote areas. In Queensland, the context of this research, there are similar grants, including 'Beyond the Range', which provides up to $5,000 for eligible placement-related expenses (Queensland Government: Teach Queensland, 2024). More recently, the Federal Government introduced the 'Commonwealth Prac Payment' (known in Queensland as the Teach Queensland Prac Payment Grant) aimed to assist students (including preservice teachers) to manage the costs associated with undertaking a mandatory placement (Queensland Government: Teach Queensland, 2024).

These governmental initiatives and grants frame the challenge of regional, rural and remote professional placements as being predominately an economic issue that can be addressed through financial incentives. However, as Lampert et al. (2021) caution, these grants stem from various pools of government funding and are not consistently available year-on-year. Indeed, while Halsey's (2018) review recommended increased government responsibility for funding regional, rural and remote initiatives, he also highlighted the *"very helpful"* (Halsey 2018, p.65) role that philanthropy could play in addressing funding gaps:

> *Because of the more targeted and flexible nature of the philanthropic $, a key role of philanthropy may be to shine a light on the nuanced challenges and approaches required for RRR [regional, rural and remote education] and to either support the case for government funding to be directed where it may be lacking, or to support RRR educators and communities to innovate and develop approaches relevant to their context, which can be adopted by others where appropriate. (Halsey 2018, p.65)*

This dual emphasis, on government and philanthropy, reflects a broader shift in education policy towards network governance (Ball & Junemann, 2012). Here private actors are increasingly incentivised to supplement or co-deliver public responsibilities (Reckhow, 2013).

Research has explored philanthropy in public schooling education, suggesting that it varies widely in its forms and effects (Hogan & Thompson, 2023; Hogan & Williamson, 2023; Rowe et al., 2024). Typically, philanthropy is referred to in three common ways: corporate philanthropy,

strategic philanthropy and venture philanthropy. Corporate philanthropy is often driven by corporate social responsibility. Here, businesses might contribute to education programs for corporate branding, visibility, or alignment with future workforce development, particularly in rural economies tied to agriculture or mining. For example, the BHP Foundation has a Regional Education and Skills Program to provide financial support to eligible students in regional, rural and remote areas to pursue higher education (see Mayes, 2019). This type of giving is often motivated by a desire to 'give back' to the local community that supports, in this case, BHP mining operations. Strategic philanthropy, on the other hand, is often framed around measurable return on investment, where philanthropic organisations fund initiatives not only to 'do good', but to produce demonstrable outcomes aligned with policy goals. As Reckhow (2013) argues, these types of investments allow philanthropists to build credibility and legitimacy to work closely with governments and education systems. For example, the Vincent Fairfax Family Foundation partners with Australian Schools Plus to deliver the Fair Education program, which targets schools in disadvantaged communities, many in regional, rural and remote areas. This program provides funding and coaching to build school leadership capacity and parent engagement, aligning with broader government policy goals around school improvement and equity (see Hogan et al., 2023).

Venture philanthropy, in further contrast, is seen to influence the policy agenda itself. Here market-based solutions are promoted to drive system-level reform. Reckhow and Snyder (2014) call these philanthropists 'jurisdictional challengers': private sector organisations which compete with or provide alternatives to traditional public sector institutions. They highlight how philanthropists in the U.S. context invest heavily in Teach for America. Rowe (2024) similarly argues that Teach for Australia operates within the same venture philanthropy framework, emphasising outcomes and systemic change. For example, in the regional, rural and remote context, Teach for Australia recruits high-achieving graduates to teach in disadvantaged schools as part of a broader strategy to address educational inequality through talent-based interventions. These placements are not just framed as filling teacher shortages, but as levers for systems improvement, aligning with venture philanthropy's logic of measurable impact and return on social investment. Backed by a combination of philanthropic funding and government support, Teach for Australia's presence in regional, rural and remote schools illustrates how non-state actors can reshape the teacher workforce pipeline, reconfigure professional preparation, and influence public discourse about what constitutes quality teaching. Such interventions or 'social partnerships' can simultaneously support immediate needs while reinforcing reform agendas that are often centred on individual excellence and market-responsive solutions.

Regardless of type, much of the existing research on philanthropy can be separated into two dominant strands: one that focuses on the actions and influence of philanthropists and the other that examines the effects of philanthropic programs and interventions on their intended beneficiaries, typically schools, teachers, or students. The former often interrogates the policy agendas, governance strategies, and discursive power of philanthropic actors (see also Olmedo, 2018; Lubienski, 2020; Rowe, 2024), while the latter tends to assess the impact or efficacy of specific programs, grants, partnerships (e.g., Teach for Australia placements and attrition from the profession) or philanthropic funding in disadvantaged schools (Rowe & Di Gregorio, 2024). What is often missing from these accounts is an examination of the space in between, that is, how philanthropy is negotiated at the level of everyday policy work. This analytical gap is even more critical when we consider how Halsey's (2018) recommendation has been operationalised by initial teacher education programs, not as a broad lever for systemic reform, but as a practical solution to support individual institutional responses to professional regional, rural and remote placements. Indeed, both higher education institutions involved in this research had developed philanthropically supported programs, scholarships and bursaries to facilitate preservice teacher placements in regional, rural and remote communities. We were not concerned with the motivations of the philanthropists involved or the experiences of the student beneficiaries.

Rather, we were interested in how initial teacher education academics worked the space in between the philanthropist or funders and the beneficiaries.

To understand how philanthropy is facilitated within higher education institutions, we turn our attention to the everyday work of initial teacher education academics responsible for leading professional placements. From working alongside these people, we know they are responsible for developing and sustaining philanthropic partnerships and transforming funding into programmatic action. Yet, much of the literature to date focuses on procurement: the broader, institutional work of higher education institutions and their embedded engagement/advancement offices in securing private-sector funds. For instance, Tompkins-Stange (2016) highlights how grantee organisations, including universities, strategically frame their work to align with donor priorities, not necessarily by altering their core missions, but by adapting the language, focus, and presentation of their initiatives to resonate with philanthropic agendas. Perkmann et al. (2013) observe that university engagement offices have become central to translating donor agendas into institutional initiatives, acting as crucial intermediaries between external funders and internal higher education institutions programs. They argue that these offices help align philanthropic interests with institutional priorities by identifying funding opportunities, shaping project proposals, and framing institutional activities in ways that appeal to donor expectations. In doing so, they perform a form of 'organisational translation', reconciling the language of impact, innovation, and accountability demanded by funders with the academic values and operational constraints of universities. While some research has investigated the significant role of academic deans in cultivating donor relationships and aligning philanthropic interests with institutional strategy (Conley & Shaker, 2021; Shaker & Nelson, 2022), far less attention has been paid to the downstream role of 'regular' faculty members.

Conceptual Framework: Cruel Optimism and Academic Intermediaries

This paper brings Berlant's (2011) concept of cruel optimism into dialogue with the academic intermediary to discuss the complex and often precarious role academics play in facilitating philanthropic initiatives within initial teacher education, particularly in the context of professional experience placements. Rather than adopting Berlant's conceptual framework in its entirety, we focus on a key dimension of the work, specifically individuals' affective attachments to compromised—but desired— futures (see Duschinsky et al., 2019; Duschinksky, 2020). We examine how academics become attached to aspirations, such as equity-driven philanthropic funding for regional, rural and remote placements, even as the pursuit of these aspirations intensifies labour.

Berlant (2011) describes cruel optimism as the condition in which *"something you desire is actually an obstacle to your flourishing"* (p. 1). We explore how academics develop attachments to the potential of philanthropic funding as a means of securing socially just educational outcomes. This attachment is not simply ideological but operationalised through a range of affective and material practices that include handling donor relationships, planning and rationalising evidence-based initiatives, and ensuring their ethical and culturally appropriate implementation. In striving toward this imagined 'better future' academics assume intermediary roles that are multifaceted, complex, and deeply embedded in institutional and external expectations.

The intermediary role is characterised by Frølund and Ziethen (2016) as a form of knowledge brokerage, where academics must respond flexibly to *"changing situations, roles, functions, and ways-of-being"* (p. 3). In the context of our research, this labour includes stewarding partnerships through regular communication with donors, attending meetings, aligning institutional values with philanthropic visions, and producing compelling evidence of impact. These responsibilities, while crucial to the success of philanthropic initiatives, are often layered on top of already substantial teaching, research, and service obligations. Boundary-spanning or crossing work is especially visible in the domain of professional experience, where academic staff are already

responsible for student placements, managing relationships with schools, supporting placement tutors, and navigating diverse and somewhat complex professional domains, and the regulatory and accountability demands of teacher education (Bennett et al., 2017). This labour is akin to Frølund and Ziethen's (2016, p. 19) reference to stewardship, in which they note, is often invisible and undervalued, despite its crucial role in translating individual-level advocacy into institutional-level action. As Aldrich and Herker (1977) observe, such work positions academics as 'boundary spanners' or 'boundary crossers' (Kilpatrick at al., 2002): individuals who operate at the interface of institutional structures and external actors, filtering donor interests while also facilitating institutional action in the quest for the 'greater good' of betterment of student experiences.

The academic intermediary embodies Berlant's (2011, p. 2) insight that optimism can become cruel when *"the object that draws you in actively impedes the aim that brought you to it"*. The promise of philanthropic funding for regional, rural and remote placements, a goal framed around equity and opportunity, can paradoxically exacerbate workload intensification, generate institutional friction, and place staff in precarious positions of responsibility without clear recognition or support. The desire to achieve long-term structural change is thus entangled with short-term pressures and institutional contradictions, producing a *"sense of desire"* (Berlant, 2011, p. 13) that is both motivating and costly. Berlant refers to this cost as impasse noting, the impasse becomes not just personal experience but a collective condition, requiring forms of improvisation and adjustment in the meantime (Berlant, 2011, p.4). By framing academic intermediaries within the concept of cruel optimism, we offer a nuanced account of the emotional, political, and institutional tensions that shape their work.

Methods

Data presented in this paper are drawn from a broader qualitative case study investigating the role of philanthropy in initial teacher education programs across two Queensland universities. The wider study included interviews with academic executive leaders, academic leaders in professional experience, and professional staff involved in developing and managing philanthropic partnerships. For this paper, we focus specifically on the academic leaders in professional experience, Ash, Charlie, and Rory, each with 3–5 years of experience in this position. The voices of the professional staff Quinn and Tatum are also included to offer unique perspectives on supporting the work of intermediaries and philanthropic partnerships. Pseudonyms have been used throughout to protect the identities of participants and ensure confidentiality. Semi-structured interviews lasting approximately 60 minutes were conducted with each participant. These interviews focused on their experiences coordinating philanthropic funding initiatives for professional experience placements in regional, rural and remote school communities. Interviews were recorded and transcribed verbatim, with transcripts verified by participants to ensure accuracy.

An inductive thematic analysis (Braun & Clarke, 2006) was used to explore the data, allowing for the emergence of patterns and meanings grounded in participants' accounts. However, the analysis was informed by the concept of cruel optimism (Berlant, 2011) and the construct of the academic intermediary (Frølund & Ziethen, 2016). This dual framework enabled us to interrogate how participants navigated the aspirational promise of philanthropy, such as increased funding and improved placement opportunities for students, against the systemic constraints and emotional demands that accompanied this work. The findings are organised around key themes that we developed including: 1) hopeful attachments to philanthropy; 2) the invisible labour of intermediation; 3) fractured institutional responsibility; and 4) workload intensification and emotional cost.

Findings

Hopeful Attachments to Philanthropy

Allocating philanthropic funding to support students' regional, rural and remote placements emerged as a powerful emotional investment among participants. Philanthropy was viewed as a way to create possibilities that would not otherwise exist in the current structures of initial teacher education, particularly when providing meaningful professional experience placements in regional, rural and remote locations. The participants' responses reveal there were hopeful attachments to what philanthropy could enable for students and regional, rural and remote communities more broadly. They raise issues such as, greater student access, deeper community engagement, and a more socially just distribution of educational opportunity. Rory articulated this when she observed, *"without that money, the [regional, rural and remote] trips wouldn't be happening. We'd have a whole lot of students who wouldn't experience [the] country".* Similar comments were made by Quinn:

> *We're getting students out as far as we can, out into the middle of nowhere, to have an experience … a lot of them get stuck into the community and they love it… they can have a look around, [and if] they have a good experience, they'll probably go back [to teach].*

These two academics, Rory and Quinn, had formed an attachment to the promise of philanthropic funding or as Berlant (2011, p. 46) proposes, a sense of the *"possibilities"* that funding may offer students. They saw philanthropic funding not only as a resource but as an invitation or an opportunity for students to witness what teaching in regional communities could look like. They observed that this type of 'lived experience' was important in shaping future career choices to teach in regional, rural and remote communities.

Similarly, Charlie's investment in philanthropy was driven by a belief that initial teacher education can play a role in better supporting regional, rural and remote communities: *"We're trying to connect them [the student] with the community"*. It could be argued that the use of 'connect' suggests an aspirational vision of initial teacher education that is place-based, relational, and human-centred. This attachment reflected a broader belief in the purpose of higher education, beyond credentialing, but as a way to facilitate a 'better' future for regional, rural and remote communities. In fact, Ash made this point more explicitly by stating;

> *It benefits the students, but it also benefits those [regional, rural and remote] communities out there and getting the students— the beginning teachers— out there… It gives them that foot in the door. It benefits the profession, I suppose. It's the bigger picture. It's not just about the university, the kudos to the university, [it's] that we're providing these opportunities for students to go out. I think it's a lot bigger.*

Here, Ash positioned philanthropic initiatives as a catalyst for system-wide benefit, including helping students enter the profession, enriching regional, rural and remote communities, and advancing the education sector's collective responsibility to equity. Her framing connects to what Berlant (2011, p.1) refers to as the promise of *"an improved way of being"*, a future shaped not by institutional inertia, but by proactive, ethically motivated interventions.

Ethical judgment was also inferred by the professional staff, Quinn noted: *"Knowing that they've actually got some money, and they're not going to be dirt poor when they get home… [is] nice"*. The attachment to philanthropic financial support noted by Quinn's comments blurred the institutional boundaries of her typical work activities with care and obligation. Here her work spanned boundaries, from the main 'operational' role of placing students in schools for professional experience to an altruistic mindset that reflected the wellbeing of students. Goodrich et al. (2020, p.6) posit, *"boundary spanners may be asked to play a number of roles, some of which may fall outside their area of expertise"*. Tatum referenced similar thoughts related to

financial stressors: *"No one can afford to go and do a five-week placement and not have money to pay their rent"*. Tatum's comment suggested an attachment that is carried emotionally and professionally to facilitate philanthropic initiatives that support students.

Collectively, the participants' comments suggested that philanthropic funding offers opportunities which create a bridge between ideals and actions. Their attachments to the funding were aspirational, grounded in a desire to 'make things better' in a system where conventional funding mechanisms were falling short. Yet, as the following themes will show, these attachments were not without cost. The optimism that drove participants' efforts also made visible the tensions and contradictions of operating as academic intermediaries in a complex and under-resourced higher education institutional landscape.

The Invisible Labour of Intermediation

While participants expressed deep hope in the possibilities philanthropy could offer for regional, rural and remote professional experiences, their statements also revealed the substantial, often invisible labour required to realise these ambitions. As academic intermediaries, they were responsible for brokering relationships, translating philanthropic visions into practical initiatives, and managing the expectations of multiple stakeholders, all while navigating their 'other' work. These forms of intermediation were affective, relational and administrative, yet often unrecognised in formal workload models and/or performance metrics. Charlie's experience exemplified this dynamic and clearly reinforced the boundary spanning and crossing work undertaken. Having facilitated key relationships with philanthropic partners, including the development of a funding proposal that aligned with donor values and institutional requirements, she found herself pushed to the periphery:

> *I did all the legwork and the hard yards, and then all of a sudden, I've got nothing to do with it anymore. Like, it goes to the [Advancement / Engagement] team, and they liaise with [philanthropist], they liaise with the students, they get the shortlist. Then all of a sudden, I get an email saying, can you come to the interviews and interview [the students]? It's like, I missed the whole thing—I'm left out of that whole process in the middle… It would have been nice to be cc'd in or have some understanding of what happened.*

Charlie continued,

> *we set up a meeting… we went to [philanthropist organisation] in the city. We thrashed out some ideas. Initially, they had the idea of us doing it one way, the way they thought would work. But we talked them into changing their approach.*

Charlie's comments reflected there is a disconnect between the labour required to build philanthropic momentum and the institutional structures that govern its formal progression. While Charlie was an integral part of the initial development of the partnership, called on for her expertise in regional, rural and remote professional experience, and while she was closest to the work, her reflections indicate she was neither kept in the loop nor given ownership of the outcomes. Her role was essential but rendered invisible once ideas and approaches were agreed upon, a dynamic that echoes what Frølund and Ziethen (2016) describe as the knowledge broker, caught between multiple institutional layers, managing expectations without recognition or authority.

While Charlie's remarks reflected a disconnect, Ash described this dynamic as the university's over-reliance on goodwill: *"All this stuff [we do] is not recognised… It takes so much time, and it's difficult to even quantify… It's a bottomless bucket of engagement that's overflowing"*. Her metaphor here suggested there is a level of emotional exhaustion in intermediary work; a never-ending stream of demands that are rarely supported by the institutional scaffolding they require. As Ash further highlighted, philanthropic work is never *"straightforward… it's never a matter of this is the project, and this is your money… there's constant hurdles to jump over"*. Rory, too,

observed the mismatch between the ethical importance of the work and the lack of structural support for it: *"I'm passionate about this happening, but passion doesn't get me 30 grand out of nowhere"*. Despite their efforts, which were essential to the delivery of key programs, these boundary spanners or crossers remained hidden in plain sight, quiet choreographers of care, negotiation and endurance who held the system together even as it slowly wore them down.

Participants also described fluctuations in their role. Tatum noted from a professional staff point of view, her work often extended beyond the standard logistical coordination of placing students. Tatum reflected on the additional workload associated with *"offering opportunities"*, she noted organisation in terms of *"accommodation"* and *"funding"* for students as additional logistic complexities that fellwell outside her 'typical' role and responsibilities. She continued: *"it is not easy to place a student" and "we place them in [regional, rural and remote] schools where we know they will get a bursary"*. Indeed, the reliance on schools and teachers to host preservice teachers often hinges on goodwill, the unspoken expectation that educators will take on additional responsibilities. In this case, Tatum was involved in relational brokerage as she translated expectations and facilitated relationships for sustaining placements in particular 'known' schools (which are recipients of philanthropic funding). These responsibilities far exceeded the standard tasks detailed for her job. The role also required her to discern the realistic capacity of supervising teachers. Tatum acknowledged that *"teachers are burnt out"*, implying that placement of students without overservicing particular schools weighs on her mind as she commented, *"don't cut off your nose to spite teacher education your face"*, inferring that overservicing schools acts against the best interests of all stakeholders.

Collectively, participants identified the ways in which their academic or professional identity was stretched beyond their 'normal' boundary of work and reshaped by this labour. They were required to shift between roles of educator, relationship manager or broker, travel agent, fundraiser, and administrator, duties that typically sat outside their job description. Such unseen work is redolent of a neoliberal approach to education which depends on unpaid labour (Potvin & Dority, 2022). Indeed, here, workload inequalities (and related rhetoric) coalesce with real systemic conditions. These conditions may include government funding withdrawal from public services like education, market driven logic that includes running education systems like a business, and emotional and relational labour that sees women placed at the core.

This scramble, constant improvisation, or spanning across somewhat unfamiliar boundaries, is what makes the labour of intermediation particularly invisible. It does not fit easily within the linear models of academic productivity or institutional planning. It happens between meetings and emails and in between teaching and research, performed only because someone must keep the work moving. These insights expose a structural tension; while philanthropic partnerships are increasingly promoted as essential to university strategy and public good initiatives, the academic labour that makes them possible remains under-acknowledged. As Ash observed, *"we do it for goodwill"*. That goodwill, while powerful, is neither infinite teacher education nor free. It carries emotional weight, professional risk, and time costs that are frequently absorbed by already stretched academic and professional staff. According to Berlant (2011) good will would be viewed as an affective attachment, that is, the idea that if we work harder and show we care, we can make broken systems like education work better.

Fractured Institutional Responsibility

Participants' experiences of managing philanthropic partnerships were consistently shaped by a lack of clarity over who was responsible for what. While philanthropic funding was positioned institutionally as a strategic good, the actual work of delivering on aspirations was scattered across different teams. For academic intermediaries like Charlie, Ash, and Rory, this created ongoing uncertainty and disorientation, leaving them to 'fill the gaps' between institutional aspirations and operationalisation of the initiative.

Charlie's reflections made this fragmentation visible. Despite her initiative in cultivating partnerships and building philanthropic proposals, she frequently found herself working in a relational and informational vacuum: *"You're scrambling to try and get things underway and trying to get money or tied up with different teams trying to solve the same problem. No one's talking to each other"*. She described being delegated responsibility without clear guidance or structural support: *"It's like, off you go, Charlie… but I don't know what I'm supposed to do here. The things that I've tried to do aren't really gaining traction"*. This sense of being both accountable and unsupported typifies the *"porous zone"* Berlant (2011, p. 53) describes: an affectively and administratively incoherent space that absorbs labour and ambiguity. Charlie's experience underscores how universities increasingly rely on individuals to navigate institutional silos (Roper, 2021), pushing the burden of coordination, troubleshooting, and emotional labour onto those least empowered to systematise the work.

Though Charlie's assertions revealed a sense of fragmentation, Ash also pointed to the lack of institutional coherence, describing meetings that led nowhere: *"I had a meeting with so and so, but what's the outcome? What's the action? I'm not getting that. I'm really disjointed with what's going on"*. Her frustration pointed to a structural gap between strategy and implementation. While central units like Advancement or Engagement may oversee donor relationships at a high level, the practical, ground-level work, including the design of placement models, supporting students, and ensuring alignment with donor goals, is often left to academic staff who were disconnected from formal decision-making structures. This disconnect was further exacerbated by overlapping responsibilities and an overreliance on interpersonal relationships. As Charlie noted: *"There's so many people involved, so many middle people… Lots of different people have their fingers in the pie, which is great. But there's no coordinated action around it"*. As Charlie further highlighted, this sometimes meant working alongside people who had limited knowledge of initial teacher education and the complexities of regional, rural and remote spaces,

> *I'm finding that— initially, I was getting this man who I'd never worked with before, trying to organise me into how to engage with the [philanthropist] around [regional, rural and remote spaces] , and he had no idea about [regional, rural and remote]teaching whatsoever.*

The institutional assumption that philanthropic work can 'slot into' existing systems overlooks the complexity of managing donor relationships, designing ethically sound placement structures, and coordinating across systemic boundaries. In many ways, the academic intermediary emerges as someone who smooths over gaps, manages relationships informally, and ensures progress continues despite systemic breakdowns. Yet this workaround is unsustainable. As Charlie put it: *"There's no rule book or playbook… I'm left out of that whole process in the middle"*. This point goes beyond a lack of communication, suggesting there were deeper structural requirements needed to ensure universities can meet strategic aims. The university promises impact through philanthropy, yet fails to support those tasked with delivering on that promise. The point reflects Berlant's (2011) notion related to *"transgressing the accustomed order of things"* (p. 78) where the failure to accommodate or work outside of systemic processes contributes to stress.

Workload Intensification and Emotional Cost

Alongside their strong ethical commitments to equity and regional, rural and remote school communities, participants described the emotional toll of philanthropic intermediation. The labour required to sustain partnerships, respond to evolving institutional expectations, and deliver meaningful placement outcomes often extended well beyond formal role descriptions. Two of the academics spoke candidly about workload and emotional costs. Rory discussed the weight of this work. Despite years of investment in enabling rural placements through philanthropy, she found herself constantly advocating for its importance in the absence of broader institutional ownership: *"Sometimes I think I'm waving the flag, saying, come on, this is*

something that's important". This flag-waving metaphor evokes a sense of standing alone, publicly defending the value of work that others may not fully understand or prioritise. Rory's persistence reflected the emotional labour often required to facilitate philanthropic initiatives.

Rory also noted the cumulative strain of sustaining these efforts over time, particularly considering funding precarity and the repetitive nature of grant-seeking: *"The issue really, is sustainability. It's having to go through the process of applying and spending the time that it takes, and the knockbacks"*. Her emphasis on time, the time to apply, the time to justify, the time to manage knockbacks, underscores how philanthropic intermediation extended beyond a discrete task into an ongoing condition of labour. This work was rarely formalised, yet it must be maintained consistently if students are to access funding and partnerships are to to persist. Charlie's experience similarly highlighted how philanthropic coordination demands ongoing, responsive, and time-intensive labour: *"It is this ongoing work that takes time. We're problem solving as we go"*. This comment spoke to the open-ended, adaptive nature of the role. Philanthropic implementation was not experienced as a linear or predictable process but rather as a continuous stream of issues to resolve, where each new challenge layered onto existing responsibilities. Here, workload intensification was not merely about doing more, it was about managing the emotional and operational complexity of work that seeped into boundaries undefined in traditional workloads.

Turning to both professional staff voices, Quinn noted that the main scholarship on offer is one that *"everyone just applies for... so I process the rural and remote [philanthropist funding application] … I place them, and then I… send it off"*. The workload accompanying the additional tasks Quinn undertook related to philanthropy appeared to require additional resource allocation as she noted: *"it'd be great to have some more funding for another person in my office"* and *"the workload now… I try my best"*. Tatum expressed similar thoughts around workload: *"it happens to us often—they [colleagues/academics] go to a networking meeting and then the next day we're flooded with emails saying [x] want to form a partnership"*. She continued: *"I think a lot less people are interested in taking on that extra stuff even if it's a $10,000 scholarship… they just see it as more work"*. The convergence of workload intensification and the related philanthropic processes mentioned by Quinn underscored how for example, applying for a scholarship is not a simple solution, rather it creates additional administrative burdens and requires institutional oversight to manage effectively.

This theme highlighted the paradox of academic and professional staff intermediation: the very individuals most invested in ensuring equitable, high-quality regional, rural and remote placements are also vulnerable to burnout. Their optimism about what philanthropy could achieve is, as Berlant (2011) describes, 'cruel' in the sense that the labour of sustaining it slowly erodes the conditions for their own professional wellbeing. As Charlie commented, *"who benefits from all this? Well, definitely not me"*.

The Cruel Optimism of Academic Intermediation

The responses of Rory, Charlie, Ash, Quinn, and Tatum reveal philanthropic partnerships with universities as hopeful opportunities to pursue an imagined better future for beneficiaries, particularly university students and regional, rural and remote school communities. However, these hopeful attachments to philanthropic funding are not without consequence. The very systems that promise benefits for the broader social good, simultaneously can burden those who work hardest to enact philanthropic initiatives. As Berlant (2011) suggests, optimism becomes cruel when individuals remain attached to a desired future that structurally obstructs their own flourishing. In this context, the hope placed in philanthropy becomes a double bind: it motivates sustained labour and moral investment, while offering little recognition in return. This reframing invites a more critical understanding of university and philanthropic partnerships, not simply in terms of funding, 'gifts', doing good, or opportunity (McGoey, 2012), but as a system of

obligation that reshapes academic identities and expectations.

In this paper we have highlighted the intermediary role as one that exists to fill institutional gaps and misalignments. Each of our participants was required to act across professional boundaries, mediate and engage in social partnerships across professional spheres, manage relationships with donors, coordinate internal teams, and align programs with philanthropic missions, often without formal authority, training, or time allocation. The academic intermediary became a boundary spanner or crosser, analogous to a compensatory figure, absorbing institutional incoherence and translating aspiration into action. As others have argued (Shore & Wright, 2015; Frølund & Ziethen, 2016), this form of boundary and social partnership work is increasingly central in academic life yet remains under-acknowledged in university policy or workload models.

Hochschild (2012, p. 8) mentions *"emotional labour… and its unpaid form"*, that is *"in the absence of unquestioned external guidelines, the single function of emotion becomes more important, and the commercial distortion of the managed heart becomes… a human cost"* (p. 29). Our *"culture invites women, more than men, to focus on feelings rather than action"* (Hochschild, 2012, p. 51). Hochschild (2012) notes, women are schooled in emotional management and are typically caregivers who disproportionately carry emotional labour outside of the home. Berlant's (2011) work, attends to the embodied and affective cost of sustaining optimism under structurally unsupportive conditions. Her notion of the 'impasse' speaks directly to the way feminised labour is stretched across roles that are both professionally necessary and structurally unprotected. Our findings suggest there is a slow creep of responsibilities and improvisations related to new or novel duties that are gradually absorbed by academics and professional staff and that accumulate without relief or structural change.

Finally, this paper contributes to academic labour scholarship by foregrounding the emotional cost of engagement with philanthropy under neoliberal logics. Participants described feeling stretched, disoriented, and emotionally overdrawn, not simply from the volume of tasks, but from the disjuncture between their commitments and their capacity to hold those commitments meaningfully. The cost here is not only time, but relational and professional coherence. For academics to remain hopeful, innovative, and resilient, the systems in which they work need to ensure they offer procedural clarity or relational continuity. Crucially, the labour associated with philanthropic intermediation, including relationship building, coordination and strategic negotiation, is rarely recognised in day-to-day activities, instead privilege is typically given to quantifiable outputs such as publications and grant income (or at least, successful, high-value philanthropic partnerships). As a result, academics undertake this invisible work that is emotionally consuming, reinforcing a misalignment between what university's claim to value and reward.. The emotional exhaustion described in this study echoes existing critiques of neoliberal higher education reform which highlight the increased managerial control and performance metrics that have led to work intensification among academics (Dafermos, 2023).

The rise of the intermediary is not incidental, it is a predictable outcome of neoliberal higher education reforms that have withdrawn public funding (Connell, 2013), valorise external partnerships (Ball, 2012), and expect individuals to creatively manage systemic underinvestment (Connell, 2013). Cruel optimism gives us language for the attachment to roles that are both valued and undermined. It describes the attachments to aspirations that promise improvement or flourishing, yet, sustain the very conditions that prevent such progress. Attachments that drive academics to 'wave the flag' for change, even when it comes at personal cost, with no formal recognition and often underpinned by emotional and relational labour.

Ethics

This research has ethics approval through QUT's University Human Research Ethics Committee, Approval Number 4015.

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Beyond Window Shopping: Using Stakeholder Narratives to Inform the Design and Impact of Australian Non-Metropolitan Teacher Placements

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Abstract

Despite decades of policies and interventions, challenges in sustaining a consistent pipeline of teachers to meet the needs of Australian non-metropolitan areas remain unresolved. Legislative frameworks and policies emphasise that initial teacher education providers take steps to better prepare preservice teachers for these diverse contexts. In response, government-funded alliances have been established between universities and clusters of regional schools, aiming to deliver supported professional experience placements in such settings. To inform the future design of these initiatives, this study examines one university-school partnership situated in a south-eastern Australia locality, classified as 'regional'.

Using a figured worlds methodology, the study draws on the collective narratives of multiple stakeholders including teacher educators, mentor teachers, a principal, and preservice teachers. Findings emphasise that to move beyond "*window shopping*" experiences, stakeholder agency must be central to any placement design. While funding and policy discussions emphasise investment in teacher education, the real challenge lies in aligning these efforts with the lived experiences of educators and communities in non-metropolitan areas. This study suggests that for long term impact, a more sustainable and community-driven approach is needed to address the realities of preparing teachers for these contexts.

Key words: *non-metropolitan, placement design, initial teacher education, preservice teachers, university-school partnership, stakeholder agency*

Introduction

Australia (the context for this study) has long recognised the disparities in educational outcomes between students in rural, regional, and remote areas, collectively and more inclusively referred to as 'non-metropolitan' throughout this paper, and their metropolitan counterparts. Systemic inequities first highlighted in the *1999 HREOC Bush Talks Report* (Stokes et al., 1999) continue to affect these communities. These include limited access to quality education, healthcare, social services, and economic opportunities and challenges in sustaining a consistent pipeline of teachers to meet the staffing needs (Commonwealth of Australia, 2013; Halsey, 2023; Stokes et

al., 1999). Reports reiterate long held concerns surrounding teacher shortages, quality, attraction, and retention (Commonwealth of Australia, 2013; Halsey, 2018).

The *Independent Review into Regional, Rural and Remote Education* (Halsey, 2018) called for more targeted approaches in initial teacher education. Specifically, advocating for the integration of non-metropolitan-specific knowledge into initial teacher education programs through collaboration with key stakeholders to ensure relevance and responsiveness to local contexts. These recommendations align with broader initiatives aimed at strengthening partnerships between initial teacher education providers and schools, helping to bridge the persistent theory-practice divide (Paul et al., 2021; Teacher Education Ministerial Advisory Group, 2014). However, despite continual calls for reform, the Strong Beginnings Report (Paul et al., 2023) highlights that initial teacher education (ITE) graduates remain inadequately prepared to teach in settings beyond metropolitan areas.

Recognising that these non-metropolitan schools and communities are not homogeneous, and vary in size, remoteness, teaching and learning environments, and community factors, Halsey (2023) recommends that more appropriate funding to ensure placement opportunities in these contexts are supported. The 2018 report also recommends offering incentives to attract graduates to RRR areas (the report's preferred terminology). In response, state governments have introduced various funding initiatives. For example, the Victorian Government allocated $2.6 million in 2022/2023 to support the *Teach Rural Pilot Program* (Victorian State Government, 2023), which aimed to address barriers such as isolation, relocation and accommodation costs that deter preservice teachers from undertaking placements in rural settings (Victorian State Government, 2023). Two key Victorian partnership programs, the *Teaching Academies of Professional Practice* (2014-2023) and *Placement Plus* (2024-2025), were developed to enhance preservice teachers' placements across metropolitan areas (Victorian State Government, 2023) and more recently in a range of rural, regional and urban growth corridors (Australian Government, n.d.). These funded initiatives primarily aim to provide tailored wraparound support, such as professional learning opportunities for mentor teachers, and creating opportunities to strengthen connections between preservice teachers and school communities (Victorian State Government, 2023).

