Engaging in online postgraduate education as means of professional learning.

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With enrolments in higher education becoming a competitive market, through the removal of caps in 2012, the equitable access to postgraduate education is raised. Postgraduate education, provided through higher education institutions, is an important aspect of career development for professionals. Professionals working outside of the metropolitan area are increasingly seeking postgraduate education opportunities that will be delivered online, at a distance. In this research study, data collected from the teaching profession, has culminated in a model that will ultimately improve access to professional learning. This research paper aims to highlight the important role that higher education providers play in the delivery of postgraduate education to professionals working in regional and remote areas of Australia. Although this paper focuses on the realm of education, the model of connectedness, where synchronous and asynchronous technologies are used, can be adapted and applied to any profession that requires equitable access to professional learning.

Keywords: equitable access; regional and remote education; professional learning; online learning

Introduction

Professional learning for teachers in Australia must be considered in terms of the substantial changes and reform occurring in education. A number of Government strategies, including the Australian curriculum, digital revolution and transformation through national professional teaching standards, have been thrust upon teachers within this reform. Whilst teachers source professional learning through a range of opportunities, without doubt, enrolling in postgraduate courses are certainly a highly regarded option.

On a broader level, postgraduate education for all professionals working in regional and remote areas must be considered in terms of access and equity. The use of the internet and technology to engage and support professionals in learning opportunities is not new, however, many are still not utilising such approaches to their full potential.

In this paper, the author presents the importance of postgraduate education as a form of professional learning

and the necessity to engage in using ICT to be able to provide equitable access to those who live outside of the metropolitan area. Further, a conceptual framework is presented, through the development of a model, where synchronous and asynchronous technologies support professional learning at a distance.

Background

A convincing body of evidence has been accumulated to indicate that the attraction and retention of human service professionals to regional, rural and remote areas both in Australia and internationally is a challenge (Herrington & Herrington, 2006; Human Rights and Equal Opportunity Commission, 2000; Miles, Marshall, Rolfe & Noonan, 2003; Pegg, 2007; Roberts, 2004; Wallace & Boylan, 2007). The link between retaining teachers in these areas and the importance of access to professional learning have been highlighted by a national study conducted by the National Centre of Science, ICT and Mathematics Education for Rural and Regional Australia (SiMERR). The research by SiMERR generated a report to the Department of Education, Science and Training (DEST) from which the recommendation "that education authorities, in partnership with schools and school communities, universities, and professional organisations meet the continuing needs of teachers in rural and regional areas through a range of strategies that ensure equitable access to ongoing quality professional learning" (Lyons, Cooksey, Panizzon, Parnell & Pegg, 2006, p. xiii). Inequitable access to professional learning was reported under the broader theme of professional connectedness and isolation. A substantial finding that "primary teachers in remote areas indicated a significantly higher unmet need for professional development opportunities such as mentoring, release time for professional development and collaboration with colleagues than teachers did elsewhere (Lyons et al., 2006, p. 85)", identifies the importance of further research to identify a framework for best utilising technology to support such an initiative.

In order to provide learning environments that offer flexibility required by higher education students, more higher education providers are turning toward the notion of e-learning. The use of asynchronous communication in distance learning is certainly not new, however, the idea of engaging students in a real-time environment to enhance their learning is less well documented.

The successes of online education (including K-12, undergraduate and postgraduate) where web conferencing and virtual classroom software considerably enhanced the learning experiences of external students has been documented in recent literature (Broadley & Pelliccione, 2010; Crump & Boylan, 2008; Crump, Twyford & Littler, 2008; Devlin, Feraud & Anderson, 2008; Lonie & Andrews, 2009). Further, Broadley and Pelliccione (2010) found that higher education students were enthusiastic about participating in collaborative, interactive, synchronous learning environments. The software used were real-time virtual classroom environments that allowed for communication through Voice over Internet Protocol (VoIP) and web conferencing, along with a large number of collaboration tools to engage learners. Students could access the online environment from any location that had a computer and an Internet connection either through physical cable or satellite connections. Broadley and Pellicione's (2010) study indicated that synchronous software provided a supportive environment through lecturer/student relationships, enhanced learning experiences and a positive impact on assessment that were not found in a purely asynchronous environment. A survey of the online students showed that 87.1% believed the synchronous software enhanced the quality of their online learning experience. Similarly, Lonie and Andrews' (2009) study found that web conferencing enhanced learning experiences of regional students and this learning approach provided an active learning experience that potentially reduced the discrepancy between regional and metropolitan student access to a collaborative learning environment.

