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What Attracts Teachers to Rural and Remote Schools? Incentivizing Teachers'

Employment Choices in New South Wales

Abstract

Staffing rural and regional schools remains an intractable problem. This study identifies effective incentives for attracting teachers to difficult-to-staff rural and remote schools in New South Wales (NSW), Australia. Compared to their urban counterparts, students in these schools are disadvantaged by teacher staff shortages, inexperience, and attrition. The research investigated the ability for existing incentives of the NSW Department of Education, other education systems, and other professions to attract professionals to rural and remote appointments using a discrete choice experiment methodology. The findings identify ways of attracting teachers of differing levels of experience and commitment to work in such areas.

Keywords: rural and remote education, teaching employment incentives, teaching employment conditions, teacher choice, discrete choice experiment, equity in education

Introduction

Like much of Australia, parts of New South Wales (NSW) are characterised by sparse population and isolation. This can lead to educational disadvantage in several ways, including difficulty in attracting and retaining teaching staff (Hudson & Hudson, 2019; White, 2019). This study set out to identify incentives that are most effective in attracting teachers to rural/remote schools. This paper sets out to answer the questions: i) which incentives are most attractive to questionnaire respondents? and, ii) which incentives appeal to different sub-groups of teachers? The research evaluated the relative value of existing incentives used by the NSW Department of Education (DoE), other education systems, and other professions to attract professionals to rural/remote appointments using the discrete choice experiment (DCE) methodology (Aubusson et al., 2014; Burke et al., 2010).

Literature review

The provision of equitable educational opportunities has been prioritised by education systems in Australia for decades (Roberts & Green, 2013; Sharplin, 2009; Yarrow et al., 1999). Whilst teacher shortages in rural and remote locations occur internationally (Cuervo, 2020; Goldhaber et al., 2020), the situation is more pronounced in Australia than in Canada or New Zealand (Sullivan et al., 2018). Various Australian jurisdictions have established programs to increase the uptake of teaching in rural/remote locations (e.g. NSW Department of Education [NSW DoE], 2021a; 2021b; n.d. a; NSW Government, 2018; Queensland Department of Education, 2018). Nevertheless, the problems persist in Australia (Downes et al., 2021). In their review of the literature in Australia, Downes and Roberts (2018) identify among the foremost of these issues

are: difficulty in attracting and retaining staff; teacher inexperience; and teaching out of field (see also Weldon, 2016). Problems are yet more acute in certain subject areas, such as mathematics and science (Lonsdale & Ingvarson, 2003). At the same time, poorer educational outcomes persist for students in rural and regional areas (Centre for Education Statistics and Evaluation, 2020; Smith et al., 2018). Policies and structures can play a critical role in "ameliorating or exacerbating rural educational disadvantage" (Sullivan et al., 2018, p. 1). A key question for policymakers is how to attract teachers to rural/remote locations by recognising "alterable and inalterable factors" (McEwan, 1999, p. 854) associated with such schools: alterable factors are those controllable by the education authorities, and inalterable factors are those determined by a school's location. Similar questions have also arisen about attracting professionals in other sectors (e.g., health-care) to such regions in Australia (Buykx et al., 2010) and internationally (Buchan et al., 2013; Mbemba et al., 2013).

The literature not only identifies potential incentives attracting teachers to rural/remote schools, but also offers advice that offerings should be bundled and be flexible to meet the career and personal needs of individuals and their contexts (Haslam McKenzie, 2007; Humphreys et al., 2009; Lehmann et al.; 2008), rather than a one size fits all approach (Honda & Vio, 2015). For example, in NSW, incentive bundles can be tailored to suit individual and/or location needs up to a specified total value, according to the position and/or location (NSW Department of Premier and Cabinet, 2010).

Engagement with and support for pre-service teachers in rural environments appears to engender positive attitudes in graduates towards accepting rural appointments (Kline et al., 2013). Such

teachers will inevitably fill the void created by retiring baby boomers and others – supporting and nurturing pre-service teachers may pay dividends. Hence, preparing pre-service teachers for the circumstances they will encounter in rural schools appears beneficial. This can occur through core capstone units of study covering topics such as multi-grade teaching, isolation, and engagement with parents and the community (Jenkins and Cornish, 2015). Similarly, pre-service teachers undertaking a professional experience (PE) in a rural school develop a greater appreciation of rural contexts and are more likely to teach in rural schools (Masinire 2015). Less logistically challenging activities, such as field trips to rural locations, can provide similar opportunities for teachers to gain first-hand experiences. These experiences can address a teachers' anxiety about the unknown and develop their confidence to apply their skills in a rural or remote teaching context (Sharplin, 2009; Sharplin et al., 2011).

Teachers typically enter the profession for altruistic reasons (Fray & Gore, 2018) and financial incentives alone are insufficient to attract teachers to rural/remote locations (Honda & Vio, 2015). As Roberts and Downes (2020) point out, "incentivising the profession solely through external motivations ignores the character of professional practice: the desire to be able to perform the role one trained and prepared for" (p. 4). Cuervo (2020) notes that the distributive justice approach of allocating more funds and resources to rural schools has also been insufficient to redress urban/rural inequities, and calls for a commensurate distribution of 'regard', or respect for rural communities. Kelly and Fogarty (2015) identify incentives focusing on four aspects of rural teachers' lives: professional development; the distinctiveness of rural teaching; economic burdens; and, social isolation. They also indicate that a teachers' responsiveness to incentives is determined by their personal characteristics, attitudes and knowledge of rural contexts (see also, Durksen &

Klassen, 2018). With respect to offering social incentives, schools may seek support from and partnership with the local community in order to offer socially inclusive experiences for teachers (Haslam McKenzie, 2007). However, social incentives are also noted to be less effective in times of constrained economic and employment markets (Haslam McKenzie, 2007).

Methodology

This study was funded by the NSW Department of Education with the aim of investigating which of its existing suite of incentives were effective in attracting teachers to rural/remote regions and to ascertain whether other incentives, not currently offered, might also prove effective. To identify potentially effective incentives, we examined data gathered by the DoE's Centre for Education Statistics and Evaluation (CESE). We also reviewed the incentives offered by other Australian education systems and non-education services (e.g., health). Relevant scholarly and professional literature was also scanned to understand incentives for attracting teachers and other professionals to rural/remote regions employed internationally. This review informed the selection of the final list of incentives for the DCE (Burke et al., 2010).

Materials

An online survey was developed that included a DCE task in which teachers evaluated chose between schools with differing incentives, attitudinal measures of a teachers' commitment to the profession and desire to work in rural/remote regions, as well as a range of measures relating to the teacher and the school at which they currently work. The DCE task included several choice sets, with each set containing four hypothetical rural/remote schools for evaluation (see Figure 1

for an example). Each hypothetical school was described in terms of its remoteness using an existing DoE five-level point classification system. Transfer points range from one transfer point for the least difficult schools to staff, up to eight transfer points for the most remote and difficult-to-staff schools (NSW DoE, 2021a; n.d. b) and schools may have 1, 2, 4, 6 or 8 transfer points (see NSW DoE, 2021c). Whilst the transfer points generally reflect location differences, some schools attract more points because of their difficulty in staffing.

As the DCE examined incentives offerings from rural/remote locations, the levels varied in the DCE to describe the hypothetical schools were 2, 4, 6 or 8 points (i.e., four-levels). Respondents were provided accompanying information to indicate that the descriptions encountered in the DCE were reflective of the rural/remoteness of their location rather than reflective of being difficulty to staff for other reasons, such as socioeconomic disadvantage. Hence, comparable to other classification systems this generally equates to schools ranging from urban coastal locations (2-points), non-urban coastal or inner regional (4-points), outer regional (6-points) and remote locations (8-points).