This research investigates the co-design and implementation of a government funded initial teacher education-school partnership program, implemented by the initial teacher education provider in conjunction with four primary schools located in a regional city of Victoria referred to using the pseudonym 'Kipleton' throughout this paper. Co-design was chosen as an effective tool to support partnership design by drawing on academic rigor and practical insights (Fitzgerald et al., 2025). Using Holland et al.'s (1998) concept of figured worlds, this study considers the perspectives of teacher educators, mentor teachers, a school principal, and preservice teachers to address the following research question: How can the collective narratives of stakeholders from one Australian non-metropolitan placement inform approaches to placement design in similar settings?

Aligned with the broader goal of encouraging preservice teachers to pursue careers in non-metropolitan educational settings, this study offers insights into the design and implementation of a regional placement from the perspective of all stakeholders. In doing so, the study contributes to ongoing efforts to improve the long-term sustainability of teacher supply, including graduate teachers, in underserved regions.

Literature Review

It is important to be explicit about the nomenclature used to understand terms such as 'regional', 'rural' and 'remote' in Australia. The country spans over 7.6 million square kilometres and has a population of over 27 million people, with the majority living along the coast in major urban areas

(e.g., Melbourne, Sydney, Brisbane, Perth). In examining this spread of population, the *Australian Statistical Geography Standard* (ASGS) defines five remoteness categories based on access to services: major cities, inner regional areas, outer regional areas, remote areas, and very remote areas (Australian Bureau of Statistics, 2023). These categories are determined using the *Accessibility/Remoteness Index of Australia Plus* (ARIA+), which calculates road distances to service centres (Australian Bureau of Statistics, 2021).

While these categories offer an objective, geographical-oriented classification, the term 'rural' (notably missing from the scale) is often used broadly to describe all non-metropolitan areas (Roberts & Fuqua, 2021). Literature frequently combines rural, regional, and remote into a single category (Murphy et al., 2024). Although the location for this study is technically categorised as 'inner regional', the term 'non-metropolitan' and regional will be used interchangeably throughout this paper to reflect contemporary academic usage. Non-metropolitan terminology we argue privileges places that are often invisible in literature that by default focuses on 'the other'. The term 'rural' is also retained in some instances, as it is a commonly used descriptor by policymakers and practitioners to colloquially refer to these settings, despite its broader and often ambiguous meaning. We acknowledge that all places are unique and that any preparation for a school community should focus on the affordances of that place where students and their families live.

Government policies, reviews, and recommendations provide a persuasive case for prioritising teacher education for non-metropolitan places, to address the ongoing workforce shortages and to ensure equitable access to quality education for all Australian students (Commonwealth of Australia, 2013; Halsey, 2018; Halsey, 2023; Stokes et al., 1999). These reforms and strategies aim to attract high-quality candidates to teaching roles in regional and remote communities by equipping them with the necessary skills and support to thrive in such environments.

School–university partnerships for preservice teacher placements have gained global prominence for delivering high-quality placement experience (Green et al., 2019; O'Grady, 2017). These partnerships are often conceptualised as communities of practice (Wenger, 1998) where universities, schools, and teachers collaborate to prepare preservice teachers for the realities of contemporary classrooms.

In Australia, various government-funded university-school alliances have been developed to strengthen placement experiences. These include, but are not limited to, New South Wales's *Co-design Hub* programs (NSW Government, 2013); Queensland's *Centres of Excellence* (White et al., 2018) and *Teacher Enhancement Centres* (Thiele et al., 2024); Northern Territory *Teaching Schools Program* (Scott et al.2023); and in Victoria, initiatives such as the *Teaching Academies of Professional Practice* and *Placement Plus*, which are aim to enhance the quality of preservice teachers' placements across metropolitan, regional and growth corridor schools (Victorian State Government, 2023).

Despite their potential, these partnerships can be fragile, as their sustainability depends on ongoing funding, which is vulnerable to budgetary shifts and political change (Martin & Mulvihill, 2020). Establishing effective partnerships goes beyond the initial teacher education provider securing government grants. Once the funding is awarded, the responsibility for design and implementation primarily falls on the initial teacher education provider. This often leads to a complex interweaving of institutional priorities, policy goals and community needs (Amey & Eddy, 2023).

While the literature emphasises the importance of preparing teachers for the distinctive cultural, social, and professional contexts of non-metropolitan schools (Guenther & Fuqua, 2024), it also reveals the substantial challenges faced in these settings. Recent studies provide a deeper understanding of the potential benefits and long-term impact of well-supported placements outside metropolitan areas. Drawing on this body of work, the following sections explore three

interrelated themes: metro-centric assumptions embedded in initial teacher education, the development of a sense of place and space, and the need to critically re-examine prevailing narratives associated with teaching in rural and regional contexts.

Metro-centric Assumptions in Initial Teacher Education

Despite research identifying the need for specialised teacher preparation to accommodate diverse educational contexts beyond major cities (Downes & Roberts, 2018), significant gaps remain. The Australian Professional Standards for Teaching emphasise the importance of teachers understanding students and their contexts (Australian Institute for Teaching and School Leadership, 2017), but these standards predominantly reflect the needs and characteristics of metropolitan schools (Ledger et al., 2021). This one-size-fits-all approach, supported by standardised policies and reforms, overlooks the uniqueness of regional, rural and remote schools and communities, including the need to understand 'rurality', community dynamics, and adapt curriculum resources to these specific contexts (Downes & Roberts, 2018). Standardisation therefore perpetuates a metro normative bias leaving graduate teachers working in non-metropolitan areas often feeling unprepared, as the general curriculum does not meet their specific needs or those of their students (Roberts et al., 2024). Addressing this metro normative bias requires an awareness of the localised cultural and social dynamics (Halsey, 2023; Roberts et al, 2024).

One suggested solution is the adoption of place-conscious pedagogy, where initial teacher education providers tailor curriculum practices to align with the needs of rural communities (White & Reid, 2008; White, 2019). Developing 'rural consciousness' (Willis & Louth, 2024) involves preparing preservice teachers to adapt to varied settings by promoting the necessary attitudes, values, and adaptability across cultural, geographical, and professional domains (Downes & Roberts, 2018). It recognises that effective teaching is always contextualised, grounded in the teacher's responsiveness to their learners and their understanding of place (Guenther & Fuqua, 2024).

Developing a Sense of Space and Place

Non-metropolitan-based placement opportunities provide much-needed immersive experiences (Willis & Louth, 2024) to help preservice teachers understand the unique needs of students and communities in these contexts (Murphy et al., 2024). A 'one size fits all' approach to professional development ignores the situatedness of teaching (Mayer, 2021) leading to under-theorisation of non-metropolitan education and potentially imposing identity deficits on them (Guenther & Fuqua, 2024). Instead, research suggests that preservice teachers planning to work in rural contexts need to be both 'classroom ready' and 'community ready' (White & Kline, 2012). Developing a sense of space and place is important for teachers to integrate into the social and cultural fabric of non-metropolitan communities (Murphy et al, 2024) and cannot be defined by standards that ignore the local setting (Henderson & Mandalawi, 2024). Macdonald et al. (2025) argue that superficial understanding of space and place, akin to a tourist, fails to create meaningful connections with the community. Such connections are critical for understanding the intersection between rural social space, pedagogy, and teacher identity (Kline et al., 2014).

These rural placements are often optional, brief, and superficial; providing limited exposure to rural community life (Murphy et al., 2024; Roberts et al., 2024). In contrast holistic policy approaches, collaborative curriculum reforms, and cohort-based placements can offer more robust preparation (Halsey, 2018). Creating inclusive school community environments, and opportunities for engagement with Indigenous and migrant populations, can further enhance readiness for teaching in non-metropolitan contexts (Murphy et al., 2024).

Re-examining Prevailing Rural Narratives

Many government policies and incentives designed to address hard-to-staff non-metropolitan locations are often framed through a deficit-based narrative, portraying these communities as inherently disadvantaged (Guenther & Fuqua, 2024; White, 2019). Such perspectives frequently overlook the strengths of these communities, including their strong social support systems and unique opportunities for personal and professional growth (Yarrow et al., 1999). Additionally, the assumption that all non-metropolitan communities are homogenous fails to recognise the significant diversity that exists across different geographical contexts (Yarrow et al., 1999). Many of the perceived disadvantages are shaped by metrocentric perspectives, which overlook the inherent capabilities and resources of local education systems, resulting in a mismatch between preservice teachers' expectations and the realities of working in these settings (Cuervo & Acquaro, 2018). Immersive placement experiences are therefore important for challenging these preconceived notions to create a more nuanced understanding of the strengths and opportunities available in non-metropolitan education (Murphy et al., 2024).

Research Context

This placement program was offered to third-year preservice teachers enrolled in a four-year Bachelor of Education university degree through a metropolitan based initial teacher education provider. The placement site for this study is located within a non-metropolitan area, and was advertised as 'a rural teaching experience.' The program was presented an opt-in opportunity for preservice teachers to undertake placement beyond their metropolitan context. The program was co-designed to provide a supportive and immersive placement experience, with the broader goal of inspiring preservice teachers to consider pursuing teaching opportunities in non-metropolitan locations after graduation. The initial teacher education provider applied for, and was successful in receiving government funding to provide wraparound supports for the placement. This funding was critical for covering the costs associated with the range of supports listed in Table 1, which were co-designed situationally for this partnership to enhance the placement experience.

Table 1: ***Designed Program Supports***

Before Placement	**During Placement**
Teacher educators networked with district and school leaders to discuss possibilities. This included meetings, dinners and shared planning.	Preservice teachers participated in a day-long Aboriginal cultural experience led by a local Elder.
Teacher educators hosted a mentor teacher professional development session. This included sharing pre-recorded videos of the preservice teachers introducing themselves and explaining their goals for the experience. The session also focused on mentoring conversations, gradual release, observations and feedback.	Preservice teachers were accommodated in shared cabins at the same location. Accommodation was provided by the university for the duration, including two days prior to the placement and weekends.
Teacher educators held a series of informal meetings with preservice teachers to answer questions, share information about Kipleton and to discuss possibilities.	Preservice teachers spent a day of their placement visiting a number of local schools in the community and surrounding areas.
Teacher educators visited the community a number of times to select accommodation, visit schools and organise an Aboriginal Cultural Heritage Education experience.	Preservice teachers participated in wider school community events, including social staff gatherings, athletics carnivals etc. Teacher educators provided pastoral support to preservice teachers by hosting two dinners, visiting classrooms and schools.

The initial teacher education provider partnered with four schools in Kipleton, a regional community with a district wide population of around 27,000, to provide 10 preservice teachers with a three-week placement. These preservice teachers worked alongside experienced classroom teachers who served as mentors. The provider applied for funding from the relevant government body, however, the timeline from notification of funding to implementation was very tight. This timeline created some challenges in logistics for the provider taking responsibility for organising and using government funding to provide shared accommodation and an Indigenous cultural heritage experience led by the local elders. Ideally housing should be a community-based initiative to enable matching of needs to resources.

Theoretical Lens

The concept of *figured worlds*, introduced by Holland et al. (1998), refers to socially constructed realms in which individuals engage in culturally meaningful activities, interact with others, and negotiate their identities within specific contexts. These worlds are dynamically shaped through shared practices, values, and discourses (Urrieta, 2007). Within and across these worlds, identities are performed and negotiated in relation to the expectations and norms that govern participation. As individuals move between figured worlds, they draw upon cultural resources, navigate shifting power dynamics, and leverage their lived experiences to exercise agency and reconfigure their sense of self (Wiggins & Monobe, 2017).

This research applies figured worlds to examine a placement partnership in a regional location from the perspectives of all key stakeholders including, preservice teachers, teacher educators, school-based mentor teachers, and a school principal. This non-metropolitan placement partnership is viewed as a dynamic figured world where participants negotiate roles, develop identities, and interpret their experiences through shared practices, values, and narratives specific to teaching in this context. Within this figured world stakeholders bring distinct understandings and expectations that influence, and are influenced by, the cultural norms and discourses of non-metropolitan education. By analysing how this figured world operates, the research considers how identities, power relations, and agency are negotiated among stakeholders.

Method and Study Design

This study uses narrative inquiry as its methodological approach to explore the social, cultural, and identity-related processes within a regional placement partnership (Clandinin & Connelly, 2004). By examining the perspectives of preservice teachers, teacher educators, and school staff, the research investigates how regional partnerships operate as socially constructed systems of meaning and practice. Narrative inquiry allows for a nuanced understanding of non-metropolitan education by focusing on collective stories and how those stories are shaped by relationships, contexts, and broader social and historical factors (Clandinin & Connelly, 2004).

Narrative inquiry works in synergy with figured worlds by recognising that knowledge is storied and shaped by the shared narratives people construct from their experiences. This approach emphasises the importance of understanding both individual and collective experiences within the broader framework of social systems and structures. By capturing the voices of those most affected by education partnerships, the study offers valuable insights into how identities are negotiated, meaning is constructed, and power relations manifest within socio-cultural and historical contexts.

Participants and Data Collection

Participants in the study were purposely selected based on their involvement in the Kipleton placement during 2023. Ethics approval was granted by both University's human research ethics

committee (number 25567) and the state-based governmental Education Department to conduct surveys, interviews and focus group discussions. To address power dynamics with preservice teachers and ensure mentors and teacher educators felt comfortable critically assessing the program design, an independent research assistant was employed to conduct the interviews and focus group discussions and actively contribute to the data analysis.

Participants included the third-year preservice teachers, along with their mentor teachers, a principal and teacher educators who led this regional placement were invited to participate. A detailed summary is provided in Table 2 of the people who agreed to participate, their role, and data collection method.

Table 2: ***Participants' Roles, Pseudonyms, and Data Collection Methods***

Participants Role	**Number of Participants**	**Participants Pseudonym**	**Data Collection Method**
Preservice Teachers An education student completing a rural school-based placement. The preservice teachers progressively took on teaching responsibilities, including planning, instruction, and assessment, while developing professional skills under supervision.	4	Jane, Joel, Noel, Tarnia	Semi structured interviews
Mentor Teachers An experienced classroom teacher who guided and supported the preservice teachers' development. They modelled practice, provided feedback, and assessed the preservice teachers' performance against professional standards.	6	Toni, Adrian, Michelle Alex, Sam, Jamie	Focus group discussions
School Principal Oversaw the placement context across the four schools, promoted a supportive school environment, and contributed to orientation, school-wide understanding, and professional expectations.	1	Kim	Focus group discussions
Teacher Educators University academics who helped plan the placement structure, delivered pre-placement workshops for preservice teachers and mentors, and visited schools to offer support during the placement.	3	Kel, Sally, Pam	Online Survey

The interview and discussion questions were carefully designed to explore participants lived experiences, their connection to country and community, and their overall placement experience. These included questions such as: *Were there any similarities or differences that you saw in this cohort model to a placement that was scheduled in a different way?* and *Do you think that there could have been anything that was done to ensure that the preservice teachers were more connected to the community outside?*

Data Analysis

Data analysis was guided by the theoretical lens of figured worlds (Holland et al., 1998), which enabled exploration of how participants' identities were shaped within the cultural, institutional, and relational contexts of the Kipleton rural placement. The rural school site was conceptualised as a figured world where narratives of teaching, community, and place were constructed and negotiated.

To centre participants' lived experiences, Clandinin and Connelly's (2004) narrative inquiry was used to analyse data sources, interviews, focus groups, and survey responses as storied constructions rather than isolated themes. This approach highlighted the temporality, sociality, and contextuality of participants' narratives.

The analysis proceeded in phases. First, an independent research assistant conducted open, inductive coding of one full transcript. The researchers then independently coded the same transcript, collaboratively refining a shared coding framework to enhance inter-rater reliability. This framework was applied across the dataset to identify recurring narrative threads and interpretive tensions, such as collaboration and relationship, program design, and identity within institutional constraints.

A narrative coding approach (Clandinin & Connelly, 2004) was then systematically applied to trace how experiences were shaped by temporal moments (e.g., arrival, classroom engagement, reflection), relational dynamics (e.g., mentor-mentee, university-school partnerships), and broader contextual influences (e.g., metro-normative assumptions, cultural immersion). Through iterative readings, collaborative interpretation, and narrative synthesis, three overarching themes were developed:

1. From Metro-normative to Place-conscious Figured Worlds
2. The 'Window Shopping' Experience
3. Intention versus Impact: Reproducing Hierarchical Figured Worlds

Findings

The following section presents the three narratives constructed from the data sets that we collected, offering insights into how participants made sense of their lived experiences. Developed through a narrative inquiry approach (Connelly & Clandinin, 1990), these stories reflect the complexities and perspectives of the participants.

Teacher Educator Narrative

Kel, a teacher educator, explained that the placement program in Kipleton was built on principles of co-design and collaboration with local schools. "*From the outset, we envisioned a partnership where the university and local schools could work together to shape a meaningful placement experience*." Informal gatherings, such as dinners and breakfasts with school principals, were organised to incorporate the schools' input into the program's design. Sally, a member of the program design team quickly learned that "*Country people work with people, and not with emails*." A pre-placement networking approach was seen as important to the teams' efforts to build relationships and create a collaborative co-design placement model. Pam, another contributing academic, emphasised that the program not only aimed to build strong connections with the four local schools but also sought to establish meaningful relationships with Indigenous leaders, recognising these partnerships as essential to the program's success.

Collaboration was strengthened through both informal meetings and a dedicated mentor workshop. These events brought together university staff, school leaders, mentor teachers, and preservice teachers. A 'working with' approach was emphasized throughout the process, replacing the traditional 'doing to' model often experienced with placement design.

Pre-placement workshops played a key role in preparing mentor teachers and preservice teachers. Sessions for preservice teachers were held at the university and were offered as an open forum for sharing and planning. The preservice teachers' sessions were designed to build relationships among preservice teachers, familiarise them with the Kipleton area and placement expectations, and address their questions or concerns.

To build relationships with key teacher educators and create a supportive mentoring environment a workshop for mentors from all four schools was hosted at Kipleton Primary School. This workshop allowed for educator introductions, to provide an overview of the Bachelor of Education program, clarifying preservice teachers' previous placement experiences and introducing evidence-based mentoring strategies to support professional conversations. Additionally, to start a mentor-mentee connection, pre-recorded introductory videos created by the preservice teachers were shared during the workshop. These videos provided mentors with insights into the preservice teachers' backgrounds and their expectations for this placement experience.

The program design also prioritised building meaningful connections between preservice teachers and the local Indigenous community, which was addressed through an 'On Country' cultural awareness workshop. Pam explained the workshop offered valuable opportunities for preservice teachers to engage with diverse perspectives and reflect on cultural and historical contexts relevant to their future teaching roles.

Mentor Teachers and Principal Narratives

Toni, Adrian, and Michelle, mentor teachers in the Kipleton program, valued the flexibility of the program design which allowed them to tailor the placement to meet the individual needs of their preservice teachers. They employed a variety of mentoring strategies including regular check-ins, feedback sessions, and opportunities for the preservice teachers to observe experienced teachers. Alex, Sam, and Jamie, also mentor teachers in the program, emphasised their focus of creating opportunities for preservice teachers to build strong relationships with their students, as student well-being was a central tenant in each of their schools. Principal Kim, observed how the preservice teachers' built student connections and immersed "*themselves in the country [school] experience*". Examples of this included one preservice teacher creating a booklet about life in Kipleton, while another organised a lunch time card swap meet for students, using cards donated by family members.

Mentors identified a notable discrepancy between the preservice teachers' expectations and the realities of this placement. They questioned whether the program's 'rural' branding and initial framing by the initial teacher education provider had set preservice teachers' up for a specific type of 'non-metropolitan' experience. While the university colloquially classified Kipleton as a 'rural' placement, mentors perceived it as more urbanised and they found themselves managing the expectations of preservice teachers. Adrian suggested the preservice teachers had anticipated a "*small hick town out in the sticks*", with "*limited amenities*". Toni humorously explained that Kipleton has choices of shops and restaurants. This mismatch prompted mentors to suggest even better preparation for their context. This finding reveals an even more nuanced understanding of non-metropolitan places and while the town is regional and many of the preservice teachers travelled three hours from the city to attend the placement, the teachers perceived their place to be just like a city.

Although the program encouraged preservice teachers to engage in local activities and events, mentors believed this aspect was not fully realised within the limited timeframe of the placement. As one mentor noted "*you might get an initial feel, but digging deeper takes longer.*" The short three-week duration of the placement was identified as a challenge, particularly in terms of lesson planning and adapting to the local environment. To provide a more realistic experience mentors recommended that future placements be longer or be structured as a series

of shorter placements spread across multiple years, emphasising that wider community connections take time to develop and cannot be artificially created. They suggested that rather than organising community events, the program should focus on encouraging preservice teachers to take the initiative in engaging and shaping their own experiences in Kipleton. For mentors their priority was integrating preservice teachers into classroom teaching and their broader school communities. They questioned the value of preservice teachers taking a day out of their busy classroom schedules to visit surrounding smaller schools, given the short timeframe and the need to focus on their placement responsibilities. This opportunity was however highly valued by preservice teachers and gave them a richer understanding of the range of school settings and communities in non-metropolitan areas.

Mentors enjoyed the overall mentoring training as part of the program. Alex and Jamie found the training beneficial, particularly the alternative mentoring observation mapping technique. In contrast, Michelle and Adrian felt the technique was impractical and unnecessary. One suggested mentor recommendation was for a designated university liaison person to provide localised, timely support during placements. They noted that the purpose of the school visits by the teacher educators was not as clear to them and a more defined role for the liaison would better support the placement. Again, these differences in priorities and needs highlight some of the challenges of diverse stakeholder engagement.

Practical barriers to attracting teachers to Kipleton were also highlighted during the discussions. Toni noted the scarcity and high cost of rentals as a significant issue, while Adrian suggested a need for the government to invest in more accessible teacher accommodation options, similar to those used by the health sector in Kipleton. He acknowledged that while financial incentives can help attract teachers to Kipleton, they are not a panacea. "*You can throw as many millions as you want, unless you're actually preparing these graduates for what they are coming into, we're going to just keep losing them.*" Despite these concerns, the mentors believed that strong guidance from experienced mentors, combined with efforts to promote a sense of belonging with the broader community, would play a critical role in retaining teachers.

Preservice Teachers' Narratives

Preservice teachers positively reflected on their experiences of forming meaningful connections within their school communities and with each other during their placements in Kipleton. Jane, Joel, Noel, and Tarnia attributed this ease to living and socialising together, smaller school sizes, close-knit staff, and the general welcoming atmosphere of the town. Jane described the close-knit nature of the regional city, noting, "*They love just getting to know people, they love having a chat*." The preservice teachers consistently highlighted the warmth and inclusive feel of the school environments. Joel observed that by the end of the placement, all staff, including the principal, "*knew me by name*," a contrast to his previous metropolitan placements. Informal teacher gatherings, such as shared meals and Friday night drinks at the pub, further strengthened these relationships and gave preservice teachers insight into the teaching community. Jane described the "*community vibe*" at her host primary school as "*different to a normal school*," noticing that the children were more appreciative of their learning and teachers.

The preservice teachers also actively participated in school life beyond their assigned classrooms. Jane's mentor entrusted her with managing the class during athletics day, and Noel supported a specific group throughout the placement, building his confidence to work with diverse learners. Programs like tree planting, farming skills, and breakfast club reflected the community's diversity and extended their experiences. Additionally, mentors offered guidance beyond the placement; Tarnia's mentor provided advice about university and career plans and Jane's mentor continued supporting her academic assignments. Both mentors "*kept in touch*" encouraging them to consider returning for future placements or employment. While the placements built strong connections within the school communities, engagement with the broader community was less

consistent. Jane and Tarnia discovered an all-abilities bowling night and volunteered weekly. Noel attended a local football match to experience local culture, and the group travelled to neighbouring areas. Joel described these community activities as "*kind of window shopping in a way*." Tarnia suggested that future placements could benefit from a community liaison to assist with finding volunteer opportunities and navigating broader community engagement. Although teacher educators had gathered information about the preservice teachers' hobbies and interests prior to the placement to connect them with relevant community groups, this initiative was not realised, leaving some preservice teachers' expressing regret.

The accommodation, which consisted of cabins near the schools, facilitated daily interactions and camaraderie among the preservice teachers. Jane described a "*family atmosphere*," resulting from nightly board games and debriefing sessions after school. Noel saw these moments as opportunities to exchange teaching ideas, often asking, "*I'm teaching this tomorrow, do you have any suggestions?*" For Joel, who experienced anxiety and self-doubt in the unfamiliar environment, these new friendships were important. He leaned on these friendships, his hobbies and phone conversations with loved ones to cope. However, the provided accommodation also presented some challenges due to disparities in cabin sizes, varying internet quality, and tension caused by one preservice teacher not participating in group activities.

The on-country cultural awareness workshop was a pivotal experience in shaping their perspectives. Tarnia valued the first-hand interaction with Indigenous leaders, as they deepened her understanding of Indigenous history and perspectives. Joel found the experience eye-opening, prompting reflection on his heritage: "*A lot of the stuff they talked about I hadn't known… it did change my perspective and how I will teach in the future.*" Jane was "*blown away*," while Tarnia reflected that "*there is so much more learning to do*." However, while the workshop enhanced their understanding of Indigenous cultural perspectives, there is further work to be done to explicitly connect this learning to their teaching or school experiences. Connecting the Schools and the preservice teachers to complete the experience together is a suggestion to remedy this issue for the future.

In 2024, four of the original ten preservice teachers returned to Kipleton for their fourth-year placement. They reported that the additional six-week placement was still too brief to form deeper connections outside of the school community. At the writing of this paper, all students are not sure of their career destinations.

Discussion

The concept of figured worlds (Holland et al., 1998), provides a critical lens for examining how the Kipleton placement worked to address metro-centric approaches and some of the challenges inherent in doing so. In the case of this regionally situated program, the placement itself is a figured world where teacher educators, mentors, and preservice teachers navigate their identities and interact within existing social and institutional structures. While geographically regional the identity of what makes a place non-metropolitan is subjective to multiple parties. This discussion explores how each group perceives their own and each other's identities, as well as how cultural and social structures shape their experiences. These dynamics occur within an institutional context where non-metropolitan teacher education is positioned within a broader policy framework that often prioritises by de-fault urban-centric models of teacher preparation (Ledger et al., 2021; Murphy et al., 2024). This placement sought to challenge these models and yet some stakeholders wished for the same approaches even though the context was so very different.

The Metro-normative Figured World in Action

Metro-centric approaches (Ledger et al., 2021) shaped all stakeholder experiences within the Kipleton placement, with unique experiences, cultural workshops and immersion activities

considered essential to the program design. However, this approach reinforces what Downes and Roberts (2018) identified as the core problem; treating metropolitan placements as the norm while positioning non-metropolitan placements as deviations requiring special accommodations. Research highlights that rural schools are central to their communities and require reflexive approaches. Rather than treating rural placements as exceptions, we question if community-centred activities typical of non-metropolitan programs should become the standard for all teacher preparation placements.

The figured world that teacher educators inhabit is shaped by policy frameworks that emphasise preparing teachers for rural contexts' rather than recognising that effective teaching is always contextualised (Guenther & Fuqua, 2024). The intentional co-design included cultural responsiveness and teaching preparation for the 'rural' experience. While this program design was supportive of the preservice teachers, it was challenging to showcase all the unique affordances of Kipleton and as such there is always the risk of perpetuating a 'metro normative bias' (Downes & Roberts, 2018).

Mentors constructed a fundamentally different figured world, one centred on relational, place-conscious pedagogy (Willis & Louth, 2024), where identity formation was directly tied to school and student engagement. The mentors aligned with the notion of these preservice teachers being 'classroom ready' and 'community ready.' This dual preparation cannot be delivered through imposed activities (White & Kline, 2012), and the mentors' resistance to externally-designed immersion activities (beyond the school) was indicative of their understanding of the difference between what Macdonald et al. (2025) describe as superficial 'tourist' engagement and meaningful community connections .This divergence, between teacher educators and mentors, reflected a key tension between formalised expectations of cultural learning and the organic, experience-driven knowledge.

The "Window Shopping" Experience

The "*window shopping*" experience, as described by one of the preservice teachers Joel, involved observation and limited cultural engagement that resembled a tourist experience. This approach exemplifies what Macdonald et al. (2025) warns against; tourist like encounters that fail to create meaningful community connections. Such surface-level experiences make it particularly difficult to challenge preservice teachers' existing biases and beliefs. The study suggests that shifting beliefs and values is difficult if programs continue romanticised notions portraying non-metropolitan communities as inherently disadvantaged (Guenther & Fuqua, 2024).

However, there were transformative moments that challenged the preservice teachers' initial assumptions about Kipleton. These experiences included the uniquely inclusive nature of the Kipleton school environment, where staff knew the preservice teachers by name, welcomed them to the community, and invited them to staff social activities. These experiences were described as a stark contrast to their metropolitan school placements. Such moments of identity transformation illustrate the potential of these authentic engagements within genuinely welcoming school environments to shape preservice teachers' perspectives and professional identities.

Intention Versus Impact: Reproducing Hierarchical Figured Worlds

This research suggests that partnership approaches can inadvertently reproduce hierarchical figured worlds, despite collaborative intentions. While Kipleton mentors had professional identities deeply connected to their community, the placement structure still imposed external expectations that sometimes conflicted with their locally responsive approach. For example, preservice teachers participated in an on-country cultural awareness workshop to learn about Indigenous perspectives, yet mentors observed that these learnings were not clearly connected to their teaching practice. This disconnect highlights the on-going need for co-designed,

relational learning experiences where Indigenous educators and Indigenous Elders are active partners in teacher preparation. An approach aligned with Smith and Smith's (2019) advocacy for meaningful integration of cultural knowledge into professional identities rather than add-on experiences.

While funding and policy discussions emphasise investment in non-metropolitan teacher education, the real challenge lies in aligning these efforts with the lived experiences of educators and their communities. Mentors in this research identified systemic barriers to recruiting and retaining teachers to Kipleton, including inadequate accommodation, limited mentoring programs, and insufficient preparation for teaching in these settings. Federal policy, as reflected in the previously mentioned Halsey Review and the government's response, tends to frame initial teacher education as the primary issue behind teacher attrition in non-metropolitan areas. However, this narrow focus overlooks more significant contributing factors such as housing and preparation. James et al. (2025) argues that Initial Teacher Education providers are often unfairly held accountable for solving complex systemic problems without adequate support or recognition of the structural barriers they face.

The literature reveals a persistent pattern. Despite government reports emphasising the importance of deep, practice-based partnerships between universities and schools (Paul et al., 2023; Teacher Education Ministerial Advisory Group, 2014) short-term funding cycles to initial teacher education providers and rigid institutional structures continue to position schools largely as recipients rather than active co-designers (Martin & Mulvihill, 2020). The Kipleton experience illustrates this tension—even with numerous supportive approaches, the placement remained vulnerable to being perceived as a temporary, alternate, optional placement for preservice teachers rather than an equal partner in teacher development. This is a finding that requires larger systemic change in the ways in which we prepare preservice teachers for all educational contexts.

From Metro-normative to Place-conscious Figured Worlds

These findings suggest that the path forward requires the creation of new figured worlds that move from compliance-based models towards relational, place-based collaborations (Murphy et al, 2024) which honour local educational priorities and needs. Such an approach positions schools as co-leaders rather than implementers, recognising their expertise in shaping teacher preparation in ways that align with the realities of non-metropolitan-based teaching.

Transformation requires what Green et al. (2019) as well as O'Grady (2017) identify as community-led partnerships, where local knowledge and expertise are recognised as central rather than peripheral to initial teacher education. This means restructuring funding models, decision making processes, and program design to privilege place-based expertise over institutional convenience.

Limitations

The limitations of this research include its contextual specificity, as focusing on a single regionally-situated placement in one community limits the generalisability of the findings to other non-metropolitan areas. The short three-week duration of the placement also impacts the depth of the stakeholders' perspectives, and future studies exploring stakeholder perspectives over longer placements would provide additional insight. Additionally, the study does not attempt to address the full complexity of systematic issues, such as broader policy impacts, and lacks comparison with other similar placements, limiting the ability to assess the unique challenges of non-metropolitan placements more broadly. These limitations highlight the need for further research, particularly to examine current policies and co-design of similar placement opportunities in teacher education.

Conclusion

While funding and policy emphasise investment in non-metropolitan teacher education, the Kipleton context reveals the ongoing risk of a systemic misalignment between these efforts and the lived experiences and long-term needs of this community. Although one preservice teacher described the placement as "*window shopping*," as observing from the outside, the experience transcended this superficial characterisation, providing meaningful insights into the professional connections and personal rewards of regional teaching. This exposure broadened preservice teachers' understanding of diverse opportunities, and lay foundations for future engagement in such contexts.

However, expecting placements to address teacher shortages is unrealistic. This research suggests that placements, while valuable, cannot alone resolve the deeper structural and relational factors influencing long-term workforce sustainability in rural areas.

Despite genuine collaborative efforts, policy timelines, geographical distance, and resource constraints prevented full realisation of the program's co-design aspirations. This resulted in mentor perspectives not being fully integrated into the program development. This outcome reflected not a failure of the practice but the inherent challenges of short-term policy approaches that underestimate the time and resources required for authentic co-design and partnership development.

The intention-impact gap in non-metropolitan placements represents not only a design problem but a figured world problem. Moving forward requires creating new figured worlds that position non-metropolitan teaching as a contextualised practice rather than an alternative preparation option. This necessitates a fundamental shift from metro-centric models towards approaches that centre local knowledge and community voices as essential contributors to, rather than recipients of, teacher education.