Broadley and Pelliccione's (2010) work highlighted the role of synchronous technologies in undergraduate courses, however, it is important to note that higher education institutions are also providers of professional development for teachers in terms of postgraduate study. Lonie and Anderson's study (2009) supports the notion of postgraduate education courses being provided through these technologies. Teachers (60%) within Lonie and Anderson's study indicated the value of university postgraduate courses as a professional development opportunity and as a result the trial of synchronous software within Broadley and Pelliccione's study could inform the delivery of postgraduate units.

A study by Harvey (2005) in Queensland determined that career path and pedagogical content were motivating factors for teachers to undertake postgraduate study. Of the 178 respondents surveyed across five schools within this study, 15% were enrolled in postgraduate study. There is no evidence of whether these were regional or remote teachers; or if they were enrolled in a face to face or online medium. This was considered vital information in the context of the current study, to identify if access to higher education in the form of professional learning was reported as a significant factor for regional teachers.

In December 2008, Professor Denise Bradley AC delivered the Final Report into the Review of Australian Higher Education (Commonwealth of Australia, 2008). This report highlighted the importance of targeting under-represented groups currently accessing higher education including; those from low-socio economic backgrounds, regional and remote areas and Indigenous students. In order to increase participation the report states:

> An additional allocation of $80 million per year to develop innovative, collaborative, local solutions to provision of higher education in regional and remote areas is recommended. As well, serious consideration should be given to the development of a university with special expertise in provision of higher education across regional and remote Australia (Commonwealth of Australia, 2008).

An important recommendation essential to a more flexible and adaptable system of regional provision is found in Recommendation 16 indicating that "funding to develop innovative local solutions through a range of flexible and collaborative delivery arrangements in partnership with other providers such as TAFE" (Commonwealth of Australia, 2008, p. 112).

Similarly, further investigation into access of higher education was undertaken in 2009, as the Senate conducted a national Inquiry into Rural and Regional access to Secondary and Tertiary Education Opportunities (Commonwealth of Australia, 2009). A substantial number of submissions (n=759) from organisations and community members cemented the foundation of the need for equity and access to quality education programs. A seminal submission by the Society for the Provision of Education in Rural Australia outlined two significant points including the need for policy makers to apply a rural lens whilst developing education policy (Wallace & Boylan, 2007) and that secondly, sustainable rural communities are built on the foundation of a local delivered education to its youth (Society for the Provision of Education in Rural Australia, 2009). Further, this organisation acknowledged three main factors that impacted on non-metropolitan education; thus being distance, low socioeconomic status and aboriginality. Figure 1 exemplifies the connectedness between the three factors and illustrates the need for a holistic approach to address these challenges.
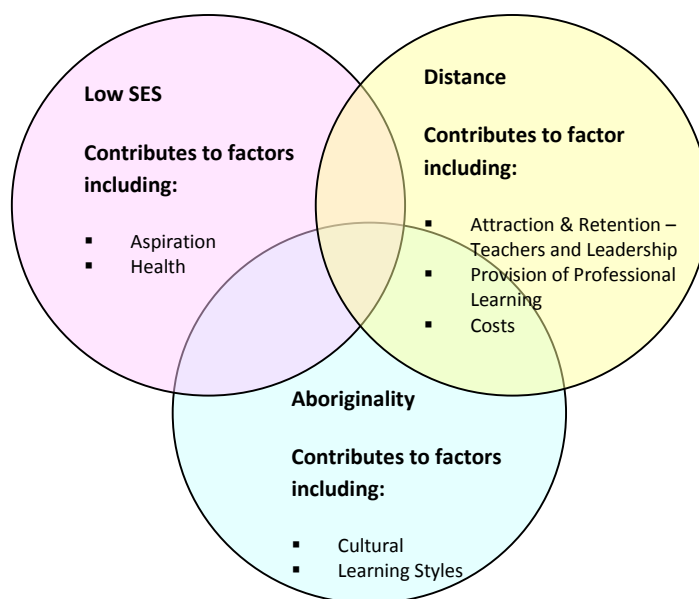
Figure 1: Significant factors contributing to educational disadvantage in rural and regional Australia (SPERA, 2009).

