Choosing to Teach in Rural and Remote Schools: The Zone of Free Movement

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The difficulty of staffing rural and remote schools has become a global phenomenon. Educational agencies in Organisation for Economic Co-operation and Development (OECD) countries have addressed this issue by developing and implementing creative recruitment models. While many studies have documented reasons why teachers decide to work in rural and remote schools very little has been written about how the relationship between teacher personal demographics and why teachers move to rural regions and the intrinsic factors leading to their decision. One hundred and ninety-one secondary teachers from 27 rural and remote schools in the State of New South Wales, Australia, participated in this survey study. The findings reveal a number of factors making possible their attraction to rural and remote communities not only by the opportunity to secure a permanent position, but also because of the attraction of a rural ambiance, a stronger sense of collegiality and gaining experience/exposure in rural education. Constraints factors in teaching in a rural or remote school included a number of logistics and instructional reasons. In addition, the study found that respondents were more likely to move to rural and remote schools because they (a) grew up in a rural area with family connections in rural areas, (b) were female with family connections in rural areas, and (c) were in the 18-30 year age range and wanted to have rural teaching experience. The study theorises that the choice to work in a rural and remote school is influenced by a set of interacting possibilities and constraints creating a zone of decision-making free movement. Implications for teachers' recruitment and retention are discussed.

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Introduction

There is an acute shortage of teachers in rural Australia (ACER, 2012) as well as in rural regions of other English-speaking OECD countries such as the United States (Miller, 2012; Staudt, Risku & Martinez, 2008; Panizzon, 2011), the United Kingdom (Royal Society, 2007) and New Zealand (Lonsdale & Ingvarson, 2003). Distribution patterns of rural teacher shortages vary across educational systems (McKenzie, Santiago, Sliwka & Hiroyuki, 2005) which make international comparisons complex. Comparisons are further exacerbated by the unique social dynamics of each region.

This crisis seems more critical in Australian rural and remote schools where the supply of teachers is very limited despite recruitment strategies consisting mainly of extra financial incentives (Harris & Jensz, 2006; Lyons, Cooksey, Panizzon, Parnell & Pegg, 2006) and early participatory experiences (Kline, White & Lock, 2013). It is well documented that staffing rural and remote schools needs to be addressed particularly for the enhancement of student learning as well as for equity issues (Handal, Watson, Petocz & Maher, 2013).

For example, the New South Wales (NSW) Department of Education and Communities (DEC) has prioritised the attraction of high-quality teachers to staff schools in rural and remote communities. These were schools for which the Department of Education and Training (now DEC), back in 2013, offered additional incentives including further professional development, rental subsidy, special incentive transfers and other allowances (NSW DET, 2015). Features of rural and remote locations include not only great distances from centres of high population but also relatively small "population size, movement and density relative to metropolitan centres, including the requirement for young people to have to move to larger centres to access further education and training" (MCEETYA, 2007, p. 3).

This paper describes a research project seeking to understand the decision making processes of teachers who chose to teach in rural and remote communities. Teacher decision making was contextualized by the key learning areas (mathematics, science, English, creative arts, etc) of the teachers who participated in this study. In particular, this study sought to explore the fundamental factors influencing choices made by teachers to relocate to rural and remote schools. Furthermore, the study sought to understand teachers' attitudes that influenced their decision to teach in rural and remote school communities in terms of teacher demographics and teaching background. Such a study is highly relevant to inform program development, policies and strategies for attracting teachers to rural and remote schools.

When reviewing the literature written over the last decade the reasons for teachers choosing or not choosing to work in rural and remote schools were explored in terms of what constitutes a rural and remote school community and why teachers would want to teach in these communities. Although there has been a great deal written about why teachers do not choose to teach in rural and remote schools, there is a scarcity of literature on the possible explanatory effect of personal and demographic variables on their attitudes.

Conceptual Framework

The zone of proximal development (ZPD) was initially conceptualised by Lev Vygotsky (1978) as the gap between initial learner capabilities and the higher level of performance that could be achieved with appropriate assistance. The ZPD itself can be associated with a set of capabilities in the form of skills and knowledge embedded within the learner, allowing the learner to potentially perform at higher and increasing levels of achievement. The ZPD is essentially a theory of learning. Valsiner (1987; 1997) conceptualised Zone Theory as an extension of Vygotsky's (1978) Zone of Proximal Development (ZPD). Essentially, Valsiner's Zone Theory is a synergy generated among three main zones. The first is the zone of proximal development (ZPD) which was

extended to interface with the zone of free movement (ZFM) and the zone of promoted action (ZPA). Valsiner (1987; 1997) positioned the teacher as the main actor in an overall process that culminated in the location of a working space defined by the interaction of these three zones.