By building on the demonstrated success of such placements and integrating deeper, sustained opportunities for community engagement, the sector can begin bridging the intention-impact gap. With genuine commitment to co-design, rural placements can evolve from brief encounters into transformative experiences that authentically prepare and inspire the next generation of teachers for such communities. This transformation requires recognition that effective non-metropolitan teacher education demands genuinely place-based approaches that honour the complexity and richness of these contexts.

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Exploring the Impact of the Teacher Education Curriculum on 21st-Century Skill Development Among Pre-service Teachers at a Selected Rural University in South Africa

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Abstract

The study critically examined and interpreted the effect of the Teacher Education Curriculum on the fostering of 21st-century skills, such as collaboration, critical thinking, creativity, and communication—among pre-service teachers in an under-resourced rural South African university. Grounded in Self-Regulated Learning, technological Pedagogical Content Knowledge, and Social Justice Pedagogy, the study adopted a descriptive survey design for an evaluation into how well the Teacher Education Curriculum really developed such skills. A purposive random sampling technique selected participants of 384 pre-service teachers. Descriptive statistics and reliability analyses of quantitative data indicated that in the teaching process of the Teacher Education Curriculum, there was moderate to strong integration of collaborative and communicative skills while critical-thinking and creative-thinking skills were somewhat unequally integrated within different modules. However, the results pointed out certain systemic bottlenecks, such as inadequate digital infrastructure, scarce professional development, and inequality in information and communication the technology resource access, all hindering wide realisation of 21st-century skills. Thus, the study recommends curriculum reform, participatory learning, inquiry-based pedagogies, and digital literacy training. Furthermore, institutional investment must upgrade the faculty through training, and make institutional resources fairly distributed to potentially address socioeconomic imbalance. Linking empirical evidence with theoretical frameworks and research questions, therefore, the study contributes insights in the national and global domain of teacher education reform. The study recommends longitudinal and comparative studies to evaluate the Teacher Education Curriculum's potential as a transformative tool working in contexts of under-resourced education.

Keywords: *teacher education curriculum, 21st-century skills, pre-service teachers, higher education, digital transformation*

Introduction

The present-day global world is moving at breakneck speed, and the development of 21st-century skills has thus become a major point of focus in educational reforms. This is driven by international frameworks like the UNESCO Education 2030 Agenda (Ahmed, 2025), OECD's Learning Framework 2030, which equips learners with skills to address issues from ethical and sustainable perspectives, fostering a holistic approach to literacy (Martin, 2018; Mima, 2025), and the World Economic Forum's Future of Jobs Report (Gagnidze, 2025; Mima, 2025). The frameworks stress the need for skills that stretch beyond the traditional academic knowledge: critical thinking, creativity, collaboration, communication, and problem-solving—as some of the

skills that youths need to foster to survive in this complicated, the Teacher Education Curriculum h-intensive society. There is universal consensus on these skills; nevertheless, their realisation is context dependent. There is a pressing need in South Africa to integrate 21st-century skills into teacher education in rural institutions that face serious challenges due to resources constraints and the digital divide. This study, focuses on four of the core 21st-century skills: critical thinking, creativity, collaboration, and communication, as provided in the Partnership for 21st Century Learning (P21) framework (Gerona & Yurango, 2025). The study assesses how the Teacher Education Curriculum at a rural university enhances these four skills. It contributes to finetuning how these global educational concerns are localised within the South African rural higher education context.

The selected rural university provides a critical service in pre-service teacher training for the 21st-century needs of education. This university exists in a milieu where digital infrastructure is undeveloped in most cases and access to cutting-edge educational the technologies is barely known. Notwithstanding these impediments, the Faculty of Education at the university must train the future teachers to possess key skills such as collaboration, creativity, communication, and critical thinking. The very rural context makes it apt for the Teacher Education Curriculum to balance between the global and local, so that pre-service teachers are not only digitally literate but able to confront socio-economic and pedagogical challenges peculiar to rural schooling situations.

Studies indicate that limited digital literacy training and excessive academic workloads hinder pre-service teachers' ability to fully engage with 21st-century skills development (Govender, 2018; Chu et al., 2023). Additionally, research has shown that professional development for teacher educators remains a critical factor in ensuring curriculum relevance and efficacy (Ajani, 2020; Govender & Ajani, 2021). Internationally, scholars have advocated for innovative curriculum models prioritising experiential and inquiry-based learning (Alahmad et al., 2021; Darling-Hammond et al., 2019). These models align with global trends in teacher education, reinforcing the need for constructivist approaches that empower pre-service teachers to be active participants in their learning journey (Altan & Lane, 2018). However, curriculum decolonisation and social justice frameworks remain underexplored in South Africa despite their significance in creating equitable learning environments (Blignaut, 2014).

The Fourth Industrial Revolution has transformed different sectors of the economy. According to Alarfaj and Alrashidi (2025), the Fourth Industrial Revolution acts as a primary transformer for swift alteration of all facets of modern-day life created by the removal of geographical and temporal barriers. The educational sector is no exception. Various teaching and learning the technologies have been integrated into classroom practices. Thus, this revolution has further exacerbated the need for a restructured Teacher Education Curriculum, with digital transformation playing a pivotal role in preparing pre-service teachers for future teaching demands (Dlamini et al., 2021; Goh & Abdul-Wahab, 2020). Artificial intelligence (AI), big data analytics, and innovative learning environments have been highlighted as key areas requiring urgent attention (Osiesi & Blignaut, In Press). The selected university must align its curriculum with emerging global education trends to ensure pre-service teachers receive contextually relevant, skills-based training (Fletcher, 2021; Teo et al., 2021). Institutional support and policy alignment are critical factors in successful twenty-first century skills implementation. The Higher Education Act 101 of 1997 and the White Paper on Higher Education (1999) provide a foundational framework for guiding teacher education in South Africa (Department of Education, 1997; 1999). However, research indicates that policy alone is insufficient without robust implementation strategies and continuous monitoring of teacher development programs (Govender et al., 2023).

Given these insights, this study seeks to examine the impact of the Teacher Education Curriculum on 21st-century skill development among pre-service teachers at the selected university. By employing a descriptive survey research design, this study evaluates pre-service teachers'

perspectives on the effectiveness of the Teacher Education Curriculum in equipping them with critical skills. Furthermore, it identifies key barriers and opportunities for improving teacher education in rural universities. Through the lens of self-regulated learning, technological pedagogical content knowledge, and social justice pedagogy, this study aims to provide empirical evidence on how a South African university can enhance teacher education curricula to ensure greater alignment with 21st-century learning needs. The study findings contribute to national and international discussions on improving pre-service teacher education and strengthening higher education policies for sustainable educational transformation (Lumadi, 2021; Valtonen et al., 2021). This study is guided by the following research questions:

1. To what extent does the Teacher Education Curriculum at a rural South African university foster the development of collaborative skills among pre-service teachers?
2. How effectively does the Teacher Education Curriculum support the enhancement of critical thinking and analytical reasoning skills in pre-service teachers?
3. What are the perceived challenges and opportunities in developing creative and adaptive thinking skills through the current Teacher Education Curriculum?
4. How does the integration of digital tools and communication strategies within the Teacher Education Curriculum influence the development of 21st-century communication skills among pre-service teachers?

The Importance of 21st-Century Skills in Teacher Education

For this study, the Teacher Education Curriculum's ability to support pre-service teachers in developing and demonstrating collaboration, critical thinking, creativity, and communication skills as they are required in the 21st century, is assumed. 'Effectiveness' was operationalised in the survey instrument using a 4-point Likert rating scale where participants indicated the extent to which they agreed that the Teacher Education Curriculum supported their development in these skills (see Appendix). The scale varied from 'No Extent' (1) to 'Very Large Extent' (4). The quantitative analysis, supported by descriptive statistics and triangulated through theoretical constructs such as Self-Regulated Learning and technological pedagogical content knowledge, allowed a robust analysis of the curriculum's impact on skill acquisition in a rural university environment (Pintrich, 2000; Mishra & Koehler, 2006). Despite the recognised importance of 21st century skills, teacher education programs in rural South African universities struggle to embed them effectively. Issues such as limited digital infrastructure, inadequate professional development for lecturers, and curriculum rigidity hinder the seamless integration of 21st century skills into teacher training (Govender, 2018; Chu et al., 2023). Studies suggest that curriculum reforms should prioritise experiential learning, inquiry-based pedagogies, and interdisciplinary approaches to enhance pre-service teachers' critical thinking and innovation skills (Govender et al., 2023). Moreover, technology-enhanced learning and blended learning models have been proposed as effective methods for bridging existing gaps in twenty-first-century skills development for pre-service teachers (Blignaut, 2021; Teo et al., 2021).

Addressing these challenges requires a multi-faceted approach involving policy reforms, institutional investments, and faculty upskilling initiatives. Aligning teacher education curricula with global best practices and digital transformation trends is imperative for ensuring that pre-service teachers are well-prepared for modern classrooms (Lumadi, 2021; Valtonen et al., 2021). Additionally, fostering collaborative partnerships between universities, educational policymakers, and industry stakeholders can support the sustainable implementation of twenty-first century skills in teacher education (Govender et al., 2023). By embedding innovation-driven pedagogical frameworks, South African teacher education programs can equip pre-service teachers with the necessary skills to effectively navigate and contribute to the evolving educational landscape.

Challenges in Developing 21st-Century Skills in Rural Universities

Rural universities in South Africa face significant challenges in integrating 21st-century skills into teacher education. Many rural institutions struggle with inadequate internet connectivity, access to digital learning resources, and outdated teaching methodologies, which limit pre-service teachers' exposure to modern teacher education curricula in technology-enhanced pedagogies (Blignaut, 2021). Furthermore, the digital divide between urban and rural universities exacerbates disparities in access to information and communication teacher education curricula in information and communication technology (ICT) tools, affecting the quality of teacher training programs (Chuene & Teane, 2024).

Beyond infrastructure limitations, rural universities also experience faculty-related constraints that impact integrating twenty-first century skills. Many educators lack specialised training in digital pedagogies and twenty-first-century skills-focused teaching strategies, making it difficult to implement innovative learning models effectively (Govender et al., 2023). In addition, excessive academic workloads and a lack of continuous professional development opportunities hinder lecturers' ability to stay updated with evolving global trends in teacher education (Ajani, 2020). Policy-driven professional development initiatives and increased investment in teacher training programs could enhance the capacity of educators to effectively foster twenty-first-century skills among pre-service teachers (Govender et al., 2023; Alahmad et al., 2021).

Addressing these challenges requires systemic reforms and strategic investments in rural higher education. Curriculum innovations should incorporate experiential learning, interdisciplinary collaboration, and Teacher Education Curriculum in technology-driven pedagogical approaches to ensure pre-service teachers develop relevant skills for modern classrooms (Darling-Hammond et al., 2019; Valtonen et al., 2021). Moreover, expanding digital literacy training, upgrading ICT infrastructure, and fostering university-industry partnerships could provide sustainable solutions for integrating twenty-first-century skills in rural universities (Teo et al., 2021; Goh & Abdul-Wahab, 2020). Without targeted interventions, rural universities risk perpetuating educational inequalities, limiting the ability of pre-service teachers to engage with contemporary teaching demands effectively.

Theoretical Framework

This study is underpinned by Self-Regulated Learning, Technological Pedagogical Content Knowledge theories and Social Justice Pedagogy, to comprehensively understand how pre-service teachers develop and acquire 21st-century skills within teacher education. Together, these theoretical lenses help explain how pre-service teachers navigate their learning environments, integrate digital technologies into teaching, and overcome barriers to equitable access to education (Pintrich, 2000; Mishra & Koehler, 2006; Ajani, 2024). Furthermore, Self-Regulated Learning and the Theory of Planned Behaviour provide theoretical insights into how pre-service teachers engage with the Teacher Education Curriculum (Ajzen, 2002; Pintrich, 2000).

Self-Regulated Learning Theory

As Pintrich (2000) proposed, Self-Regulated Learning Theory explores how learners develop independence in acquiring and applying 21st-century skills. It suggests that successful learners actively set goals, monitor progress, reflect on their learning experiences, and deliberately enhance their skills. Within the selected university's teacher education program, Self-Regulated Learning is crucial in helping pre-service teachers take ownership of their pedagogy curriculum regarding technological skill development (Govender et al., 2023). The ability to self-regulate learning is critical in rural university contexts, where limited access to digital resources and professional development opportunities can impede traditional instructional methods (Chuene & Teane, 2024).

Through a Self-Regulated Learning Theory lens, pre-service teachers are encouraged to engage with problem-based and inquiry-driven learning approaches, fostering adaptability and resilience in dynamic teaching environments (Darling-Hammond et al., 2019). However, studies indicate that excessive academic workloads, inadequate mentorship, and lack of digital literacy training may hinder pre-service teachers' ability to engage effectively in self-regulated learning (Ajani, 2020; Blignaut, 2021). Thus, it is imperative to integrate structured support mechanisms, including online learning tools, mentorship initiatives, and self-paced digital literacy programs, to facilitate Self-Regulated Learning adoption in rural universities (Teo et al., 2021).

Technological Pedagogical Content Knowledge

Mishra and Koehler (2006) provide a framework for understanding how teacher education curricula and Technological Pedagogical Content Knowledge intersect in teacher education. It highlights the need for educators to integrate technological tools effectively within their subject-specific teaching methods, to ensure that learning remains engaging, interactive, and relevant (Govender et al, 2023). The term *effectively* denotes the degree to which the Teacher Education Curriculum enables pre-service teachers to acquire and demonstrate core 21st century skills: collaboration, critical thinking, creativity, and communication.

Despite its benefits, the successful application of Technological Pedagogical Content Knowledge in rural universities is often constrained by inadequate access to ICT resources, lack of technical support, and limited professional development for lecturers (Govender, 2018).

Social Justice Pedagogy

Social justice pedagogy focuses on ensuring equal access to ICT and educational opportunities, advocating for fair distribution of resources, curriculum inclusivity, and active resistance to systemic inequalities (Ajani, 2024). In teacher education, this perspective is particularly relevant in addressing the digital divide affecting rural universities (Blignaut, 2021; Lumadi, 2021). Pre-service teachers at the selected university often encounter barriers to ICT integration, including insufficient infrastructure, financial constraints, and socio-economic disparities, which impede their ability to acquire 21st-century skills (Ajani, 2024).

By applying social justice pedagogy, educational institutions can promote equitable access to ICT tools and training, fostering inclusive learning environments that empower pre-service teachers to integrate the Teacher Education Curriculum effectively in diverse classroom settings (Ananiadou & Claro, 2009; Alahmad et al., 2021).

Integrating the Theoretical Frameworks in Teacher Education

By combining insights from Self-Regulated Learning, Technological Pedagogical Content Knowledge, and social justice pedagogy, this study provides a holistic framework for understanding how pre-service teachers develop 21st-century skills within the selected university's Faculty of Education. Self-Regulated Learning equips learners with self-directed learning strategies, Technological Pedagogical Content Knowledge enhances their application of the Teacher Education Curriculum with technological instructional usage, and social justice pedagogy ensures that access to ICT remains an institutional priority (Govender et al., 2023; Ajzen, 2002).

Methodology

Research Design

This study employed a descriptive survey research method. As noted by Rahman (2023), the primary goal of survey research is to collect data from a large diverse group of respondents, in a study. Creswell and Inoue (2025) suggest that survey methodologies allow for a larger sample size, ensuring comprehensive data collection.

Population and Sampling

The study population consisted of pre-service teachers in the Faculty of Education at a South African rural university. A combination of purposive and simple random sampling the techniques was used to determine the sample. The purposive sampling method was employed to select the Faculty of Education, the designated faculty responsible for teacher education. Random sampling was used to select pre-service teachers who were in their second, third, fourth years of Bachelor of Education program at the university, or Postgraduate Certificate in Education who responded to the research questionnaire via Google Forms. The final sample consisted of 384 respondents, ensuring robust data representation.

Instruments

A quantitative research instrument, to measure the impact of the Teacher Education Curriculum on the development of 21st-century skills among pre-service teachers was developed based on insights from teacher experiences and existing literature (Fletcher Jr, 2021; Kundu & Bej, 2022). The Google form questionnaire (see Appendix) comprised two sections:

- **Section A:** Captured demographic information (e.g., gender, academic department, year).
- **Section B:** Measured impact of Teacher Education Curriculum on 21st-century skill development among pre-service teachers using a 4-point Likert scale (Highly demonstrated (4) to Not demonstrated (1)). This section had four sub-sections:
  - Collaborative Skills
  - Critical Thinking Skills
  - Creativity
  - Communication

Each of the four sub-sections contained in Section B of the questionnaire was forged ahead with and aligned to the research questions to enhance conceptual coherence and analytical relevance. Questions concerning the Collaborative Skills sub-section were asked to address Research Question 1: To what extent does the Teacher Education Curriculum foster the development of collaborative skills among Pre-Service teachers? Similarly, the Critical Thinking Skills sub-section addressed Research Question 2, which investigates how the Teacher Education Curriculum supports the enhancement of analytical reasoning and reflective thinking. The Creativity sub-section was linked to Research Question 3, focusing on perceived challenges and opportunities in developing creative and adaptive thinking skills. Finally, the Communication sub-section was linked to Research Question 4, about the influence of digital tools and communication strategies within the Teacher Education Curriculum on the development of 21st-century communication skills. In this fashion, alignment was ensured worthy of recalling and meaningfully interpreting the data vis-a-vis the core aims of the study.

To ensure validity, the instrument was reviewed by two statisticians who were experts in questionnaire designs. A pilot study was conducted with 21 respondents from another university, of the same status with the selected university. These respondents and the university have the same features as the selected university for this study. The questionnaire was further validated using the Ordinal Alpha reliability, yielding $\alpha = 0.91$, indicating strong internal consistency.

Data Collection Process

The researchers obtained ethical clearance from the University's Research and Ethics Committee (Ethics Approval Reference: UZ-REC0691-008 Dept2024/11). Respondents were informed about the voluntary nature of participation, and their informed consent was secured before data collection commenced.

With the assistance of a faculty administrator, the questionnaire was disseminated to students. The survey remained open for two months (October–November 2024), which happened to be

the end of the semester, when students were doing examinations. A total of 384 students completed and submitted their responses.

Data Analysis

The collected data were analysed using the Hayes macro process in SPSS version 26.0, given its suitability for handling continuous, ordinal, and categorical data (Hayes, 2012, 2022). Data analysis involved the use of descriptive analysis (Oranga, 2025).

Results

This study utilised a 4-point Likert scale rating from 'Not Demonstrated' (1) to 'Highly Demonstrated' (4) to establish the presence of 21st-century skills in pre-service teachers applying the Teacher Education Curriculum. Effectiveness was operationalised as the extent to which participants perceived the key skills of collaboration, critical thinking, creativity, and communication to be demonstrated through the Teacher Education Curriculum. Findings signify the threshold at which skill development is perceived as moderate or high.

Demographic Characteristics of Respondents

Of the 384 respondents of the Faculty of Education at the selected university, 160 (41.7%) were male, while 224 (58.3%) were female. Regarding the academic departments of the respondents, 13 (3.4%) were enrolled in postgraduate studies, 169 (44.0%) were in primary school education, and 202 (52.6%) were in secondary school education, indicating that most respondents were from the Department of Secondary School Education.

Integration of the Teacher Education Curriculum in the Development of 21st-Century Skills within Pre-Service Teacher Education

Collaborative skills. Collaboration is a fundamental aspect of 21st-century skills, providing pre-service teachers (pre-service teachers) with the skills to engage effectively in team-based problem-solving, foster inclusivity in learning environments, and cultivate cooperative professional relationships (Govender & Ajani, 2021). Table 1 gathers participants' responses on how the Teacher Education Curriculum promotes collaborative skills among pre-service teachers. The results show that the Teacher Education Curriculum is demonstrated in group work, project presentations and group assignments.

Table 1: ***Extent of Pre-service Teachers' Proficiency in Collaborative Skills***

Collaborative Skills in a 21st-Century Learning Context	Not Demonstrated (1)	Minimally Demonstrated (2)	Moderately Demonstrated (3)	Highly Demonstrated (4)
Exhibit professionalism and mutual respect within collaborative groups	8 (2.1%)	4 (1.0%)	190 (49.5%)	182 (47.4%)
Recognise and integrate diverse perspectives in team discussions	11 (2.9%)	4 (1.0%)	168 (43.8%)	201 (52.3%)
Ensure equitable participation and validation of all group members' contributions	8 (2.1%)	7 (1.8%)	137 (35.7%)	232 (60.4%)
Provide constructive support and assistance to peers in collaborative tasks	8 (2.1%)	30 (7.8%)	170 (44.2%)	176 (45.9%)
Enhance personal contributions based on evaluative feedback from peers	8 (2.1%)	9 (2.3%)	166 (43.2%)	201 (52.3%)
Engage in collective task execution, including shared presentations	8 (2.1%)	38 (9.9%)	184 (48.2%)	154 (39.8%)
Adhere to established group norms and collaborative engagement protocols	8 (2.1%)	15 (3.9%)	140 (36.6%)	221 (57.4%)

Critical Thinking Skills. Being fundamental in teacher education, critical thinking equips pre-service teachers in analysing information, building evidence-based arguments, and making reflective pedagogical decisions. Table 2 illustrates how participants see the Teacher Education Curriculum as a means of contributing to critical thinking. The descriptive analysis of all items in the table suggests that the Teacher Education Curriculum encourages analytical reasoning and structured problem solving. Fourth-year students felt more proficient in critical thinking than students at earlier years, hinting at gradual exposure to the curriculum. Analysis by gender showed that female respondents tended to report a high degree of engagement in reflective and evaluative activities, consistent with findings in self-regulated learning research. These findings affirm the Curriculum's intervention in building critical thinking while bringing attention to the significance of differentiated support across different demographic factors.

The results showed that the Teacher Education Curriculum in the rural university appears to be fostering the development of critical thinking and analytical reasoning to some extent or greatly. Over the five items, most of the respondents selected the options either 'Moderately Demonstrated' or 'Highly Demonstrated', and the percentages for these categories were consistent. For example, 54.3% of the respondents considered the Teacher Education Curriculum to be moderately demonstrated in developing innovative strategies for problem resolutions, while 35.8% considered it as highly demonstrated. Likewise, 53.2% of respondents reported that the Teacher Education Curriculum moderately demonstrated the assessment and validation of

logical reasoning, and 40.0% rated it highly demonstrated. These finding trends imply that the Teacher Education Curriculum is supportive in building structured decision-making and reflective inquiry.

Yet some variation in responses exists. The item 'Formulate follow-up inquiries to deepen conceptual exploration' received the most 'Minimally Demonstrated' responses (10.9%), suggesting that, despite the curriculum's broad support for analytical engagement, aspects of critical inquiry might need to be given additional emphasis. However, the distribution implies an overwhelming support for the Teacher Education Curriculum toward the development of cognitive skills, with the 'Not Demonstrated' ratings holding the lowest percentages for all items. The results clearly substantiate the curricular focus on 21st-century learning, with emphasis on evidence-based reasoning and reflective practice.

Table 2: Extent of Pre-service Teachers' Proficiency in Analytical Reasoning and Problem-Solving

Cognitive and Analytical Reasoning Skills	Not Demonstrated (1)	Minimally Demonstrated (2)	Moderately Demonstrated (3)	Highly Demonstrated (4)
Formulate follow-up inquiries to deepen the conceptual exploration	8 (2.1%)	42 (10.9%)	190 (49.2%)	146 (37.8%)
Develop innovative strategies for problem-resolution	8 (2.1%)	30 (7.8%)	210 (54.3%)	138 (35.8%)
Assess and validate logical reasoning supporting arguments	14 (3.6%)	12 (3.1%)	205 (53.2%)	154 (40.0%)
Interpret complex questions to facilitate analytical thinking	8 (2.1%)	13 (3.4%)	191 (49.2%)	172 (44.3%)
Extract and synthesise relevant data from multiple sources	8 (2.1%)	24 (6.2%)	186 (48.2%)	166 (43.0%)

Creative Skills. Creativity is a cornerstone of innovative teaching methodologies, empowering pre-service teachers to design dynamic instructional strategies and adaptive learning environments. Table 3 highlights the extent to which the Teacher Education Curriculum fosters creativity. These results suggest that the university's Teacher Education Curriculum successfully cultivates creative skills among pre-service teachers (Darling-Hammond et al., 2019; Ananiadou & Claro, 2009).

Data presented in Table 3: Creative and Adaptive Thinking Skills, show that the Teacher Education Curriculum at the university is perceived to moderately or largely support the development of creative and adaptive thinking amongst pre-service teachers. For all the five items, most responses are in the categories of 'Moderately Demonstrated' and 'Highly Demonstrated.' Meanwhile, responses vary between 45.5% and 57.3% at the moderate demonstration level, and from 33.8% to 42.6% at the high demonstration level. For example, 57.3% of respondents perceived that modifying communication strategies to suit situational demands was moderately demonstrated, while 42.6% felt that modifying and honing ideas through iterative development was highly demonstrated. The results show that the Teacher Education Curriculum initiates and encourages pre-service teachers for flexible, creative, and context-sensitive thinking.

The ratings of 'Not Demonstrated' stayed consistently low at 2.1% across all the items, indicating that very few respondents felt they absolutely did not encounter these skills in their training. On the other hand, 'Minimally Demonstrated' responses showed much larger variance, the highest being conceptualising and implementing innovative educational solutions at 12.7%. This shows that while the general support for creativity is there, there are inconsistencies regarding how differently such opportunities are realized and delivered in different modules or by way of various cohort experience. In view of the above, it may be said that the Teacher Education Curriculum is perceived favourably in terms of promoting creative and adaptive thinking; however, the outlier categories in minimum demonstration responses provide opportunities towards strengthening curriculum delivery to guarantee that this engagement for innovation-centred pedagogies occurs consistently.

Table 3: ***Extent of Pre-service Teachers' Proficiency in Creative and Innovative Thinking***

Creative and Adaptive Thinking Skills	Not Demonstrated (1)	Minimally Demonstrated (2)	Moderately Demonstrated (3)	Highly Demonstrated (4)
Transfer and adapt acquired knowledge to diverse learning contexts	8 (2.1%)	47 (12.5%)	190 (50.6%)	130 (34.6%)
Modify communication strategies to align with situational demands	8 (2.1%)	26 (6.9%)	215 (57.3%)	127 (33.8%)
Generate novel and innovative concepts for pedagogical advancement	8 (2.1%)	34 (8.9%)	209 (54.6%)	121 (34.4%)
Enhance and refine ideas through iterative development	8 (2.1%)	10 (2.6%)	202 (52.7%)	164 (42.6%)
Conceptualise and implement innovative educational solutions	8 (2.1%)	49 (12.7%)	176 (45.5%)	155 (39.7%)

Communication Skills. Communication skills are a necessary pre-requisite for instructional clarity, classroom management, and professional interactions. Table 4 presents pre-service teachers' views regarding the Teacher Education Curriculum's role in developing their communication skills. Again, the descriptive analysis indicates an effective promotion of speaking and writing skills through the curriculum. Female respondents and respondents in senior years reported their high skills levels in clarifying ideas and conducting professional interactions. Such trends could mean that the Teacher Education Curriculum explicitly teaches communication strategies within its modules and that the strategies are reinforced throughout the whole program. The research findings suggest a need to give attention to communication skills development, particularly in the foundational years of teacher preparation.

Further analyses of the data reveal some discrete socioeconomic categories, especially with gender and year of study. In general, more female respondents have rated higher collaborative skills levels on most items (As shown in Appendix 2), with a higher proportion of females indicating 'Highly Demonstrated' than males. This means that female pre-service teachers may be more in tune with or practicing collaborative pedagogy as promoted by the Teacher Education Curriculum. Likewise, third- and fourth-year students demonstrated better collaborative skills

than their younger counterparts, which may indicate that curriculum exposure acts incrementally. Thus, these findings urge the need to examine demographic factors in the curriculum impact and show the likelihood that both gender and progression through academic stages mediate the influence of the Teacher Education Curriculum on collaboration.

Based on the data presented in Table 4: Interpersonal and Digital Communication Skills, the findings suggest that the Teacher Education Curriculum is perceived to effectively support the development of communication skills among pre-service teachers.

Across all five items, most responses fall within the 'Moderately Demonstrated' and 'Highly Demonstrated' categories. For example, 51.1% of respondents indicated that they could articulate ideas coherently using structured, logical reasoning at a moderate level, while 41.9% reported high demonstration. Similarly, 46.8% of participants rated their ability to deliver information clearly and effectively in professional settings as moderately demonstrated, and 42.5% as highly demonstrated. These patterns suggest that the Teacher Education Curriculum consistently fosters both verbal and digital communication skills essential for effective teaching.

The 'Not Demonstrated' category remained low across all items (2.1%–3.1%), indicating that very few respondents felt these skills were absent from their training. However, the 'Minimally Demonstrated' responses were more variable, with the highest being 20.8% for 'Facilitate and manage meetings effectively.' This suggests that while communication is generally well integrated into the curriculum, certain professional communication tasks, such as meeting facilitation—may require more explicit instructional support.

The findings indicate a relatively consistent pattern of responses, with slightly more variability in areas like meeting facilitation. These findings affirm the curriculum's alignment with 21st-century communication demands, while also pointing to areas for targeted enhancement.

Table 4: ***Extent of Pre-service Teachers' Proficiency in Effective Communication***

Interpersonal and Digital Communication Skills	Not Demonstrated (1)	Minimally Demonstrated (2)	Moderately Demonstrated (3)	Highly Demonstrated (4)
Facilitate and manage meetings effectively	12 (3.1%)	80 (20.8%)	175 (45.6%)	117 (30.5%)
Organise and structure information in a logical manner	8 (2.1%)	28 (7.3%)	210 (54.8%)	136 (35.4%)
Monitor and track team objectives to ensure goal attainment	8 (2.1%)	49 (12.8%)	180 (46.8%)	147 (38.2%)
Deliver information clearly and effectively in professional settings	8 (2.1%)	33 (8.6%)	180 (46.8%)	163 (42.5%)
Articulate ideas coherently using structured, logical reasoning	8 (2.1%)	19 (4.9%)	198 (51.1%)	162 (41.9%)

Discussion of Findings

The findings in this research offer more nuanced and locally grounded understandings of how the Teacher Education Curriculum at a rural South African university aids development of 21st century skills in its pre-service teachers. The study shows that the Teacher Education Curriculum supports

collaboration, critical thinking, creativity, and communication, skills recognised worldwide in frameworks such as the OECD Learning on Framework, 2030 (Ahmed, 2025), and UNESCO Education 2030 Agenda (Mima, 2025; Martin, 2018; Ananiadou & Claro, 2009). Collaboration was reported as a highly supported skill by pre-service teachers in group work, co-presentation, and peer feedback activities. The findings resonate with Govender and Ajani (2021), who assert that collaborative learning is central to teacher education as a form of professional development. The Self-Regulated Learning framework may reinforce this outcome by suggesting that collaborative settings encourage goal setting, and present opportunities for self-monitoring and reflection (Pintrich, 2000). However, gendered inequalities emerged with female students reporting higher collaborative aptitudes, signalling that the Teacher Education Curriculum might not be equally effective across demographic groups.

Participants felt that critical thinking was moderately to highly supported, especially among senior students. This corresponds to the constructivist position that analytical reasoning develops incrementally within scaffolded learning experiences (Darling-Hammond et al., 2019). The use of digital tools supports evidence-based thinking and reflective inquiry as per Technological Pedagogical Content Knowledge notions (Mishra & Koehler, 2006). Nevertheless, the lower ratings in terms of conceptual exploration indicate a possible weakness in that the Teacher Education Curriculum may still insufficiently stress inquiry-based learning, which makes deep conceptual engagement problematic as argued by Altan and Lane (2018). Creativity showed a wider range of answers, while on average being well supported. Adaptive thinking and maximising iterative developments were moderately rated by pre-service teachers, which corroborates Alahmad et al.'s (2021) plea for innovation-based pedagogy in teacher education. Self-Regulated Learning Theory explains this further in that self-directed learners are likely to engage in creative problem solving. However, inconsistencies within curriculum delivery have been revealed by the prevalence of 'minimally demonstrated' rankings, with which one may argue that the Teacher Education Curriculum's support of creativity is not evenly distributed across modules or instructors. This view aligns with Blignaut's (2021) concern that curriculum transformation in South Africa remains fragmented and contextually constrained.

Regarding communication skills, they were rated moderately to highly demonstrated, particularly when it involved expressive shaping of ideas and professional interactions. The findings also bear out the claim made by advocates of the Technological Pedagogical Content Knowledge model emphasising digital communication tool integration within pedagogical practice (Goh & Abdul-Wahab, 2020). Organising information in a clear logical sequence and presenting it are mutually important for teachers' instruction and classroom management (Valtonen et al., 2021). Conversely, for facilitating meetings, the Teacher Education Curriculum may offer insufficient preparation for pre-service teachers to step into leadership and administrative positions, a matter brought raised by Fletcher (2021) in his study on career readiness in teacher education. The findings of this study match with international scholars advocating for experiential and inquiry-based learning forms (Darling-Hammond et al., 2019; Alahmad et al., 2021). Still, they illuminate the barriers confronted in rural South-African contexts. Inadequate digital infrastructure, high academic workloads, and lack of professional development for faculty continue to hinder full realisation of 21st-century skills (Govender, 2018; Chuene & Teane, 2024). These structural limitations have grounded the call for the localisation of Teacher Education Curriculum on global best practices-a balance yet to be found in many rural institutions.