In addition, each school was described by three incentives determined by an experimental design. The incentives shown were drawn from a pool of 30 occurring at a low or high level, resulting in a total of sixty incentive levels (see Table 1).

Figure 1 (DCE Task) and Table 1 (Incentive Levels) about here

Upon viewing each choice set, teachers were asked to nominate the school that they would most prefer to teach in among the four options or to nominate to remain at their current school. After

nominating their most preferred option, the chosen option was removed, and respondents were asked to indicate their most preferred school from the remaining four options. This process continued until a full ranking of all five schools in each set was obtained. Respondents were then presented a new choice set with four different hypothetical schools for evaluation, completing five choice sets in total.

In addition to the choice task, survey respondents were asked to indicate their level of agreement on a 7-point Likert scale to ten attitudinal statements in order to measure respondents' *commitment to the teaching profession* (six items) and their *intention to work in rural/remote locations* (four items). Data from these questions were analysed using a Confirmatory Factor Analysis (CFA). The factor scores and descriptive statistics for each statement are presented in Table 2. These latent variables both have high reliability (Cronbach Alphas for both "commitment" and "intention" above 0.9) and high model fits (Bagozzi & Yi, 1988).

Insert Table 2 (Attitudes to profession & rural teaching) about here

Latent scores for the two latent constructs, commitment to the teaching profession and intention to work in a rural/remote location, were calculated for each respondent, and used in the prediction of latent class membership as described below.

The final section of the survey asked respondents about a range of socio-demographic characteristics (e.g., age, income and education), along with characteristics of the school at which they currently worked and the school at which they had completed their practicum. In addition, respondents were asked to indicate what would attract them to teach in a rural/remote area on a

range of measures, including their level of agreement that a remote/rural location offers greater

job security, an appealing lifestyle, and is less stressful than working in a 'big city'.

These socio-demographic characteristics, individual measures regarding the attractiveness of

remote locations, as well as the latent scores capturing commitment to the profession and attitudes

to work remotely, were used to predict latent class membership. Members of each latent class are

predicted to be teachers that hold similar preferences for the incentives in the same class, but are

distinct from the preferences for incentives exhibited by other classes, as reflected in their choice

of schools in the DCE task. That is, combining the DCE task data with individual level measures

provided a choice model to estimate two sets of effects simultaneously: a set of effects to describe

teachers' preferences for incentives and schools that are distinct for each latent class (i.e.,

segment), and a set of estimates to capture which teacher characteristics are significant in

predicting which latent class a teacher is most likely to belong.

Participants

A total of 5911 in-service and pre-service teachers completed the online survey. A description of

the sample is presented in Table 3. Among the 5911 respondents, 67.1 per cent held permanent

positions. The majority of respondents had teaching duties (83.4%). The largest group was

"classroom teacher" (62.8%) and over 95 per cent of respondents had taught in the previous five

years. Seventy-two per cent of respondents were females. The mean respondent age was 43 years.

Most respondents were teaching in larger towns or cities, with 30.6 per cent teaching in Sydney...

Insert Table 3 (Sample Characteristics) about here

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Analysis

First, using a traditional choice modelling approach the results were considered at the aggregate level, examining preferences among incentives while ignoring individual differences in preferences (i.e., assuming that all teachers held identical preferences for each incentive). Several methods and models have been developed to account for differences in individual preferences (e.g., Burke et al., 2020), but also individual differences in choice variability (e.g., Burke & Reitzig, 2007; Fiebig et al., 2010; Islam et al., 2007; Magidson & Vermunt, 2007; Swait & Louviere, 1993). The current study employed a scale-adjusted latent class choice model (SALCM) first developed by Magidson and Vermunt (2007). SALCM have been applied in a small, diverse range of other fields, including to forecast the attractiveness of various museum offerings (Burke et al., 2010), programs to enhance forest biodiversity (Thiene et al., 2012), and pedagogical approaches in education (Burke et al., 2015). In the current study, the SALCM was used to identify latent segments that simultaneously differ: i) in terms of preferences for a given incentive of interest; and, ii) in the variability with which overall employment choices are made. The SALCM was estimated using *LatentGold 5.1* (Vermunt & Magidson, 2016).

Results

Valuation of Incentives – discrete choice experiment (DCE) model

The general attractiveness of the 60 incentives, or aggregate level responses, was investigated using a traditional choice modelling approach. The resulting aggregate parameter estimates are shown in the first columns of Table 4. The estimates indicate the change in attractiveness of a

hypothetical school that occurs when an incentive is offered relative to when that incentive is not offered. The parameter estimates in Table 4 are sorted in terms of their decreasing contribution to the attractiveness of a hypothetical school, on average, across all teacher respondents.

The relative value and statistical significance provide insights into which incentives for rural and remote teaching are most to least valued among teachers. The most valued incentive out of the 60 incentives was that in which teachers were offered a guaranteed priority transfer after two years of service at a school to a school of their choice (β =2.408; p<.0001). That is, teachers were significantly more likely to choose to work at a school offering this incentive relative to any other incentive, on average. The least attractive incentive was one in which teachers were offered a 24/7 phone help line for personal use, either with an additional 20 hours (β =-1.4022; p<.0001) or additional 10 hours (β =-1.555; p<.0001) of assistance per year. The negative sign and size of the coefficient indicates that, on average, the incentive was the least preferred relative to all other 60 incentives considered in the study.

Insert Table 4 (Preferences for DCE attributes) about here

Overall, the most attractive incentives that emerged from DCE responses were, in descending order of preference: guaranteed priority transfer after two years' service; AUD5000 additional salary pa; a DoE-provided four-wheel drive vehicle; rental subsidies of 90%; and, guaranteed priority transfer after four years' service. Significantly, both the high and low levels of the last factor (i.e.,

priority transfer) occur in the top five incentives; these two incentives (high/low) concern supporting teachers to leave the rural and remote area, rather than to remain.

The DCE model estimates also revealed the impact that the level of remoteness of a school had on teachers' employment choices. There was no significant difference between the attractiveness of schools offering employment in terms of whether they were in an urban location (i.e., a 2-point school in the DoE classification) compared to a respondent's current employment location (β =-0.790; p = .8318). However, teachers were significantly less likely to take up employment offers made by schools that were located in inner regional locations with a 4-point classification (β =-1.404; p < .05) or very remote locations with an 8-point classification (β =-1.555; p < .01). An example of an 8-point school – presented to respondents as background information to the DCE task – is a school located in the fictitious town of Goolangong, a town of 450 people, 795km from Sydney, and 217km from the nearest town centre of Coonamble. In contrast, an example of a 4-point school is one located in the fictitious town of Dunaden, a town of 4100 people, 270km from Sydney, and 60km from the large regional town of Bathurst. On average, only a guaranteed priority transfer after two years' employment to a school of a teacher's choosing would be a sufficient incentive for a teacher to work at a very remote school location (i.e., with an 8-point classification).

Scale adjusted latent class choice models (SALCM)

Three latent classes of respondents were identified. The SALCM model results presented in the latter columns of Table 3 denote the preferences among incentives and attractiveness of a school based on its remoteness (as denoted by its point classification) and against the status quo of a teacher to remain at their current school, among teachers predicted to belong to each of the three

latent classes. First, the latent classes can be distinguished by their propensity to remain at their current school in lieu of choosing a possible rural or remote school location. Specifically, those in Class 1 were least likely to change schools, with a significant preference to remain at the current school when compared to other offerings on average (β =.357; p<.001). In contrast, those teachers predicted to hold preferences for incentives and schools consistent with the other two latent classes were more likely to switch schools, particularly for those in Class 3 (β =-3.442; p<.001).