The zone of promoted action (ZPA) represents the opportunities for professional growth that an individual can access to advance professional learning to achieve student academic progress (Goos & Bennison, 2007). The zone of free movement (ZFM) is an enclosed environment where, in general, an individual interacts for teaching and learning purposes. Within a socio-cultural perspective, it represents both processes and structures that condition the circumstances in which not only can learning be facilitated but in which decision-making can also occur. The zone of free movement is guided by a working space defined by possibilities and constraints. While possibilities are represented by the incentives to take up a rural and remote school position, such as extra income and permanent positions, the constraints are given by deterrents such as geographical isolation and lack of professional development (Handal, Watson, Petocz & Maher, 2013). The ZFM also includes teacher perceptions of student characteristics, perceptions about rural and remote education, as well as other educational variables such as curriculum and assessment requirements (Handal, McNeish & Petocz, 2013).

The decision to teach in a rural or remote school can be best understood when viewed as an interaction between an individual's response to possibilities and constraints within the sociocultural context of a rural and remote environment and the individual teacher who decided to teach there. Valsiner (1987; 1997) makes the case that each individual responds to a suite of possibilities and constraints. Such responses are dynamic since the pool of constraints and possibilities is fluid and in constant change. Ideally, the ZFM and the ZPA should have a high degree of concurrence for decision making to occur effectively (Blanton, Westbrook & Carter, 2001). Tensions between the ZFM (why a teacher would move to a rural or remote location) and the ZPA (how the system encourages

teachers to move to a rural or remote location) may result in serious recruitment gaps. Hence, there is a need to explore a broad range of factors that impact teacher decision-making that culminate in work destination decisions. Knowledge about influences on the ZFM will inform policy-making. Essentially, the ZFM is viewed as a framework where the "intrapsychological functions of the person" are organized "for possible ways of thinking and feeling" (Valsiner, 1998, p. 55). It provides a focus for examining teacher attitudes in the context of recruitment strategies, within the overall framework of Zone Theory. The possibilities and constraints that influence the context of free movement is the specific focus explored in this study. However, at times components of the zone of promoted action will be explored as they interact with the possibilities and constraints that influence the zone of free movement.

Literature Review

There is a plethora of studies on recruiting teachers in rural and remote schools. Two nation-wide projects relevant to the Australian experience are the TERRAnova and the the SIMERR (Science, ICT and Mathematics Education in Rural and Regional Australia) national survey. These two large-scale studies provide a broad range of possibilities and constraints affecting teacher decision-making on work destinations.

The TERRAnova project investigated successful strategies for preparing, attracting and retaining high quality teachers for rural and remote schools in five Australian states. The study focused on pre-service preparation and rural incentive schemes in communities where teacher retention was high (Cooper, Reid, Green, Hastings, Lock & White, 2009, p.18) by investigating how understandings of rural schooling were articulated in teacher education curricula. The project used "a longitudinal series of annual national surveys of two cohorts of student teachers taking up university and state incentive schemes for rural teaching, with follow-up focus group interviews each year" (Terranova, 2015). Participants were "re-surveyed and followed up at interview again as beginning teachers over their first two years of teaching" (Terranova, 2015).

The Science, ICT and Mathematics Education in Rural and Regional Australia, (SiMERR), National Survey and Case Studies (Lyons, Cooksey, Panizzon, Parnell & Pegg, 2006) analysed data about Australian teacher motivation for teaching in rural and regional schools. This large study of 2,940 primary and secondary Mathematics, Science and ICT teachers, (Lyons, Cooksey, Panizzon, Parnell & Pegg, 2006) defined 'rural' as areas with a population less than 25,000 (Lyons et al., 2006) while Stokes, Stafford and Holdsworth (1999) defined 'remote' as regions where the lowest 15% of population density reside.

'Possibility factors' influencing the decision to teach in rural and remote schools

Little research has examined the relationship between teacher demographics and the reasons they teach in rural and remote schools. Most studies report why teachers choose to teach in rural and remote schools. Lyons et al., (2006) found that most commonly participating teachers were motivated by job availability, placement by education authorities, and previously having lived in the same or similar locations.

Other influential factors cited were the availability of rural or remote allowances, rent subsidies and affordable housing (Lyons et al., 2006). The next most frequent responses were related to a preference for rural lifestyles, family relationships and spouse's employment. Older teachers were more attracted than younger teachers by bonding agreements including scholarships and education authority placement.

Lyons (2009) reported that the motivation for 246 teachers for serving in rural schools included lifestyle, sense of community spirit, increased employment opportunities and family links. Lyons et al. (2006) study also found that class size and "preference for future transfers had the highest motivational value" (p. vi) for these teachers.

Gender differences occurred in the SiMERR responses, with males more motivated by salary and the increased chance of promotion (Lyons et al., 2006, p. 70) while females were motivated by partner employment. The Lyons et al. (2006) study also found that female teachers thought their family situation was more influential in their decision to stay in rural communities than males who thought the cost of living and quality of lifestyle was more important.