It is clear from recent literature in this area that many professionals working in regional and remote areas have limited access to professional learning opportunities within the higher education sector in the form of postgraduate study.

Method

This study incorporated three distinct phases. Phase One aimed to provide an extensive review of the literature in order to position this study in the context of the previous research and identify the gaps in the literature. Phase Two included two stages of data collection. In Stage One, quantitative data were collected through surveys to provide a general picture of the research problem, followed by qualitative data collected through interviews to further refine the general picture document regional and remote teachers' perceptions of their access to professional learning in Western Australia. Furthermore, in Stage Two of this phase, data were collected to describe current practice in the Department of Education and other professional learning providers in order to document the technologies currently available to support professional learning in an online environment. Phase Three included data analyses, findings and the formulation of a conceptual framework to facilitate the implementation of a professional learning community through the application of synchronous and asynchronous technologies.

A proportionate stratified random sampling of the regional (Country Teaching Program) and remote (Remote Teaching Service) teaching programs in the Department of Education (WA) was undertaken to ensure that a balanced proportion from both programs were surveyed. In 2009, at the time of the data collection, the total number of schools in each program were CTP schools (n=118) and RTS schools (n= 43). It was decided to include a total of 50 schools in the survey sample. In order to undertake a stratified sample of 50 schools over both programs, the sample consisted of 37 schools from the CTP and 13 schools from the RTS, all were a diverse range of size and district locality. Within the 37 CTP schools the sample allowed for a large number of

teachers to respond to the survey, inviting a possible 549 teacher responses. From the 13 RTS schools, 169 teachers were invited to participate in the survey. Of these, almost 15% (n=106) of teachers responded to the survey. In situations where respondents returned the survey, but had not responded to the questions, frequency distributions of the data were undertaken to highlight these occurrences. Frequency distributions showed that two respondents had not answered any of the questions and as a result these surveys were removed from the final dataset. The final number of respondents for the survey sample was 104. A total of ten teachers were willing to participate in follow up interviews conducted by email, telephone and where possible, in person. Of these ten participants, four identified as classroom teachers and six were administrators in the role of principal or deputy principal within a school. Six participants were females and four were males. These teachers were employed in schools that ranged from employing a teaching staff of three to thirty staff. Experience working in a regional location ranged from four months to twenty years.

Results

A range of data collected, within this study, quantified the necessity for higher education institutions to consider their role in equitable delivery of postgraduate education to those living outside of the metropolitan area. These themes include: teachers working outside of their qualified area; professional learning valued by teachers and the access to technology in order to undertake online learning.

Teaching Outside Qualified Area

From the findings of this current study, it was evident that teachers working in regional areas were often required to work outside of the area they were originally qualified to teach. Additionally, they were required to teach a combination of differing levels of education within their position. For example, a primary trained teacher working in a small remote community school may be teaching a classroom that engages children from kindergarten through to Year 10. This has implications for teachers and their dynamic need for professional learning.

From the data, those qualified in Early Childhood Education (ECE) accounted for 13.5% (n=14), however 15.4% (n=16) indicated they were currently teaching in the Early Childhood field. This shows that two respondents working in Early Childhood were teaching outside of their qualified field or in a combination of ECE and another field. The Primary qualified respondents represent 57.7% (n=60) of the total participants. In contrast 40.4% (n=42) are currently teaching in Primary teaching positions. These data indicate that 18 teachers who were originally trained to teach in Primary positions are now teaching outside of their original area of qualification or in a position that requires them to teach over a combination of teaching positions. A total of 24% (n=25) reported being Secondary qualified teachers. Those currently teaching in Secondary positions accounted for 21.2% (n=22). From these data it is evident that three teachers who originally were Secondary qualified are now teaching in other roles. The remaining respondents from the original teaching qualification data comprise 4.8% (n=5) and reported their qualifications as Other. From the survey data it was found that Respondent 20 had a Bachelor of Education, Bachelor of Arts and Graduate Certificate in *Teachers of English to Speakers of Other Languages (TESOL) and was teaching Languages Other Than English (LOTE); Respondent 21 was originally trained as a special needs teacher and was now teaching K-12; Respondents 76 and 77 held a Graduate Diploma of Education and although they had trained in middle school education were now teaching primary and secondary; similarly Respondent 83 had a Graduate Diploma of Education and although trained in middle school education was now teaching in the primary years.* These data shows 6.7% (n=7) indicated their current teaching position as Other. After conducting further analysis of the surveys it was found that Respondents 20 and 21 had selected Other due to the reasons described above where their category was not clearly defined. Additionally, Respondents 25, 58, 65, 78 and 74 all reported they were currently teaching in positions other than ECE, Primary or Secondary, but did not provide further details to offer an explanation of what the current work involved. It is important to note that two teachers (1.9%) reported they were currently teaching a combination of ECE, Primary and Secondary areas. Similarly, 14.4% (n=15) of respondents indicated they were currently teaching a combination of two areas. A comparison of the