Second, the latent classes can be distinguished by their valuation of the incentives evaluated in the DCE task as attributes of the hypothetical schools. The results in Table 3 indicate that the three latent classes/segments agree upon the incentive that is most attractive (i.e., guaranteed transfer), but preferences for all other incentives varied between the latent classes. For example, members of Class 1 placed significant value on the offering of unlimited travel and accommodation expenses paid for medical treatment in city locations, for themselves and their dependent children (β =2.103; p<.001) more so than Class 3 (β =0.359; p<.001) relative to all other incentives on average; on average, Class 2 valued this incentive significantly less so than all other incentives (β =-.244; p<.001).

The earlier DCE modelling identified guaranteed priority transfer after two years' service, AUD5000 additional salary p.a., a DoE-provided four-wheel drive vehicle, rental subsidies of 90%, and, guaranteed priority transfer after four years' service as being the top five preferred incentives averaged across the entire sample of teachers. The pattern of preference for these five incentives was consistent for respondents in Classes 2 and 3. For Class 1, guaranteed priority transfers was still the most preferred option, but travel and accommodation expenses of AUD5000

per year to seek medical treatment for self and dependents was the second choice. Also attractive to Class 1 teachers was guaranteed travel and accommodation expenses for professional learning activities.

To further aid interpretation, an overall mean value of the incentives based on their categorization in Table 1 (e.g., the low and high levels of 'EMP1' and 'EMP2' all relate to incentives offering employment guarantees) were calculated using the mean parameter estimates presented in Table 4. The summary of these results is presented in Table 5, along with a rank ordering across incentive areas at the aggregate level and within each class. The incentives that were most valued at the aggregate level were the four incentive levels relating to employment guarantees, with variations relating to the number of years of service to obtain the guaranteed transfer and whether the transfer is to a school of the teacher's choosing or a remote location. These incentives were also the top ranked areas for Class 1 respondents and second highest ranked area for Classes 2 and 3 among the 11 categories. Respondents in Classes 2 and 3 both showed their strongest preference, on average, for the six incentives offering financial rewards in the form of rental subsides and salary bonuses ('FIN3' through 'FIN5').

Insert Table 5 (Mean Valuation & Ranking by Categories) about here

The results can also be considered in terms of the set of incentives that offer relatively less value and appear in the bottom rows of Table 5. The six incentives that focused on offering teachers opportunities to be supported inside or outside their classroom through mentorship or provision of

a teachers' aides ('SPP28' through 'SPP30') offered the least value to teachers as being attractive enough to choose a position in a rural or remote school relative to other categories of incentives. The results in Table 5 also show that the outcome aggregated for the entire sample is largely driven by the rejection of these incentives by teachers predicted to belong in Classes 2 and 3, as compared to those in Class 1.

The results also show similar differences across the classes in other areas. For example, Class 1 is seen to value incentives that are inclusive of their spouse or children (ranked 7th highest) as compared to those in Class 2 (ranked 10th highest). On the other hand, respondents belonging to Class 2 and 3 instead place relatively greater value on the set of incentives that subsidize living expenses offered for the duration of the appointment, including those relating to a vehicle, health insurance, home technology set-up and mobile communications. Class 3 is also characterized by placing greater value relative to the other two classes (and particularly Class 1) on incentives that support current and future education opportunities, as well as reimbursement of past tertiary fees.

Profile of Teacher Segments with Different Incentive Preferences

The SALCM model also provides a prediction about which of the three latent classes (or segments) a teacher is most likely to belong to, based on a range of individual characteristics, including sociodemographics, experience, current school location, location of professional experience (PE), as well as psychographic measures reflective of their commitment to the profession and intentions to work remotely. The parameter estimates for these predictions are presented in Table 6, with each indicating the predicted change in probability of belonging to a particular segment for a teacher described by a given characteristic relative to a teacher without the same characteristic. For

example, the results show that with a couple with children are significantly more likely to belong to latent Class 1 (β =0.213; p<.001) rather than latent Class 3 (β =-.263; p<.001); in contrast, a teacher living in a single person household is more likely to hold similar preferences to other teachers predicted to belong to latent Class 3 (β =0.118; p<.001) rather than latent Class 1 (β =-.137; p<.001). Similarly, teachers who are currently teaching in an inland country location – including a remote, small or large town – are significantly more likely to hold preferences for incentives and schools of latent Class 3 as described in Table 2. In contrast, teachers currently working in a capital city or large coastal city/town are significantly more likely to be members of a segment of teachers with preferences described by latent Class 1.

Based on the three latent class membership probabilities calculated for each individual teacher in the sample, around 38 per cent of teachers are predicted to hold preferences for incentives and schools that match those of latent Class 1, whilst 23 per cent and 39 per cent of teachers are predicted to belong to latent Class 2 and 3, respectively.

Insert Table 6 (Predictors of latent class membership) about here

Taken together, the results presented in Table 6 indicate that members of Class 1 as compared to the sample aggregate profile was more likely to be older, have more teaching experience, and currently working in a capital or coastal city location in a permanent and/or executive position. Members of this class have the lowest intention to work remotely, but are also those teachers who are more committed to the profession. We label members of Class 1 as "experienced urbans".

Class 3, we label "responsive rural early career teachers (ECTs)", with members of this class most likely to consist of teachers who are single, younger, who have been teachers for a shorter period, currently working in schools located in inland locations, but in a non-permanent position. In contrast to teachers in Class 1, members of Class 3 have higher intentions to work remotely (i.e., more responsive to such opportunities), but are less committed to the profession.

Class 2 appears to be medial concerning characteristics such as age, experience, income, and current school with respect to transfer points. They are also medial regarding interest in teaching in rural/remote schools. They comprise a higher proportion living in a small coastal town and their tertiary studies were more likely undertaken in a coastal location rather than in a capital city or country town. They are similar to Class 1 in terms of being permanently employed, but more aligned with Class 3 in being classroom teachers. They are more likely to be teaching Years 11 or 12. They are slightly older than Class 3, but younger than those in Class 1, as reflected in their experience and tertiary debt levels. They are a mixture of homeowners and renters. Class 2, we label "mid-career coastals".

Discussion

The main purpose of this study was to understand the valuation of incentives that can be made to teachers to make offers of employment for work at a rural and remote location more attractive. Several considerations, however, emerge from the research findings that indicate the valuation of incentives is contingent on a number of factors, including the aspect of teaching in a rural or remote location that the incentive addresses and individual differences relating to the teachers'

background including their opportunity for relocation. In the remaining section, we highlight the results in terms of the valuation of incentives that emerge in terms of whether they improve the experience of teaching or living in a rural and remote location, or offer opportunities for furthering a teacher's career. The valuation of the incentives is discussed in terms of differences arising from the career and life-stage that an individual teacher identifies with, and related attractiveness to considering employment and life in a rural and remote areas.

Incentives to support teaching experiences are less valued: Across the 30 types of incentives (with a total of 60 high and low incentive combinations in total) considered, several directly related to supporting a teachers' professional experience in teaching at a rural and remote location. However, the findings indicate teachers were overwhelmingly less attracted to employers offering assistance via face-to-face mentoring or help over the phone, versus other incentives. Teachers were more receptive to additional support staff (e.g., Aboriginal teachers' aides), although this appeared among the median list of ranked incentives. This contrasts with other work that highlights the value in mentoring, particularly for early-career teachers (e.g. Buchanan et al., 2013), but consistent with other studies indicating mixed experiences and challenges for both mentors and mentees (Hobson et al., 2009).