Lyons et al. (2006) also found that younger teachers were more likely to remain in rural communities for financial reasons compared with their older colleagues. Younger teachers considered financial and advancement incentives to be substantially greater than their older colleagues. Promotion also seemed to be an incentive for younger teachers (Lyons et al., 2006).

The SiMERR study found that beginning teachers wanted to teach in locations similar to those where they studied (Lyons et al., 2006). Those who taught in rural and remote locations initially tended to 'drift' to larger centres. Motivation for moving from a metropolitan to a rural schools included the benefits of smaller class sizes while opportunities to work with a smaller staff or with Indigenous students influenced this group least. Lock et al. (2008) found that Aboriginal and Torres Strait Islander teachers chose to return to their rural and remote home communities because they had local knowledge that would allow them to feel at home and 'powerful' in these communities.

When relating personal values to decisions to work in non-urban destinations, Plunkett and Dyson (2011) found that school ethos or culture was considered to be a more a 'philosophical' than a practical reason to remain in rural communities. School ethos was described as a complex phenomenon linked to a community focus, religion and 'special needs' and closely related to school culture. School reputation was also cited as a reason for working in rural and remote communities.

'Constraint factors' influencing the decision to teach in rural and remote schools

Sharplin (2002) studied pre-service teachers who undertook a field trip to remote schools. Sixty per cent of these teachers subsequently chose to teach in remote schools. These pre-service teachers articulated their reasons to teach in remote schools in terms of:

- professional opportunities and opportunities for increased responsibilities;
- small school size and increased knowledge of staff, students and community as a result;
- expectations of a different curriculum and variety of teaching experience;
- feeling part of a community;
- a great place for their own family, especially children;
- active social life; and
- diversity in community and novelty of experience (p. 7).

The TERRAnova Project found that teachers who chose to work in rural schools have the capacity to resist rural stereotypes and mythologies. These teachers do not share the views of country towns as being "deficient, backward and socially undesirable: denigrated by the reluctance of teachers to work there" (Reid et al., 2008, p. 3). The TERRAnova Project findings are consistent with White et al. (2008) who asserted that innovative and more effective ways for preparing teachers in rural schools are necessary.

Lyons (2009), further analysed data from the SiMERR study and speculated that it was questionable whether many teachers would have accepted rural positions had it not been for practical incentives. Lyon (2009) concluded that respondents cited departmental placement and strategic incentives as reasons why they taught in rural and remote areas. Lyons (2009) asserted that staffing shortages often result in pressure for teachers to teach subjects outside their areas of training. They found that mathematics and science teachers were "more than three times as

likely as those in metropolitan schools to be required to teach a subject which they were not qualified to teach" (Lyons et al., 2006, pp.149-150).

Summary

While there are many reasons for teachers choosing or not choosing to work in rural and remote locations, such reasons form a zone of free movement with each reason considered as either a constraint or a possibility. It seems that the decision to teach in a rural and remote school is a consequence of interactions between possibilities, constraints and an individual teacher context. Personal factors related to family and community support the decision to work in rural locations while other personal factors hinder such decisions.

There is also a strong relationship between living in an urban setting and studying in urban centres and subsequently choosing to work in urban rather than rural schools. Misinformation about the characteristics of rural environments may also play a negative role in deciding to work at a rural and remote school. It is also clear that recruitment strategies are important in the decision making process.

Methodology

This is a case study using a questionnaire that was purposively designed to collect data on the research questions. A large number of questionnaire studies on teacher attitudes base their analyses on statistical comparison of mean scores from scale items to determine the magnitude and direction of those opinions. This approach is also used to identify how traditional differential variables in education such as teacher gender, academic qualifications, years of teaching experience and teaching socio-economic area are related to teacher attitudes.

Research questions

There are two research questions this study seeks to answer. They are:

- What are the possibility and constraint factors affecting the decision of teachers to teach in a rural and remote school?
- What are the characteristics of the zone of free movement of teachers who choose to teach in a rural or remote school in terms of demographics and personal factors such as gender, regional background, Indigenous and non-English speaking background (NESB), age, teaching qualifications, further studies since rural appointment and teaching experience before and since rural appointment and key learning area (KLA)?

Questionnaire

A questionnaire (see appendix A) was developed to assess personal demographics, teaching background and work destination factors characterising teachers in rural and/or remote schools. The questionnaire for this study encompassed three distinct groups of potential variables affecting teacher decisions to work in a remote and/or rural school. The first section asked teachers to indicate their personal demographic data such as age, residence, marital status, Aboriginality and number of dependents.

The second section was designed to collect information about respondent teaching background such as academic qualifications, years of teaching experience and teaching background. The third section was designed to capture reasons for teachers choosing to work in a rural and/or remote school using the statements in Table 2. These 12 items were presented on a three-point Likert Scale ranging from 'Yes', 'Unsure' to 'No'. Teachers were told in the introductory letter that there were no pre-determined 'right' or 'wrong' answers.