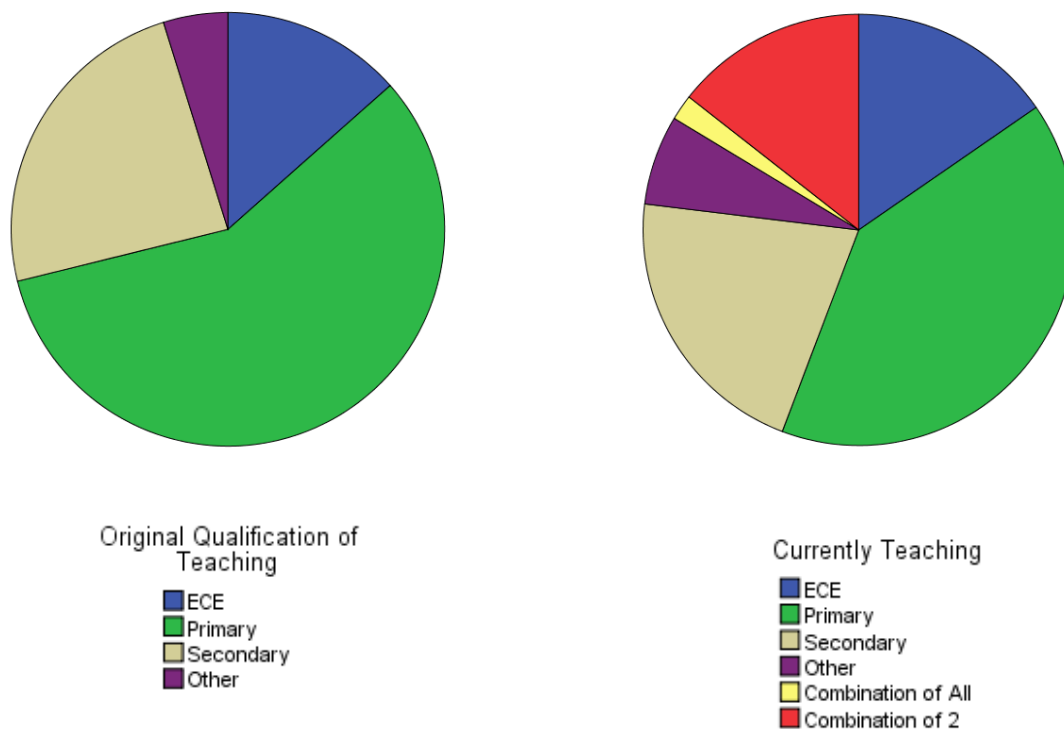respondents' original qualifications with their current teaching position is shown in Figure 2.

Figure 2: Comparison of original teaching qualification and current teaching position.

These data indicate there are teachers working outside of their qualified areas and as a result it is imperative they have access to professional learning to enable them to effectively implement an appropriate curriculum.

Professional Learning Valued by Teachers

Both informal and formal types of professional learning are undertaken by teachers. In terms of the types of professional learning valued by the participants within this study, university postgraduate courses were reported as the fourth highest mean (2.68) with 60% of participants selecting this form of professional learning to be regarded in high or very high value. Of some concern, reporting the lowest mean (2.22), 13.5% of participants in this study believed reading professional literature provided the least value in terms of professional development.