Incentives to support short-term travel are moderately valued: A second area of incentives referred to facilitating the expense and time associated with travelling to and from rural and remote locations. To provide some perspective, our study examined locations that were over 1000km from any capital city, often requiring multiple modes of transport to access, and complicated by the challenging road conditions and/or climate. Incentives that were most popular in this regard

appeared to be the provision of an all-terrain / 4WD vehicle during their appointment, provision of time off and travel support to attend professional learning, additional long service leave, and unlimited travel for medical treatment in city locations. The tyranny of distance is also valuable to overcome for those accepting relocation away from family and friends (Sharplin, 2002). In addition, associated benefits will also accrue to students of these teachers (Harvey and Clark, 2018; Watson et al., 2016).

Incentives for professional development are valued over supporting further education: As with our participants, the literature highlights the importance of supporting professional development, particularly attendance at activities away from the rural/remote school location, and to other incentives around working conditions such as consideration of class sizes and provision of support staff (e.g., Aubusson et al., 2014; Burke et al., 2015). Less prominent in our findings was importance of providing pre-service teachers with PEs in rural and remote areas (Hudson & Hudson, 2008; Kline et al., 2013). Similarly, programs to incentivise further study in specific areas, such as STEM, appear to offer relatively less value than programs than reimburse the costs from previous tertiary studies.

Incentives of financial support (including rental subsidies) are more valued, particularly by ECTs:

A fourth area of incentives and of more valued by teachers relates to improving conditions and living expenses for the duration of their employment in a rural or remote location, such as the offer to improve home or mobile communications. However, we found that teachers were overwhelmingly more attracted to employment opportunities that offered incentives with direct economic benefits, such as salary supplementation, monetary benefits towards living allowances,

and heavily subsidised rental arrangements. Related to this issue is that most teachers receptive to rural and remote postings were found to be those most likely to be at the beginning of their careers, have lower household incomes, and potentially looking to secure their financial position by working in hard-to-staff locations. The value in offering rental subsidies is further supported by the finding that workers most likely to be incentivised and to take up rural and remote positions did not already own their own home and/or were living in shared households.

Incentives offering opportunities beyond the current placement are most valued: The most significant area of offering incentives for teachers to accept employment relates to conditions regarding the service period and point systems. The results indicate that securing permanency and transfer conditions are significant considerations. Of interest to "experienced urbans" (i.e., members of Class 1) is whether incentives are extended to be inclusive of partners if working in rural/remote locations.

These findings, however, also raise concerns about incentivising rural and remote teaching over the longer term, particularly via the accrual of transfer points and guaranteed placements to a school of the teacher's choosing, possibly at a non-rural or less remote location. These incentives create a challenge for employing bodies in that the same mechanism that attracts teachers to rural/remote schools, also serves to propel them back to more populous and more popular locations (Reid et al., 2010). This means that rural/remote schools are likely to be staffed by the most inexperienced personnel, including executive staff, and who require considerable support (Hardwick-Franco, 2018). This further exacerbates the complex and chronic problems experienced

within such schools and those encountered by their students, including limited opportunity, and lowering of aspirations and expectations.

Like Honda and Vio (2015), Haslam McKenzie (2007), and other research cited above, we found that while both social and financial incentives are significant motivators to attract teachers to rural/remote schools, each in itself offers limited attraction. Moreover, we can confirm that no single suite of incentives will attract everyone, nor on their own are enough to move teachers from their current positions. This indicates that the bundling and tailoring of incentives is required, rather than presuming that one, or a limited number of approaches will be sufficient (Humphreys et al., 2009; Lehmann et al., 2008; NSW Department of Premier and Cabinet, 2010).

The latent class analysis identified three sets of teacher segments, labelled as "Experienced Urbans" (latent class 1), "Mid-Career Coastals" (class 2), and "Responsive Rural ECTs" (class 3). The identification of these teacher groups provides insights into the challenges presented in attracting teachers that are experienced, committed to the profession, but responsive and capable of doing so given their life stage. For example, Experienced Urbans (Class 1) are more likely to be those teachers who are more established in their careers and "life stage" than either of the other classes, indicated by higher levels of income and home ownership, with partners working full-time, living as a couple/family with children. Whilst this group was, on average, the most committed to the profession, they were less likely to be interested in teaching in a rural/remote school and the majority of incentives offered would not be valued enough for them to select employment options for a position at a rural/remote school. At the other extreme, Responsive Rural ECT teachers (Class 3) are described as those teachers early in their careers, and pre-service teachers, and were entirely responsive to the incentives offered, but teachers who expressed lower commitment to the profession. However, they favoured those incentives and use of the transfer-points that allowed them to further their careers. There was some familiarity with rural and remote regions amongst these teachers,

including having spent time on internships and/or in their childhood in these regions. These respondents tended to be single and renting, and therefore potentially more open to relocation. Finally, teachers identified as Mid-Career Coastals (Class 2) are more likely to be early to mid-career teachers sitting between the two other classes in terms of their experience, age, home ownership and life stage. Similarly, Mid-Career Coastals appear to medial with respect to their level of attraction to work in rural and remote locations and their commitment to the profession relative to teachers belonging to the other segments.

In turn, the latent segment profiles reveal a significant challenge of incentivising teachers to work in rural and remote regions. Whilst the most experienced and most committed teachers may be more valuable to schools and the students of rural and remote locations, they are the least open to these opportunities, and any range of incentives, even those of greater value, appear insufficient to compensate such teachers to start a new life – including for their families – away from their current urban locations. In contrast, it is the least experienced, but less committed teachers who appear most willing to change.

Conclusions and recommendations

It is apparent in the associated profiles of these clusters, that stages in career and stages in life are interrelated factors in determining a teacher's propensity to seek opportunities in rural/remote locations. This has strong implications in the strategic targeting of particular segments identified in the data. Those teachers more willing to teach in rural/remote areas are typically less experienced and less committed to the teaching profession than others, and less likely to have secured, or pursued, a permanent position. They also appear to have lower levels of teaching

qualifications. These two findings appear to be mutually at odds. It is possible that some of those with high non-teaching credentials are career-changers. Many of these more experienced teachers appear to be 'settled in the city', with corresponding family and financial (mortgage) commitments holding them there. Teachers with children in senior high school or at university might be concerned about more limited education opportunities rurally, which raises further questions about perceptions of opportunities in rural versus urban education. Such teachers appear to be difficult to entice to the country. The preponderance of science teachers in this group, in the context of a broader shortage of science teachers, no doubt exacerbates attraction problems.

There emerged a loosely inverse relationship between commitment to the profession and to teaching rurally. It may be that age brings with it a greater commitment to the profession. Conversely, it may be that those with less commitment have by then left the profession, raising the mean level of commitment of those remaining. Alternatively, lower professional commitment might be a cultural attribute of younger people, at any point in time, or a trait of the current rising generation. This has broader implications for the teaching profession.

Experienced urban teachers (Class 1) appear unlikely to be attracted by the same set of incentives as other teacher segments already living in regional areas and/or those with less experience in the profession. Given the higher level of commitment that Class 1 teachers profess to the profession, it would be desirable to consider and explore other strategies for attracting this cohort. One strategy might be to challenge and change perceptions that this group may harbour about lifestyle in rural and remote regions. Marketing strategies highlighting clean air, extra space, accommodation savings, lower stress, reduced commuting time, and greater community connections, might be

attractive. Additionally, incentives of a more ideological nature, such as the ability to make a difference in students' lives, could be promoted.