To explore the relationship among variables both descriptive and inferential statistics were used. The variables used in the study were characterised by the following questionnaire items as shown in Table 1.

Table 1. Questionnaire items and variables

Variable	*Questionnaire item*
Gender	Gender
Regional background	Where did you grow up?
Indigenous background	Are you of Aboriginal or Torres Strait islander origin?
NESB background	Do you speak any language(s) other than English at home?
Age	What is your age group?
Teaching qualification	Highest completed educational qualification before working in a rural and/or remote school?
Gained qualifications	Have you gained any additional educational qualifications since moving to a rural and/or remote school?
Non-rural teaching experience	Years of teaching experience before serving in rural and/or remote areas
Rural teaching experience	Years of teaching experience in rural and/or remote areas?
KLA	In which secondary key learning area (KLA's) have you been trained?
Reasons to become a rural teacher	About your decision for working at a rural and/or remote school?

The questionnaire items were either newly created or adapted, using content analysis processes, from research instruments used in related studies (Chong & Low, 2009; Greer & Akbar, 2009; Sharplin, 2002; Lock et al., 2009; Plunkett & Dyson, 2011; Harris & Jensz, 2006; Lyons et al., 2006). The instrument was validated by a panel of experts and subsequently piloted with ten NSW teachers including teacher educators and educational administrators to ensure content validity and clear meaning of the semantic items. A Cronbach's alpha coefficient of 0.66 was obtained for the 10-item attitudinal scale indicating moderate

internal reliability. Ethics approval was obtained from the Human Research Ethics Committee from The University of Notre Dame Australia and the NSW Department of Education and Communities (DEC).

Sample

All secondary trained teachers working in all the 51 public central or high schools, classified by the NSW Department of Education and Training (NSW DET, 2015) as rural and remote in 2011 were asked to complete the questionnaire and return it to the researchers. NSW DET does not offer a broad explanation of school rurality but explains that these schools, located in NSW rural and remote communities, are targeted because they experience difficulties in recruiting teaching staff. Consequently, the NSW government offers special incentives to encourage teachers to take up rural and/or remote teaching positions. These incentives include extra income, rental subsidy, additional professional days, location allowances and incentive transfers after a period of time (NSW DET 2011). Although several definitions of the term 'rural' exist (Atkin, 2003; TERRAnova Project, 2015; Lock et al, 2009), this research has adopted the NSW Department of Education concept of geographical orientation (NSW DET, 2013) which conceptualises it as areas through which "materials, money and people flow" (Gibbs, 2008, p.1). To characterise the place where the respondent grew up, three choices were presented in the questionnaire: rural, large country town and city.

The questionnaires, along with a letter addressed to principals, were mailed asking principals to distribute the questionnaires to their secondary teachers. The number of questionnaires sent to each school was determined by the size of the student population which is indicative of the number of teaching staff. One hundred and ninety one teachers returned the questionnaire. As no exact data exist about the number of teachers in each school, the response rate was calculated by the number of responding schools. Hence, the response rate was 53% because 27 of the 51 schools surveyed returned questionnaires.

Findings

Descriptive statistics

Of the 191 respondents, 62 % were female and 34% did not grow up in a rural setting or in a large country town. In addition, 3% were from an Indigenous background and 7% were from a non-English speaking background (NESB). Also, a quarter of the respondents indicated they had gained an additional qualification after moving to a rural and remote school. The median teaching experience before rural appointment was 0-5 years, but ranged up to 30 years or over. The median teaching experience since rural appointment was 6-10 years, again ranging up to 30 years and over.

It is noteworthy that the average length of service of NSW DEC secondary teachers is 15.4 years. It is also interesting to note that the average age of NSW DEC secondary teachers is 46.1 years (NSW Department of Education and Communities, DEC, 2012). In this study, the median group of respondents was 51-60 years of age. Fifty-four percent of the group were over 41 years, 20% in the 26-30 range, 15% in the 31-40% range and only 11% between 19-25 years. The percentage of teachers in each age group generally increased with group age. This indicates the population of teachers in rural and remote schools is generally aging.

More than half the sample held a bachelor's degree and a diploma in education. Such an award combination is typical of staff coming from non-teaching professional backgrounds. They are staff who train to become teachers or are retrained over a period of one year or more after first obtaining a bachelor's degree. Also, the five KLAs with greater representations were as follows in decreasing order: Technology, Science, English, Human Society and its Environment (HSIE) and Mathematics.

Possibility factors for teaching in rural and remote settings

For the sample as a whole, the four main self-reported reasons for moving to and teaching in rural and remote schools were (Table 2):

     1. ability to gain a permanent position;
     2. attraction of a rural ambiance;
     3. stronger sense of collegiality; and
     4. gaining experience/exposure in rural education.