Table 1: Value of PD Approaches

	Little or no value	Moderate value	High value	Very high value		
Item	%	%	%	%	Mean	SD

						Mean	SD
Learning with and from your work colleagues including mentoring	0	14.4	43.3	42.3		3.28	0.70
Regional workshops	1.0	13.5	56.7	28.8		3.13	0.67
Conferences or involvement with professional associations	4.8	19.2	56.7	19.2		2.90	0.76
University postgraduate courses	5.0	35.0	47.0	13.0		2.68	0.76
DoE initiatives (ie, Graduate Teacher, Senior Teacher modules inc. face to face and online)	11.7	28.2	48.5	11.7		2.60	0.84
TAFE courses or other training organisations	8.0	38.0	50.0	4.0		2.50	0.70
Reading professional literature	13.5	53.8	29.8	2.9		2.22	0.71

Using ICT to Access Professional Learning

Participants in this study were surveyed as to their perceptions of using technology to access to professional learning. Videoconferencing technologies were underutilized with only 13.7% of participants having used such technology to access effective professional development. Similarly, only 11.1% of participants agreed that web conferencing software (such as a virtual classroom environment) is effective in accessing professional learning at a distance. Of importance to this paper, 75.8% of participants were uncertain about web-conferencing which might indicate the majority of participants in this study had not had the opportunity to experience learning through this technology. While 37.9% of participants believed that technology and ICT is assisting in the equitable access of professional learning for those working outside of the metropolitan area, just as many (36.9%) were uncertain this was the case. An important aspect of using any technology, particularly new technologies, is the support provided to users. Over half (55.4%), of participants in this study, indicated they had adequate support in their workplace that would allow them to feel confident in accessing professional learning in an online mode. Additionally, 70.8% reported they were confident and capable of accessing online professional learning if required. These data might indicate that attitudes and support for using technology to access professional learning are in place, however, opportunities that provide such an initiative have been limited for some professionals.

Table 2: Use of Technology/ICT

Item	Strongly Agree %	Agree %	Uncertain %	Disagree %	Strongly Disagree %	Mean	SD
I have used videoconferencing for PD and this was effective.	6.3	7.4	38.9	31.6	15.8	3.43	1.05
Web conferencing software (such as Elluminate, Wimba, Webex, Centra7) is an effective way for teachers to access PD.	4.0	7.1	75.8	7.1	6.1	3.04	0.74

In my opinion, technology and ICT are making PD more accessible for regional teachers.	6.8	31.1	36.9	22.3	2.9	2.83	0.95
The support for ICT and technology is adequate within my school, so that I would feel confident to access online PD.	14.6	40.8	14.6	21.4	8.7	2.69	1.21
I am confident in using technology and am capable of accessing online PD if required.	29.1	41.7	10.7	15.5	2.9	2.21	1.12

The use of technology in order to access PD from regional and remote areas was also posed to participants through semi-structured interviews. While many could see potential uses of the technology and thought it may alleviate some of the access issues; there were issues posed by others with regard to costs associated with doing so:

> Will be more accessible (T4).

> With budget restraints, it is an option but would still involve travel and accommodation as most small schools do not have the conferencing equipment needed (P2).

Participants were questioned on how technology might affect the way that regional teachers access PD in the future. It was interesting to note how different teachers used the term technology. While some talked in more broad terms of technology, three discussed videoconferencing and one discussed the social networking site of Facebook. The use of videoconferencing and its effectiveness was posed:

> With regard to video conferencing, we recently installed these facilities in our school (in the past 12 months). They have been used for one PD that I was a part of which was mandatory (child protection) (T1).

> Video conferencing was good while it worked but start-up time was impacted as the technology failed. There are time delays with speech which can be frustrating. As technology improves video conferencing will continue (T4).

> If you were using technology it would want to be video conferencing at this point in time. I don't think the online deliveries – you mentioned Elluminate before – and there's a range of them – I don't think that we in Australia have the bandwidth capacity to make them as good as they could be (P6).

> We have discussed what we're going to do in terms of hooking up via videolink for me because I have said that it's ridiculous that I'm travelling. We can do it, but we need to have from my end the infrastructure that we need. Whether its videoconference or through IP, I would do either (P5).

Discussion

The need for professional learning for teachers in regional areas has been highlighted by a range of challenges. Findings from this study have provided evidence that teachers are being challenged to work outside of their qualified area, find it difficult to leave their school to attend professional development or undertake postgraduate courses, value postgraduate education as an effective form of professional learning and although uncertain about

the use of virtual classrooms, many are confident with using technology. For regional and remote professionals to gain access to a range of postgraduate opportunities, technology offers the most convenient and affordable option to do so.