Another essential viewpoint explained through the Social Justice Pedagogy concerns the equity implications of the Teacher Education Curriculum. The results show varied ICT access and digital literacy conditions, limiting pre-service teachers from marginalised backgrounds more so than their counterparts from privileged cases (Blignaut, 2021; Lumadi, 2021). The inclusion of pathways for social justice in the Teacher Education Curriculum will guide universities to create inclusive learning environments that empower all students with 21st-century skills. Targeted interventions

such as government-subsidised ICT programs and community-based digital literacy campaigns are recommended by Chuene and Teane (2024).

The research question is answered based on the findings: the Teacher Education Curriculum enhances collaboration through group work, critical thinking through reflection, creativity through adaptive strategies, and communication through structured reasoning and digital tools. This clearly indicates that the curriculum aligns with the P21 framework and addresses current global educational trends. The findings also demonstrate the presence of gaps needing attention, including ensuring consistency of delivery and equal access amongst worldwide cohorts of students.

The research further strengthens the corpus of literature dealing with 21st-century skills through teacher education and provides a glimpse of the Teacher Education Curriculum's strengths and weaknesses in a rural South African setting. By synthesising the theoretical frameworks with empirical research, the study maps out a more nuanced understanding of the acquisition of critical skills by pre-service teachers. The findings may suggest a need for reform in teacher education curriculum design and policymaking, thus ensuring a modern and relevant preparation system that is inclusive to all. Further research should consider tracking longitudinal impacts and making intracurricular comparisons that will lend further support to curriculum transformation programs in under-resourced settings.

Limitations of the Study

This study has the merit of advancing knowledge about the integration of 21st-century skills in a rural South African teacher education setting. However, there are some limitations. One limitation relates to the fact that the single institution was the scope of this research, which affects generalisations of the findings to other universities, especially those located in an urban or the technologically advanced environment. The idiosyncratic socio-economic and infrastructural profile in the chosen rural university situation may not represent larger national or international scenarios of teacher education. Secondly, the study drew exclusively on numerical data from self-reported questionnaires and may have introduced response biases. Participants may have offered socially acceptable responses rather than actual responses to questions pertaining to their own experiences and skills, thus compromising the trustworthiness of the findings. Furthermore, the descriptive surveys capture big trends but do not allow for the in-depth study of the nuanced experiences of pre-service teachers. The lack of qualitative data such as interviews, focus groups, or classroom observations impedes the study's potential to reveal the contextual and pedagogical factors underlying skill development. Areas such as why gender differences exist in terms of collaborating or the factors supporting or frustrating the uneven development and delivery of creative pedagogies are left unexplored. Mixed methods would have hopefully produced richer, triangulated data to describe Teacher Education Curriculum impacts on learning outcomes and pedagogical practices. Lastly, inequalities in access to digital resources among respondents may have demarcated their position on the efficacy of the Teacher Education Curriculum, also bearing on aspects of the technology-enhanced learning. Irrespective of respondents' socio-economic backgrounds, prior digital literacy, access to devices, and/or internet connectivity were unknown factors unconsidered within the study, and these are significant issues when concerning rural education. These limitations argue for the need for future investigations to take on longitudinal study designs, comparative institutional analysis, and qualitative research methodologies for greater realizations of the system-level and individual-level factors impacting the acquisition of 21st-century skills in teacher education.

Conclusion

The study's results acknowledge the need to equip pre-service teachers with contemporary 21st-century skills, such as collaboration, critical thinking, creativity, and communication, especially in rural South African contexts. The study attests to the fact that collaborative and communication skills are effectively fostered in the Teacher Education Curriculum at the selected university (RQ1 and RQ4), with reports from pre-service teachers of being engaged in group-based learning and structured communication tasks. The critical thinking and creative problem-solving skills, conversely, do not appear to be so consistently developed (RQ2 and RQ3), hence the Teacher Education Curriculum is able to provide some level of foundation, although it needs to be enhanced to be able to fully nurture analytical reasoning and innovation. These findings underscore the validity of the theoretical frameworks, namely Self-Regulated Learning, Technological Pedagogical Content Knowledge, and Social Justice Pedagogy, in explaining how pre-service teachers relate to and negotiate the curriculum. The study further highlights systemic barriers to the full realization of 21st-century skills, especially in the realms of digital accessibility and pedagogical consistency. The inconsistent use of digital tools, coupled with inadequate ICT infrastructure, further disadvantages students with an already precarious socioeconomic background. This scenario calls for curriculum change with social justice at its core. Those involved in curriculum design must, therefore, strive to incorporate more areas of experiential learning, interdisciplinary collaboration, and problem-based learning into the Teacher Education Curriculum. At the same time, university administrators and policymakers will do well to invest in the required digital infrastructure and the professional development of faculty on an ongoing basis. In addition, teacher educators need to be created in such a fashion that they can effectively model the technology-integrated pedagogical practices themselves. Pre-service teachers should also be motivated to engage in self-directed learning activities aimed at enhancing their adaptiveness and resilience-a major principle of Self-Regulated Learning. The present findings form a basis to undertake further research that investigates the longitudinal effects of the Teacher Education Curriculum on skill-building, especially within under-resourced institutions. The employment of mixed-methods designs, and comparative research conducted across rural and urban universities might further provide more clarity concerning how contextual factors impact on the development of 21st-century skills. This will indeed lead to further application of this study's results and may contribute towards evidence-based intervention to improve teacher education in South Africa. In essence, it is placing curriculum, pedagogy, and policy on the very edge of the current needs of a society where pre-service teachers should be adequately prepared to face the daunting challenges of today's classrooms.

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Appendix 1: Survey Questionnaire

Title: *Evaluating the Impact of the Teacher Education Curriculum (TEC) on 21st-Century Skills Development Among Pre-service Teachers*

Section A: Demographic Information

(Please tick or fill in the appropriate response)

1. **Gender:**

- Male
- Female
- Other (please specify): _____

2. **Age Group:**

- Under 20
- 21–25
- 26–30
- Above 30

3. **Year of Study:**

- 2nd Year
- 3rd Year
- 4th Year
- PGCE

4. **Programme/Department:**

- Primary School Education
- Secondary School Education
- Postgraduate (PGCE)

5. **Access to Digital Devices (Laptop, Smartphone, etc.):**

- Yes
- No

6. **Frequency of Internet Access:**

- Daily
- Several times a week
- Rarely
- Never

Section B: Development of 21st-Century Skills

Instructions: Indicate the extent to which you believe the Teacher Education Curriculum (TEC) supports your development in the following areas, using the scale provided.

Scale:
1 = Not Demonstrated | 2 = Minimally Demonstrated | 3 = Moderately Demonstrated | 4 = Highly Demonstrated

B1. Collaborative Skills

To what extent has the Teacher Education Curriculum enabled you to:

Item	1	2	3	4
Exhibit professionalism and mutual respect in group tasks	[ ]	[ ]	[ ]	[ ]
Integrate diverse perspectives in team discussions	[ ]	[ ]	[ ]	[ ]
Ensure all group members contribute equitably	[ ]	[ ]	[ ]	[ ]
Support peers constructively during collaboration	[ ]	[ ]	[ ]	[ ]
Respond to peer feedback to improve group outcomes	[ ]	[ ]	[ ]	[ ]
Participate in shared responsibilities (e.g., group projects)	[ ]	[ ]	[ ]	[ ]
Follow group norms and collaboration protocols	[ ]	[ ]	[ ]	[ ]

B2. Critical Thinking and Analytical Reasoning

To what extent has the Teacher Education Curriculum enabled you to:

Item	1	2	3	4
Formulate follow-up questions to deepen understanding	[ ]	[ ]	[ ]	[ ]
Develop problem-solving strategies creatively	[ ]	[ ]	[ ]	[ ]
Evaluate arguments using logical reasoning	[ ]	[ ]	[ ]	[ ]
Interpret complex issues analytically	[ ]	[ ]	[ ]	[ ]
Extract and synthesise relevant information from sources	[ ]	[ ]	[ ]	[ ]

B3. Creative and Adaptive Thinking

To what extent has the Teacher Education Curriculum enabled you to:

Item	1	2	3	4
Transfer knowledge across varied teaching situations	[ ]	[ ]	[ ]	[ ]
Adapt communication strategies to classroom needs	[ ]	[ ]	[ ]	[ ]
Generate innovative instructional ideas	[ ]	[ ]	[ ]	[ ]
Refine teaching strategies based on feedback	[ ]	[ ]	[ ]	[ ]
Design context-relevant learning solutions	[ ]	[ ]	[ ]	[ ]

B4. Communication Skills (Oral, Written, Digital)

To what extent has the Teacher Education Curriculum enabled you to:

Item	1	2	3	4
Facilitate and manage professional meetings	[ ]	[ ]	[ ]	[ ]
Organise and present information logically	[ ]	[ ]	[ ]	[ ]
Track and manage group objectives	[ ]	[ ]	[ ]	[ ]
Communicate clearly in academic/professional settings	[ ]	[ ]	[ ]	[ ]
Articulate ideas coherently and persuasively	[ ]	[ ]	[ ]	[ ]

Thank you for your valuable input. Your responses will remain confidential and contribute meaningfully to the improvement of teacher education in South Africa.

Appendix 2: Breakdown of Respondents

1. Gender Distribution of Respondents (N = 384)

Gender	Frequency (n)	Percentage (%)
Male	160	41.7%
Female	224	58.3%
Total	**384**	**100.0%**

2. Participant Distribution By Year of Study and Gender with Percentages) N=384

Year of Study	Male	%	Female	%	Total	%
2nd Year	35	9.1%	46	12.0%	81	21.1%
3rd Year	42	10.9%	58	15.1%	100	26.0%
4th Year	51	13.3%	64	16.7%	115	29.9%
PGCE	32	8.3%	56	14.6%	88	22.9%
Total	**160**	**41.7%**	**224**	**58.3%**	**384**	**100%**

Australian and International Journal of Rural Education

A Picture Paints a Thousand Words: The Lure of Regional, Rural and Remote Teaching

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Abstract

Globally education providers are struggling to employ teachers across all school sectors. This crisis is acute for rural, regional, and remote schools in Australia, where the isolation, limited services and impact on career pathways are major deterrents to attracting and retaining qualified teachers. These challenges often overshadow the personal and professional benefits associated with teaching within rural communities. This phenomenological research aims to explore teaching in regional, rural, and remote schools by describing and interpreting photographic artifacts supplied by university alumni teaching in these locations. Findings from thematic analysis of the photo stories reveal commonalities relating to the environment and the people who live in these locations. The environment theme related to natural beauty, serenity, and time to enjoy outdoor pursuits, where participants felt these helped them to cope with the pressures of teaching. The people theme revealed how the participants developed close connections to their colleagues and the wider community. They felt these connections helped to overcome both the social-emotional and professional challenges they faced in their teaching role. Findings demonstrate the importance of social, cultural, and professional immersion for teachers when working in rural, regional, and remote locations and highlights the benefits to their overall health and well-being as they face challenges of the job common to all teachers. This study serves to better inform graduating teachers about the benefits of teaching in rural, regional, and remote communities, by providing a balanced, strength-based view of teaching in these locations and redress the staffing crisis these areas consistently face.

Keywords: *Rural regional and remote teaching, early career teachers, teacher education, phenomenological research, photo analysis, deficit discourses*

Introduction

Addressing the international challenges of securing a quality teacher workforce is heightened in nations where sparce populations are spread over considerable distances. However, O'Doherty and Harford (2018) raised the impact of geographic isolation on not only Initial Teacher Education providers in Scotland but on half the European education systems surveyed in the 2018 Eurydice report (p. 655). How remoteness is appreciated impacts teacher attraction and retention regardless of whether it is experienced in Greece or Cananda (O'Doherty & Harford, 2018). In a vast country like the United States the challenges are equally diverse. Lee and Yang's (2025) investigation of teacher employment trends in Wisconsin reveals rural schools are rarely the first choice of applicants; an experience shared internationally. For Williams et al. (2022) the impact of

teacher perceptions and school culture were stories that needed to be told in rural Idaho. The move beyond incentives was raised by Williams et al. (2022) and the importance of mentoring and induction into rural schools and communities foregrounded as an opportunity to encourage teachers to be conscious of their rural fit, whilst community acknowledge teacher agency in schools (p. 100). These themes illustrate the common ground shared by those seeking to arrest the teacher shortage in rural education.

The provision of education in regional, rural and remote communities in Australia has historically been an area challenged by the lack of a consistent and shared government policy (Roberts & Cuervo, 2015) at both state and federal levels. The 2000 Human Rights and Equal opportunities Commission and the 2017 Independent Review into Regional, Rural and Remote Education by Halsey (2017) identified conditions of inequality in educational provision that persist today (Patfield et al., 2024). Meeting the disparate needs of regional, rural and remote communities by education departments at all levels continues to concern communities, teachers, and educational researchers (Roberts et al., 2024). Those with experience in the field of regional, rural and remote educational research note the focus, after 30 years, remains on a deficit discourse, continually revisiting the issues of funding, the cost of provision and binary views targeting rural disadvantage and the use of these barriers to engender a call for change (Guenther et al., 2023; Roberts & Guenther, 2021). Lack of reflexivity in policy making has also contributed to the current crisis in staffing schools regional, rural and remote schools, and as teacher agency is eroded, teachers become increasingly disheartened and choose to leave the profession (Cuervo & Vera-Toscano, 2025).

Educational disadvantage in these communities is deeply rooted in location, geography, logistics and tradition, where injustices are so commonplace they are accepted as par for the course. Observations by Patfield et al. (2024) referred to this phenomenon as cultural subordination which was closely linked to economic injustices regarding the application of government policy and the distribution of government funds. Patfield et al. (2024) refer to these practices as metrocentric in that regional, rural and remote locations are seen as lacking basic services and hence are positioned as problematic and viewed through a deficit lens. Solutions to staffing have focused on extra school funding and resourcing, transfer schemes and financial and material incentives for staff. Although these schemes partially address the social injustice experienced by regional, rural and remote schools, they still fail to realise the specific needs of each of these unique locations. Current research within rurality calls for a shift from this metrocentric view of education, to one which recognises the uniqueness of these schools (Guenther et al., 2023; Patfield et al., 2024; Roberts et al., 2022). Stakeholders within this geographic space are eager to shift the existing deficit discourse to a strength-based focus to promote and support the uniqueness of communities. Teaching in a regional, rural or remote location, enables educators to embrace the unique ways of living and working in these communities (Patfield et al., 2024). Connecting to place and community can enrich the experiences of teachers and enhance their well-being (Louth, 2025). While regional, rural and remote communities continue to be seen by Government Education Departments as inherently similar in nature, policy makers continue to group these contexts together (Roberts et al., 2022). This blinkered view perpetuates the one size fits all approach stalling progress for regional, rural and remote schools, by failing to recognise the positive attributes unique to each location. This research is grounded in applying a strength-based approach to address the current regional, rural and remote teacher attraction and retention crisis.

Background

Attracting and Retaining Teachers to Rural Areas

The teacher shortage has reached critical levels across Australia, with the Australian Government predicting a shortfall of 4,100 teachers by 2025 (Australian Government Department of Education, 2022). The impact of this shortage is painfully evident in regional, rural and remote areas, as these locations battle against a deficit discourse and struggle to attract and retain qualified teachers. Historically, regional, rural and remote schools in Australia have been defined by both geographical location and population density through data obtained by the Australian Bureau of Statistics (2021). In Queensland alone, approximately 69% of schools are located outside of urban areas. Federal and State governments have offered monetary incentives as recompense for the economic realities of teaching in these locations. Although it helps to distribute funds to these communities, it still paints regional, rural and remote locations in a negative light.

Many proponents of regional, rural and remote education argue for a strength-based approach to teaching. Some Initial Teacher Education providers to deliver specific courses that focus on rural teaching and combat the deficit notions of teaching in these locations held by pre-service teachers (Roberts et al., 2022). Whilst Initial Teacher Education programs provide preservice teachers with the opportunity to undertake supervised professional experience in regional, rural and remote locations these programs fall to largely metropolitan institutions, are optional and compete with urban placements and attractive international practicums (Cuervo & Acquaro, 2018; Kline et al., 2013). The inclusion of contextually relevant content within Initial Teacher Education courses (Hudson et al., 2021) and immersion programs (Harris et al., 2025; Thiele et al., 2024) provide pre-service teachers with access to and experience in locations they may have never contemplated. In developing place consciousness (Kline et al., 2013) and rural knowledges (Adie & Barton, 2012) it is acknowledged that while participants on rural placements report positive impressions, it may not be enough to entice pre-service teachers to take a rural post (Adie & Barton, 2012; Downes & Roberts, 2018). The lack of rural placement opportunities and rural teaching content in teacher education programs contributes to the misrecognition of the cultural value of rural schooling.

Beyond a Deficit Discourse of Rurality

Promoting teaching in regional, rural and remote locations is challenged by the perceptions and values of the metropolitan majority. Lacking personal connection or appreciation, people revert to narratives of isolation, difficulty, and cultural disadvantage (Cuervo, 2020; Patfield et al., 2024). Misrecognition has focused successive governments on approaches that apply the interpretation of those who lack understanding of what it means to identify as rural into policy (Patfield et al., 2024). To value rurality requires innovation in policy that equally considers social, cultural, and economic layers. Cuervo (2020) drew attention to the value of place in the politics of recognition (p. 143) as an opportunity to reframe rurality through a positive lens, enabling teachers to see beyond perceived difficulties. In this way, negative perspectives are addressed by the provision of realistic, practical, and supportive information for pre-service teachers to contemplate a teaching career in regional, rural and remote locations (Guenther et al., 2023; Patfield et al., 2024; Roberts et al., 2022).

Government or public schools make up over 80% of regional, rural and remote schools across Australia (Roberts et al., 2022) making a reassessment of the national deficit-focused relationship with these locations pressing (Cuervo, 2020; Guenther et al., 2023). Paterson et al. (2024) highlights the importance of "*telling positive stories about rural education*" (p. 106). In doing so these stories have the potential to challenge the negative connotations applied to teaching experiences and enable difference to be refined. This allows a shift towards acknowledging the

complexities of how "*context, geography, place and space are important*" (Paterson et al., 2024, p. 111).

Paterson et al. (2024) sought to explore rural contexts in Scotland, Indonesia, Chile, and Australia and "*promote rural contexts as diverse locations that cannot be stereotyped*" (p. 110). Although the research of Paterson et al. (2024) focused on small samples, the combined impact of telling stories with shared themes was evident. The connections to community, inclusivity and commitment to the profession were accompanied by recognition of the opportunities for personal and social development. One participant's experience of returning to the city to find "*no one talks to you*." (p.110) offers a misrecognition of isolation that positions city dwellers with the deficit experience. The use of positive stories is not designed to present the rural as ideal, but to illustrate that perhaps difference can be interpreted differently (Paterson et al., 2024). Willis and Louth (2024) in sharing the positive connection reported by alumni in regional, rural and remote locations, noted that 'challenging' and 'rewarding' are terms used in equal measure. Although these teachers acknowledged learning to live in a regional, rural or remote area raised considerations they had not previously experienced, there was a strong sense of worth and personal growth that saw the teachers not only surviving, but thriving (Willis & Louth, 2024).

Support for regional, rural and remote teachers to enable them to thrive should encompass social, geographical, emotional, personal, and cultural considerations relevant to their unique needs and locations (Louth, 2025). The opportunity to "*reclaim the rural as strength*" (Patfield et al., 2024) may begin with the stories that respect what rurality encompasses. In doing so the opportunity to broaden the focus on educational research to an approach that promotes regional, rural and remote locations, lifestyles and teaching may allow the narrative to be rewritten (Guenther & Cuervo, 2024). The call to reframe teaching away from deficit discourse and ideals (Cuervo, 2020; Patfield et al., 2024; Roberts & Guenther, 2021) by listening to those who value rural experiences may see a new generation eager to immerse themselves in teaching in these locations.

Rural Consciousness and Readiness

Research relating to encouraging pre-service teachers to consider teaching in a regional, rural or remote location has identified factors that contribute to positive experiences. Hudson et al. (2021) demonstrated the importance of preparing pre-service teachers for life in communities, so that they were physically, emotionally, socially, and mentally ready for teaching in such locations. Furthermore, their research highlighted the importance of mentoring and developing community connections and how positive experiences helped pre-service teachers to overcome initial feelings of isolation and loneliness. The establishment of connection to community and immersing themselves in the environment was found to be a key factor for graduate teachers in developing rural consciousness and creating a positive work-life balance (Louth, 2025; Willis & Louth, 2024). The importance of developing a rural consciousness (Kelly & Fogarty, 2015; Louth, 2025) is a key element to broadening teacher perceptions. Rural consciousness encompasses the potential for personal and professional growth, to be adaptable and capable of navigating new locations, communities, and workplaces. This approach seeks to address the culture shock some teachers experience engaging in communities and lifestyles foreign to their metropolitan lives (Brown & L'Estrange, 2023).

Teacher Wellbeing

From a strengths perspective Buchanan et al. (2013) identified categories influencing longevity in the teaching profession as being: collegiality and support, student engagement and behaviour management, working conditions and resources, professional learning, workload, and isolation. Several studies pertaining to teacher well-being have examined the impact of teacher stress and burnout on students' well-being. Carroll et al. (2021) found teacher stress and burnout affected multiple facets of students' well-being and the academic environment they were

attempting to function within. Earlier findings by Willis et al. (2019) found teachers were better able to support their students learning and development when their own emotional well-being was protected and supported.

Oberg et al. (2025) when investigating teacher well-being in Australia, found teachers with higher levels of well-being and perceived efficacy, were less prone to exhaustion and burnout. Several studies indicated that teacher stress and burnout negatively impacted student outcomes. Research has shown that negative behaviours and lower academic performances amongst students correlated with being taught by highly stressed teachers (Cuervo & Acquaro, 2018; Madigan & Kim, 2021). Carroll et al. (2021) found conducting an intervention program for teachers based on mindfulness, led to significant reductions in teacher stress levels and improved teacher-student relationships within the classroom. Hwang et al. (2018) conducted a systematic literature review of mindfulness interventions on teachers and found interventions resulted in enhanced teacher well-being and teacher performance. Hwang et al. (2018) further examined the type of mindfulness intervention programs conducted, with the most success gained when teachers paid attention to themselves and lived in the present moment. When teachers focused on their physical responses (breath and movement), mental experiences (thoughts and feelings), and were emotionally nurtured (accepted and cared for), their reported levels of well-being increased dramatically as their psychosocial health was supported (Hwang et al., 2018; Spilt et al., 2011).

Educator well-being was a focus in research by Oberg et al., (2025) who found teachers with higher levels of well-being and perceived classroom efficacy were less prone to burnout and emotional exhaustion. Their findings reflected those of earlier studies (Arens & Morin, 2016; Beltman et al., 2011) who similarly found prioritising teacher well-being was essential for creating supportive and productive learning environments. When considering Early Career Teachers as they enter the high stress environment of the classroom, Kelchtermans (2019) research found it was critical to retain early career teachers to ensure schools remained innovative and responsive and maintained a pathway to nurture future school leaders.

Recent research into the experiences of Early Career Teachers has noted how positive many early career teachers were about teaching in regional, rural and remote settings (Louth, 2025). Many Early Career Teachers espoused the enriching and rewarding experiences of teaching in these settings and attributed these to immersing themselves in cultural, social, and environmental opportunities afforded to them in the setting, noting such experiences were not available to them in an urban teaching location. Unpacking the practices of early career teachers thriving might uncover mindfulness activities that may give further insight into how establishing a connection to place, might nurture well-being. Indeed, the opportunity afforded to educators in regional, rural and remote settings to value connecting to place and people through practicing deep listening (Ungunmerr-Baumann, 2019) may be a contributing factor towards their ability to thrive in those settings. Valuing deep listening, people, and connections to place may foster a deeper understanding of how to embrace work and life in regional, rural or remote locations.

In summary, the research demonstrates teacher well-being is critical to successful learning outcomes for their students, hence it is important to consider ways to enhance teacher well-being, regardless of geographical location and career experience. When considering how the teaching profession might retain early career teachers, specific questions regarding how teachers can make positive, supportive connections within their schools and communities and establish a sense of place within their location, may enhance their longevity in the profession.

Researcher Positionality

Louth is an experienced educator who has taught in rural and regional schools in Queensland and the United Kingdom and currently teaches in Initial Teacher Education programs in a regional University. She is committed to changing the negative narrative surrounding teaching in these

locations and embeds opportunities for pre-service teachers to enhance their knowledge and understanding of teaching and living in a rural context. She regularly sees and experiences the challenges of living and working in non-urban locations and seeks to give a rounded view of the challenges and opportunities presented in communities to encourage and prepare pre-service teachers to explore non-metropolitan teaching pathways.

Having been raised and educated in regional, rural and remote locations, Sanderson applied her commitment to education for students to a teaching career spanning remote and rural contexts in northern Western Australia. Educating a diverse range of students in an equally diverse range of settings she lived the joys and challenges faced by children, families and communities. She became increasingly aware of the impact positive perspectives of rural and remote teaching and life had on the willingness of those new to the career to remain in non-metropolitan locations, while mentoring early career teachers. Currently teaching in Initial Teacher Education programs she brings this commitment, experience and value for rural and remote life to pre-service teachers through research, course work and a leadership role in promoting experiences for pre-service teachers in rural and remote Queensland.

Aims of Current Study

This phenomenological research aims to explore the lived experience of teaching in schools, through the eyes of early career teachers working in regional, rural and remote schools using photos to share experiences and make meaning of their time teaching in communities.

Method

Research Methodology

This phenomenological research explores the lived experiences of early career teachers in regional, rural and remote locations through images and narrative created by participants. The research methodology combines participant-generated imagery with interpretative phenomenological analysis to provide a unique insight into the lived experiences of research participants (Bartoli, 2020). The use of participant-generated visual imagery is a well-established research method in the social science field (Drew & Guillemin, 2014; Pauwels, 2010). This type of methodology is unique in that it is open to the interpretation of both the participants and the audience, and as such, can pose some challenges to the researchers when interpreting and analysing data. To overcome this limitation, participants were asked to write a narrative to explain and justify their choice of photo, so that the participant voice was seen and heard. Furthermore, the data collected is very subjective to the participants and open to how they are thinking and feeling about the subject matter in question at that moment in time. In this research, participants were invited to take photos of their lives and/or communities and write a narrative explaining their reasoning and interpretation of these images that were representative of their experiences teaching in regional, rural and remote locations (Plunkett et al., 2013; Tsang, 2020). The use of photos as a data source allowed participants the opportunity to decide what and how to reflect, interpret and represent their time teaching in communities (Asaba et al., 2014; Latz & Mulvihilll, 2017). Participants elaborated on their experiences by providing a narrative to accompany their photos by way of reflection, interpretation, and representation of their experiences, as recommended by Tsang (2020). Including the use of narratives to accompany the photos ensure the limitations associated with the subjectivity of interpreting participants meaning, was overcome. Reflecting on these images offers researchers the opportunity to investigate the space between "*what is said… and what is seen*" (Day et al., 2024, p. 2); an important distinction between what the participants intended to communicate and how the image is interpreted by others. The impact of these interpretations on appreciating rural consciousness, enhancing teacher retention, and creating positive connections to regional, rural

or remote teaching and lifestyle, provide a deeper appreciation of what is valued by these teachers.

Participants

Invitations to participate in the research were sent to university alumni teaching in regional, rural and remote locations. Recruitment of participants occurred through the alumni governance process of the university. Following acceptance of ethics approval, the Alumni team emailed participant recruitment emails to alumni, including informed consent and contact details of research lead investigator. Alumni self-selected, indicating they met the criteria of being early career teachers within the first five years of teaching in a regional, rural, or remote location. Twenty-seven alumni responded to the invitation and provided photos with accompanying narratives. All 27 participants were within their first five years of teaching and based in regional, rural and remote locations across Queensland, Australia.

Data Collection

A total of 29 photographs were uploaded by 27 participants, where all 27 participants shared one photo, with two sharing an additional photo. Participants were asked to only share images that did not identify the school or any individual other than the participant who consented to participate in the study. Each photograph was accompanied by an open-ended short response narrative explaining the context of the photos provided by participants.

In terms of the geographical locations of the 27 participants, 13 reported they were teaching in a regional location, between one- and nine-hours' drive from Brisbane. The remaining 14 participants were teaching in remote locations, ten or more hours drive from the Queensland coast, between Brisbane and Cooktown, or one or more hours drive north or northwest of Cooktown (Table 1). These definitions of regional and remote were taken from the Queensland Department of Education's definitions relating to regional and remote schools (Education Queensland, 2025). Of the 27 participants, 14 were based in a rural location where agricultural, pastoral or mining sectors were the dominant industries in that location (Table 1).

Table 1: ***Participants' Geographical Regional, Rural and Remote Locations***

Description of Geographical Location	**n = 27**	%
REGIONAL. Between one (1) and nine (9) hours' drive from Brisbane.	13	48.15%
REMOTE. Ten (10) or more hours' drive from the Qld coast between Brisbane and Cooktown, or one (1) or more hours' drive north or northwest of Cooktown.	14	51.85%
RURAL. A regional or remote area where agricultural, pastoral, or mining industries are dominant.	14	51.85%

The demographic profile of all 27 participants regarding their school context varied, with 17 participants located in a primary school, nine in a secondary school, and one as a specialist teacher (Table 2). One participant was teaching in a non-government school, whilst the remaining 26 were in government schools (Table 2). When considering participants experience and qualifications, all were early career teachers, with 22 having completed a bachelor's degree and five completing a Master of Teaching degree (Table 2). Of the 27 participants, five were in their first year of teaching, 11 in their second year and a further 11 in their third year of teaching (Table 2). When reflecting on the stage of life these early career teachers were as they began their teaching career, 11 were young professionals with this teaching position being their first job out of university. Similarly, there were 13 mature aged students who had taken on this teaching

position as their first professional career since graduating. Three of the participants were career changers who had worked in other professional careers that required university degrees prior to undertaking this teaching role (Table 2).

Table 2: ***A profile of participants' early teaching careers*** **(*n* = 27)**

	Percent	Number
Level of schooling		
Primary	62.96%	17
Secondary	33.33%	9
Both (e.g., specialist teachers)	3.70%	1
Total	100%	27
Government or non-government school		
Government	96.30%	26
Non-government	3.70%	1
Total	100%	27
Years of teaching experience		
First year	15.38%	5
Second year	42.31%	11
Third year	42.31%	11
Total	100%	27
Highest degree		
Bachelor	81.48%	22
Master of Teaching	18.52%	5
Total	100%	27
Teaching career life stage		
I'm a young professional and this is my first job out of university	40.74%	11
This is my first job out of university, and I was a mature aged student	48.15%	13
I'm a career changer, I've had other professional jobs (that required a university degree) before this role	11.11%	3
Total	100%	27

Data Analysis

This research follows the analytical framework of Interpretive Engagement proposed by Drew and Guillemin (2014). The framework acknowledges five specific factors influencing data analysis and interpretation: The researcher, the participant, the image, the context of its production, and the audience. Interpretive Engagement comprises three stages which were followed in this study:

Stage 1: Participant meaning making using photos and narrative

Stage 2: Researcher-driven meaning-making and,

Stage 3: Recontextualising to make further meaning through a cross comparison of Stage 1 and 2 to generate visual and narrative representations and explanations of the phenomenon of teaching in a regional, rural or remote location .

The data analysis process for each stage is outlined below:

Stage 1: Participant Meaning Making

This stage focused on each individual image and associated reflections and guidance provided by the participants about how the image might be interpreted. This provided an understanding of the participant's intentions and acted as a rich description of the data generated. A thematic analysis of emergent themes across participants was conducted.

Stage 2: Researcher-driven Meaning Making

This stage involved the compilation of additional data comprising the researcher's reflections on content, processes and context of the images and narratives. Interpretive questions proposed by Rose (2012) and Grbich (2012) were adapted and used by the researchers to aid the analysis of visual images and included the following:

- What is being shown?
- Where is the viewer's eye drawn to?
- What relationships are established between the components of the image visually?
- How does the image convey meaning?
- Is there more than one possible interpretation of the image?
- Is this a contradictory image?
- Does the narrative fit with the image?

A further thematic analysis of the Stage 2 results was conducted to note emergent themes within the researcher interpretation of the data.

Stage 3: Recontextualising

This stage involved two parts, firstly a cross-comparison of the participants' and the researchers' interpretations of the images and the associated thematic analysis of each group set. The second part to this process involved locating connections to the emergent themes and attending to convergence and divergence alongside these themes (Bartoli, 2020; Tsang, 2020). Additional analytical questions as posed by Rose (2012) and Grbich (2012) were employed to further decontextualise the representations and are as follows:

- What knowledges are being deployed from this analytical process?
- Whose knowledges are excluded from this representation?
- How might different audiences interpret these images?
- How does the image reflect or depart from dominant cultural values?

The overall data analysis of Interpretive Engagement enabled relationships between the themes arising from the data to generate visual and narrative representations and explanations of the lived experiences of Early Career Teachers working in regional, rural and remote locations.