Means of participant responses to the twelve 'reasons to teach in a rural or remote school' scale items are shown in Table 2. A 'yes' response was scored as 3, a response of 'unsure' was scored as 2 and a response of 'no' was scored as 1. Therefore, the higher the item-mean the greater the influence of the reason targeted by that item for teachers deciding to work in a rural and remote school.

Table 2. Reasons to 'go rural'

Reasons to go rural	*Mean (SD)* *n = 197*
Ability to gain permanent position	2.34 (0.91)
Attraction of a rural ambiance	2.30 (0.92)
Stronger sense of collegiality	2.12 (2.00)
Gaining experience/exposure in rural education	1.92 (0.96)
Smaller classes	1.89 (0.95)
Opportunity to promote education in my KLA in a community area	1.86 (0.92)
Family reason	1.77 (0.98)
Opportunities for real-life (authentic) based learning	1.79 (0.92)
Professional and promotion opportunities to executive positions	1.75 (0.92)
Better behaved students	1.58 (0.84)
Obligated-due to a teaching scholarship agreement	1.52 (0.82)
Opportunities to do post graduate studies or research	1.25 (0.59)

Other possibility factors for teaching in rural or remote settings

The open ended responses to the question Were there any other factors motivating you to work in a rural and/or remote school? point to additional reasons not mentioned in the questionnaire items, many of them suggesting strong intrinsic motivation. Examples of these qualitative responses to the question include: "I had a desire to contribute back to the bush before retiring", "As an immigrant, I wanted to contribute towards the education of Australian children, to demonstrate my gratitude for being accepted here", "There was a chance to help disadvantaged students who are unlikely to access 'superior' education", "It was an opportunity to see and experience more of Australia … I am from the United States", "Opportunity to contribute to education in a remote area – often disadvantaged in teaching staff" and "Desire to teach in a school with a high indigenous population".

The above responses indicate that respondents wanted to assist or advance the community. Essentially, there is an 'altruistic' dimension to the reasons cited for wanting to teach in a rural or remote school. These reasons are not related to material gain but align more to a sense of selflessness and service to others.

Before and since the decision to teach in a rural or remote school

The years of teaching experience teachers had before moving to a rural and remote school was compared with the number of years they had been teaching since their move (Figure 1).
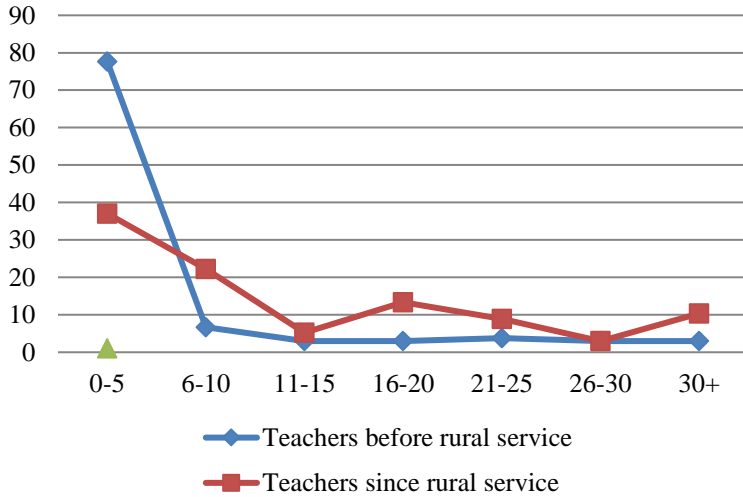
Figure 1. Trends in recruitment and retention of teachers in the sample

Figure 1 shows that nearly 80% of teachers in rural and remote schools had 0 to 5 years of teaching experience in urban locations before starting to teach in rural and remote areas. The remaining teachers in rural and remote schools were distributed relatively evenly over the rest of the 'years of experience' categories. This indicates that teachers in rural and remote schools are generally less experienced. Figure 1 also shows that about one third of respondents only taught for up to five years before they left their rural and remote schools. In other words, the vast majority of teachers arrive in rural and remote areas relatively inexperienced and stayed for a relatively short time. This warrants further investigation to expose the 'constraint factors' limiting the duration of teaching in a rural and remote area once teachers made the decision to teach there.

Some constraints were identified in the last section of the questionnaire, which asked participants to respond to the item

'What could be the difficulties in recruiting teachers in your KLA to rural and/or remote schools?' A variety of logistic and instructional constraints were identified. Some of the logistic constraints were that teachers complained about the lack of regional facilities, the lack of teacher housing and the high cost of living, as well as the lack of jobs for partners, limited social experiences and travelling distances for sporting and medical appointments. The instructional factors cited were the lack of opportunities for promotion, lack of resource funding and even lack of students to field sporting teams and participate in cultural events. It was also stated that rarely did trained and specialist teachers apply to teach in rural-remote areas.