Additionally, technology offers a medium to connect professionals regardless of their geographical location. In line with the literature, the author proposes the concept of delivering professional learning and accessing professional learning from regional and remote areas be reconsidered. This research lies at the nexus of one key issue. Teachers as professionals must adopt a continuous cycle of improvement within their workplace and thus require a learning support network that underpins that cycle. In the case of regional and remote professionals, the only logistical possibility is to provide this through technology that offers synchronous and asynchronous communication.

The model in Figure 3 provides a conceptual framework for facilitating professional learning through an online learning community to deliver just-in-time (JIT) and individualised support to teachers in their local context. The teacher is the key element at the core of the model and understanding their individual professional needs is essential. In line with the findings, the second layer ensures the professional learning allows teachers to be situated in their local context; yet engage with other professionals within their schools, within their districts and across boundaries of districts. Ideally, a variety of learning opportunities would be made available that include just-in-time (JIT) support and meetings that are planned on a regular basis. For this to occur, the third layer of the model requires a vision from the principal at the school level to ensure the professional learning, although catering for teachers professional needs, is ultimately linked to the school priorities and the student needs within the individual school. The fourth layer of the model provides the technology that is available to support such an initiative. The use of both asynchronous and synchronous technologies is necessary to cater for those who prefer to collaborate and learn within a real-time environment. Those who are unable to join at specified times in the synchronous environment would access asynchronous communication tools. Building on the notion of situated practice and community cohesion, the outer layer of shared repertoire, mutual engagement and joint enterprise, teachers have access to a purposeful learning community where they can share practice, engage in collegiality and develop knowledge. It is envisaged the community be established by the need of the teachers and include other professionals that would value-add to the community. These professionals might include curriculum consultants from district or central offices, university lecturers in the specific field of expertise, industry experts if applicable to that field of expertise and others as required by the teachers within that community.
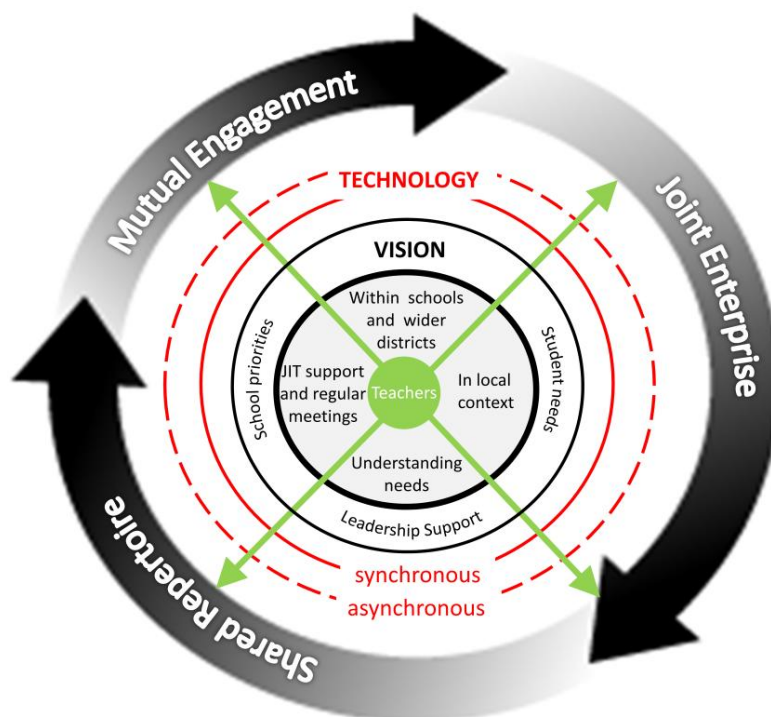
Figure 3: Rethinking connectedness model.

This model, constructed for the needs of teacher professional learning, can be applied to the realm of teachers or other professionals accessing postgraduate education at a distance. The use of asynchronous and synchronous technologies is highly beneficial for effective online teaching and learning.

Conclusion

Postgraduate degrees are a valued form of professional learning and as such, higher education providers need to ensure equitable access to all students regardless of geographical location. Through the application of a model, such as the *"Rethinking connectedness model"*, focusing on the needs of the individual and the vision of the organization within which they work, higher education providers can ensure that postgraduate education can be tailored to suit the requirements of professionals working in regional and remote areas of the nation.

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