Several other suggestions arising from the research emerge may require consideration. For example, one suggestion is that teachers who are close to retirement, but living in the main cities, might be enticed to share their work experience by spending an additional few years in rural and remote regions. Such teachers may accept such opportunities as their responsibilities to dependent children diminish. A new position of 'leading teacher (rural)' or similar, might be created to attract the teachers currently in executive roles. Such a role might entail some teaching responsibilities, along with a leadership role in teaching and administration, and/or be shared by more than one school (Schuck et al., 2016). Indeed, since the release of the report from Schuck and colleagues, instructional leaders in schools have assumed some of these responsibilities in areas, including in literacy and numeracy, which is one of five new priority areas of focus from 2022 (NSW Government, 2021). Other suggestions include trial periods in which teachers could spend a term in a rural and remote school to gain familiarity with the experience. Also, more opportunities for pre-service teachers to undertake PE in rural/remote settings could be offered to acquaint teachers with such settings and therefore be more aligned with the experiences of responsive rural ECTs (i.e., class 3) who were found to be more responsive to incentives and more attracted to working in a rural/remote school. We offer the recommendation of rural PE cautiously, however, as decisions to teach in such areas are determined by other factors, such whether an individual has grown up in the country (see Gereluk et al., (2020).

The NSW DoE (n.d. a) has launched a policy featuring people, practice, participation and partnerships as key areas (p. 7). This resonates with Cuervo's (2020) call for both material and socio-cultural means to address the problem. White and Downey (2021) refer to "place-attentive strategies" which focus on connections between place, people and power (p. 12). A focus on place (Corbett & Gereluk, 2020) might benefit from being informed by Indigenous connections to Country. While there are no doubt circumstances peculiar to NSW, we believe that some of these incentives might be applicable to other contexts, and are worthy of trial.

Rural and remote students are disadvantaged compared to their urban counterparts (Sullivan, McConney, & Perry, 2018). Such disadvantage is exacerbated by staff shortages, inexperience and attrition. More pressingly, we predict that the condition for rural and remote schools is likely to worsen in the near future, with the imminent retirement of many baby boomers from teaching, as well as problems with recruitment (Baker, 2021). COVID-19 has served to hone teachers' digital skills, but has also highlighted the existing 'digital divide' fracturing in part along rural-urban lines (Kormos & Wisdom, 2021). The pandemic has also raised rural home prices, as part of a remote working awakening, nullifying one former advantage of 'the bush'.

As noted earlier, many teachers enter the profession for altruistic reasons. As suggested by Rice, Richardson, and Watt (2017), while some problems exist in staffing schools in low-socio-economic contexts in the city, the problem seems greater still in rural locations. For many teachers, it appears that the prospect of rural teaching presents (forgive the Sydney analogy) a bridge too far, as it is further removed from the support of friends and family, alongside perceptions of more limited educational and other professional (e.g. health) services. Redressing associated

disadvantages for teachers and learners, particularly by increasing the supply of the former, should be prioritised as a matter of social justice and equity.

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TABLE 1: FINAL INCENTIVES LIST

No.	Area	Low Level	High Level
1	EMP	Guaranteed priority transfer after 4 years of service to school of choice.	Guaranteed priority transfer after 2 years of service to school of choice.
2	EMP	Guaranteed perm. appointment to R/R location after 2 yrs R/R teaching.	Guaranteed permanent appointment to a R/R location
3	FIN	Rental subsidies of 70%.	Rental subsidies of 90%.
4	FIN	Up to \$100/week living allowance not including rental subsidies.	Up to \$250/week living allowance not including rental subsidies.
5	FIN	Additional salary of \$2500/yr during service at this school.	Additional salary of \$5000/yr during service at this school.
6	PRD	Guaranteed 5 days/yr and \$2,000/yr expenses for PL	Guaranteed 10 days/yr and \$4,000/yr expenses for PL
7	PRD	Guaranteed 5 days/yr and \$2,000/yr expenses for PD for AITSL progress	Guaranteed 10 days/yr and \$4,000/yr for expenses for PD for AITSL
8	TRV	Fly-in, fly-out (FIFO) provided 2 times a year.	Fly-in, fly-out (FIFO) provided 4 times a year.
9	TRV	Travel/accomm. of \$5,000/yr for own/family medical treatment in city	Unlimited travel/accommodation for own/family medical treatment in city
10	REC	Extra 3 days long service leave per year.	Extra 6 days long service leave per year
11	REC	Two days per semester of paid study time.	Four days per semester of paid study time.
12	LIV	Wear and tear on own car of \$5,000 for appointment.	DoE 4WD vehicle provided for the duration of the appointment.
13	LIV	Health insurance to the value of \$2,400/yr, including dental/ ancillary.	Free health insurance to the value of \$4,800/yr, including dental/ ancillary.
14	LIV	Free home communication package - up to \$60/month.	Free home communication package for up to \$90/month.
15	LIV	Own-choice technology for personal use, up to \$1,000 for every 3 years.	Own-choice technology for personal use, up to \$3,000 for every 3 years.
16	LIV	Reimbursement of mobile phone plan for up to \$60/month.	Reimbursement of mobile phone plan for up to \$90/month.
17	LIV	\$200 fees paid for local club/association of choice.	\$500 fees paid for local club/association of choice.
18	EDR	Reimbursement of 50% remaining tertiary tuition.	Reimbursement of all remaining tuition fees for past tertiary education.
19	EDR	Accommodation and HECS fees of \$8,000/yr for regional teaching degree	Accommodation/ HECS of \$16,000/yr for regional teaching degree.
20	FAM	\$5,000 value of service from recruitment service for partner.	\$10,000 service from recruitment service for partner
21	FAM	Priority appointment for partner, where partner is a qualified teacher.	Priority appointment for partner at the same school.
22	FAM	School fees for children boarding at secondary school, up to \$10,000/yr.	School fees for children boarding at secondary school, up to \$5,000/yr.
23	MON	Recruitment benefit of \$5,000 after Term 2.	Recruitment benefit of \$5,000 after Term 1.
24	MON	Visa vouchers valued to \$500/yr.	Visa vouchers valued to \$1,000/yr.
25	EDF	Up to \$15,000 paid study in priority area in R/R school (e.g., STEM).	Up to \$30,000 paid study in priority subject in R/R school (e.g., STEM).
26	EDF	Travel and accommodation costs of \$1,500 for rural/remote practicum.	Travel/ accommodation \$3,000 paid for R/R practicum in last semester.
27	EDF	Reimbursement of 50% of any tuition fees for current education.	Reimbursement of all tuition fees for current education.
28	SPP	Support staff (e.g. teacher's aides) for 5 days per fortnight.	Additional support staff (e.g. teacher's aides) for 5 days per week.
29	SPP	Phone help with R&R mentor.	Phone help and twice-yearly visits with R&R mentor.
30	SPP	24/7 phone help line (EAP) for 10 additional hours per annum.	24/7 phone help line (EAP) - 20 additional hours per annum.

Area of Incentives: EMP= employment guarantees; FI= financial (rental/salary); PRD=professional development; TRV=travel; REC=additional leave; LIV=living costs/subsidies; EDR=education expenses (reimbursement); FAM=family (spouse/children); MON=other monetary/financial; EDF=education expenses (current/ future); SPP=support for teaching.