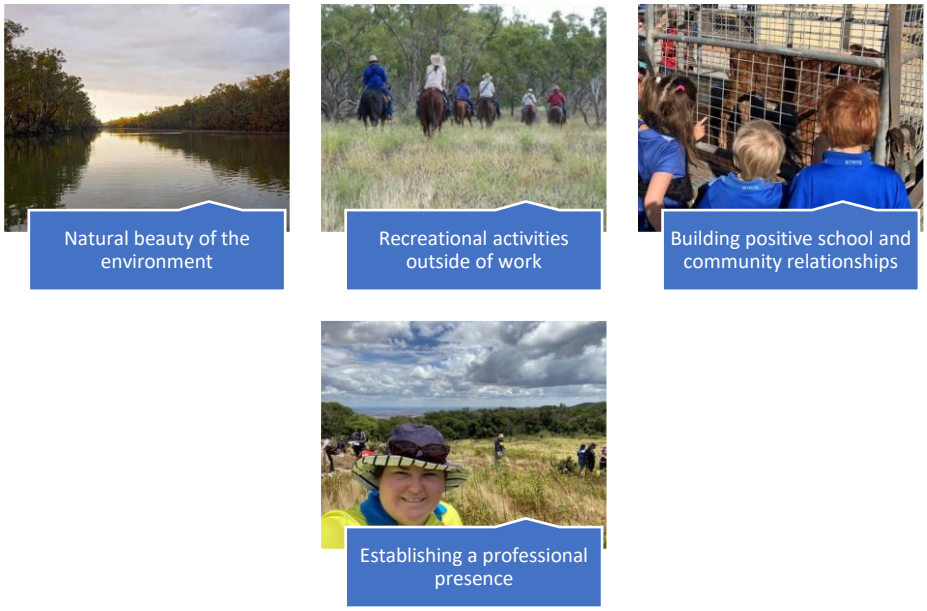
Results

The results of the photo analysis are presented in two stages, with both stages using an iterative thematic analysis, stage one from the perspective of the participants, and stage two from the perspective of the researchers.

Participant Meaning Making – Stage 1

Stage 1 focused on participants images and the narratives they attached to their images. These narratives involved their perceptions, interpretations, and reflections on their teaching experiences. Four common themes emerged from the analysis and are shown in Figure 1. The first centred on an appreciation of the natural beauty of the environment illustrated by Participant F's appreciation of how their children were "*growing up in a unique setting*". The second theme depicted taking part in recreational activities outside of the school environment highlighted by Participant H who relished the opportunity to explore "*amazing places… loaded with history*". Conveying a sense of positive relationships within school and the community was central to the third theme, whilst the final theme involved strengthening connections between their professional practice and the school community.

Figure 1 ***Thematic Analysis of Participant Meaning Making***

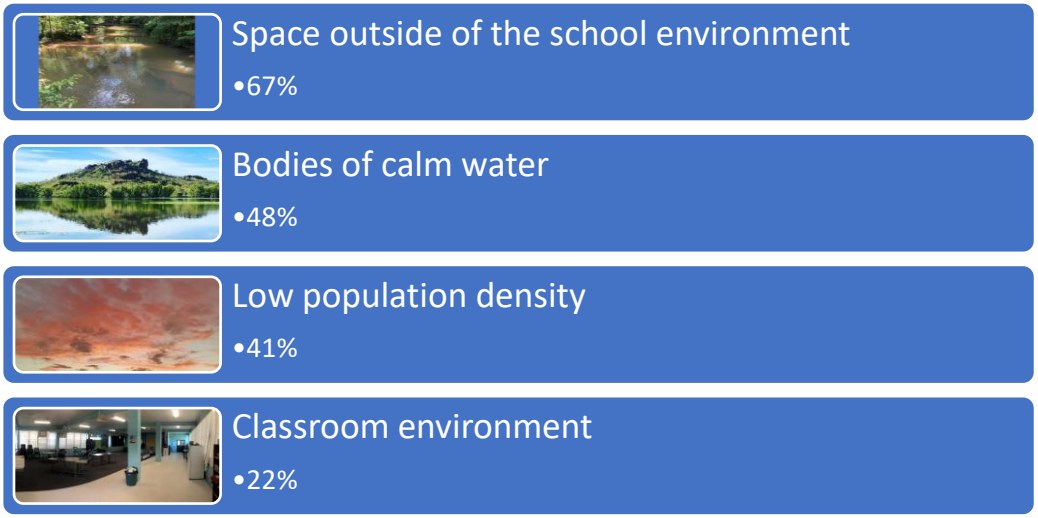


Researcher Meaning Making – Stage 2

Stage 2 required the researcher's interpretation of the photo data in terms of what the image conveyed and how it represented the participants' lived experiences teaching in a community. An iterative thematic analysis of the researcher interpretations of the data was conducted to examine further themes that emerged from the data.

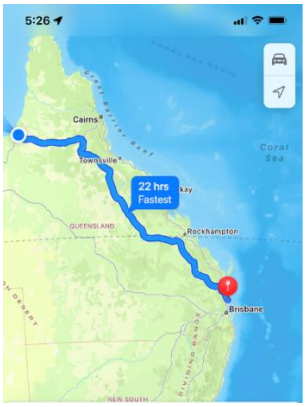
Four major themes emerged from the researchers' interpretation of the photos and are evident in Figure 2. Ordered by number of responses, the largest theme focused on the spaces and environment the early career teachers enjoyed outside of the school/work setting. This was represented in 19 of the 29 photos. Another strong theme arising from 14 photos within the data depicted bodies of calm water that the participant was looking out over or displaying in their background shot. A third theme elicited a sense of low population density, with no other people or very few people depicted in 12 of the photos. The final theme involved photos relating to their classroom environment and how they were organising and managing their teaching load with only six of the photos being taken within the school/classroom environment.

Figure 2. ***Thematic Analysis of Researcher Meaning Making***



Discussion

When considering the combination of images and narratives of the participants, a clear understanding of how they value their experiences teaching in a regional, rural or remote setting becomes apparent. Taking time out in the natural world was a prevailing narrative throughout the data, where many reflected on the valuable opportunities afforded to them to experience life outside the classroom. Participant O mentioned the "*beautiful sights and sunsets on a walk*". Equally noting they found time for self-care and well-being in the tranquil or calming environments as illustrated by Participant R who combined this appreciation for the environment with their teaching role. Participant R recounted how whilst on a mountain hike with students, they marvelled at "*how green… how spacious and natural it is…*" and appreciated "*… the exploring you can do when you are not working*". Some depicted their community resources or family as a place of importance and strength whilst living and working in such an isolated area, Participant P appreciated spending time with their family when not at work. The attraction of a boat and a "*freezer… stocked full of coral trout*" for Participant D and their partner illustrated how participants built strength in connection, community and food. There was a small minority of participants who viewed the isolation as a drawback, and this was present in the image they uploaded as it depicted some hardships they faced. For example, having to walk everywhere in the wet season while waiting for their car (Participant P), a challenge for sure with two children in tow. For others the tyranny of distance and being separated from family and friends was a reality of the role, but as Participant K explained with her image of a map demonstrating the journey that, "*… it's the best experience I've ever had.*"



A cross comparison of participant and researcher meaning making was conducted to examine the nuances between the perspectives of the participants' and the researchers' interpretations of the images and the associated thematic analysis from each group set. Participants notions of the natural beauty of the environment coincided with the researcher's interpretation of the time spent in the environment outside of the confines of the school and work, the calmness and serenity of these environments and the absence of people, Participant W captured this sentiment with an image of a "*beautiful sunset*" and reflected that they "*often spend my afternoons watching the beautiful glow and being grateful for where I live and what I have achieved*". Similarly, when participants noted the recreational activities, they were participating in, these too were reflected in the researcher interpretation of the importance of enjoying the natural environment, particularly the water and the limited population enjoying these spaces. Early Career Teachers emphasised relationships between school and community with researchers drawing on this same point regarding community connections. Where participants drew meaning around establishing their professional presence, the researchers' noted this meaning as wanting to share the classroom environment they had established. The cross comparison of these themes identified connecting ideas and themes between both the participant and researcher groups (Table 3).

Table 3: ***Cross-comparison of Thematic Analysis From Participant and Researcher Meaning Making***

Participant meaning making	Researcher meaning making
Natural beauty of the environment	Space outside of the school environment Bodies of calm water Low population density
Recreational activities outside of work	Space outside of the school environment Bodies of calm water Isolation and limited population
Building positive school and community relationships	Space outside of the school environment Classroom environment
Establishing a professional presence	Classroom environment

Meaning Making

When considering the common themes arising from the inductive analysis a further deductive thematic analysis was undertaken that aligned with the topics explored in the literature review. To further understand the regional, rural and remote experiences of early career teachers, findings are discussed in terms of the following five topics raised in the literature review, those being, teacher attraction and retention; teacher connection to place; teacher preparedness/readiness; teacher well-being; and teaching beyond a deficit discourse of rurality.

Teacher Attraction and Retention

The imagery shared by participants predominately reflects light, smiling faces, newly experienced landscapes, and positive connections to lifestyle. Participant J summed it up well, "*the people, the places and the experiences will stay with you forever. The outback has so much beauty on offer*". The experience of being a teacher in a regional, rural or remote location clearly resonated with this group of teachers and motivated the 27 participants in rural locations to add their voice to the rural narrative. In doing so, these early career teachers contribute to challenging the perceptions of a view of rurality informed by misrecognition (Patfield et al., 2024; Paterson et al., 2024; Roberts & Guenther, 2021). There was a clear connection to place, evidenced from the perspective of teachers enjoying and connecting to their rural environment and lifestyle. It may

also reflect Cuervo's (2020) notion that teachers would see the rural through an elevated status of place, belonging and connection.

Asking participants to 'capture' their rural perception through photographs enables the reader/viewer to also integrate their own rural bias and/or perceived deficit expectations. One photograph shows a teacher and family in front of a house with a lush garden and a high ring lock fence surrounding it. The explanation refers to family life outside of school and how the wet season has left the family without a car until the roads are passable. On initial analysis the focus on the fence and imagined addition of "*barb wire*" was perceived by one researcher; to be an indicator of the need for security amid a low socioeconomic location, a feature not referred to by the participant. Alternatively, it could also be considered this fencing is standard in remote locations where houses were vacant over holiday periods, and where local wildlife might take up competing occupancy. Ensuring teachers receive accurate and practical information about the places they will live and work as Roberts et al. (2022), Guenther et al. (2023) and Patfield et al. (2024) encouraged, will contribute to clear expectations and the ability to prepare for initial experiences in regional, rural and remote locations. These opportunities to share the realities of life ensure Early Career Teachers meet communities with a sound appreciation of place.

Teacher Connection to Place

Many photos submitted by the early career teachers (78%) were of locations away from the classroom environment. The accompanying narratives referred to spending time enjoying the area and connecting to the natural environment. Participant U regularly undertook the three hour drive to "*a constantly running river that is an exceptional place to get away… clear water and a river to float down*" indicating the distance was worth the effort. Taking time out of the business of teaching and capturing these moments on camera, demonstrates the value Early Career Teachers place on connecting with the local area and centring themselves with the environment. This clearly aligns with the deep listening Ungunmerr-Baumann et al. (2022) calls for and may indeed be a contributing factor to the early career teachers' ability to thrive in regional, rural and remote settings. Spending time connecting to the environment and developing an understanding of place would also contribute to the emergence of a rural consciousness (Louth, 2025) in early career teachers. Connecting to the environment and community would further go some way to mitigating culture shock, noted by Brown and L'Estrange (2023) and support teacher retention in communities.

The remaining 22% of photos submitted by the early career teachers were of the school environment and centred on showing how the participants had connected with the school community in a positive way and helped to establish their professional persona within the school. This positive connection reflects the findings of Willis and Louth (2024), which may enhance the longevity and retention of Early Career Teachers in regional, rural and remote locations. Furthermore, connecting with community aligns with the work of Yunkaporta and Shillingsworth (2020) regarding opportunities to establish co-designed curriculum that was meaningful to students and the community. Connecting with both community and the environment provides the opportunity for early career teachers to establish authentic relationships with communities and build a pathway to co-designed curricula in regional, rural and remote locations.

Teacher Preparedness/Readiness

The value of regional, rural or remote content or immersion experiences in Initial Teacher Education programs to ensure graduates are afforded as much exposure to teaching and living in these areas should not be underestimated (Cuervo & Acquaro, 2018; Harris et al., 2025; Hudson et al., 2021; Kline et al., 2013; Thiele et al., 2024;), but is understood to need change (Murphy et al., 2025). These experiences must also be viewed as the efforts of an imperfect system preparing for rurality from a metrocentric perspective, echoing the explanations of Roberts and Guenther (2021). For these participants immersion in these locations has enabled them to see difference

differently (Paterson et al., 2024; Roberts et al., 2024). Sharing these stories enables others contemplating regional, rural or remote teaching positions the opportunity of reflection guided by those likely to be colleagues. For example, recognising there will be tough days but knowing that 'place' plays a key role in wellbeing by affording opportunities for mindfulness and stress relief in the natural environment.

In addition, understanding how isolated locations and those impacted by weather events that might influence access to regular services may provide a more balanced understanding of life in a regional, rural or remote location, Participant G acknowledged how although it was a pristine environment it "*… can be very remote and at times cut off by rising rivers…".* Whether experiencing cyclones for the first time or being prepared for wet seasons or appreciating how to stock a pantry when the nearest supermarket is 250km away or accepting that learning to change a flat tyre is a useful skill, these are all experiences that may be new to early career teachers. For Participant V it was the *"… eye-opening experience…"* of living on a working farm and appreciating the life skills and connections it provided to their students and community. Providing such practical scenarios and strategies ensures graduates are better prepared for teaching and less likely to experience culture shock. It is imperative to ensure graduates also know that for some, the notion of a nice place to visit, but "*not to live if you are a young single*" [Participant S] must also be communicated. In doing so, Roberts et al. (2022), Guenther et al. (2023) and Patfield et al. (2024) all call for the need for robust and comprehensive information sharing.

Teacher Wellbeing

Teacher readiness is a term recently used to determine if early career teachers have been adequately prepared to enter the teaching workforce and cope with the excessive demands of the profession. Establishing a positive work-life balance by paying attention to their own needs and taking part in activities that enable them to live in the moment (Hwang et al., 2018; Willis & Louth, 2024), can enable teachers to improve their health and well-being (Spilt et al., 2001). The results of this study indicated these early career teachers were taking more time outside of school to do non-work-related activities, like walking, hiking, fishing, swimming, horse-riding, and camping, that were connected to the environment or community within which they were living and working. Participant I reflected the connections between these elements in explaining her beach picture:

> *This photo is taken in the community where I was working and living. I took this photo after I had a few tough and big days of the realities of working and living in a remote community. This photo is significant to me as I was able to reflect on how I was feeling, and to take in where I was which helped me to feel better. It is also significant as I look back on it even now and know that I got through it and it helps me to remind myself that I can do it, and that I am capable. The beach is also a place where I feel [content], so having this right at my doorstep helped a lot.*

The practice of deeply listening to one's environment and one's body has been encouraged by Ungunmerr-Baumann (2019) and documented through mindfulness intervention studies by Hwang et al. (2018). Both espouse the positive effects of these practices on psychosocial health, through physical, mental, and emotional domains of wellness. Earlier studies found when teachers' emotional, social, and cognitive domains of development are protected and supported, then this enables them to better support the learning outcomes of their students (Carroll et al., 2021; Willis et al., 2019). Indeed, many of the photos were interpreted by researchers as demonstrating natural beauty and calmness of the locations, which may contrast with the hectic demands of teaching and provide further support for adopting strategies which support teachers across all domains of wellness.

These findings allude to further areas for reflection specifically relating to whether regional, rural and remote locations provide greater opportunities to establish a positive work-life balance. It further begs the question as to whether the isolation of the regional, rural and remote locations enable early career teachers to immerse themselves in the community and environment (Louth, 2025) and thereby enrich their experiences? Further, does the uniqueness of their experience offer Early Career Teachers opportunities without prejudice from outside urban environments or value systems (Patfield, 2024), and allow them to revel and thrive in these locations?

Findings from this study might suggest early career teachers are taking more time to connect with their environment which may have a positive impact on their health and well-being and their ability to thrive in regional, rural and remote locations. Furthermore, do the demands of teaching in a regional, rural or remote location make Early Career Teachers more aware of the need to take care of their well-being, given their previous support structures are not as accessible to them in regional, rural and remote locations? Further, is this a conscious act by early career teachers, where they take time out to seek a calm environment, still the mind, reflect, and recharge both mind and body?

Readiness and preparedness relate to retention and longevity in the profession and is an area that warrants further investigation. It has been established that high workloads are significant stressors to teachers and are a major contributor to teacher burnout. Further exploration of teacher health and well-being in regional, rural and remote locations might focus on being in touch with the natural world and how appreciating the beauty, serenity and uniqueness of one's surroundings might enable early career teachers to cope with the demands of teaching. Furthermore, might early career teachers be more adaptable because of their experiences compared to early career teachers in urban areas?

Beyond a Deficit Discourse of Rurality

This study supported Drew and Guillemin (2014) by reflecting and departing from dominant cultural values and signalling that teachers in regional, rural and remote locations are rebalancing the deficit discourse. Guenther et al. (2023) noted in the historical review of rural education publications that these contexts were pejoratively viewed, and, in most cases, this deficit appeared to have been "*…normative…*" (p. 4) and was applied across all levels of educational research and policy. After 30 years of focusing on the challenges Guenther et al. (2023) is not alone in wondering why we are not telling the stories of "*…strength and diversity and the economic benefit that comes from rural and remote communities*?" (p. 15).

The images in this study enabled both participants and researcher alike to look deeper into rurality and begin to consider the impact on rural education (Roberts & Guenther, 2021). Seeing what teachers in these locations see, offers the opportunity to consider how perspectives are challenged and changed. For instance, when a teacher reflects on their classes show and tell where calves children have raised were featured and usurped Lego as a favoured 'show and tell' [Participant T] topic. Acknowledging the commitment required by families in the process of delivering a calf to a school sharing event and flexibility on the part of the schools, recognises the lived experiences of these children. Another instance of a teacher whose image of cows in a paddock shared the value of living on a farm and how this experience enabled them to connect with their school and community [Participant V]. Each story adds diversity to the appreciation and understanding of what rurality may look like and mean in diverse locations. Another participant expanded on the depth of connection to place the image portrayed in their narrative to demonstrate how their picture painted a thousand words: "*When I reflect on my time here, the people, the places and the experiences will stay with me forever. The outback has so much beauty to offer*." [Participant J].

This research provides a platform for Early Career Teachers to share their experiences and the positive stories Paterson (2024), Patfield (2024) and Guenther et al. (2023) hope would move

beyond a deficit discourse. Initial Teacher Education providers, policy makers, schools and communities need to be willing to engage teachers with an honest and individualised approach to regional, rural and remote teaching and be cognisant that "*one size does not fit all*" (Guenther et al., 2023; Patfield et al., 2024; Roberts et al., 2022).

Limitations of the Research

In undertaking a qualitative methodology that relies on participant generated imagery, the researchers acknowledge the subjective nature of the data. The prior experiences of the early career teachers comes into play, including, but not limited to, previous experiences visiting, living, and/or working in regional, rural and remote communities. Participants may have had personal life experiences in communities, and/or conducted their professional experience placements in a regional, rural and remote location, which may bias their views on these contexts and may have led to their willingness to teach in a regional, rural or remote contexts, and of course, agree to participate in the research. In addition, asking participants for permission to share their photos with pre-service teachers, may have inadvertently influenced participants to photograph and share only their positive experiences. Furthermore, it can be stated that photographs provide a memorable record of one's experience, hence if the experience were indeed negative, one would be less inclined to photograph this, since one would not want to be reminded of such challenging times. However, history reveals itself through imagery that spans the continuum of human experiences and emotions, not just positive events or outcomes. However, the noted limitations effecting the results of this study can be mitigated in future research of this nature, by asking Early Career Teachers to share two photos, one positive and one negative, so that by taking a "*warts and all*" approach, pre-service teachers are provided with a more balanced view of teaching in regional, rural and remote locations.

Researcher bias in meaning making was reduced through the provision of participant narratives which gave a rationale for the choice of image/photograph. To draw further conclusions about readiness and the practices Early Career Teachers used to overcome stressful situations, further narratives could be employed, particularly relating to the "*warts and all*" scenario for ongoing research in this space.

Early career teachers working in regional, rural and remote locations were the focus of this study, hence targeted in the recruitment and data collection strategy employed for this research. This may be a further limitation to the study, in that there were no comparisons made to the experiences of early career teachers in urban or semi-urban areas. Further studies could investigate this comparison, particularly in relation to the opportunities for connecting with the school environment and local community and in supporting the health and well-being of early career teachers.

Conclusion

Exploring the lived experiences of early career teachers through imagery which depicted their reflections of teaching in regional, rural, and remote locations has offered unique insights into life in these communities. These largely positive reflections go some way to challenging the misconceptions and deficit discourse that has dominated perceptions of teaching in regional, rural and remote communities. Highlighting the positive attributes shared by early career teachers teaching in these places and spaces, affords all teachers the opportunity to glean a better understanding of the beauty and uniqueness that encompasses regional, rural and remote locations. By considering the notion of difference differently, urban perceptions of regional, rural and remote can be examined and redefined through a strength-based narrative.

Findings from exploring these stories enable positive stories about teaching in regional, rural and remote locations to surface and provide a more balanced understanding of not just surviving, but thriving, in these contexts. The combination of images and narratives allow further elaboration

on the current binaries relating to challenging yet rewarding, often associated with the regional, rural or remote context. These binaries are tested as the images and narratives add depth to early career teachers experiences and provide a realistic continuum that blurs the boundaries inherent in traditional deficit conversations.

Providing realistic yet high expectations of teaching in regional, rural and remote locations demonstrates the importance of social, cultural, and professional immersion for teachers when working in rural, regional, and remote locations as it highlights the benefits to their overall health and well-being. If fostering rural consciousness in early career teachers can change the deficit narrative associated with these locations, then the adaptability and mindfulness of these teachers can result in deeper connection to community values. The need to revalue regional, rural and remote teaching and change the deficit narrative through the eyes of those living and teaching in these locations has never been more apparent and central to sustainable educational practices in regional, rural and remote locations and supports the work of Roberts et al. (2022) in this space. This research proposes an approach that may lead to better informed pre-service and practicing teachers contemplating employment in regional, rural and remote communities, and in doing so, may redress the staffing crisis these areas consistently face.

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A Study of Self and Professional Development, Teacher Self-Efficacy, Resilience Quotient, and Professional Ethics Attributes Among Rural Teachers in the *Kru Rak Thin* Project, Thailand

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Abstract

The Equitable Education Fund aims to assess critical attributes of beginning teachers from the *Kru Rak(ksa) Thin Project* in rural Thailand to inform future cohorts. Research assessed the levels of self and professional development, teacher self-efficacy, resilience quotient (RQ), and professional ethics among beginning teachers; and compared these attributes based on gender, graduation major, educational institution, and schools context; and gathered stakeholder opinions of beginning teachers. The sample consisted of 317 volunteers from the first cohort of the Kru Rak Thin project, 70 school principals, and 77 mentor teachers. This study assessed four key attributes of Kru Rak Thin teachers—self and professional development, teacher self-efficacy, RQ, and professional ethics. Parallel questionnaires were given to mentor teachers and school principals to evaluate their perceptions in the same domains. Data analysis was performed using descriptive statistics, the Mann-Whitney U Test, and the Kruskal-Wallis Test. The results indicated that self and professional development, teacher self-efficacy, RQ, and professional ethics attributes among beginning teachers were overall high, with professional ethics scoring highest, followed by teacher efficacy, RQ, and self and professional development. Teachers stationed on islands exhibited a significantly higher RQ than those in highland areas. Stakeholder opinions regarding the four core attributes of beginning teachers were also elevated. It is essential to enhance the capacity of Kru Rak Thin teachers through both comprehensive and targeted measures, particularly for those in highland areas who face lower readiness.

Keywords: *self and professional development, teacher self-efficacy, resilience quotient, professional ethics attributes, beginning teachers.*

Introduction

To address inequalities in educational access in remote areas of Thailand, the Equitable Education Fund (2025) initiated the Kru Rak Thin project to recruit and develop a new generation of teachers from local communities. These teachers are expected to return and enhance

educational quality and equity in their home communities. In 2024, the inaugural cohort of 327 scholarship holders from 11 universities completed their studies and were appointed as assistant teachers in 285 schools across 44 provinces under the Office of the Basic Education Commission (Equitable Education Fund, 2024).

This initiative corresponds with the concept of an induction period which has demonstrated efficacy in similar teacher development programs, such as the *Kru Khruwattanawithi* project under royal patronage. Research on the Kru Khruwattanawithi teacher cohort identified three fundamental domains of professional needs: characteristics of effective educators (6 indicators); collaborative skills within social and educational contexts (6 indicators), and professional competencies (12 indicators), with a total of 24 indicators (Erawan, 2019).

The fundamental modules intended to meet these developmental requirements include personal growth, goal setting, financial literacy, digital proficiency, and professional collaboration. The efficacy of these modules has been assessed regarding teacher self-perception, career advancement, and Resilience Quotient (RQ). Teacher self-efficacy is a construct that pertains to a teacher's conviction in their capacity to positively impact student learning. Elevated teacher efficacy is associated with increased instructional confidence, improved student outcomes, and enhanced motivation (Tschannen-Moran, et al., 1998; Bakar, et al., 2012).

Beginning teachers in Kru Rak Thin often face arduous working conditions due to geographic isolation, restricted access to educational resources, and the need to navigate cultural and linguistic diversity within rural communities. These challenges demand high levels of resilience, characterised as the ability to adjust to and recover from difficulties, crucial for maintaining psychological health and long-term professional effectiveness (Department of Mental Health, 2020; Khoshouei, 2009; Masten, 2001). The program also prioritises the development of ethical and moral integrity in accordance with the professional code of conduct for educators.

Research Objectives

The objectives of the study presented in this article were to:

- examine levels of self and professional development, teacher self-efficacy, Resilience Quotient (RQ), professional ethics attributes among the beginning teachers.
- compare levels of self and professional development, teacher self-efficacy, RQ, professional ethics attributes among beginning teachers, categorised by gender, academic major, type of teacher education institution, and the characteristics of the schools where they are teaching.
- gather stakeholders' opinions (mentor teachers and school principals) about beginning teachers.

Kru Rak Thin aims to improve the quality of educators in underprivileged Thai schools. The initiative offers scholarships to marginalised individuals with teaching potential, allowing them to obtain a bachelor's degree in education and serve their communities as educators. The program has assisted 867 graduates, who are employed in 697 schools throughout 53 provinces countrywide (Equitable Education Fund, 2025).

Research Hypothesis

We hypothesise that there are significant differences in the levels of self and professional development, teacher self-efficacy, RQ, professional ethics attributes among the beginning teachers, when classified by gender, academic major, type of teacher education institution, and school context and these differences are associated with the project.

Literature Review

The study investigated four essential characteristics of teachers, including self and professional development, teacher self-efficacy, RQ, and professional ethics, discussed below.

Self and Professional Development

Self and professional development involve a systematic process of enhancing personal and professional skills, particularly in educational professions. This ongoing improvement allows for effective task execution, adaptability, and positive outcomes for learners. It is a vital competency for tasks such as classroom management, educational technology integration, and fostering active learning or artificial intelligence in education (Darling-Hammond et al., 2017). The OECD emphasises the need for educators to engage in lifelong learning to adapt to changing societal and technological contexts. Commitment to continuous professional development, through both structured and unstructured learning, reflects the ability to collaborate and gain insights from professional networks, including peer interactions and Professional Learning Community participation (Vangrieken, et al., 2017). The Teaching and Learning International Survey (TALIS) identifies five fundamental pillars of the teaching profession: 1) Knowledge and Skills; 2) Professional Status; 3) Peer Control; 4) Responsibility and Autonomy; and 5) Prestige and Societal Value. This study assesses teachers' capacity for ongoing improvement in knowledge, teaching effectiveness, interpersonal skills, and professional competencies. The assessment comprises 24 items on a six-point scale, categorised into three components: Effective Teacher Characteristics (6 indicators); Social and School Functioning Skills (6 indicators); and Professional Competencies (12 indicators). (OECD, 2019).

Nevertheless, previous studies have demonstrated that gender has a significant impact on these variables. Tsymbaliuk et al. (2020) found that, despite similar professional confidence, female Ukrainian faculty members experienced lower job satisfaction and perceived fairness, highlighting gender discrepancies. Yüner (2022) utilized Turkey's TALIS 2018 data to show that gender, seniority, and school level influenced teachers' professional development needs. Concerning professional development, female teachers reported higher needs for student behaviours and classroom management, while male teachers noted significantly higher needs for pedagogical competencies in teaching the subject field and knowledge of the curriculum. The results indicate that all teachers have a higher-level need for teaching in multicultural and multilingual settings. However, new teachers have indicated significantly higher needs than veteran teachers.

Teacher Self-efficacy

Self-efficacy refers to one's belief in the ability to produce the desired outcome. Bandura (1977) described self-efficacy as consisting of two dimensions — efficacy expectation and outcome expectancy. An efficacy expectation definition includes "*the conviction that one can successfully execute the behaviour required to produce outcomes*," and outcome expectancy is defined as "*a person's estimate that a given behaviour will lead to certain outcomes*" (p. 193). This interpretation is consistent with Pajares (1997) employing general measurement tools that obscure the self-efficacy concept. These instruments detach self-efficacy from situational and contextual factors, representing it merely as a generalised personality trait. Although Bandura (1997) clearly defined the concept of self-efficacy in theoretical terms, subsequent research, such as that of Tschannen-Moran and Hoy (2001), has indicated that applying this concept in the context of teaching requires consideration of additional factors, such as administrative expectations and evaluation systems, that may distort teachers' perceptions of their capabilities, creating the idea of teacher self-efficacy, which means teachers' confidence in their ability to take actions that help students get involved and learn better. Their work has led to the development of the widely used

Teachers' Sense of Efficacy Scale, which captures teachers' self-perceptions across three key domains: student engagement, instructional strategies, and classroom management.

Teacher self-efficacy is important for teachers as it influences teachers' persistence when faced with difficult situations; the domains of teacher education and educational effectiveness are attributing heightened significance to the role of teachers' self-confidence (Klassen et al., 2011; Klassen and Tze, 2014; Tschannen-Moran and Hoy, 2001) and higher teacher self-efficacy is associated with improved teaching quality (Na & Isa, 2024). Numerous factors may elucidate this augmented focus. Primarily, teacher self-efficacy demonstrates a robust correlation with educators' pedagogical methodologies and the calibre of instructional practices employed by teachers (Holzberger et al., 2013). Second, these teaching practices correlate, in turn, with student achievement motivation and student learning outcomes, which are essential educational outcomes (Caprara et al., 2006; Paisun et al., 2024). Third, teachers with high self-efficacy show higher job satisfaction and commitment and are less likely to be affected by burnout, indicating the importance of the construct for their well-being (Avanzi et al., 2013; Chesnut and Burley, 2015; Mostafa and Pál, 2018). Fourth, teachers with higher self-efficacy also had a more positive attitude towards inclusive education of students with special educational needs (Saloviita & Almulla, 2024). Therefore, TALIS also collects more subjective measures of teachers' perception of the quality of their own teaching, in addition to the factual indicators of teachers' classroom practice presented above (i.e., frequency of use of certain practices and time spent on various activities).

Teacher self-efficacy is essential for structuring effective learning experiences for students and may surpass other teacher attributes in significance (Bakar et al., 2012). Teacher self-efficacy refers to the degree of confidence a teacher possesses regarding their capability to proficiently design and implement instructional methodologies. This concept embodies a teacher's assurance in executing efficient and effective pedagogical practices, frequently associated with a constructive professional disposition (Larrivee & Cook, 1979; & Podell Soodak, 1994, as cited in Martinez, 2003). Educators possessing a strong sense of teaching self-efficacy are more inclined to trust in their capacity to motivate students and are more likely to pursue ongoing self-improvement compared to those with diminished perceived efficacy (Soodak et al., 1998, cited in Martinez, 2003).

Resilience Quotient (RQ)

Resilience, derived from the Latin words *salire* (to leap up) and *resilire* (to spring back), signifies the capacity to recover from adverse situations (Davidson et al., 2005, cited in Khoshouei, 2009). Resilience, once regarded as a fixed trait of individuals, is now recognized as a dynamic process that entails positive adaptation to stressors, changes, or threats (Grotberg, 1995, cited in Erawan (2010). Grotberg articulates the construct of resilience through three fundamental components: 1) I have—possess external supports: trusting relationships, structure and rules, role models, autonomy support, and access to services. 2) I Am — Intrinsic characteristics: loveable and loving, empathy and altruism, self-pride, autonomy and responsibility, hope, faith, and trust. 3) I Can — Social competencies encompassing communication, problem-solving, impulse control, emotional insight, and seeking support.

This research used the Erawan's (2010) instrument which divides RQ into five components and 22 indicators. (See Appendix 2 for details).

Professional ethics refers to the codified standards of behaviour that function as guiding principles for educators. These regulations are designed to preserve and enhance the dignity, integrity, and respect associated with the profession in a sustainable manner within the societal context (Royal Thai Government Gazette, 2013). The Regulation of the Teachers' Council of Thailand regarding the Code of Ethics for the Teaching Profession B.E. 2556 (2013) categorizes

professional ethics into five distinct divisions, which encompass nine ethical principles, as delineated in Table 1.

Table 1: ***Five Divisions and Nine Principles of Professional Ethics as Defined in the National Teacher Code of Conduct***

Domain	Summary Description
1. Toward Oneself	Exercising self-regulation and engaging in ongoing professional development concerning knowledge, character, and vision.
2. Toward the Profession	Exhibiting affection, trust, integrity, and accountability towards the educational profession, while also being an exemplary member of the professional community.
3. Toward Learners and Service Recipients	Demonstrating care, empathy, encouragement, and equity towards students without the pursuit of personal benefit.
4. Toward Colleagues	Facilitating reciprocal support and promoting cohesiveness among colleagues founded on ethical standards.
5. Toward Society	Taking a leadership role in preserving and promoting society, environment, culture, and a democratic system with the King as Head of State.