A respondent wrote about the extra workload for classroom teachers because rural teachers were usually asked to be the head of the department despite of their lack of teaching experience. Moreover, a teacher commented about the isolation that resulted from being "the only teacher or one of the few in your teaching area" while another reported an "expectation of teaching outside your KLA due to a shortage of casual staff." The quality of institutional assistance was summaries by one respondent:

> Lack of adequate support structures such as professional support and counselling services, consultants, professional development courses etc., due to remoteness from large centres and from regional office - our regional office provides very little support.

Relationship between demographic and attitudinal variables

It is also noteworthy that most of the studies on factors influencing teacher decisions to work in a rural and remote destination have been carried using descriptive statistics limiting the predictive potential of data analysis (Handal, Watson, Petocz & Maher, 2013) and making the zone of free movement a more uni-dimensional space. The purpose of the statistical analysis outlined in this section was to explore the zone of free movement as a multi-dimensional construct using probability tools such as binary logistic regression.

Consequently, this section sought to determine whether there were different patterns of 'yes', 'unsure' and 'no' for demographic and attitudinal variables where relationships were statistically significant. Hence, an important part of the study was to identify the attitudinal variables (reasons to teach in a rural or remote area) where there was a statistically significant relationship with demographic information. This was achieved through chi-square tests as reported in Table 3. For this initial identification a significance level of $p = 0.01$ was used while $p = 0.05$ was used for the post hoc investigations (see Table 3).

Table 3. Chi-square test for demographic and attitudinal variables

Variable		Pearson chi-square	df	p value
Demographic	*Attitudinal*	*square*		*value*
Regional background	Family reason	21.955	4	0.000
Age	Gaining experience/exposure in rural education	19.016	4	0.001
Gender	Family reason	10.028	2	0.007

Each of these variables is complex. For example, the demographic variable 'regional background' can be subdivided into three categories: rural, large country town and city. To examine the relationships between these subdivisions and the identified attitudinal variables, subsequent post-hoc analyses were carried out using a significance level of 0.05. The original questionnaire allowed for three different responses to each attitudinal variable: 'yes', 'unsure' and 'no'. The chi-squared (Fisher's Exact) test used was able to determine whether there were different patterns of 'yes', 'unsure' and 'no' at each variable level. In the case of the 'regional background' variable (rural, large country town and city) there will be 'zero' responses for the 'unsure' category. Essentially, a binary will be established consisting of a response of 'yes' and the other possible responses (unsure and no). The chi-squared (Fisher's Exact) analysis was used to compare the critical value of the 'yes' response to the size of the standardised residual (unsure/no). In the

binary logistic regression the focus was on whether each variable has a smoothly increasing or decreasing effect on the log-odds scale on the chances of 'yes' rather than 'unsure and no'.

Post-hoc analysis: 'regional background' and 'family reasons'

A chi-square test was carried out for the three 'regional background' categories (rural, large country town and city) by 'yes' rather than 'no/unsure' responses to the item, did a family reason influence your decision for working at a rural/remote school? The results showed clearly that those who grew up in rural communities were more likely to move similar areas for family reasons, while those who grew up in cities were less likely to do so. Subsequently, a binary logistic regression was performed using 'regional background' as a quantitative predictor of 'yes' rather than 'no/unsure' responses to the item, did a family reason influence your decision for working at a rural/remote school? The model was statistically significant, χ^2 (1, N = 179) = 20.741, p < 0.000. 'Regional background' as a predictor recorded an odds ratio of 0.442. For each step on the scale from 'rural' to 'town' to 'city'. Respondents were more than 50% less likely to answer 'yes' rather than 'no/unsure'. Typical expressions supporting this finding were obtained from the open responses to the questionnaire item, I grew up in a rural community and wanted that lifestyle for myself and family.

> I grew up in the area and my wife, who is also a teacher, grew up in the area. I can't afford to live in the city or rather I don't want to reduce my standards of living to live in the city.

Post-hoc Analysis: 'Age' and 'Gaining Experience in Rural Education'

A chi-square test was carried out for the five age ranges (18-25, 26-30, 31-40, 41-50 and 51+) by 'yes' rather than 'no/unsure' responses to the item, to gain experience/exposure in rural education influence your decision for working at a rural/remote

school? The results showed clearly that those in the 18-30 age range were more inclined to move to rural and remote schools to gain experience in rural education. Similarly, those in the 31-40, 41-50, and 51+ ranges were more likely to answer 'unsure/no'. Subsequently, a binary logistic regression was performed using 'age' as a quantitative predictor of 'yes' rather than 'no/unsure' responses to the item, to gain experience/exposure in rural education influence your decision for working at a rural/remote school? The model was statistically significant, χ^2 (1, N = 174) = 11.101, p < 0.001. 'Regional background' as a predictor recorded an odds ratio of 0.685. For each step up in age category, respondents are around 30% less likely to answer 'yes' rather than 'no/unsure'. Teacher comments on their goal of learning more about rural education confirming the direction and nature of the above quantitative results include:

> I thought it would be a good experience and I liked the safety of knowing I had a job.
> I'm passionate about rural education because I received one.
> Before my appointment, I did not even know what a central school was but I soon realised how beneficial they could be for students – especially up to Year 10.