TABLE 2: Commitment to Profession and Intention for Rural and Remote Employment

			Factor
Commitment to the profession (AVE=.66; CR=.96)	Mean	S.D.	Loading
I feel a sense of belonging to the teaching profession	5.48	1.52	0.71
I feel as if the challenges of the teaching profession are my own*	4.23	1.71	-
Being a teacher has great deal of personal meaning for me	5.92	1.33	0.87
I enjoy talking about teaching with other people	5.59	1.45	0.83
I feel like part of the teaching profession	5.57	1.49	0.80
I have an emotional attachment to being a teacher	5.73	1.43	0.84

			Factor
Intention to work in rural and remote locations (AVE=.75; CR=.95)	Mean	S.D.	Loading
I am likely to seek a teaching position in a rural or remote area within the next two years	3.33	2.16	0.89
I am likely to seek information about a teaching position in a rural or remote area in the future	3.66	2.20	0.94
I am likely to talk positively about a school in a rural or remote area as a good place to teach*	5.23	1.71	-
I would like to teach in a school in a rural or remote area	4.44	2.04	0.76

^{*} Item dropped from final CFA;

AVE = Average Variance Extracted; CR = Composite Reliability

TABLE 3: SAMPLE CHARACTERISTICS

Sociodemographic	%	Current position	%
Gender (Male)	26.5	Permanently employed	67.1
Age - 18-34 years	26.9	Casual or temporary position	29.6
Age - 35 to 54 years	50.1	Pre-service (student teacher)	2.1
Age - 55 years or above	21.2	Classroom teacher (non-executive)	62.8
Aboriginal / Torres Strait Islander	2.8	Principal or Executive	26
Have a partner	77.4	Current school (location, type, size)	
Partner is qualified teacher	25.9	Capital city	30.6
Have dependent children	56.0	Large coastal city/town	17.2
Current homeowners	71.6	Large inland country city/town	14.7
Annual Household Income (Gross)	AUD126,300	Small coastal town	8.0
Teaching qualification /experience	%	Small inland country town	18.6
Postgraduate degree or equivalent	28.6	Remote coastal location	0.9
Graduate diploma or certificate	17.9	Remote inland country location	8.6
Bachelor degree or equivalent	47.5	Primary	44.9
Advanced diploma or diploma	3.1	Central	6.1
Currently completing	1.3	Secondary	44.8
Teaching experience: <4 years	22.5	<160 students	13.6
Teaching experience: 4-7 years	13.8	160 - 450 students	29.7
Teaching experience: 8-15 years	23.4	451 - 700 students	23.7
Teaching experience: 16+ years	40.3	701+ students	32.2

Note: Percentages represent proportion of sample overall. Totals may not add up to 100 percent in cases where an 'other' option was provided or respondents chose not to provide this information (<5%).

TABLE 4: AGGREGATE AND SALCM PREFRENCE PARAMETER ESTIMATES

			Incentive and School Description	Aggregate	Class 1 (38.1%)	Class 2 (23.1%)	Class 3 (38.8%)
EMP	1	Н	Guaranteed priority transfer after 2 years of service to school of choice.	2.408 (0.065)**	2.581 (0.097)**	2.695 (0.032)**	2.069 (0.052)**
LIV	12	Н	DoE 4WD vehicle provided for the duration of the appointment.	1.502 (0.068)**	1.325 (0.103)**	1.632 (0.038)**	1.597 (0.052)**
FIN	3	Н	Rental subsidies of 90%.	1.401 (0.068)**	1.162 (0.103)**	1.418 (0.038)**	1.623 (0.052)**
PRD	6	Н	Guaranteed 10 days/yr and \$4,000/yr expenses for PL	1.267 (0.066)**	1.713 (0.093)**	0.542 (0.043)**	1.260 (0.053)**
FIN	4	Н	Up to \$250/week living allowance not including rental subsidies.	1.257 (0.071)**	1.116 (0.112)**	1.322 (0.036)**	1.357 (0.052)**
REC	10	Н	Extra 6 days long service leave per year	1.118 (0.075)**	1.168 (0.121)**	1.060 (0.035)**	1.103 (0.052)**
EMP	1	L	Guaranteed priority transfer after 4 years of service to school of choice.	1.078 (0.092)**	0.299 (0.167)	1.712 (0.035)**	1.463 (0.052)**
TRV	8	Η	Fly-in, fly-out (FIFO) provided 4 times a year.	0.906 (0.075)**	1.140 (0.118)**	0.574 (0.046)**	0.874 (0.051)**
TRV	9	Η	Unlimited travel/accomm. for own/family medical treatment in city	0.883 (0.064)**	2.103 (0.089)**	-0.244 (0.041)**	0.359 (0.053)**
FIN	3	L	Rental subsidies of 70%.	0.872 (0.072)**	0.269 (0.109)*	1.091 (0.041)**	1.330 (0.053)**
PRD	7	Н	Guaranteed 10 days/yr and \$4,000/yr for expenses for PD for AITSL	0.838 (0.075)**	0.379 (0.119)**	1.027 (0.039)**	1.173 (0.054)**
EMP	2	Η	Guaranteed permanent appointment to a R/R location	0.806 (0.071)**	1.062 (0.109)**	0.420 (0.039)**	0.785 (0.052)**
LIV	13	Η	Free health insurance to the value of \$4,800/yr, including dental	0.776 (0.080)**	0.330 (0.134)*	0.978 (0.039)**	1.091 (0.053)**
FIN	5	Η	Additional salary of \$5000/yr during service at this school.	0.766 (0.078)**	0.538 (0.130)**	0.597 (0.037)**	1.088 (0.052)**
FIN	5	L	Additional salary of \$2500/yr during service at this school.	0.761 (0.107)**	1.412 (0.205)**	2.320 (0.037)**	1.958 (0.051)**
EMP	2	L	Guaranteed perm appointment to R/R location after 2 yrs R/R teaching.	0.645 (0.069)**	1.224 (0.104)**	-0.042 (0.043)	0.485 (0.052)**
TRV	9	L	Travel/accomm. of \$5,000/yr for own/family medical treatment in city	0.524 (0.097)**	-0.271 (0.180)	0.922 (0.037)**	1.064 (0.052)**
SPP	28	Η	Additional support staff (e.g. teacher's aides) for 5 days per week.	0.485 (0.064)**	1.257 (0.089)**	-0.237 (0.043)**	0.158 (0.053)**
EDR	18	Н	Reimbursement of all remaining tuition fees for past tertiary education.	0.420 (0.088)**	0.162 (0.157)	0.701 (0.035)**	0.506 (0.052)**
FIN	4	L	Up to \$100/week living allowance not including rental subsidies.	0.240 (0.094)**	-0.125 (0.173)	0.750 (0.037)**	0.293 (0.052)**
REC	10	L	Extra 3 days long service leave per year.	0.231 (0.073)**	0.050 (0.115)	0.753 (0.040)**	0.098(0.053)
PRD	6	L	Guaranteed 5 days/yr and \$2,000/yr expenses for PL	0.213 (0.074)**	0.113 (0.112)	-0.026 (0.045)	0.451 (0.055)**
SPP	28	L	Support staff (e.g. teacher's aides) for 5 days per fortnight.	0.164 (0.071)**	0.494 (0.108)**	-0.326 (0.040)**	0.131 (0.052)*
LIV	14	L	Free home communication package - up to \$60/month.	0.137 (0.070)**	0.973 (0.104)**	-0.495 (0.044)**	-0.305 (0.052)**
PRD	7	L	Guaranteed 5 days/yr and \$2,000/yr expenses for PD for AITSL	0.077 (0.112)**	-0.577 (0.219)**	0.334 (0.037)**	0.563 (0.052)**
MON	23	L	Recruitment benefit of \$5,000 after Term 2.	0.077 (0.079)**	-0.328 (0.130)*	0.524 (0.038)**	0.208 (0.053)**
FAM	20	Η	\$10,000 service from recruitment service for partner	0.058 (0.094)**	-0.182 (0.170)	-0.113 (0.040)**	0.393 (0.051)**
LIV	13	L	Health insurance to the value of \$2,400/yr, including dental/ ancillary.	0.053 (0.088)**	-0.681 (0.154)**	0.922 (0.041)**	0.257 (0.053)**
EDR	18	L	Reimbursement of 50% remaining tertiary tuition.	0.030 (0.070)**	0.517 (0.104)**	-0.139 (0.043)**	-0.345 (0.053)**
LIV	15	Η	Own-choice technology for personal use, up to \$3,000 for every 3 years.	0.018 (0.080)**	0.001 (0.133)	0.052 (0.041)	0.015 (0.051)
LIV	14	Η	Free home communication package for up to \$90/month.	-0.015 (0.074)**	-0.007 (0.116)	0.095 (0.041)*	-0.088 (0.052)
TRV	8	L	Fly-in, fly-out (FIFO) provided 2 times a year.	-0.072 (0.078)**	0.060(0.126)	0.271 (0.039)**	-0.402 (0.053)**
FAM	21	Н	Priority appointment for partner at the same school.	-0.113 (0.078)**	0.317 (0.127)*	-0.175 (0.041)**	-0.496 (0.053)**
EDF	25	Η	Up to \$30K paid study in priority subject in R/Rschool (e.g., STEM).	-0.122 (0.080)**	-0.574 (0.132)**	0.211 (0.038)**	0.122 (0.053)*
LIV	15	L	Own-choice technology for personal use, up to \$1,000 for every 3 years.	-0.127 (0.071)**	0.452 (0.110)**	-0.183 (0.040)**	-0.658 (0.052)**
EDF	26	Η	Travel/ accommodation \$3,000 paid for R/R practicum in last semester.	-0.194 (0.082)**	0.161 (0.133)	-0.920 (0.046)**	-0.113 (0.053)*
MON	23	Η	Recruitment benefit of \$5,000 after Term 1.	-0.272 (0.098)**	-1.364 (0.178)**	0.786 (0.043)**	0.168 (0.054)**
LIV	16	Η	Reimbursement of mobile phone plan for up to \$90/month.	-0.345 (0.076)**	0.179 (0.118)	-0.829 (0.047)**	-0.569 (0.054)**
EDR	19	Η	Accommodation/ HECS of \$16,000/yr for regional teaching degree.	-0.378 (0.074)**	0.026 (0.116)	-0.469 (0.041)**	-0.718 (0.054)**
MON	24	Η	Visa vouchers valued to \$1,000/yr.	-0.431 (0.069)**	0.409 (0.103)**	-0.663 (0.043)**	-1.112 (0.052)**
EDF	26	L	Travel and accommodation costs of \$1,500 for rural/remote practicum .	-0.477 (0.075)**	-0.066 (0.119)	-0.714 (0.042)**	-0.737 (0.053)**
REC	11	Η	Four days per semester of paid study time.	-0.539 (0.080)**	-0.130 (0.129)	-0.660 (0.046)**	-0.866 (0.053)**
FAM	21	L	Priority appointment for partner, where partner is a qualified teacher.	-0.562 (0.079)**	-0.587 (0.128)**	-0.360 (0.042)**	-0.656 (0.054)**