According to Table 1, Erawan (2020) further refined the five divisions of professional ethics into nine key indicators, 1) Demonstrating compassion through care and equitable support for students. 2) Teaching with integrity to enhance students' knowledge and moral character. 3) Serving as a role model through proper conduct. 4) Avoiding actions that impede students' holistic development. 5) Abstaining from personal gain or misuse of authority regarding students. 6) Committing to ongoing professional and personal development. 7) Exhibiting dedication to the teaching profession and active involvement in professional bodies. 8) Collaborating with colleagues and community with a strong ethical commitment. 9) Leading efforts to preserve cultural heritage and uphold democratic values within the constitutional monarchy. Recent studies have explored the demographic and experiential determinants of ethical perceptions in education. Debeş (2021) found that age and experience notably influenced ethical perceptions among 70 educators in Northern Cyprus, while gender was deemed non-significant. This finding contrasts with Burakgazi, et al., (2020), who identified gender and academic major as significant factors affecting ethical views, with female pre-service teachers demonstrated higher levels of ethical awareness than their male counterparts. While Iriani & Lelatobur (2024) evaluated professional responsibility and determined that both male and female educators exhibited equivalent high levels of this attribute. They also raise critical questions about how teacher education programs can more equitably foster ethical competencies across diverse student populations.

Methodology

This study adopted a survey research design chosen to address the research objectives. The authors' institution granted ethical approval (ethical clearance No. 585-594/2567).

Participants

Volunteer sampling was used to collect data from a total of 327 *beginning teachers* (Kru RakThin Cohort 1), 285 principals of the schools where the *beginning teachers* were appointed, and 327 inservice teachers who were assigned as mentors to the *beginning teachers* in their respective schools, who completed the online survey. *Beginning teachers* had 317 valid responses (females: 256, 83.6%; males: 52, 16.4%), school principals had 70 valid responses (47.62%), and mentor teachers had 77 valid responses (52.38%). It is noted that due to the method of sourcing

participants, the sample was not a random one. The participants' demographic information is presented in Table 2 and Table 3.

Table 2: ***Demographic Information of the Beginning Teachers***

Variables/graduation major	**Primary Education**		**Early Childhood Education**		**Total**	
	n	%	n	%	n	%
Gender						
Male	27	51.92	25	48.08	52	16.40
Female	97	36.60	168	63.40	265	83.60
Education Institutions						
Public Universities	33	50.77	32	49.23	65	20.50
Rajabhat Universities	91	36.11	161	63.89	252	79.50
Universities						
Kalasin University	1	3.13	31	96.88	32	10.09
Kanchanaburi Rajabhat University	0	0.00	23	100.00	23	7.26
Kamphaeng Phet Rajabhat University	31	100.00	0	0.00	31	9.78
Pibulsongkram Rajabhat University	0	0.00	31	100.00	31	9.78
Yala Rajabhat University	27	100.00	0	0.00	27	8.52
Suratthani Rajabhat University	2	7.14	26	92.86	28	8.83
Muban Chombueng Rajabhat University	0	0.00	23	100.00	23	7.26
Chiang Rai Rajabhat University	0	0.00	30	100.00	30	9.46
Chiang Mai Rajabhat University	3	9.68	28	90.32	31	9.78
Loei Rajabhat University	31	100.00	0	0.00	31	9.78
Chiang Mai University	29	96.70	1	3.30	30	9.46
School Context						
highland regions	81	38.39	130	61.61	211	66.56
border zones	21	30.88	47	69.12	68	21.45
island communities	6	28.57	15	71.43	21	6.62
disaster-prone areas	16	94.12	1	5.88	17	5.37
Total	124	39.12	193	60.88	317	100.00

Table 3: ***Demographic Information of Stakeholders***

Gender/ Stakeholders	School contexts								Total	
	Highland regions		Border zones		Island communities		Disaster-prone areas			
	n	%	n	%	n	%	n	%	n	%
Male										
Mentor teachers	4	7.55	0	0.0	0	0.0	1	1.89	5	9.43
School principals	35	66.04	6	11.32	5	9.43	2	3.77	48	90.57
Total males	39	73.58	6	11.32	5	9.43	3	5.66	53	100.0
Female										
Mentor teachers	45	47.87	14	14.89	10	10.64	3	3.19	72	76.60
School principals	7	7.45	10	10.64	3	3.19	2	2.13	22	23.40
Total females	52	55.32	24	25.53	13	13.83	5	5.32	94	100.0
Total	91	61.90	30	20.41	18	12.24	8	5.44	147	100.0

Research Instruments

Two distinct sets of research instruments were employed to correspond with the characteristics of different respondent groups. Given the recognized limitations of self-assessment, the data collection process was expanded to incorporate perspectives from relevant stakeholders, with the aim of enhancing the accuracy, validity, and objectivity of the findings. Accordingly, an additional sample group was included in the study design.

Instruments for Beginning Teachers. Four structured questionnaires were adapted from instruments developed by Erawan (2022), The discrimination indices (r) were found using item-total correlation analysis, and the reliability coefficients (Cronbach's alpha, α) were calculated for each questionnaire, showing good internal consistency and covering these areas: 1) Self and Professional Development—24 items (r=0.367–0.814; α=0.957), 2) Teacher Self-Efficacy—12 items (r=0.560–0.772; α=0.916), RQ—42 items (r=0.618–0.828; α=0.945), and 4) professional ethics attributes—9 items (r=0.565–0.873; α=0.923). All items utilized a 6-point Likert scale ranging from 0 (not at all) to 5 (to the greatest extent). Researchers can potentially reduce central tendency bias by using even-numbered scales (4, 6, 8, or 10 points) to guide respondents toward a specific side of the scale (Kusmaryono & Wijayanti, 2022), and the 6-point scale might appear to measure traits more accurately (Chang, 1994). However, instrument validation was conducted using a pilot sample of 67 beginning teachers who studied under the patronage of Her Royal Highness Princess Maha Chakri Sirindhorn (cohorts 4 and 5), who share similar characteristics with the Kru RakThin (cohort 1).

Instruments for School Principals and Mentor Teachers. A separate set of four questionnaires was administered to school principals and mentor teachers to assess their perceptions of the beginning teachers in the following domains: 1) Self and Professional Development—48 items, 2) Teacher Self-Efficacy—12 items, 3) RQ—15 items, 4) Professional

Ethics—18 items These instruments also employed a six-point Likert scale (0 to 5). Content validity was examined by three experts in educational research, each of whom possessed at least five years of relevant academic or professional experience. The Item-Objective Congruence values for all items ranged from 0.67 to 1.00, indicating an acceptable level of agreement on item relevance and clarity. The scoring criteria are presented in Appendix 1.

Data Collection

The research was conducted during the second semester of the 2024 academic year. Participants were divided into two primary groups: mentor teachers and school principals, and Kru Rak Thin instructors. Formal requests for collaboration were issued by the Faculty of Education, Mahasarakham University, to the appropriate agencies on behalf of the Kru Rak Thin teachers. The survey link was subsequently distributed via email and LINE groups, a widely used messaging platform among Thai educators, allowing for quick, convenient, and familiar access to participants. Respondents were required to register prior to completing the questionnaire, which was limited to a single submission. The data collection period for this group was from August 1 to August 15, 2024.

The group comprising mentor teachers and school principals followed a similar procedure. A formal request for cooperation was sent to the relevant agencies, and the survey link was distributed via email and telephone contact. As with the previous group, respondents were required to register before accessing the questionnaire and were permitted to submit their responses only once. The response period for this group was set from August 16 to August 30, 2024. Data obtained from both groups were analysed in accordance with the research objectives.

Data Analysis

Data analysis was conducted using descriptive statistics, including number, percentage, mean, and standard deviation, for fundamental data analysis of the sample and the rating scale questionnaire. The normality test findings indicate that the data does not follow a normal distribution ($p < 0.05$). Consequently, the hypothesis was examined using nonparametric statistics with the Mann-Whitney U Test for the difference between self and professional development, teacher self-efficacy, RQ, and professional ethics attributes based on gender (male/female), education institutions (public universities/Rajabhat universities), academic major (primary education/early childhood education)**.** The Kruskal-Wallis Test was used based on school context (highland regions/border zones/island communities/disaster-prone areas). Nonparametric tests were used: the Mann-Whitney U Test for group comparisons by gender, institution type, and major; and the Kruskal-Wallis Test by school context (highland, border, island, disaster-prone).

Results

The assessment of the self and professional development, teacher self-efficacy, RQ, and professional ethics attributes of beginning teachers yielded significant findings. While self and professional development scores were lower (average of 3.70), teacher self-efficacy scores were much higher (average of 4.24), followed by RQ scores (average of 4.04), and professional ethics scores were the highest (average of 4.44). At the .05 significance level, skewness analysis indicated that all four variables had left skewness, or negative skewness, with professional ethics traits exhibiting the most significant negative skewness (SK = -1.70).

In terms of SE SK, all characteristics were equal to 0.14, indicating that most teachers scored above average. However, standard error could be used to create confidence intervals of skewness and kurtosis, i.e., if the data had a normal distribution, the 95% confidence intervals of skewness and kurtosis could be obtained by the following formulas: skewness +/- 1.96 (SE Skew)

and s +/- 1.96 (SE Kurt), respectively. If the 95% confidence interval includes zero, then the normal distribution at the .05 statistical significance level indicates that this data set is symmetrical or that the distribution is insignificantly skewed, suggesting a normal distribution with 95% confidence intervals (Wattana Suntornchai, 2011, cited in Erawan, 2010). The analysis results indicated that the 95% confidence intervals for the skewness of the instructional strategies variable covered zero (-0.48 to 0.06), which means this variable had a statistically significant normal curve distribution at the .05 level with a confidence interval of 95%. In contrast, other variables exhibited negative skewness within a 95% confidence interval, suggesting that most teachers' scores were above average.

In the case of kurtosis (KU), it showed that teacher self-efficacy had negative kurtosis (-0.13), but other variables showed positive kurtosis, as the SE SK of all variables showed the same value of 0.27. When we looked at the 95% confidence intervals for kurtosis, we found that the intervals for self and professional development and teacher self-efficacy included zero, which means the data followed a normal distribution curve with 95% confidence, as shown in Table 4.

Table 4: ***Descriptive Statistics of the Characteristics (n=317)***

Characteristics	Mean	Std Dev	Inter-preting	SK	SE SK	Confidence Intervals of 95% of SK	KU	SE KU	Confidence Intervals of 95% of KU
1. Self and Professional Development	3.70	.79	High	-.87*	0.14	-1.14 to -.60	.20	.27	-.33 to .73
1.1. Characteristics of being a good and effective teacher	3.55	.79	High	-.69*	0.14	-.96 to -.42	.02	.27	-.51 to .55
1.2 Social skills and working in schools	3.99	.83	High	-.95*	0.14	-1.22 to -.68	.28	.27	-.25 to .81
1.3 Teacher professional competencies	3.63	.85	High	-.66*	0.14	-.93 to -.39	-.08	.27	-.61 to .45
2. Teacher Self-Efficacy	4.24	.49	High	-.44	0.14	-.71 to -.17	-.13	0.27	-.66 to .40
2.1 Student engagement	4.33	.51	High	-.51	0.14	-.78 to -.24	-.15	0.27	-.68 to .38
2.2 Instructional strategies	4.19	.53	High	-.21	0.14	-.48 to .06	-.40	0.27	-.93 to .13
2.3 Classroom management	4.19	.57	High	-.43	0.14	-.70 to -.16	-.22	0.27	-.75 to .31
3. Resilience Quotient	4.04	.74	High	-1.26	0.14	-1.53 to -0.99	1.38	0.27	0.85 to 1.91
3.1 The capacity to control emotions	4.07	.76	High	-1.17	0.14	-1.44 to -0.90	1.26	0.27	0.73 to 1.79
3.2 Patience	3.63	.78	High	-1.05	0.14	-0.77 to -0.23	.16	0.27	-0.37 to 0.69
3.3 Commitment to life and future	4.10	.84	High	-1.05	0.14	-1.32 to -0.78	.59	0.27	0.06 to 1.12
3.4 Optimism	4.18	.81	High	-1.22	0.14	-1.49 to -0.95	1.07	0.27	0.54 to 1.60
3.5 Faith in living	4.18	.84	High	-1.28	0.14	-1.55 to -1.01	1.23	0.27	0.70 to 1.76
4. Professional ethics attributes	4.44	.74	Highest	-1.70	0.14	-1.97 to -1.43	2.76	.027	2.23 to 3.29

Note * Significant at $p < 0.05$ level

A comparison of self and professional development, teacher self-efficacy, RQ, and professional ethics attributes among new teachers, looking at differences based on gender, major, and schools, using the Mann-Whitney U test showed that (as shown in Table 5):

2.1 Self and professional development, teacher self-efficacy, RQ, and professional ethics attributes of beginning teachers of both males and females were not different. (Asymp. Sig. = 0.287, 0.777, 0.681, and 0.601, respectively).

2.2 Self and professional development and professional ethics attributes of beginning teachers of both graduation majors, Primary Education and Early Childhood Education**,** were not different (Asymp. Sig. = 0.098 and 0.059, respectively). However, we found statistically significant differences in teacher self-efficacy and RQs. (Asymp. Sig. = 0.002 and 0.004, respectively).

2.3 Self and professional development, teacher self-efficacy, RQ, and professional ethics attributes of beginning teachers at both public universities and Rajabhat universities were not different. (Asymp. g. = 0.168, 0.709, 0.851, and 0.412, respectively).

Table 5: ***Testing Differences in key Teacher Attributes Among Beginning Teachers by Gender and Major Using Man - Whitney U Test***

Variables	**Self and Professional Development**		**Teacher Self-Efficacy**		**Resilience Quotient**		**Professional Ethics Attributes**	
Gender	Male	Female	Male	Female	Male	Female	Male	Female
N	52	265	52	265	52	265	52	265
Mean Rank	171.38	156.57	155.72	159.64	163.77	158.06	164.90	157.84
Sum of Ranks	8911.50	41491.50	8097.50	42305.50	8516.00	41887.00	8575.00	41828.00
Mann-Whitney U	6246.500		6719.500		6642.000		6583.000	
Sig.	0.287		0.777		0.681		.601	
Graduation Major	Primary Education	Early Childhood Education	Primary Education	Early Childhood Education	Primary Education	Early Childhood Education	Primary Education	Early Childhood Education
N	124	193	124	193	124	193	124	193
Mean Rank	148.38	165.82	138.89	171.92	140.55	170.85	147.20	166.58
Sum of Ranks	10649.500	32003.50	17222.00	33181.00	17428.00	32975.00	18252.50	32150.50
Mann-Whitney U	0.098		9472.000		9678.000		10502.500	
Sig.			**0.002**		**0.004**		.059	
Universities	Public	Rajabhat	Public	Rajabhat	Public	Rajabhat	Public	Rajabhat
N	65	252	65	252	65	252	65	252
Mean Rank	172.95	155.40	162.78	158.03	160.90	158.51	167.08	156.91
Sum of Ranks	11242.00	39161.00	10580.50	39822.50	10458.50	39944.50	10860.50	39542.50
Mann-Whitney U	7283.000		7944.500		8066.500		7664.500	
Sig.	0.168		0.709		0.851		0.412	

Self and professional development, teacher self-efficacy, and professional ethics attributes over beginning teachers of school context were not different (Asymp. Sig. = 0.035, 0.168, and 0.099, respectively). However, there was a statistically significant difference in RQ between teachers working in highland areas and those in island communities (Sig. = 0.009). (As shown in Table 6):

Table 6: ***Testing Differences in key Teacher Attributes Among Beginning Teachers by School Context Using Kruskal Wallis Test***

Variables	School Context	N	Mean Rank	Kruskal-Wallis H	df	Asymp. Sig.
Self and Professional Development	highland regions	211	150.53	8.607*	3	.035
	border zones	68	172.11			
	island communities	21	205.33			
	disaster-prone areas	17	154.44			
	Total	317				
Teacher Self-Efficacy	highland regions	211	155.06	5.046	3	.168
	border zones	68	170.18			
	island communities	21	186.29			
	disaster-prone areas	17	129.50			
	Total	317				
Resilience Quotient	highland regions	211	147.40	11.685*	3	.009
	border zones	68	176.36			
	island communities	21	204.52			
	disaster-prone areas	17	177.32			
	Total	317				
Professional Ethics Attributes	highland regions	211	152.38	6.279	3	.099
	border zones	68	170.93			
	island communities	21	196.02			
	disaster-prone areas	17	147.65			
	Total	317				

Mean and Standard Deviation Analysis of mentors' and school principals' perceptions of beginning teachers revealed that, overall, the teachers demonstrated the four key attributes at the highest level (M = 4.38, SD = 0.64). When examined by individual dimensions, professional ethics attributes were rated the highest (M = 4.57, SD = 0.72), followed by teacher self-efficacy (M = 4.44, SD = 0.51) and RQ (M = 4.35, SD = 0.75), with the subdimension *faith in life* receiving the highest mean score in that category. Meanwhile, self and professional development was also rated at a high level (M = 4.30, SD = 0.75), with the subdimension of social skills and working in schools receiving the highest mean score within that domain (see Table 7).

Table 7: Descriptive Statistics of Mentors' and School Principals' Perceptions of Beginning Teachers

Variables	Mentor Teachers (n = 77)			School Principals (n = 70)			Total		
	Mean	Std Dev	Inter-preting	Mean	Std Dev	Inter-preting	Mean	Std Dev	Inter-preting
1. Self and Professional Development	4.34	.72	High	4.26	.78	High	4.30	.75	High
1.1. Characteristics of being a good and effective teacher	4.38	.68	Highest	4.31	.79	High	4.34	.73	High
1.2 Social skills and working in schools	4.44	.76	Highest	4.38	.79	Highest	4.41	.78	Highest
1.3 Teacher professional competencies	4.27	.77	High	4.17	.83	High	4.22	.80	Highest
2. Teacher Self-Efficacy	4.37	.50	Highest	4.50	.52	Highest	4.44	.51	Highest
2.1 Student engagement	4.40	.55	Highest	4.48	.57	Highest	4.44	.56	Highest
2.2 Instructional strategies	4.36	.54	Highest	4.50	.57	Highest	4.43	.56	Highest
2.3 Classroom management	4.36	.52	Highest	4.53	.52	Highest	4.44	.53	Highest
3. Resilience Quotient	4.36	.73	Highest	4.34	.79	High	4.35	.75	Highest
3.1 The capacity to control emotions	4.30	.78	High	4.32	.81	High	4.31	.79	High
3.2 Patience	4.27	.79	High	4.27	.86	High	4.27	.82	High
3.3 Commitment to life and future	4.33	.77	High	4.30	.83	High	4.32	.80	High
3.4 Optimism	4.41	.72	Highest	4.37	.77	Highest	4.39	.74	Highest
3.5 Faith in living.	4.48	.73	Highest	4.44	.81	Highest	4.46	.77	Highest
4. Professional ethics attributes	4.55	.75	Highest	4.59	.70	Highest	4.57	.72	Highest
Total							4.38	.64	Highest

Findings from Frequency and Percentage Analysis of Additional Comments

An examination of the frequency and proportion of supplementary comments from stakeholders indicated that 74 respondents provided qualitative feedback. The three most cited themes were as follows: 1) The predominant theme (n = 28, 28.00%) highlighted that the Kru Rak Thin program is an invaluable initiative that cultivates high-quality educators dedicated to their local communities. Participants emphasized that the program offers educational opportunities for disadvantaged students and fosters sustainable local development. 2) The second most prevalent remark (n = 17, 22.97%) indicated that Kru RakThin teachers are knowledgeable, proficient, and adept at executing their responsibilities effectively. These teachers were perceived as being able to apply their skills and knowledge professionally and meaningfully in their teaching roles. 3) The third most frequent theme (n = 10, 13.51%) suggested the need for ongoing and continuous self-development among beginning teachers to keep up with

educational changes. Specific areas for development included classroom management techniques, multigrade teaching strategies, educational technology, community-based curriculum development, and foreign language proficiency.

Discussion

The results indicated that beginning teachers in the program demonstrated a significant degree of self and professional development. This phenomenon can be ascribed to their robust intrinsic motivation, dedication to the teaching profession, and the assistance provided by the EEF scholarship program, which facilitated their return to serve their home communities. The results align with the research of Day (1999) and Avalos (2011), emphasizing that teacher professional development is an ongoing and reflective process that enhances teaching quality. Designated areas require enhancement. Teachers exhibited moderate proficiency in instructing multigrade and inclusive classrooms, highlighting broader national challenges in the implementation of inclusive education, as observed by Nimtalung (2009) and Florian & Black-Hawkins (2011). Teachers displayed robust professional competencies; however, their financial literacy and English proficiency were average. This corresponds with national surveys by the Bank of Thailand (2020) and international research by Kaiser & Menkhoff (2020), revealing that many teachers lack formal training in financial management. Moreover, teachers' inadequate English proficiency reflects national trends (Pajontrapak et al., 2021; Mae Fah Luang Foundation under Royal Patronage, 2025; Baker et al., 2012) and represents a significant barrier to effective instruction, especially in a globalized educational environment. These findings highlight the necessity for focused interventions in financial literacy and English language proficiency as essential components of continuous teacher support.

The research indicated that beginning teachers in the program exhibited a notable level of teacher self-efficacy (M = 4.24, SD = 0.49), with the highest scores in student engagement (M = 4.33), followed by classroom management (M = 4.19) and instructional strategies (M = 4.19). The results indicate that teachers exhibit considerable confidence in their teaching abilities, presumably linked to the quality of pre-service training and the motivational assistance offered by the scholarship program. This corresponds with Bandura's (1997) concept of self-efficacy, which underscores the significance of confidence in one's ability to execute particular tasks. Persistence, adaptability, and effective pedagogical strategies are associated with improved teacher efficacy. The results correspond with Tschannen-Moran and Hoy's (2001) *Teacher Sense of Efficacy* model, which identifies the same three dimensions as essential for effective teaching. Klassen and Tze (2014) present further evidence indicating positive correlations between teacher self-efficacy and instructional planning, student relationships, and responsiveness to learner diversity across diverse educational systems. In the Thai context, Erawan (2022) documented elevated teacher self-efficacy among Kru Khruwattanawithi educators (M = 4.20), thereby corroborating the uniformity of these results across analogous teacher development initiatives.

The research indicated that beginning teachers exhibited a significant overall RQ (M = 4.04, SD = 0.74). The most highly rated dimensions were faith in life and optimism, signifying a robust foundation of positive attitudes and spiritual grounding, which are crucial for managing professional and personal challenges. The dimensions with the poorest ratings were patience and adaptability to changing circumstances, with the item 'ability to adapt to new situations' obtaining the lowest score (M = 3.40, SD = 0.91). This signifies a relative vulnerability in emotional regulation when faced with stress or transitions, particularly in demanding academic environments. These findings align with Masten's (2001) definition of resilience as the process of positive adaptation in the face of adversity, and the Department of Mental Health's (2020) conceptualisation of the RQ, which encompasses emotional stability, self-motivation, and problem-solving capabilities. Southwick and Charney (2018) emphasised emotional regulation and psychological flexibility as essential elements of resilience, indicating that diminished

adaptability may necessitate focused assistance in emotional coping strategies. Comparable trends were observed in Erawan's (2022) investigation of Kru Khruwattanawithi educators, where RQ attained a commendable average rating (M = 3.63); however, the lowest evaluations were consistently recorded in patience, underscoring the imperative for focused enhancement in this facet of resilience among novice educators.

The results revealed no notable gender disparities among beginning teachers regarding self and professional development, teacher self-efficacy, RQ, and professional ethics attributes. This indicates that the teacher preparation program associated with the Kru Rak Thin initiative has successfully facilitated the comprehensive development of both male and female educators equally. The results correspond with previous research by Erawan (2022), which indicated no differences between male and female educators concerning analogous traits within the Kru Khruwattanawithi program. Ali (2019) similarly found that various demographic factors—namely gender, age, marital status, education level, and professional background—had no substantial impact on the self-development needs of teachers in Pattani province, Thailand. Comparable patterns have also been observed worldwide. Bedia (2015) found no significant gender differences in teacher self-efficacy among 678 primary and secondary school teachers in Turkey. The findings indicate that there is no significant difference in RQ between male and female teachers, which is consistent with previous studies (Zhang & Luo, 2023; Mustofa et al., 2024). However, other research suggests that gender may influence resilience. Marta et al. (2023) observed that female adolescents aged 15–18 exhibited higher RQ scores than males. In contrast, Lee (2023) reported that Malaysian male employees and individuals aged 50 and above had higher RQ scores than their younger counterparts. Collectively, these findings highlight the importance of designing teacher development programs that address individual competencies across demographic differences, and they underscore the potential of both male and female novice teachers to thrive under equitable support systems.

The results indicated that beginning teachers from both primary and early childhood education backgrounds demonstrated comparable levels of self and professional development, along with compliance with professional ethics. Notable disparities were observed in teacher self-efficacy and RQ, with early childhood education instructors achieving superior scores in both domains. This disparity can be attributed to the distinctive characteristics of early childhood education, in which educators significantly influence the foundational aspects of children's cognitive, emotional, and social development. The Office of the Education Council (2012) states that early childhood educators are considered to have a significant impact on children's development, second only to that of parents. Their responsibilities encompass not only caregiving but also the development of children's self-perception, emotional stability, and learning capacity, potentially improving their self-efficacy and RQ. Evidence substantiates this interpretation. Rodpirom (2022) highlighted the necessity for early childhood educators to have robust self-awareness, confidence, and emotional attunement, which are essential components of resilience. Their primary characteristics—playfulness, patience, optimism, and commitment—are associated with higher levels of RQ. The findings correspond with those of Erawan (2022), who reported similarly high efficacy scores among novice teachers in the Kru Khruwattanawithi program. The findings suggest that early childhood education characteristics may improve teacher self-efficacy and relational quality, likely due to the increased personal investment and emotional involvement required when working with young children. In addition, the implementation of regional university learning centres to connect with communities in developing teachers' capacities in alignment with the lived context of local life has proven effective. This initiative helped participants gain qualifications while directly contributing to the needs of their communities. (Barry & Samson, 2025).

The study found no significant differences in self and professional development, teacher self-efficacy, RQ, and professional ethics attributes between beginning teachers who graduated from

public universities and those from Rajabhat universities. This discovery underscores the effectiveness of teacher preparation programs across diverse institutional categories that comply with the standards set by the Teachers' Council of Thailand and national higher education frameworks. Teacher self-efficacy, which refers to the belief in one's ability to teach effectively, is predominantly shaped by experiential and psychological factors rather than by institutional affiliation. According to Bandura (1997), self-efficacy is developed through four main sources: mastery experiences, vicarious experiences, social persuasion, and emotional states. These elements transcend pre-service education and persist in development through practical teaching experiences, reflective practice, and continuous support. Tschannen-Moran and Hoy (2001) similarly asserted that teacher self-efficacy is more significantly influenced by classroom experience than by the prestige or classification of the university attended. This suggests that post-graduation professional development systems are critical to strengthening teacher confidence and instructional capacity. Regarding RQ, the absence of differences between graduates from different institutions supports the notion that resilience is shaped primarily by personal experiences and social learning rather than academic settings. Masten (2001) identified resilience as "*ordinary magic*" (p. 227) arising from consistent interactions, stable relationships, and reflective self-awareness. Rutter (1987) argued that internal factors, such as personal goal setting and adaptive coping strategies, are essential in the development of resilience. Professional ethics exhibit similarity across different institutions, suggesting that the moral and ethical conduct of educators is predominantly shaped by wider social, cultural, and familial influences, rather than being solely dictated by the educational institution. This corresponds with Kohlberg (1981) theory of moral development, which asserts that ethical reasoning evolves through stages influenced by social experiences and personal moral contemplation, rather than by formal education. The findings indicate that although teacher preparation institutions offer a crucial foundation, qualities such as efficacy, resilience, and ethics are fundamentally linked to personal development and lifelong learning, necessitating ongoing support beyond initial training.

The study indicated no significant disparities in self and professional development, teacher self–efficacy, or professional ethics characteristics among beginning teachers across diverse geographical settings, such as highland areas, border zones, islands, and disaster-prone regions. This signifies that the standardised and rigorous teacher preparation process employed by the Kru Rak Thin program has successfully cultivated essential competencies across various teaching environments. Teachers who return to their home communities have a strong connection to the familiar local environment. Because individuals can see the benefits of their contributions to the community and feel appreciated for their efforts, this sense of integration improves their general job satisfaction and contentment in their professional responsibilities. On the other hand, educators from outside the area could find it challenging to understand and respect Indigenous cultures, which often have complex and delicate traits. Without this understanding, kids can encounter ethnic difficulties and experience a sense of alienation from their group. (Macdonald et al., 2025).

A notable disparity was observed in the RQ between teachers in highland regions and those in island locations, with teachers from islands achieving higher scores (Sig = .006). This can be ascribed to contextual factors. Teachers in highland areas often face physical isolation, extreme temperatures, and limited resource availability, which may increase stress and prevent long-term emotional adjustment. In contrast, island communities frequently preserve interdependent, tightly knit social networks that provide substantial emotional and communal support, despite the challenges they face with transportation. This observation aligns with Southwick and Charney's (2018) resilience framework, which emphasises the importance of social support, emotional regulation, and positive outlooks. The study found a strong correlation between social support and psychological adjustment, indicating that individuals who perceive higher levels of social support generally exhibit better psychological adaptation. This highlights the importance

of social connections in mental health (Zell & Stockus, 2025). In closely-knit island communities, such support systems are more accessible, thus promoting greater emotional resilience. The findings align with the Thai Department of Mental Health (2020), which highlights support from others as a core component of RQ, influencing individuals' capacity to handle emotional difficulties. In conclusion, although essential teacher attributes seem to be consistent across various geographic contexts, emotional resilience may be considerably influenced by environmental and social factors, especially the level of community integration and support.

Conclusion

The Kru RakThin Project is an initiative designed to produce educators to mitigate educational disparities in rural regions of Thailand. The Equitable Education Fund oversees a project that identifies and selects high school seniors from rural areas, offering scholarships for participation in teacher education programs at universities nationwide. Following graduation, these individuals are designated by the Ministry of Education to serve as government educators in their localities. Findings from this study indicate that graduates from the first cohort of the program exhibit high levels of personal and professional development, teacher self-efficacy, emotional and psychological resilience, and professional ethics. These results provide critical information to guide the ongoing support and continuous professional development for this cohort of educators. Furthermore, the findings aid in the planning and refinement of teacher preparation for current student teachers in the program, while also informing policy-level advancements in teacher preparation programs, pedagogical practices in faculties of education, and the practicum aspect of the project to improve overall efficacy.

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Appendix 1

The scoring criteria for all tools were calculated by sizing the score range for each step, then it was used to determine the score in each range which the score range size was (highest-lowest

score) /6 therefore, the range size was (5-0) /6 that was 0.83. (Sunthornchai, 2021 cited in Erawan, 2010). Therefore, the score for each range size was as follows:

Level	Score Range	Interpretation
1	0.00-0.82	Not having these attributes.
2	0.83-1.65	Having these attributes at the lowest level
3	1.66-2.48	Having these attributes at a low level
4	2.49-3.31	Having these attributes at a moderate level
5	3.32-4.34	Having these attributes at a high level
6	4.35-5.00	Having these attributes at the highest level

Appendix 2

Resilience Quotient (RQ) components

The ability to regulate emotions is the first component, with five indicators
1) Awareness and understanding of one's own emotions,
2) Managing and expressing emotions in a way that respects others,
3) Taking ownership of one's emotional actions
4) Capacity to control emotions and inclinations in diverse contexts,
5) Using humour or appropriate stress-reduction techniques.
Patience is the second component with four indicators:
1) The capacity to maintain composure and reason in stressful or difficult circumstances,
2) The capacity to identify suitable solutions in the face of challenges,
3) The ability to wait for the ideal time and results,
4) The ability to adjust to different situations without losing emotional equilibrium.
The third component is commitment to life and the future with four indicators
1) Establishing specific, well-defined objectives in life, like those related to education or employment,
2) Organizing and carrying out the necessary steps to accomplish those objectives,
3) Exhibiting a sustained commitment to doing good over time,
4) Remaining strong and resolute in the face of challenges.
The fourth component is optimism with six indicators:
1) Having a positive self-perception, as well as accepting and valuing oneself,
2) Being proud of one's achievements and value,
3) Behaving with goodwill, kindness, and compassion toward others,
4) Keeping an optimistic outlook while dealing with issues
5) Exhibiting optimism and drive despite hardship,
6) The ability to ask for assistance when one is aware of their limitations.
The fifth component is faith in living with three indicators
1) Belief that one's life can benefit others and society, with a spirit of altruism,
2) Ability to distinguish right from wrong through reasoned judgment, and
3) Faith in virtue and morality: acting ethically without expecting rewards.

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Exclusion by Design: How Academic Prerequisites Propel Australia's Rural Doctor Shortage

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Abstract

Australia faces ongoing rural medical workforce shortages linked to inequities in medical school access. Despite initiatives like the Rural Health Multidisciplinary Training program, academic prerequisites and university admissions criteria, disproportionately exclude rural and low socioeconomic status students, reinforcing structural barriers that challenge equitable medical education and rural workforce sustainability.

The article aims to examine the multilayered barriers influencing rural and low socio-economic status student pathways into medical education, focusing on inequities linked to subject prerequisite policies. It uses a rapid review applying the Social-Ecological Framework to examine recent literature from Australia exploring systemic, institutional, community, interpersonal, and individual factors affecting rural and low socio-economic status students' access to medicine.

Structural inequities in school resourcing and decentralised policies limit rural and low socio-economic status students' access to prerequisite subjects. Medical admissions reinforce these barriers through rigid requirements. Community isolation, scarce role models, inconsistent institutional support, and limited guidance further hinder access. Despite these challenges, rural students perform equally well once admitted, highlighting the need for equitable pathways and support.