Post-hoc analysis: 'gender' and 'family reason'.

A chi-square test was carried out for the gender variable by 'yes' rather than 'no/unsure' responses to the item, Did family reasons influence your decision for working at a rural/remote school? The results showed clearly that females were more likely to respond positively while males were more likely to respond negatively. Subsequently, a binary logistic regression was performed using 'gender' as a quantitative predictor of 'yes' rather than 'no/unsure' responses to the item, did family reasons influence your decision for working at a rural/remote school? The model was statistically significant, χ^2 (1, N = 174) = 9.077, p < 0.003. Gender as a predictor recorded an odds ratio of 2.737. This indicates that female respondents were almost three times more likely to answer 'yes' rather than 'no/unsure' compared to male respondents. The above

results suggest that women are more likely to move to a rural or remote location if there is a family reason or connection. For example, their husband is appointed to a country position or they want to be close to another family member. The following responses were entered in the open response section of the questionnaire, which exemplify this relationship:

> Both my husband and I got jobs in the same school
> The main reason was for a permanent position and to relocate my family to give my husband greater career opportunities.
> My partner works out here also. My family lives here.

Given the three post-hoc analysis detailed above, it seems that respondents were more likely to move to rural and remote schools (a) if they grew up in a rural area and have a family reason, (b) females also for family reasons, and (c) those in the 18-30 age range who wish to gain rural teaching experience or exposure.

Discussion and Conclusions

This study sought to understand the factors influencing the decision of secondary teachers to work in rural and remote schools. Factors influencing the final decision were viewed as either possibilities or constraints as conceptualised by the zone of free movement. The characteristics of the zone of free movement were restricted to demographic and personal variables.

One of the main contributions of this study is the identification of possibility factors within the context of the zone of free movement while deciding to take a rural and remote teaching position. The first four emerging possibility factors influencing the decision to accept a rural teaching position include were the opportunity to secure a permanent position; the attraction of a rural environment; the perception of a stronger sense of collegiality in rural locations and the attraction of gaining rural educational experience/exposure. Some of these influences appear to be personal motivations. Consequently, recruitment departments and teacher in-service

sessions can use this information to promote and hopefully increase teacher interest in rural and remote placements (Maher, 2011).

Other attitudes expressed by teachers included the willingness to help the disadvantaged. This makes them powerful possibility factors. Attitudes can be instrumental to empower recruitment strategies if they also include or combine with projects assisting low socio-economic groups, Aboriginal populations, appreciating and interacting with the natural environment, community service or making a more philanthropic contribution to the profession (Plunkett & Dyson, 2011). The implication is that, within a zone of free movement framework, these altruistic or charitable factors (for the sake of a better term) can be nurtured at an early stage in teacher training institution or through education and pastoral care activities (Valsiner, 1987; 1997).

The second major contribution of this study was exploring the zone of free movement as a decision-making construct. Previous studies have conceptualised the zone of free movement as a uni-directional construct mostly explained in terms of descriptive statistics (Goos & Bennison, 2007; Handal, MacNish & Petocz, 2013), linearly linking decisions to discrete factors (Boylan, 2003; Crowther et al., 1991; Duck et al., 1998; Edith Cowan University, 2007; Lyons et al., 2006; Mills & Gale, 2003; Sharplin, 2009; Yarrow et al., 1998). As a methodological innovation in this field of research, this study linked attitudes as possibility factors and teacher demographics as constraint factors in the decision to move to a rural or remote location. To achieve this more complex scenario, inferential statistics such as binary regression were used to predict outcomes.

For example, to gain rural teaching experience/exposure was the fourth most common 'possibility' reason for a respondent deciding to take a rural or remote appointment. In combination with the age range (18-30) as a constraint factor, it was also a predictor for accepting a rural or remote teaching position. The analysis suggests that this might be because many of the respondents in the sample have limited prior teaching experience (median = 0-5 years) before their rural appointment and see a rural opportunity as a way to

develop their careers. Hence, marketing the acquisition of rural teaching experience (rural professional experience in the case of pre-service teachers) might represent an effective recruitment strategy particularly for new graduates (Handal, Watson, Petocz & Maher, 2013).

Family reasons can become an important constraint factor when they act as a restrictive predictor of teaching in rural and remote areas. Family reasons were more significant for females than males and for those who grew up in regional areas. It is noteworthy that while promoting the idea of gaining rural teaching experience/exposure is a variable that can be manipulated in a recruitment program or a teacher education curriculum, this is not possible for 'family reasons'. However, Roberts (2005) recommends an increase in the number of scholarships to teacher education students in regional universities as almost three-quarters of their graduates pursued a teaching career in the country.