FAM	20	т	\$5,000 value of service from recruitment service for partner.	-0.574 (0.098)**	-0.908 (0.177)**	-0.971 (0.046)**	-0.016 (0.051)
FAM	22	L	School fees for children boarding at secondary school, up to \$10,000/yr.	-0.609 (0.071)**	0.392 (0.104)**	-1.478 (0.047)**	-1.072 (0.053)**
				` /	, ,	` ,	` /
LIV	16	L	Reimbursement of mobile phone plan for up to \$60/month.	-0.610 (0.087)**	-0.649 (0.152)**	-0.428 (0.041)**	-0.680 (0.052)**
EDF	27	L	Reimbursement of 50% of any tuition fees for current education.	-0.633 (0.088)**	-0.036 (0.143)	-1.323 (0.055)**	-0.807 (0.053)**
FAM	22	Η	School fees for children boarding at secondary school, up to \$5,000/yr.	-0.671 (0.105)**	-0.130 (0.190)	-1.276 (0.055)**	-0.840 (0.052)**
LIV	17	Η	\$500 fees paid for local club/association of choice.	-0.794 (0.075)**	-0.092 (0.116)	-0.648 (0.042)**	-1.564 (0.054)**
EDF	27	Η	Reimbursement of all tuition fees for current education.	-0.813 (0.089)**	-1.297 (0.152)**	-0.381 (0.046)**	-0.596 (0.053)**
EDF	25	L	Up to \$15,000 paid study in priority area in R/R school (e.g., STEM).	-0.820 (0.150)**	-1.549 (0.313)**	-0.676 (0.045)**	-0.195 (0.053)**
EDR	19	L	Accommodation and HECS fees of \$8,000/yr for regional teaching degree	-0.857 (0.089)**	-0.474 (0.151)**	-1.376 (0.048)**	-0.923 (0.052)**
LIV	12	L	Wear and tear on own car of \$5,000 for appointment.	-0.977 (0.160)**	-3.489 (0.344)**	0.495 (0.040)**	0.603 (0.052)**
REC	11	L	Two days per semester of paid study time.	-0.995 (0.092)**	-1.223 (0.162)**	-0.363 (0.041)**	-1.144 (0.055)**
MON	24	L	Visa vouchers valued to \$500/yr.	-1.129 (0.143)**	-0.882 (0.287)**	-1.105 (0.053)**	-1.384 (0.054)**
SPP	29	L	Phone help with R&R mentor.	-1.305 (0.087)**	-0.592 (0.142)**	-1.996 (0.051)**	-1.592 (0.054)**
SPP	29	Η	Phone help and twice yearly visits with R&R mentor.	-1.307 (0.090)**	-1.312 (0.158)**	-1.273 (0.042)**	-1.323 (0.054)**
LIV	17	L	\$200 fees paid for local club/association of choice.	-1.312 (0.084)**	-0.866 (0.138)**	-1.130 (0.048)**	-1.855 (0.053)**
SPP	30	Η	24/7 phone help line (EAP) - 20 additional hours per annum.	-1.402 (0.089)**	-0.879 (0.151)**	-1.771 (0.049)**	-1.693 (0.053)**
SPP	30	L	24/7 phone help line (EAP) for 10 additional hours per annum.	-1.556 (0.087)**	-1.293 (0.145)**	-1.417 (0.045)**	-1.894 (0.053)**
			2-point school	-0.079 (0.371)**	-0.408 (0.724)	-0.039 (0.149)	0.217 (0.157)
			4-point school	-1.404 (0.577)**	-1.327 (0.857)	-1.501 (0.214)**	-1.421 (0.517)**
			8-point school	-1.555 (0.566)**	-1.389 (0.824)	-1.994 (0.212)**	-1.458 (0.524)**
			Status quo (propensity to remain at current school)	.9385 (.090)	.3574 ** (.086)	-1.312** (.086)	-3.442** (.024)
			Scale parameter	1.000 (-)	1.684** (0.335)	1.009 (0.903)	1.000 (-)
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L/H=low/high level of incentive. Mean parameter estimate listed with standard error in parentheses. **/* denote significant at .05/.01 level.

TABLE 5: MEAN VALUATION AND RANKING OF INCENTIVES BY CATEGORY

Incentivized Support for:	Aggregate	Class 1	Class 2	Class 3
EMP: Employment guarantees (4)	1.234 [1]	1.292 [1]	1.196 [2]	1.201 [2]
FIN: Financial (including rental subsidies/ additional salary) (6)	0.883 [2]	0.729 [3]	1.250 [1]	1.275 [1]
PRD: Profession Development / Learning (4)	0.599 [3]	0.407 [4]	0.469 [3]	0.862 [3]
TRV: Travel (4)	0.560 [4]	0.758 [2]	0.381 [4]	0.474 [4]
REC: Additional leave (4)	-0.046 [5]	-0.034 [6]	0.198 [5]	-0.202 [6]
LIV: Living costs/subsidies (12)	-0.141 [6]	-0.210 [8]	0.038 [6]	-0.180 [5]
EDR: Education expenses (reimbursement) (4)	-0.196 [7]	0.058 [5]	-0.321 [8]	-0.370 [7]
FAM: Family (spouse/children) (6)	-0.412 [8]	-0.183 [7]	-0.729 [10]	-0.448 [9]
MON: Monetary/Financial (other) (4)	-0.439 [9]	-0.541 [10]	-0.115 [7]	-0.530 [10]
EDF: Education expenses (current/future) (6)	-0.510 [10]	-0.560 [11]	-0.634 [9]	-0.388 [8]
SPP: Support (outside/inside classroom) (6)	-0.820 [11]	-0.388 [9]	-1.170 [11]	-1.036 [11]

Note: () indicates number of incentives in category; [] indicates ranking of incentive category.