The evidence shows academic prerequisites create systemic barriers limiting rural and low socio-economic status student medical school access. The Social-Ecological Framework highlights multilayered inequities across policy, institutional, community, and individual levels, emphasising the need for evidence-based reforms to promote equitable medical education access. Rigid academic prerequisites significantly restrict rural and low socio-economic status students' medical school access. Evidence-based, coordinated reforms are essential to build a diverse, sustainable rural medical workforce.

Keywords: *rural medical education, admissions policy, subject prerequisites, medical education equity, social-ecological framework*

Introduction

Australia continues to face persistent and significant shortages of medical professionals in rural and remote regions, which poses ongoing challenges for health service delivery and community wellbeing. The severity of Australia's rural medical workforce shortage highlights an urgent need

to remove barriers limiting rural students' entry into medicine. Increasing rural-origin medical graduates is one of the most effective strategies to enhance equitable healthcare access and outcomes in underserved communities (McGrail et al., 2023). Recent research indicates the greatest shortfalls in medical professional staffing are observed not just in very remote communities, but surprisingly in small rural towns, where doctor-to-population ratios are approximately one-third of those seen in metropolitan areas (Cortie et al., 2025). Rural Australians have access to fewer general practitioners and allied health professionals per capita, as well as fewer healthcare services, contributing to reduced healthcare access despite overall workforce growth (Cortie et al., 2025). These shortages are compounded by economic and logistical challenges that limit the sustainability of health services in the less populated, rural context, necessitating urgent attention to workforce recruitment and retention.

A critical factor influencing rural medical workforce distribution is the background of medical students themselves. Recent national survey data shows that students from rural backgrounds are far more likely to practice in rural areas compared to their metropolitan peers, with 62% of rural background students intending to work rurally after graduation versus only 19% of students from non-rural backgrounds (Medical Deans Australia and New Zealand, 2025). Importantly, Aboriginal and Torres Strait Islander students, who are disproportionately represented at the intersection of rurality and low socioeconomic status (SES), face entrenched educational inequities that further compound barriers to accessing medical education (Australian Institute of Health and Welfare & National Indigenous Australians Agency, 2024). This rural background effect is well established in Australian medical workforce research and has been found to persist throughout a graduate's career, with rural-origin doctors more likely to commence, remain, and return to rural practice (McGrail et al., 2023; Walters et al., 2016).

The workforce gap in rural and remote areas have profound implications for direct health outcomes and social equity. Rural residents face higher rates of preventable hospitalisations, reduced life expectancy of up to 13 years less in very remote areas compared to metropolitan regions, and greater burden of chronic disease and avoidable mortality (National Rural Health Alliance, 2025). Access disparities, including longer waiting times for appointments and limited primary healthcare availability, exacerbate these inequities (National Rural Health Alliance, 2025). Beyond health consequences, these shortages reflect systemic social injustices that disadvantage rural populations and entrench geographic and SES-based health inequity. Securing a sustainable rural medical workforce is crucial to redressing these inequities and fulfilling the nation's commitment to equitable health outcomes and social responsibility.

Among the most prominent barriers to medical school entry are high Australian Tertiary Admission Rank (ATAR) requirements and rigid academic prerequisites, such as secondary school chemistry, which collectively act as silent gatekeepers to tertiary health programs. These requirements disadvantage students in smaller, rural, and low SES schools, where resources and curriculum offerings are constrained, and advanced level science subjects may not be available. While entry prerequisites have traditionally been justified as measures of academic readiness, emerging research questions their predictive value for later performance in medical training and practice (Shepherd et al., 2025).

Addressing these persistent workforce maldistributions requires coordinated policy responses and targeted initiatives, such as the Rural Health Multidisciplinary Training (RHMT) program and targeted outreach by the Department of Education, including the Higher Education Participation and Partnerships Program (HEPPP) and Regional Partnerships Projects Pool Program (RPPPP) (Battye et al., 2020). These initiatives provide vital funding and support for equity in higher education; however, these programs alone cannot address entrenched academic entry requirements without aligned reforms in selection processes.

This rapid review explores how subject prerequisite policies, and broader systemic, institutional, and social factors jointly shape educational disadvantage for rural and low SES students in medical school admissions. The review is guided by the primary research question of how subject prerequisite policies, shaped by multiple systemic and contextual factors, affect rural and low SES students' access to medical education, given the known role of rural origin in medical workforce distribution. To address this, the review explores the reduced availability of advanced secondary school subjects in rural and low SES schools, the systemic factors contributing to these disparities, and the ways students compensate. It also examines how medical schools assess applicants without formal subject prerequisites, whether current equity initiatives effectively address these barriers, and how these challenges influence students' opportunities to pursue medicine.

The analysis draws on the Social-Ecological Framework (Gregson et al., 2001), which offers a comprehensive lens for examining the complex and multilayered factors influencing access to medical education. By considering the determinants at the structural, community, institutional, interpersonal, and individual levels, the Social-Ecological Framework enables a nuanced analysis of how barriers interact and compound disadvantage for rural and low SES students.

Method

This study utilised a rapid review methodology to provide timely, policy-relevant insights into the barriers faced by rural and low SES students in accessing undergraduate medical education in Australia. The decision to conduct a rapid review, rather than a traditional systematic review, was driven by a need to synthesise and mobilise the current evidence in an accelerated manner. This approach has become increasingly prominent in education and health policy research settings where timely, evidence-based guidance is essential for informing reform and addressing ongoing or urgent workforce shortages. A systematic review, while offering the most comprehensive coverage and minimising bias, requires extensive time and resources, often taking many months or years to complete. In contrast, the rapid review accelerates knowledge synthesis by streamlining certain steps, such as limiting the number of databases searched, undertaking single-reviewer screenings, or prioritising higher-quality evidence, while still retaining methodological rigour and transparency in reporting (Hamel et al., 2021).

To support and enhance the efficiency of the review process, artificial intelligence (AI)-assisted tools were utilised throughout, assisting with initial source identification, keyword extraction, thematic analysis, and text summarisation. All AI outputs were critically evaluated by the single reviewer to ensure accuracy and relevance.

For the literature search, a review protocol was developed to clarify the research question, review scope, and eligibility criteria prior to commencement. An initial targeted search was conducted in May 2025 across two major databases, Scopus and Google Scholar, chosen for their broad coverage of medical education and equity research. Titles, abstracts, and keywords of relevant articles were analysed to develop refined search terms for a subsequent, more comprehensive search within the same databases. Search terms combined key words and phrases related to medical education admissions (e.g. "medical school admissions", "subject prerequisites", "academic requirements"), rural and low SES populations (e.g. "rural students", "low socioeconomic status", "educational disadvantage", "curriculum access"), and equity (e.g. "access", "barriers", "equity", "disadvantage"). The review focused primarily on studies published since 2020 to ensure currency and relevance in a policy environment experiencing rapid change. However, to ensure historical context and to capture influential policy analysis, seminal works published before 2020 were also considered, particularly if they were repeatedly cited in contemporary literature or included in key policy documents.

Screening and study selection were conducted by a single reviewer, who evaluated titles and abstracts for relevance before performing a full-text review of potentially eligible studies. Reference lists of all included papers were manually scanned to identify additional studies and policy documents that may not have emerged from database searching, a process recommended for enhancing the breadth of coverage in rapid reviews (Smela et al., 2023). Data extraction and quality appraisal were conducted manually by the single reviewer, focusing on information pertaining to subject prerequisite barriers, systemic and contextual influences, and reported interventions or policy approaches. Twelve articles were included in the final literature review (Table 1). Ethics approval was sought but deemed unnecessary for this synthesis of published literature.

Table 1: ***Summary of Included Studies***

Author(s), Year	Population/ Setting	Methodology	Focus Area(s)	Key Findings
Clemons et al., 2017	785 Australian first year tertiary chemistry students.	Mixed methods study (surveys, interviews)/	Student perceptions of introductory chemistry topic.	Students overestimated the challenge and underestimated the time required for the topic. Almost 50% of the cohort subsequently chose majors where the unit was a prerequisite.
Dean, Downes, et al., 2023	All 436 New South Wales (Australia) government schools.	Quantitative analysis (administrative data).	Effect of socioeconomic status, location, and size on senior secondary curriculum access.	Rural areas, low socioeconomic status, and smaller schools offer fewer advanced subjects.
Dean, Roberts, et al., 2023	73,351 final year students in 770 schools in New South Wales (Australia).	Quantitative analysis (administrative data).	Relationship between school socioeconomic composition and the availability and complexity of the academic curriculum.	Low socioeconomic status schools offer fewer academic subjects.
Fox et al., 2025	18 aspiring medicine applicants in Queensland (Australia).	Qualitative study (interviews).	Applicant experiences navigating competitive admissions policies.	Rural applicants faced practical disadvantages, such as difficulty booking pre-admissions tests in regional locations. Experiences were significantly influenced by geographical location and available local support.
Hoggan et al., 2009	461 students, 512 parents, 12 career counsellors of rural South Australian secondary schools.	Quantitative study (surveys and questionnaires).	Investigating the accuracy of information and perceptions about medical entry processes (grades required, subject prerequisites).	Students, parents, and advisors held inaccurate perceptions regarding the grades required and the need for prerequisite subjects, which acts as a barrier deterring rural students from applying to medicine.
Huang et al., 2024	67 articles published between 2010 and 2024, focusing on undergraduate entry medical programs.	Systematic review and meta-analysis.	Appraising the effectiveness and predictive validity of common medical	Prior academic achievement is a predictor of academic performance. Effectiveness of selection tools in predicting

Author(s), Year	Population/ Setting	Methodology	Focus Area(s)	Key Findings
			student selection tools.	attainment in medical programs declines over time.
Perry & Lubienski, 2020	17 secondary school leaders in metropolitan Perth (Australia)	Qualitative study (interviews).	Factors influencing school leaders' decisions on academic curriculum offerings in a marketized system.	Curricular offerings are driven by student demand and financial sustainability. Leaders of low socioeconomic schools reported the most resource constraints in offering academic curriculum.
Perry & Southwell, 2014	121 secondary schools in metropolitan Perth (Australia)	Quantitative analysis (curriculum data).	Analysing how access to academic curriculum is patterned by school sector and socioeconomic composition.	Low socioeconomic status schools offer substantially less access to core advanced academic subjects.
Reeves et al., 2020	25 articles published between 2000 and 2018 focusing on pipeline programs targeting underrepresented groups.	Systematic review.	Evaluating pre-application community engagement activities aimed at encouraging underrepresented groups to apply to medical school.	Successful pre-application programs target interested students and provide sustained support for attaining entry requirements.
Roberts et al., 2019	73,371 final year students in New South Wales (Australia).	Quantitative analysis (administrative data).	Examining social inequity in the New South Wales secondary school curriculum hierarchy.	The curriculum is organised into a hierarchy linked to student socioeconomic status and final grades.
Shepherd et al., 2025	22 rural background Australian medical students.	Qualitative study (interviews).	Exploring the accessibility of medical education for rural students and the intersection of rurality and socioeconomic privilege.	Access pathways are complex and require economic and social capital to navigate. Rural students face stigma and feelings of being an imposter or being labelled "fake rural".
Southgate et al., 2015	33 secondary school students and 5 career advisors from New South Wales (Australia) government schools.	Qualitative study (focus groups and interviews).	Identifying barriers and enablers for lower socioeconomic status and first-in-family students aspiring to medical school.	Careers advisors identified the complexity of multi-pronged admission processes as a major barrier. Lower socioeconomic status students have limited opportunities to develop strategic knowledge and practices (termed "hot knowledge").

Literature Review

Structure, Policy and Systems

At the broadest level of the Social-Ecological Framework, system-wide education and admissions policies play a decisive role in shaping opportunities for rural and low SES students aspiring to medical careers. The intersection of market-driven educational policy, decentralised curriculum management, and university admissions requirements produces a landscape marked by persistent stratification and access disparities (Dean, Roberts, et al., 2023; Perry & Southwell, 2014; Perry & Lubienski, 2020). These influences span from local school policies to state and federal education frameworks, collectively determining the availability and quality of learning pathways for students. Understanding how these layers interact is essential in unpacking the complex barriers faced by rural and low SES students aspiring to medical education.

Australia's education system is characterised by marketisation, privatisation, and competition, which, while intended to foster improvement, instead has often exacerbated educational inequities (Dean, Roberts, et al., 2023; Perry & Southwell, 2014; Perry & Lubienski, 2020). This market-driven context means schools compete for students and resources, often to the detriment of smaller, less-resourced schools. Wealthier schools with higher enrolments can sustain a broader curriculum, including university prerequisites, whereas low SES schools, commonly found in rural areas, face both financial constraints and shrinking student numbers that limit their ability to offer advanced subjects (Dean, Roberts, et al., 2023; Perry & Southwell, 2014; Perry & Lubienski, 2020). This competition fosters stratification, where wealthier schools attract motivated students and secure superior staffing and facilities, further widening the opportunity gap for disadvantaged students.

Evidence shows that low SES schools consistently offer fewer academic subjects overall, particularly in advanced science, which are critical for medical program entry, than their higher SES counterparts, largely due to funding constraints and smaller enrolment sizes (Dean, Downes, et al., 2023; Dean, Roberts, et al., 2023; Perry & Southwell, 2014; Perry & Lubienski, 2020; Roberts et al., 2019). For example, only 9% of low SES government schools offer five key academic subjects, including chemistry (Perry & Southwell, 2014). Geographical challenges exacerbate these disparities, with regional and remote schools often delivering drastically fewer subjects than metropolitan schools. Remote government schools offer as few as nine academic subjects compared to 26 in metropolitan areas, leaving rural students with constrained options to meet university prerequisites (Dean, Downes, et al., 2023; Roberts et al., 2019).

Decentralised curriculum policies further entrench these disparities by allowing individual schools to determine subject offerings, often restricted by minimum enrolment policies. Smaller schools in rural and low SES areas rarely meet the threshold needed to offer low enrolment subjects such as advanced sciences, forcing students towards vocational pathways rather than university preparatory courses (Perry & Lubienski, 2020). School leaders' decisions about subjects to offer are also influenced by perceptions of student ability and aspirations, which may unintentionally limit opportunities for those aiming for tertiary education, perpetuating cycles of educational disadvantage (Perry & Lubienski, 2020).

Medical school admissions policies interact with these systemic barriers by maintaining rigid prerequisite requirements and high ATAR cut-offs, both of which function as filtering mechanisms that privilege well-resourced applicants and metropolitan schools. While equity schemes such as quotas, special admissions pathways, and bridging courses exist, evidence suggests they are insufficient to offset entrenched disadvantage and often introduce financial and psychological barriers (Southgate et al., 2015). There is now broad recognition that admissions policies, including the enduring reliance on traditional prerequisites, should be

reconsidered to avoid perpetuating inequity and to build a more diverse, representative medical workforce (Reeves et al., 2020; Shepherd et al., 2025).

Crucially, the structural dimensions of these policies also intersect with broader socioeconomic factors and colonial legacies to intensify disadvantage for Aboriginal and Torres Strait Islander students, who are disproportionately represented at the intersection of rurality and low SES (Australian Institute of Health and Welfare & National Indigenous Australians Agency, 2024; Shepherd et al., 2025). While equity programs such as the RHMT program, HEPPP, and RPPPP represent important, well-funded policy interventions, their impacts are undermined where systemic barriers like academic prerequisites persist. These policies must be critically evaluated and aligned, with more explicit recognition of the cumulative impact of socioeconomic, geographic, and cultural disadvantage within admissions frameworks.

Together, the data highlight how educational marketisation, decentralised curriculum decisions, and entrenched medical school admissions policies contribute to persistent barriers for rural and low SES students. Addressing these persistent barriers demands both structural reforms, such as reconsideration of subject prerequisites and ATAR thresholds, and improvements in targeted policy initiatives. Recognising the systemic and layered nature of these barriers is crucial before examining how institutional and community factors further influence student pathways towards medical education.

Community

At the community level of the Social-Ecological Framework, formal or informal social networks, local norms, and community characteristics shape educational pathways and access to medical school. Rural and low SES communities often have limited learning resources and fewer medical role models, which can lower collective aspiration and limit exposure to healthcare careers (Hoggan et al., 2009; Southgate et al., 2015). Research consistently finds that rural applicants may experience social isolation or perceive medicine as unattainable, particularly when communities lack examples of local success in highly competitive professional fields (Hoggan et al., 2009; Roberts et al., 2019).

Socioeconomic factors intersect with geographic factors, with higher SES communities reporting greater success with medical school admission, highlighting how economic advantage amplifies medical education accessibility (Fox et al., 2025; Reeves et al., 2020). For Aboriginal and Torres Strait Islander students, these challenges are intensified by cultural connections to Country, understood as the lands, waters, skies, and spiritual relationships ground identity and belonging, and to community, which play a central role in identity formation and decision-making about relocation. Enhancing pathways that allow students to study close to home or remain embedded in community is therefore critical to culturally safe participation. Consequently, community engagement by educational and medical institutions has emerged as a crucial strategy to enhance inclusion and equity. Policies that are flexible and tailored to the strengths and needs of specific communities can help reduce local disadvantage and create more supportive learning environments for prospective medical students (Fox et al., 2025).

An important aspect of community engagement has emerged as the direct involvement of rural communities in medical school admissions decisions (Reeves et al., 2020). Involving community members in selection processes not only helps ensure candidates reflect the values and needs of the populations they are intended to serve but also mitigates potential biases in urban-centric admissions committees (Reeves et al., 2020) Such involvement ensures admissions processes are more socially accountable, reflective of rural values, and better align with the goal of producing doctors who are committed to serving rural communities (Reeves et al., 2020).

Building on the influence of community networks and local involvement, it is also essential to examine how institutional structures, policies, and practices within schools and universities further shape educational access and equity for prospective rural and low SES medical students.

Institutional

At the institutional level of the Social-Ecological Framework, the informal and formal structures, rules, and policies of institutions, including universities and schools, shape access to medical education and equity outcomes for rural and low SES students. Medical schools and secondary schools operate within the frameworks that determine how resources are allocated, who is admitted, and what support is available, influencing the educational trajectories of aspiring medical students.

Australian medical school admissions policies remain highly competitive and continue to privilege students with strong academic records, a pattern that advantages those from higher SES and metropolitan backgrounds (Reeves et al., 2020). While many universities have introduced targeted equity measures, such as rural quotas, separate admissions pools, or bonus points, these efforts have only partially addressed entrenched disparities (Shepherd et al., 2025; Southgate et al., 2015). Admissions criteria that focus heavily on prior academic achievement and subject prerequisites can unintentionally reinforce social and academic elitism, with less regard for contextual disadvantage or diverse pathways (Reeves et al., 2020). Recent literature advocates for greater transparency, social accountability, and responsiveness within admissions, including clearer communication about selection criteria, equal access to preparatory resources, and direct engagement with community stakeholders to align institutional processes with equity goals (Huang et al., 2024).

Secondary schools are critical in preparing students for medical school, however, their capacity to do so varies widely depending on geographic location and community SES. For some low SES and rural schools, inter-school consortia or distance education, such as the School of Isolated and Distance Education, have been implemented to broaden subject access. Despite these efforts, such solutions are often challenged by logistical complexities, additional costs, and issues of acceptance or student preference, limiting their overall effectiveness (Perry & Lubienski, 2020). Decisions around subject offerings remain influenced by school size, leadership philosophy, and perceived aspirations of the student cohort, factors that often disadvantage aspiring university students in smaller, low SES, and rural schools (Perry & Lubienski, 2020).

Institutional support through career guidance and outreach programs varies significantly by school location and type, often constrained by limited resources and competing immediate student needs (Fox et al., 2025). While such programs aim to demystify the admissions process and support student aspiration, their reach and efficacy are often limited, with many rural and low SES students having limited access to sustained mentoring, meaningful exposure to medical environments, and early intervention initiatives (Fox et al., 2025; Southgate et al., 2015). These supports, when present, correlate with improvement in preparation and motivation; however, their distribution heavily depends on institutional commitment and resource availability, highlighting the critical role of administrative prioritisation in addressing inequities (Fox et al., 2025; Reeves et al., 2020).

Overall, institutional policies and practices play a pivotal role in shaping educational equity. Despite progress made through targeted initiatives, systemic barriers embedded in admissions criteria, resource allocation, and institutional support remain significant obstacles for rural and low SES students seeking to enter medicine. Notably, recent shifts in admissions criteria, including the gradual removal of specific subject prerequisites by some medical schools, signal evolving institutional recognition of these barriers, offering pathways towards more inclusive admissions frameworks.

Interpersonal

The interpersonal sphere of the Social-Ecological Framework considers the influence of family, friends, peers, and role models on educational aspirations and pathways. These close social relationships provide essential social identity, emotional support, and access to informal knowledge that can greatly impact an individual's ability to navigate complex medical admissions processes.

For aspiring medical students from low SES or rural backgrounds, family support often cannot guide complex university admissions processes, with many being first-generation applicants who lack professional or medical networks (Southgate et al., 2015). This absence of "hot knowledge", firsthand advice from experienced individuals that is more readily available to students from privileged backgrounds, places these students at a disadvantage when navigating subject selection and preparing competitive applications (Southgate et al., 2015). This informational gap can lead to misunderstandings about prerequisites and discourage potential applicants from pursuing medicine (Shepherd et al., 2025).

Peer and social networks further shape awareness and preparedness. Many rural and low SES students report limited exposure to others pursuing medicine, which can delay or deter their ambitions, particularly when medicine is perceived as a career for the privileged or well-connected (Fox et al., 2025; Shepherd et al., 2025). Within medical schools, students from metropolitan, high SES schools often form close-knit groups that act as social and cultural capital, making rural and disadvantaged students feel isolated and less supported (Shepherd et al., 2025; Southgate et al., 2015). This dynamic can contribute to feelings of exclusion, imposter syndrome, and other psychological barriers to full participation (Shepherd et al., 2025; Southgate et al., 2015).

Mentorship and exposure to role models are powerful facilitators for students considering medical careers. Rural-oriented role models, targeted mentoring, and exposure to medical career pathways have been shown to boost applicants' preparedness and confidence, as well as improve retention and workforce outcomes for rural students (Reeves et al., 2020; Southgate et al., 2015). However, opportunities for such guidance remain inequitably distributed, thereby compounding the advantages of those with existing connections and perpetuating cycles of underrepresentation.

These interpersonal influences shape not only students' immediate networks but also contribute to the development of personal attitudes, knowledge, and resilience, which are explored in the individual-level factors that further impact access to medical education.

Individual

The individual sphere of the Social-Ecological Framework focuses on personal characteristics, including knowledge, attitudes, beliefs, and personality traits that influence educational pathways and access to medical school. Among rural and low SES applicants, individual factors including academic preparedness, motivation, resilience, and self-identity play critical roles in shaping their journey to medical education.

Rural students frequently express concerns about their academic preparedness and competitiveness for medical school, often linked to perceived isolation from key learning opportunities (Fox et al., 2025). Despite these concerns, research indicates that once admitted, students from rural and low SES backgrounds perform as well as peers from more advantaged settings, suggesting that preparation gaps do not reflect inherent ability but rather access disparities (Fox et al., 2025). Exposure to rural clinical schools and rural placements additionally shapes motivation towards rural practice, reinforcing the importance of experiential factors in complementing individual characteristics (Reeves et al., 2020; Southgate et al., 2015).

Access to accurate information and confidence in navigating admissions is inequitable. Insufficient knowledge about prerequisites and the complexity of admissions processes discourages many talented applicants, particularly when students and parents erroneously believe that certain secondary school subjects are always required (Hoggan et al., 2009; Shepherd et al., 2025). Where subject availability is limited, students may miss out on prerequisites, constraining their university options (Dean, Roberts, et al., 2023).

Students' aspirations and identities are shaped by the expectations communicated within their schools and communities, with some rural students reporting discouragement from ambitious goals and 50% experiencing pronounced feelings of impostor syndrome (Shepherd et al., 2025). These psychological barriers, linked closely with external social influences such as perceived exclusion and limited peer networks, compound challenges in educational pathways, with curriculum differentiation and lack of encouragement further intensifying self-doubt and lowering educational expectations, especially for students at the intersection of rurality and low SES (Dean, Downes, et al., 2023; Southgate et al., 2015).

To compensate for missing prerequisites, some students enrol in bridging or introductory university science courses, or pursue graduate-entry medical programs, which can extend the journey and pose additional financial and personal challenges (Clemons et al., 2017; Shepherd et al., 2025). These compensatory strategies may work for some, but for many, the compounding effect of academic barriers, perceived disadvantage, and fewer resources intensifies the challenge of accessing medical education.

Together, these individual-level factors illustrate the personal challenges faced by rural and disadvantaged students on their path to medical education, highlighting the importance of supporting not only academic preparedness but also motivation, identity formation, and access to information.

Discussion

This rapid review demonstrates that longstanding academic prerequisite policies, serve as systemic barriers limiting medical school access for rural and low SES students. Rather than arising from differences in capability or motivation, these barriers reflect deeply rooted inequities in school resourcing, curriculum policy, and university admissions practices. Such exclusionary mechanisms not only undermine efforts to diversify the medical workforce but threaten the sustainability of the RHMT program and similar rural health initiatives (Battye et al., 2020; Dean, Downes, et al., 2023; Dean, Roberts, et al., 2023; Perry & Lubienski, 2020).

By applying the Social-Ecological Framework, the review reveals a comprehensive understanding of how barriers to medical school access operate at multiple interconnected levels, ranging from broad systemic policies and institutional practices to community contexts, interpersonal relationships, and individual experiences. This multilevel lens highlights the complexity of inequities faced by rural and low SES students, as well as the urgent need for coordinated, contextual strategies that address each level to effectively promote equitable opportunities in medical education.

At the broader systems and policy level, entrenched funding disparities, decentralised subject selection, and competitive educational markets continue to restrict access to advanced sciences in low SES and rural schools. These limitations, compounded by a reliance on inherited or traditional subject prerequisites in medical school admission, mean students from marginalised backgrounds are systematically filtered out before they can even apply. The evidence suggests many prerequisite policies lack rigorous empirical justification, persisting largely out of tradition rather than their demonstrated relevance to medical preparedness or success (Shepherd et al., 2025). Without transparent, evidence-based policy reviews and systematic evaluation, these

outdated prerequisites risk perpetuating structural exclusion and undermining national efforts to widen participation (Reeves et al., 2020).

Institutional practices at university and school levels further magnify these inequities. Admissions criteria heavily weighted towards academic performance and specific subject completions, while intended to ensure preparedness, tend to favour applicants from well-resourced, metropolitan schools (Reeves et al., 2020). Although rural quotas, special consideration pathways, and bridging programs provide support for disadvantaged students, they only partially address these barriers and can introduce additional financial and psychological burdens (Shepherd et al., 2025). To transform these policies into meaningful opportunities, institutions must not only provide tailored support and resources to students admitted without traditional prerequisites, but also critically assess whether these requirements align with actual curricular needs and outcomes, rather than simply existing to decrease admission staff workload.

Community and interpersonal influences remain consequential. Prerequisite barriers send strong signals to rural and low SES communities about the accessibility of a medical career, reinforcing perceptions of exclusion and deterring capable applicants. Feelings of isolation, lack of representation, and reduced exposure to successful role models dampen aspirations and inhibit knowledge-sharing (Fox et al., 2025; Shepherd et al., 2025). Addressing these issues requires policy not only to remove structural barriers but also to proactively involve rural communities in the development of admissions processes, ensuring selection criteria are reflective of diverse local realities and aspirations (Reeves et al., 2020).

At the individual level, the cumulative effect of structural, institutional, and social barriers shapes confidence, aspirations, and preparedness. Many rural and low SES students are deterred at an early stage by late or insufficient information, misconceptions about prerequisite requirements, or simply the daunting prospect of overcoming additional hurdles (Fox et al., 2025; Southgate et al., 2015). Those who persist often face long and costly routes into medicine, further diminishing the pool of qualified rural applicants (Shepherd et al., 2025).

Though beyond the primary scope of this review, evidence indicates that ATAR thresholds represent a significant barrier for rural and low SES students seeking medical school entry (Dean, Downes et al., 2023; Southgate et al., 2015; Roberts et al., 2019). High ATAR requirements, often intertwined with subject prerequisites, systematically filter out capable students from disadvantaged backgrounds (Roberts et al., 2019). Future research and admission reform must therefore consider both academic prerequisites and ATAR cut-offs to ensure equitable access.

Whilst this rapid review did not extensively uncover research focused on Aboriginal and Torres Strait Islander students, there is substantial scholarship beyond this review highlighting the complex structural, institutional, and social barriers rooted in colonial legacies that unjustly affect these students, especially those disproportionately represented at the intersection of low SES and rurality (Australian Institute of Health and Welfare & National Indigenous Australians Agency, 2024). Aboriginal and Torres Strait Islander students bring profound connections to Country, community, and Indigenous knowledge systems that are fundamental to health and wellbeing, and shape their educational experiences profoundly (Harrison et al., 2019). Current university admissions policies, including ATAR and subject prerequisite requirements, prioritise Western scientific models and often marginalise Indigenous epistemologies, creating additional challenges for Aboriginal and Torres Strait Islander students pursuing cultural knowledge and empowerment. To address these barriers, admissions frameworks must genuinely value Indigenous epistemologies and empower students to draw on their strengths in culturally appropriate pathways into medicine.

This rapid review provides compelling evidence that academic prerequisite policies constitute a significant systemic barrier for rural and low SES students aspiring to medical education. These barriers are not attributable to lack of ability or motivation but instead are rooted in broader

inequities in school resourcing, curriculum offerings, and university admissions practices. Maintaining such prerequisite policies risks perpetuating these inequities, limiting diversity within medical cohorts, and undermining rural health workforce sustainability. Removing or revising these rigid course requirements, alongside multilevel institutional and community interventions, is essential not only to create equitable pathways into medicine for underrepresented populations but also to improve rural health workforce numbers and ultimately enhance health outcomes in rural communities.

Strengths, Limitations and Implications

A key strength of this review is its nuanced, multilevel synthesis of evidence that highlights how prerequisite subject requirements interact with systemic inequities to restrict medical school access for underrepresented rural and low SES groups. By applying the Social-Ecological Framework, the review comprehensively explores how barriers function across interconnected policy, institutional, community, interpersonal, and individual levels, providing clarity on the complex and overlapping nature of these inequities. Additionally, the focus on recent research ensures findings are relevant and actionable within contemporary national debates on widening participation in medical education.

The use of a rapid review methodology imposes important limitations. While rapid reviews offer the advantage of delivering timely, focused evidence summaries conducive to informing policy and practice, the abbreviated search and synthesis process may lead to omission of some relevant studies or nuanced findings that a full systematic review could capture. The accelerated nature of this approach necessitates prioritising expediency over comprehensiveness, which may limit the depth of critical appraisal and risk introducing bias (Hamel et al., 2021). This review prioritised currency and policy relevance by limiting database searches to articles published from 2020 onward. However, seminal works published prior to this date were judiciously included via manual reference list screening to provide historical context and foundation. This approach aimed to balance efficiency with comprehensiveness but may overlook some older or less accessible studies, a recognised limitation in rapid review methodology (Hamel et al., 2021). Additionally, the emphasis on the Australian context may limit the applicability of these conclusions to other countries with differing educational systems or medical admissions processes, or to emerging and innovative admissions models.

An important limitation of this review is the absence of extensive research specifically addressing Aboriginal and Torres Strait Islander students within the search results. This gap highlights the need for dedicated Indigenous-focused literature reviews and integration of such perspectives across medical education research to adequately capture and address the unique structural, cultural, and epistemological barriers faced by Aboriginal and Torres Strait Islander students. This acknowledgement does not diminish the implications drawn but highlights the necessity of more targeted research and culturally informed policy development.

The implications of this review are clear: universities and policymakers must move beyond the complacency of inherited prerequisite practices and rigorously scrutinise the necessity and impact of every course requirement, including secondary school chemistry for medical school admission, which systematically disadvantages rural and low SES students. Prerequisite requirements must be justified by robust, transparent evidence demonstrating their indispensability for academic and professional success, rather than being perpetuated by tradition or institutional mimicry. Resources should be strategically targeted to support applicants from non-traditional backgrounds, while admissions frameworks must be reimagined to reflect the diverse realities and strengths of all communities. Universities must urgently implement additional special entrance considerations for rural and low SES applicants and provide tailored support for those admitted without traditional prerequisites, ensuring these reforms align with workforce needs. Only by aligning admissions policies with genuine evidence

and the needs of local communities can universities fulfil their responsibility to foster a diverse, competent, and sustainable medical workforce (Reeves et al., 2020; Shepherd et al., 2025).

Conclusion

This rapid review demonstrates that academic prerequisite policies and admissions criteria, continue to act as significant barriers for rural and low SES students aspiring to medical education in Australia. These barriers arise not from students' lack of ability or ambition, but from systemic inequities in curriculum access, funding distribution, and admissions processes, which collectively undermine efforts to build a diverse and sustainable rural medical workforce.

The implications of these findings are profound when viewed against the backdrop of Australia's ongoing rural medical workforce shortage. With many regions facing critical shortages of general practitioners and medical specialists, translating directly into poorer health outcomes and significant social inequities, removing or revising rigid university admissions policies is critical not only to expanding access to medical education but also to strengthening the rural health workforce. Enabling more rural and disadvantaged students to enter medical programs will increase the pool of practitioners familiar with, and committed to serving, rural communities. This expansion can ultimately improve healthcare accessibility and contribute to closing the urban-rural health gap.

Addressing these disparities requires medical schools and policymakers to not only critically and transparently reassess the necessity of subject prerequisites, but also to transparently reassess the broader admissions landscape for alignment with workforce needs and equity goals. Utilising the Social-Ecological Framework to guide reforms emphasises the importance of coordinated efforts across structural, institutional, community, interpersonal, and individual domains.