There are two findings from this study that, when considered in combination, present a challenge. The study found the majority of teachers arrive in rural and remote schools relatively inexperienced. It also found that the vast majority of teachers stayed for a relatively short time. It would seem the 'system' expends resources encouraging and even enticing teachers to locate to rural and remote schools. Additional resources are then expended to keep them there. However, in the majority of cases teachers leave and the resource expenditure has not achieved the desired outcome. It can also be argued that because the system achieves its aim of staffing rural and remote schools, it considers the resources well spent (Hudson & Hudson, 2008).

In a way, it can be argued that the targeting of these teachers problematic and that the use of resources is misguided because, in the long term, this turnover process may damage rural and remote school community morale (Kamrath, 2007). The schools become part of a cycle of continuous support and training of inexperienced teachers without receiving the full benefit. Essentially, rural and remote school communities subsidise the training and provide

opportunities for experience from which urban schools benefit (Johns, Kilpatrick, Falk & Mulford, 2000). More importantly, the system feels good about it because there are teachers in classrooms. This situation begs the question, is the issue of providing teachers for hard to staff rural and remote schools being addressed in a sustainable, efficient and effective way or do we just like to believe it is.

Overall, pre-service teacher education and teacher in-service education can capitalise on the findings of this study by focusing more on possibility factors and by developing supporting experiential opportunities that may encourage teachers to consider rural and remote teaching placements. From a theoretical perspective, Zone Theory and in particular the zone of free movement (ZFM) and the zone of promoted action (ZPA), as a conceptual framework for decision making needs to be further explored.

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Acknowledgments

Appendix A: Questionnaire

Gender:　　　Female ☐　　　　Male ☐
Where did you grow up　*(Choose only one box)* Rural ☐ Large country town ☐ City ☐
Are you of Aboriginal or Torres Strait Islander Origin? *(For persons of both Aboriginal and Torres Strait Islander origin, mark both 'Yes' boxes)* No ☐　Yes, Aboriginal ☐　Yes, Torres Strait Islander ☐
Do you speak any language(s) other than English at home? No ☐ Yes ☐　If so, please specify:_____
What is your age group? 18-21 ☐　　22-25 ☐　26-30 ☐　31-40 ☐ 41-50 ☐　　51-60 ☐　61 or over ☐
Highest *completed* educational qualifications before working in a rural and/or remote school: (*Tick only one box*) ☐ BEd ☐ Masters in Education ☐ DipEd + Bachelors in any discipline ☐ Doctoral Degree ☐ Masters in Teaching ☐ Other. Please specify: _____
Have you gained any additional educational qualification <u>since</u> moving to a rural and/or remote school? If so, please specify:

Years of teaching experience <u>before</u> serving in rural and/or remote areas: (*Tick only one box*)

0-5 ☐   6-10 ☐   11-15 ☐   16-20 ☐

21-25 ☐ 26-30 ☐ 30+ ☐

Years of teaching experience in rural and/or remote areas: (*Tick only one box*)

0-5 ☐   6-10 ☐   11-15 ☐   16-20 ☐

21-25 ☐ 26-30 ☐   30+ ☐

In which <u>secondary</u> key learning areas (KLA's) have you been trained? *(Tick more than one box if applicable)*

Creative Arts ☐   English   ☐   HSIE   ☐

Languages   ☐   Mathematics ☐   PDHPE   ☐

Science   ☐   Technology ☐

About your decision for working at a rural and/or remote school: (Tick a box for each row*)*

Ability to gain a permanent position

Yes ☐ No ☐ Unsure ☐

Family reason

Yes ☐ No ☐ Unsure ☐

Attraction of a rural ambiance

Yes ☐ No ☐ Unsure ☐

Obligated due to a teaching scholarship agreement

Yes ☐ No ☐ Unsure ☐

Gaining experience/exposure in rural education

Yes ☐ No ☐ Unsure ☐

Professional and promotion opportunities to executive positions

Yes ☐ No ☐ Unsure ☐

Opportunities for real-life (authentic) based learning

Yes ☐ No ☐ Unsure ☐

Opportunity to promote education in my KLA in a community area

Yes ☐ No ☐ Unsure ☐

Better behaved students

Yes ☐ No ☐ Unsure ☐

Smaller classes

Yes ☐ No ☐ Unsure ☐

Stronger sense of collegiality

Yes ☐ No ☐ Unsure ☐

Opportunities to do postgraduate studies or research

Yes ☐ No ☐ Unsure ☐

Other factors? Please write your comments in the box below

Were there any other factors motivating you to work in a rural and/or remote school?

What could be the difficulties in recruiting teachers <u>in your KLA</u> to rural and/or remote schools?