TABLE 6: DRIVERS OF LATENT CLASS MEMBERSHIP

	LC 1	(38%):	LC 2 (2	3%): Mid-	LC	3 (39%):
		iced Urbans		Coastals		ive Rural ECT
Covariate	Est.	S.E.	Est.	S.E.	Est.	S.E.
Intercept	0.322	(0.011)**	-1.983	(0.014)**	0.718	(0.010)**
Annual Household Income (Gross)	0.051	(0.009)**	0.021	(0.010)**	-0.072	(0.006)**
Current college debt	-0.523	(0.012)**	-0.153	(0.016)**	0.676	(0.014)**
Home owner (no mortgage)	0.337	(0.021)**	-0.069	(0.031)*	-0.269	(0.027)**
Home owner (with mortgage)	0.200	(0.014)**	0.169	(0.018)**	-0.369	(0.015)**
Currently renting	-0.500	(0.026)**	-0.062	(0.028)*	0.563	(0.018)**
Partner is qualified teacher	0.088	(0.022)**	-0.019	(0.030)	-0.069	(0.024)**
Partner is employed full-time	0.194	(0.014)**	0.051	(0.019)**	-0.244	(0.015)**
Do not have a partner	-0.175	(0.024)**	-0.062	(0.029)*	0.237	(0.020)**
Couple family with children	0.213	(0.014)**	0.050	(0.019)**	-0.263	(0.015)**
Couple family with no children	0.026	(0.023)	-0.025	(0.030)	-0.001	(0.023)
Single person household	-0.137	(0.029)**	0.019	(0.034)	0.118	(0.025)**
Indigenous	-0.050	(0.011)**	-0.05	(0.014)**	0.100	(0.011)**
Age (years)	0.120	(0.011)	-0.023	(0.014) (0.044)	-0.097	(0.033)**
Gender (Male)	-0.081	(0.021)**	0.023	(0.026)**	-0.055	(0.012)**
Location of tertiary studies:	-0.001	(0.021)	0.000	(0.020)	-0.033	(0.012)
Capital city	0.193	(0.015)**	-0.064	(0.020)**	-0.129	(0.015)**
Large coastal city/town	-0.057	$(0.013)^*$ $(0.020)^*$	0.067	(0.020)**	-0.129	(0.013) (0.019)
Small coastal town	-0.037	(0.020) (0.033)	0.007	(0.024) (0.038)**	-0.060	(0.013) (0.031)
Small inland country town	-0.038	(0.033)**	-0.126	(0.038)**	0.208	(0.031)
Practicum - capital city	0.193		-0.126 -0.064		-0.129	$(0.020)^{**}$ $(0.015)^{**}$
Practicum - capital city		(0.015)**	0.059	(0.020)**		(0.013) (0.019)
	-0.036	(0.020)**	-0.045	(0.024)**	-0.023 0.100	(0.019) (0.020)**
Practicum - inland country town	-0.055	(0.023)**		(0.029)**		
Postgraduate degree	-0.063	(0.020)**	0.025	(0.025)	0.038	(0.019)*
Graduate dip/certif.	0.106	(0.024)**	0.038	(0.031)	-0.143	(0.026)**
Bachelor degree	-0.038	(0.015)*	0.019	(0.020)	0.019	(0.015)
Teaching experience (years)	0.013	(0.032)**	-0.001	(0.041)	-0.012	(0.029)**
Permanently employed	0.355	(0.012)**	0.237	(0.016)**	-0.593	(0.014)**
Classroom teacher (non-executive)	-0.205	(0.014)**	0.026	(0.017)	0.178	(0.013)**
Size of school (students enrolled)	0.047	(0.035)	0.020	(0.044)	-0.067	(0.036)
School level (K - 12)	0.000	(0.023)	0.045	(0.027)	-0.045	(0.020)*
Current school location:	0.160	(0, 0.1.0) dede	0.010	(0.024)	0.100	(0.000) that
Capital city	0.168	(0.018)**	0.012	(0.024)	-0.180	(0.020)**
Large coastal city/town	0.068	(0.025)**	0.030	(0.032)	-0.098	(0.026)**
Large inland country city/town	-0.082	(0.029)**	-0.007	(0.035)	0.089	(0.026)**
Small coastal town	0.043	(0.036)	0.074	(0.045)	-0.117	(0.041)**
Small inland country town	-0.057	(0.025)*	-0.088	(0.033)**	0.145	(0.023)**
Remote coastal location	-0.001	(0.109)	-0.007	(0.151)	0.008	(0.104)
Remote inland country	-0.138	(0.042)**	-0.007	(0.046)	0.145	(0.032)**
Commitment to profession	0.219	(0.020)**	-0.100	(0.028)**	-0.119	(0.022)**
Intention to work remotely	-0.750	(0.029)**	-0.157	(0.029)**	0.907	(0.017)**
Attractiveness to R/R locations:						
Greater job security	-0.092	(0.020)**	-0.119	(0.023)**	0.211	(0.015)**
Appealing lifestyle	-0.142	(0.015)**	-0.006	(0.019)	0.148	(0.013)**
Greater community connection	-0.036	(0.018)*	-0.087	(0.022)**	0.123	(0.015)**
Better housing	-0.086	(0.017)**	-0.019	(0.020)	0.104	(0.014)**
Quicker career advancement	-0.117	(0.018)**	0.019	(0.021)	0.098	(0.015)**
Ability to earn more money	-0.067	(0.017)**	0.050	(0.020)*	0.017	(0.015)
Quality of life	-0.104	(0.014)**	0.088	(0.017)**	0.017	(0.013)
Enjoyable social life	0.171	(0.020)**	0.019	(0.024)	-0.189	(0.018)**
Not as stressful	0.189	(0.022)**	-0.044	(0.028)	-0.146	(0.019)**

Mean parameter estimate listed with standard error in parentheses. **/* denote significant at .05/.01 level

Set 1 of 5:

Which of the schools below would you **most prefer** to teach in? If you prefer your current school, you can choose "My current school". *Please click on a school to choose*.

School A	School B	School C	School D	My current school
6-point	4-point	8-point	4-point	
* Guaranteed 10 days/yr and \$4,000/yr travel/accommodation expenses for professional development courses to progress on AITSL Career stages (e.g. Proficient,	* Own-choice technology (e.g. computer, tablet, or mobile phone) for personal use, up to \$1,000 for every 3 years.	* \$200 fees paid for local club/association of choice.	* Up to \$100/week living allowance not including rental subsidies.	
Highly Accomplished). * Phone help and twice yearly visits with R&R mentor for professional matters such as support for teaching.	* Priority appointment for partner at the same location if a suitable vacancy is available, where partner is a qualified teacher.	* \$10,000 value of service from recruitment service to secure employment for partner at the same or a close location, where partner is not a qualified teacher.	* Visa vouchers valued to \$500/yr.	
* Phone help with R&R mentor for professional matters such as support for teaching.	* Additional salary of \$2,500/yr during service at this school.	* Up to \$15,000 paid scholarships/study in a subject of priority need in a rural/remote school (e.g., STEM).	* \$500 fees paid for local club/association of choice.	

FIGURE 1: EXAMPLE OF A CHOICE TASK