Developing evidence-based alternative pathways, implementing special consideration processes, and tailored support for disadvantaged students are essential steps towards admissions policies that reflect the realities of underrepresented groups. Achieving these reforms demands sustained collaboration between educational institutions, policymakers, rural communities, and students to build inclusive and effective medical school pathways. Only through such concerted efforts can Australia realise a medical workforce that is truly representative of, and responsive to, the diverse and resilient communities it aims to serve.

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Australian and International Journal of Rural Education

A Rural Education Summer School: Unpacking the Right to be Rural

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Abstract

This article engages with one of the core missions of this journal - strengthening the research and practical links between Australian and international rural education. It does so through describing and reflecting on a one-week Summer School course on social justice and remote schooling the authors of this article delivered at Hokkaido University. A dozen postgraduate students took the course, which included a theoretical component, based on theories of justice and epistemic justice, and a fieldtrip to the remote community of Hamamasu in Hokkaido. Following Lefebvre's idea of 'the right to the city', in this article we draw on the concept of the right to *be* rural to examine the process of rural and remote schooling and school consolidation in Japan. More specifically, we examine the idea of the right to be rural, we explain processes of rural schooling in Japan, and discuss the impact of a Summer School on students' understanding of rural community life. Ultimately, we argue that the course exposed students to an epistemic process of recognition of rural schools, communities and life as asset rather than by reference to stereotypical notions that associate it with deficit views.

Keywords: *rural education, school consolidation, remote Japan, recognition theory, epistemic justice*

Introduction

In September 2025, the three authors of this article delivered a one-week Summer School course at Hokkaido University, Japan, on "Social justice and Remote Schools: Challenges and Promises". The course was attended by a dozen postgraduate researchers studying in Japan and Taiwan. The students attending were from a diversity of national backgrounds: Japan, China, Vietnam, Philippines, and Inner Mongolia. Some of the students grew up in rural and regional towns while others in metropolitan areas. Most of the students were doing a Master degree, with only one conducting PhD studies and two who were currently in-service teachers. This was also an eclectic group in terms of their research interests: Sociology of education, school management, Japanese education policy, teachers' emotional skills, Mongolian rural culture, history of ideas, marine research, school curriculum and tourism in rural Vietnam, and the production of culture and nationalism in Filipino school textbooks.

The course was structured with a series of lectures and workshops, and a full-day fieldtrip to the remote fishing community of Hamamasu, in Hokkaido, where we had the opportunity to talk with local farmers and visit a primary/junior high school to meet students and staff. Over a week of intense and fruitful debate we discussed the pressing issues affecting rural social life and rural education in Japan and internationally. This article aims to highlight and reflect on the rural themes discussed in this summer course as a way of engaging with one of the core missions of this journal: strengthening the research and practical links between Australian and international rural education.

Common Rural Education and Community Challenges and Opportunities

Hamamasu is predominantly a fishing village located two-hours by bus northwest of Sapporo, on the island of Hokkaido. Prior to the beginning of the course, the three authors of this article visited Hamamasu to meet with members of the local council and school authorities to plan our visit with the students. As we drove by the coast from Sapporo to Hamamasu we passed a few towns and villages. In several of these places, Professor Ii pointed out abandoned buildings that not long ago functioned as schools and that signified the consolidation of educational establishments in bigger towns. Indeed, school consolidation and the threat it poses to community sustainability is a major concern for Japanese rural people, school staff and authorities, parents, and researchers investigating this social process.

Rural school consolidation has been a central theme of research and policy concern all around the globe (Cuervo, 2016; Gristy et al., 2020; Li & Gao, 2024; Ono & Nishino, 2025; Tieken & Auldridge-Reveles, 2019). The last three decades have seen a trend in global education policy towards consolidating small schools for the purposes of educational equity and efficiency. This trend, in Gramsci's terms, has constructed a "common sense" (Crehan, 2016) that positions the role of education as being closely linked to individuals' acquisition of skills to deploy in the labour market and the enhancement of the economic productivity of the nation. School consolidation is justified through a rationale of providing equal opportunities to rural students to access larger and, presumably, more efficient education institutions.

This marriage of social justice through equity goals and the market imperatives of efficiency and productivity has occurred despite the positive evidence that small schools can have on rural students, staff, and communities. Indeed, it has been well documented that the structure and composition of small schools can bolster the close relationship between school staff and community (Karlberg-Granlund, 2019; Redford et al., 2025) and support local sustainability (Fargas-Malet & Bagley, 2022). It can also be a space for curriculum and pedagogical innovation (Gristy, 2023; Raggl, 2015) and to enhance teachers' job satisfaction and retention (Cuervo, 2025).

The Right to *the* Rural

The issue of rural school consolidation was central to the epistemological dynamics and knowledge-focus of the Summer School. We argue that at the core of this issue of rural school consolidation is *the right to be rural*. When a school closes and students and families have to move out or travel daily to access education, and teachers and principals have to find work elsewhere, what is at stake is the right to be rural—a right to belong.

Our understanding and use of the term 'the right to be rural' is informed by the notion of the right to *the* rural. The latter is built upon the conceptual architecture of Lefebvre's idea of "the right to the city" (*Le droit a la ville*—Lefebvre, 1968). In this seminal text, to put it simply, Lefebvre writes against the displacement of working class and immigrants in cities in favour of "urban regeneration" and gentrification. The right to the city is a struggle between the use value against the exchange value with its privatisation and commodification of spaces and suburbs in the city. It is also a struggle between interpersonal exchange over individual consumption, and

between interaction and inclusion against social exclusion (see Purcell, 2014; Van Sant & Fairbairn, 2025). Van Sant and Fairbairn (2025, p. 3) aptly argue that while Lefebvre left many of his theorisations "*open-ended*", at the root of his work is a struggle to access urban public space, a matter of distributive justice, but also an issue about democratic decision-making; that is, procedural justice. While issues of distribution and proceduralism feature on the right to the city, less attention has been placed on recognitive justice issues (see Van Sant & Fairbairn, 2025).

Rural sociologists and geographers have taken up Lefebvre's concept to adapt it to the struggles for the use of land and resources outside the metropolis (see Barraclough, 2013; Foster & Jarman, 2022; Weeden et al., 2022). Often discussions about the right to the rural focus on issues regarding the rights to extraction and production of natural resources, the right to the use of rural land, and population decline and tensions between rural and new migrants in communities. Again, these discussions often adopt a spatial distributive and procedural justice approach. They also define or approach the rural mostly through the productivist and post-productivist debate or Holmes' (2006) multifunctional rural framework with its notion of spaces of production, amenity and conservation (see Cuervo, 2016).

The Right to *be* Rural

While the right to access to *the* land and rights to voice your concerns in your own idiom (Cuervo, 2016) are important struggles for rural communities, we are interested with a different approach in this article: the right to *be* rural. Some work on the right to be rural have focused on the need for support for struggling communities by policymakers and regional planners (Van Sant & Fairbairn, 2025). Others, approach it through a citizenship framework that connects individuals with social institutions, the state and community. This is the case of Foster and Jarman's (2022) edited collection showcasing examples from Canada and other countries to discuss in a sociolegal way access to public services, citizenship rights and practices and the capacity to stay rural. For the purpose of this paper, a chapter stands out for us in this edited book, that of Hadley's (2022) on school closures in rural Canada. In it, Hadley examines trends of school closure and their impact on rural communities and the increasingly metrocentric curriculum that generates on students' normative post-school aspirations underpinned by a learning to leave their local community (see Corbett, 2007).

In this article we are interested on this problematic of school closure from a recognition theory perspective and from an epistemic justice access to *learning to be rural*. From a recognition side, we view school closure with its subsequent enforced migration of students, staff and community as a form of social disrespect and devaluation of the power and relevance of schooling in small communities. Drawing on Honneth's (1995) recognition theory and on the right to the rural, it can be argued that a lack of resources and planning for schooling in small communities is a disrespect for a certain way of life. The identity and ways of being of small rural communities is negated or at least undermined by denying the needed resources and the closure of a central institution for its sustainability: the school.

Further, if we take Honneth's (2014) view that we understand ourselves primordially, defining our identity and our place in the world through our relationship with and the recognition provided by other individuals and institutions; then undermining spaces of sociality and individuation that a school provides in a specific place is a serious misrecognition of a (rural) social group. In Honneth's Hegelian view of recognition, intersubjective relations of recognition are key to the construction of an individual's identity, autonomy and self-realisation as a member of a community. Closing down a school subtracts one vital space where rural communities generate individual and communal life.

In policy terms, the closure of a school can be, and often is understood through a utilitarian lens. It is viewed as a matter of efficiency of resources, and sometimes through an equitable

perspective of providing more educational opportunities. But the closure of the school is also the misrecognition of a way of life and of the right to stay and be rural – as so many rural individuals, and even scholars working in rural education, see it (Cuervo, 2024; Guenther et al., 2025). Ultimately, denigrating's one's way of life has the capacity of hindering the self-realisation of individuals and communities (Honneth, 1995).

School closure in small rural communities can also have a detrimental epistemic effect. The right to be rural cannot be something that is just bestowed on individuals of a community by the State through the distribution of resources. It entails not just *having* but *doing*. In other words, we see the right to *be* rural as a dynamic process of sociality and individuation. We view it also as an epistemic process of learning in place to be rural. Against global metrocentric school curricula that position the rural as a place to 'learn to leave' (e.g. Corbett & Gereluk, 2020; Cuervo, 2014; Gristy et al., 2020), we see the small rural school as an institution of epistemic significance to develop in children and the community the belief of a right to be rural through understandings of their land, people and their place in the world. This does not deny the possibility for young people to seek a life pathway outside their community but rather reaffirms their right to construct it in their land if they wish to. Ultimately, we see small schools as critically well placed for the task of constructing epistemic notions of the right to *be* rural (see Gristy, 2023; Tieken & Auldridge-Reveles, 2019).

Rural Schooling in Japan

At the time of our visit to Hamamasu in October 2025, its population was of 962 people (Ishikari City, 2025). In the past one hundred years, Hamamasu's population has fallen to one-tenth of its former size. Though once termed an 'isolated island on land', this community prospered through herring fishing. At its peak, it had twelve primary schools and seven junior high schools.

Currently, both primary and junior high schools have now been consolidated into a single school each. The primary school employs multi-grade classes for Years 1 to 6. Hamamasu High School closed in March 2011. At the time, the closure of the senior high school divided the community over whether it should remain open or closed. Because of the closure, upon completing compulsory secondary education, young people from Hamamasu had to relocate outside the community to attend high schools in urban areas. This means that many young people from Hamamasu live alone in urban areas or reside with relatives while attending senior high school. Some families, concerned about the welfare of their children, decide to relocate to the city to support them.

Japanese public schools are categorised as Remote Area Designated Schools, graded from Level 1 to Level 5 (with 5 being the highest level of remoteness). Remoteness is measured and categorised through the access to resources – such as hospitals and clinics, banking and financial institutions, and supermarkets (Tamai, 2010). Teachers assigned to remote schools receive a maximum salary supplement of 25% depending on the categories of remoteness. Nationwide, 8.1% of public primary schools are designated as remote area schools (e-stat, 2025). The proportion of schools designated as remote varies regionally, with Hokkaido at 33.2%. This means Hokkaido has one of the highest proportions of remote schools in Japan.

Remote schools face a variety of diverse challenges. One such challenge is teacher shortages. Teacher shortages are a challenge faced by many countries (Corbett & Gereluk, 2020; Guenther et al., 2023; Ii et al., 2025). However, the context of teacher shortages in Japan and Australia differs somewhat. The difference lies in the fact that, in Japan, the system is designed such that teacher shortages should not, in principle, occur even in remote schools. The reason for this is that Japan's public schools employ a wide-area personnel system. This means that the personnel placement of newly recruited teachers and current teachers registered for employment is managed by the Board of Education, although school principals have the right to make

recommendations and teachers have the right to express their preferences. Once the Board of Education has assigned a teacher to a school, that placement cannot, in principle, be changed.

Under the wide-area personnel system, distributive equity in teacher allocation is guaranteed to a certain extent. However, replacing teachers who take leave or resign mid-year is particularly difficult in rural and remote areas. This staffing distributive equity, in principle, should ameliorate or rectify any disparities and inequalities in educational environments between remote and urban areas.

Towards the Right to *be* Rural in Japan?

Against a persistent trend of population decline and ageing in non-metropolitan areas, there has been a promotion of the enhancement of educational environments. An important aim of this enhancement is to prevent the out-migration of young people from rural and remote areas and to attract families with children to move in.

One such enhancement initiative is the 'hometown tax' (*Furusato Nozei*) system (Mizuta, 2017). This system allows residents of other regions, not living in remote areas, to make tax payments specifically for those remote areas. It enables not just general tax payments, but also payments tied to specific purposes. Among these purposes are tax items dedicated to enhancing children's learning environments. This *Furusato Nozei* system contributes not only to material environmental improvements but also to creating a 'related population' (*Kankei Jinko*). Some regions offer return gifts (local specialty products) to taxpayers who make hometown tax donations. The appeal of these return gifts attracts people who make donations specifically for them. There is concern that focusing too much on enhancing the appeal of these return gifts may cause the original purpose of hometown tax donations to be lost. On the other hand, the system allows taxpayers to deduct the amount of tax paid to their current place of residence by paying it to a different region. Consequently, the *Furusato Nozei* system has faced criticism for being competitive.

Realistically avoiding population decline, particularly in remote areas, is difficult. However, people who maintain a connection without residing there—for example, by making an annual *Furusato Nozei* payment or visiting the area on holidays—are termed the 'related population' (Sakuno, 2019). Some regions create a related population by establishing a dormitory at the local school to attract students from other areas, thereby ensuring the continuity of small-scale schools. While students may leave the area after graduating, they maintain a connection to the region where they spent several years—this is the concept of a related population in terms of schooling (Owada & Kazami, 2020). During this summer school, we visited Hamamasu. As a time-based municipality, they likely view us visitors as an initial stage of this related population. Through this visit, the students were able to learn some aspects of the reality of remote areas. Ultimately, Hamamasu also gained an opportunity to initiate the creation of this related population. Therefore, this initiative can be considered a mutually beneficial endeavour.

The Work of a Summer School

This course was delivered as an intensive summer school. These have been held annually by Hokkaido University during the summer months of June to October since the 2016 academic year. The course aimed to examine, using various materials and data, the widening geographical, social, and economic disparities between urban and rural areas that are becoming increasingly severe alongside the advancement of global society (Wang et al., 2025). It further encouraged participants to consider what socially just education might look like, particularly using the example of schooling in remote areas. As articulated in one of the 17 SDGs, the importance of realising a just and equitable society and ensuring equal educational opportunities for all social groups is widely recognised.

As we designed this course, we were cognisant that most of the students did not have a first-hand experience of the rural and remote Japanese context. Additionally, many of the students were studying in metropolitan universities. Therefore, this course endeavoured not only to provide theoretical understandings of social justice and expert lectures on the circumstances, opportunities, and challenges faced by schools in remote areas, but also to undertake fieldwork in such schools. Through direct interaction with pupils and teachers, participants sought to gain experiential and multifaceted insights into the issues they encounter. To this school experience, we also added conversations with local farmers from Hamamasu who could provide a socio-economic view of the region and community.

In conducting the fieldwork, we requested the cooperation of staff at the Hamamasu Branch Office of Ishikari City Council, with whom Professor Ii, one of the lecturers, had an existing relationship. They facilitated arrangements to enable us to speak with local residents, particularly young people, as well as teachers and pupils at the primary and junior high schools. On the day, we first visited the Hamamasu Branch Office during the morning, where the staff provided insights from their perspective on trends in the local population and industry. We also gained the opportunity to speak with a young adult person who, after graduating from the local junior high school, had left the area to attend high school and university, and subsequently studied agriculture in the United States, learning the family farming business, and returning to Hamamasu to take over the family enterprise. Following this, we spoke with a local resident in his seventies who has long managed an orchard in the area, and had fishing business, hearing his account of the region's transformations. Interestingly, this local resident was not originally from Hamamasu but rather migrated to the area after he started working there. In both residents' accounts, an affective atmosphere was palpable about the physical but also emotional labour they had to do in their everyday practices to keep their business afloat and most importantly to contribute to the sustainability of the community. In this sense, their stories resonate with other global rural accounts where their individuation is firmly connected with the wellbeing of the local community (Cuervo, 2016; Vehkalathi et al., 2025).

In the afternoon, we visited the primary/junior high schools. In the primary classrooms we observed some lessons, and then at the junior high school, as part of a foreign language (English) lesson, we listened to presentations by students about their favourite places and things of Hamamasu and their school. Later we had time to interview them directly. After the lessons ended, we divided into groups to speak with the principal, deputy principal, and several teachers about their thoughts of working in remote schools.

Concluding Remarks

In the last day of the course the students did a presentation about what they learned in it. This was followed a few weeks later with a written assignment. It was apparent from the students that after a week of discussing a socially just rural schooling, they concurred that distributive policies and practices were necessary but not sufficient to sustain the right to be rural. An epistemic sense emerged from students' comments that ways of being rural and remote in Hamamasu depend on socially just approaches such as participatory justice (see Cuervo, 2016). For example, this was visible for students in the way the Wakamono-kai (youth association) and the school served as community hubs, enabling residents to be directly involved in local decisions that sustain rurality. Additionally, students recognised in the conversations with the young farmer and the orchard owner the deep diversity in rural places and how the right to your way of life (Honneth, 1995) was an essential struggle for members of the Hamamasu community. In these conversations, students noted how these individuals functioned as "*community brokers*" helping, welcoming and settling new and returnee residents. Interestingly, the need for intergenerational ties to sustain the community was recognised by its members and subsequently by students. While these issues might feel like common knowledge for those living,

working, and studying rural communities, they are not so to those who take the rural for granted or have no relation to it.

Students' comments and presentations also resonate with appeals by rural education scholars to introduce pre-service teachers in their placements to rural schools and communities (see Guenther et al., 2023; Sharplin, 2010). For instance, students in this course spoke about how seeing and meeting rural places and people firsthand enabled them to understand their challenges but most importantly the assets that Hamamasu thrives on. This included the strong relationship between the school and community, and the intensive engagement from community members towards the sustainability of place. In other words, a pedagogical process of epistemic justice towards the right to *be* rural was built from the discussions and fieldtrip in this course.

Returning to the notion of *Kankei Jinko*, "related population", it was the perception from these three authors that students were in a process of becoming "rural allies". And while many lived in urban areas and did not have concrete plans to go rural, they shifted from an initial view of rural as deficit towards one of rural as an asset or resource. Policy initiatives such as *Furusato Nozei*, open the door to create an allyship between social groups that otherwise do not meet each other. Ultimately, we are not naïve in thinking that one Summer School and a fieldtrip reverses the difficult declining population issue in Japan or elsewhere, or that students completely change their outlook and potential biases towards rural life. But we think that challenging deficit and stereotypical notions of rural and remoteness through the intertwining of theory and practice to generate an epistemic process of learning to be rural is a worthwhile attempt for anyone who cares for the wellbeing of places outside the metropolis. We believe this course generated in students a recognition of the right to be rural—of the right for Hamamasu residents to choose their way of life. Finally, the course fostered a dialogue and recognition of different international views of what means to be rural and what the right to be rural might entail.

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Australian and International Journal of Rural Education

Book Review: Mara Tieken (2025). Educated Out: How Rural Students Navigate Elite Colleges—And What it Costs Them. The University of Chicago Press.

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Those who have read Mara Casey Tieken's book (2014) *Why Rural Schools Matter*, a superb account of schooling in the rural south of the United States, can be certain to be treated to another insightful analysis of the lives of rural young people. This time she turns her astute scholarly eye and elegant prose to unearth the experiences of rural young people attending an elite liberal college in the Northeast of the country. Tieken is interested in the process of "*studying up*" for an "*invisible minority*". While much of the research around rural youth post-secondary school pathways focuses on the aspirations, or supposed lack of, and the barriers to continue with higher education studies (Fuqua, 2019; Trahar et al., 2020; Xu & Montgomery, 2021), she focuses on a relatively unexplored topic: the college experiences of rural students. The book draws on her qualitative longitudinal research following nine rural students, all first-generation, for more than four years in their transition into, through and out of college. She uses a qualitative method of portraiture to examine and make sense of these young people's experiences away from home. Further, she also interviews students' parents to gain a more holistic picture of these individuals' lives, motivations and expectations in their educational and life journeys. Tieken offers four "*portraits*" of these young people's college experiences. Each represents a different period (i.e. applying, entering, persisting and leaving) of their time at Hilltop (the fictional name she gives to the elite liberal arts college). Overall, Tieken is motivated by an important question: "*How does place matter to rural students' college access and experiences?*" (p. 13).

From the outset, Tieken offers a contextual account of the relationship between culture, geography, economics, and politics in the opportunities for rural youth to attend wealthy educational institutions. She persuasively argues in the Introduction that place and economic and cultural capital matter in structuring who can access a college education. She challenges stereotypes of the rural idyll or rusticity (see Creed & Ching, 1997; Howley et al., 2014) and of rural people and places needing "*fixing*" (see Cuervo, 2016); she examines the manufacturing of "*rural disadvantage*" and confirms the impact of rural economies in the provision of opportunities for students to make a rural life (see Biddle & Azano, 2016; Guenther et al., 2023); ponders on issues of spatial injustice (see Massey, 2005; Soja, 2010); and sheds light on the link between higher education and individuals' future life chances, and of rural people and places in enhancing or hindering the current political environment in the country (see Cramer, 2016).

In the introductory chapter, Tieken introduces the young people: seven men and two women, five of whom identify as White, one as Latina and one as biracial Asian and White. In one paragraph she offers a beautiful and eloquent description of the campus which works to place the reader inside it (see p. 15). She makes time also to explain the construction of the intimate relationship between participant and researcher in qualitative longitudinal studies (see Cook & Cuervo, 2020; McLeod & Thomson, 2009). More importantly, in my view, in this chapter Tieken

muses about some of the big debates in education which have taken place in the past few decades: *What is education for? How strong is the nexus between education and work in the twenty-first century? Why are elite educational institutions hard to access for underprivileged students? What happens to students from an "invisible minority" when they access institutions that are populated and dominated by privileged and wealthy social groups?*

The first of the "*portraits*" in the book touches upon common themes emerging from research literature on university and college pathway for rural students (see McNamee & Ganss, 2023; Sowl & Crain, 2021; Stone et al., 2022). Chapter 2 focuses on how aspirations and motivations to apply to an elite liberal arts college develop in participants' lives. We read that parents, schools' career counsellors, and the communities were each key actors in influencing these students' goals. Their aspirations, however, were ultimately cemented by the views of parents and youth of "*a weak economy*" in their rural areas and "*the pull of opportunity*" of a college education for their "*economic security and job satisfaction*" (pp. 29, 47). Tieken does well to pull together the threads of each personal story, including parents' voices, and blend them with a more general picture that tells us of the transformation, and often decline, of rural industries that once provided a livelihood for their community members (see Carr & Kefalas, 2009). She does this without falling into discourses of rural deficit or "*rusticity*". Nevertheless, there is no glossing over the contemporary challenges encountered by rural communities and people. I found it interesting and valuable that the book connects the dots between aspirations and motivations to a college education with what is happening in the ground in rural communities. Later in this chapter Tieken painstakingly explains and describes the resources from which students draw to access an institution that was initially not within their reach.

From this first portrait, I was intrigued by two aspects of the application process. First, that students and their parents felt that Hilltop was a "*welcoming*" campus, was "*accepting*", and had a "*community feeling*" (pp. 31-35). Second, that Hilltop offered "*good financial aid*", a "*financial generosity*" that made "*enrolment possible for these students*" (p. 32). In my read of the research literature, students like these are often portrayed as "*scholarship kids*", outsiders to elite institutions who are often "*othered*" because of their social class (Cuervo et al., 2023; Reay et al., 2009). While in much of Chapter 2 Tieken presents this pre-college scenario as full of possibility– students confident they belong to this institution, and Hilltop as the place to be– towards the end she lets us know that some students are also ambivalent regarding their future. They know they are heading to an elite place, full of "*preppy people*" who are different to them (p. 50). Here Tieken becomes critical of Hilltop and other elite colleges' "*generosity*" and reveals their underlying "*exclusionary*" ethos (pp. 50-51).

Her ambivalent tone continues in Chapter 3, the portrait of "*Entering*" and transitioning through college. Early in the chapter, and making good use of the power of qualitative longitudinal research, Tieken tells the story of Hunter, who at first glance seems to be settling in just fine. After further scrutiny and interviewing the parents, experiences of "*homesickness*" and "*stress*" emerge during Hunter's first year in college. One would expect these experiences of missing home and finding challenges when an individual settles in a new environment, and Tieken identifies the structures and resources that help students feel they belong in their new "*home*". For example, those involved in athletics at Hilltop find a routine to follow and teammates and peers to work with and rely on. As students John and Hunter put it, they quickly feel like "*Hilltop Huskies*" (p. 58). Other students find other structures of support, such as extracurricular activities. For me, what matters here is the identification by Tieken that community matters. It is true, that community can entail conforming to norms and values that homogenise social experiences which are perhaps not core to an individual's identity or background (see Cuervo, 2014; Jackson, 2014, Young, 1990), but Tieken finds that "*for underrepresented students, finding community is essential to a successful first year*" (pp. 58-59). In my view, here at play is a struggle for recognition for these rural young people. There is a struggle to answer the question *What am*

I, or to locate the *I in the We* (Honneth, 2012). John, for example, through his involvement in the football team, quickly finds an answer as "*I am a Hilltop Husky*". He finds "*his little group*", "*some structure*", and a "*lot of support*" (p. 57).

This struggle for recognition, belonging and identity does not make the author lose sight of the relevance of home or "*place*" in her narrative. While place and their social background is implicitly or explicitly part of these young people's college experience, Tieken also astutely returns to the "*rural*"—to students' homes and families. Here I found interesting the ways students navigate the often-described phenomenon of liminality that can be felt when they leave their home to live in a new place (Cuervo et al., 2023; McNamee & Ganss, 2023). It seems students bridge this space using a range of different strategies: by continuing with their high-school romantic relationships; by finding an academic community of peers at college which was perhaps missing at school; by connecting with friends from home whose similar college experiences help normalise their post-secondary school transitions. Implicit for me here are the many challenges and hoops rural youth need to go through to become part of a norm that attends higher education institutions in urban elite places.

In this second portrait Tieken gets "*below the surface*" and finds in students' stories "*doubt*", "*stress*", and "*isolation*". As their first year progresses, I detect an affective lexicon of social class and to some extent place (see Reay, 2005). Up to this point in the story, students in this study do not explicitly mention class but rather refer to it by its proxies "*wealth*" and "*privilege*". (Tieken also mentions students do not explicitly talk about race, "*Whiteness*", or place, "*rurality*" p. 78.) Students talk about roommates and friends for whom money does not matter, who have access to their parents' credit cards, or of peer pressure to party and drink without thinking about the consequences, as perhaps wealthy students or people do. While the participants do not explicitly mention social class or being excluded or disrespected, there is in the air of their college life description a feeling that they feel "*othered*" (p. 78).

As the first year in college progresses, not only do college friendships thin out and grades drop, but at the core of these rural youth narratives is an "*overwhelming*" "*pressure to succeed*". As the author eloquently puts it: "*Back in their small rural hometowns, everyone knows that they're the kid who got into the 'good school.' They can't not finish*" (p. 63). Here Tieken observes that her participants might be underplaying the structural challenges that rural students face in elite colleges like Hilltop. One is reminded of Furlong and Cartmel's (2007) sociological observation of the epistemological fallacy—in late modernity young people make societal structural barriers and problems the responsibility solely of the individual. Any failure to overcome these challenges are the responsibility of the individual. Tieken echoes this by stating that the "*fierce desire for success might blind them to some of the costs of the transition*" (p. 63).

Chapter 4 presents the third portrait, *Persisting*. The chapter begins with a focus on the 2016 election of Trump. What is interesting to me is that as students persist in their studies surrounded by wealthy and uber-urban peers, they come to feel more "*marginal*" (p. 85). Their feelings are exacerbated by the low mood which Hillary Clinton's defeat brings to campus. Tieken returns to notions of rural-as-rustic when students describe feeling that in inner metropolitan, wealthy areas like Hilltop and its close by small city (Millstown), rural people are made scapegoats for Trump's victory. Similarly, when they are othered by wealth: as Ethan says: "Hilltop isn't that fun when you're living paycheck to paycheck" (p. 83). More importantly, Trump's victory enhances Hilltop's liberal political position and underscores that this college can be "*pretty intolerant*" (p. 86).

Tieken muses here with the idea of a "conditional belonging" (see Wyn et al., 2019; Savage et al., 2004) for these rural young people who increasingly understand their place and what they can take from the college experience. In this chapter we get students' comparisons between the politics of campus and the political stances back home. For me this chapter offers a good critical

analysis of the place of rurality and rural people in the election of Trump—in some ways reminiscent of Cramer's (2016) exploration of a politics of resentment and rural consciousness in Midwest America. In Tieken's case it is through the eyes of young people who have to internally navigate different political positions from their family hometown and their college environment. Interestingly, the outcome of the election also moves the rural identity pendulum for students on campus: from rurality being irrelevant to now becoming "*fraught*" (p. 92). The election, but perhaps also their second and third years at an elite liberal arts college, does not separate them from their home roots. Rather, these factors make political, cultural and economic differences ever starker. The students begin to be more open about class, place and race as social divisions that matter and affect them in their everyday lives. Access and limitations to what Hilltop has to offer becomes clearer. For example, several of these students do not know how to reach out to faculty members or access office hours (pp. 104-105). Again, one feels that while the students still appreciate their time at and what Hilltop has to offer, their place at this college and the impact of social divides begin to crystalise. Later in the chapter Tieken explains how students choose when to "*selectively*" belong, or not, to Hilltop and how they become aware that Hilltop is an elitist institution which exists in a political "*bubble*" (p. 112) which mirrors the life of the wealthiest in the country. Overall, this portrait shows students' maturity in navigating an environment and people foreign to them, but it also reveals how their experiences make them question their place in that world.

"*Leaving*" is the final portrait of the book. In this chapter, Tieken returns explicitly to many of the themes that open the book's first chapter. As college graduation is approaching, students tell the author some of their biggest fears: leaving school with a large debt to repay over many years; returning to their hometown and getting "stuck" there; their lack of connections or social capital which disadvantages them relative to their peers when searching for a job; the lack of job experience when applying for work; and the expectations their local rural communities have of what will they make of their lives after four years living with the urban elite (pp. 123-125). To a great extent, these fears shape what is possible for these rural young people. Through detailed stories of each participant, Tieken uses her sociological imagination to show that students' subjectivation, their possibility of being, is constantly affected by structural issues that are often beyond their individual capacities.

I also feel in this chapter that the intimacy between research participants and the researcher grew even closer, as they reveal their fears about the future to the author. Tieken demonstrates the power of qualitative longitudinal research to paint the picture of our times through less than a dozen personal stories. She strongly emphasises the role of place in shaping futures, and participants' satisfaction and dissatisfaction with where they are going. This feeling of "*getting stuck*" back home is prominent for almost all participants, with some returning for a brief period of time to save money in rent and afford college loans or until they figure out their next move.

A recurring question in the book centres on the usefulness of a liberal arts college degree in the twenty-first century and to making a living in a rural place. Tieken keeps coming back to the big narratives of our time, or "*grand myths*", as she calls them (p. 145), such as growing social class, race and geographical divides. She questions if education works as a "*great equalizer*", and if meritocracy is a principle that is socially just. While students' "*faith in the American educational structure is eroding*" (p. 142), as Tieken continues to interview them well after they leave college, students' agency appears strong in moulding what they acknowledge are "*complex and dynamic and nuanced*" pathways to their lives (p. 137).

In Chapters 6 and 7, Tieken digs deeper into her conceptual toolkit to explain that place and geography have the capacity to distribute resources unequally (see Soja, 2010). But she also argues that participants' rurality is a resource, a source of social capital, and an inner fuel to successfully navigate the place, class and racial context of an alien environment. Hilltop is too urban, too wealthy and too White for these nine rural young people. Yet, they still made it work.

Tieken also writes about "*college as resistance*" for these students. Against a backdrop of popular media's tendency to mock rural people "*as ignorant and uneducated*", with these discourses reiterated by urban peers at Hilltop, and with Trump's first presidency attributed to rural folks, these young people resisted. Towards the end of the book Tieken writes about the "*underrepresented*", about the rural identity of participants, and about the under-theorisation of geography as an injustice. Ultimately, Tieken insightfully describes how these young people attended college not as a binary choice between opportunities for the future or home for its belonging – the trope of 'should I stay or should I go?'– but rather they chose both opportunity *and* home. She argues that they went to college "*for them*", for their parents' hopes, to disprove rural stereotypes, and to refuse "*to participate in rural undereducation and exploitation*" (p. 158).

This book offers a complex and eloquent analysis of the struggles rural youth face to make it work in college and at home. It is about big debates in education and society, about the role of geography and the socially just face of education and America. It demystifies media and popular discourses that devalue rural people and places and provides a thoughtful account of the challenges, costs and opportunities for rural youth to "*study up*" at an elite urban institution. Its power, for me, also relies on the author's astute sociological insights, her sophisticated prose, and in the qualitative longitudinal aspect of the study. Rarely do we see research that follows individuals for an extensive period of time, interviewing them and their significant ones several times, and building a research intimacy that provides space to unearth stories which transcend individuality. Against the objectification of the present, Tieken with her longitudinal and qualitative research, renders visible how rural young people make meaning of everyday life and use resources to build their biographies over time. Ultimately, Tieken paints a nuanced and insightful picture of growing up rural in America, contributing significantly to the rural education and sociological imagination.

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