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Early Career Teachers' Perceptions of Their Preparedness to Teach "Diverse Learners": Insights from an Australian Research Project

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Abstract: In 2012, early career teachers in Queensland and Victoria (Australia) were invited to complete the Studying the Effectiveness of Teacher Education graduate survey. The survey included a "Preparation for Teaching Scale" that provided opportunities to self-report on how well their teacher education program prepared them for 46 areas of work. Ten items addressed preparation for teaching students from diverse linguistic, cultural and socioeconomic backgrounds, students from Aboriginal and Torres Strait Islander families, students with a wide range of abilities, and students with a disability. 971 teachers completed the Scale. On a 5 point likert scale the overall mean for the 46 items was 3.61. Mean scores for items relating to diverse learners ranged from 2.94 for preparedness to teach to linguistic diversity to 3.3 for preparedness to develop inclusive classroom. This paper presents and analyses these results in order to identify implications for schools, teachers and teacher education.

Introduction

Australia's Professional Standards for Teachers were introduced by the country's federal government in 2011 and subsequently endorsed by the Ministers for Education in all states and territories for implementation from 2013 (Australian Institute for Teaching and School Leadership, 2014b). Reflecting an international trend that increasingly positions professional standards as an important mechanism for ensuring "teacher quality" (for discussion of this development within England, New Zealand, Canada and the United States see (Santoro & Kennedy, 2015)—the Australian standards articulate what teachers are expected to know and be able to do at four career stages: graduate, proficient, highly accomplished and lead. They are grouped into three domains of teaching: Professional Knowledge, Professional Practice and Professional Engagement (Australian Institute for Teaching and School Leadership, 2014a).

In common with other frameworks internationally (Santoro & Kennedy, 2015) the Australian Standards make repeated reference to the diversity that characterizes the student population. Standard 1, in particular, states that graduates will "Know Students and How They Learn" and that this knowledge will inform their work as teachers. This requirement is explicated through six competency statements that indicate the need for graduating teachers to have, amongst other things, knowledge and understanding of students from diverse linguistic, cultural, religious and socio-economic backgrounds, students with the full range of abilities, students with disabilities and Aboriginal and Torres Strait Islander students

(Australian Institute for Teaching and School Leadership, 2011). The Standard descriptors also make explicit the link between a detailed knowledge of students, and the ability to teach students effectively using, for example, “strategies that are responsive to the learning strengths and needs of students from diverse linguistic, cultural, religious and socioeconomic backgrounds” and “strategies for differentiating teaching to meet the specific learning needs of students across the full range of abilities” (Australian Institute for Teaching and School Leadership, 2014a).

While debate about the content and value of national standards is robust and on going (see for example Edwards & Nuttall, 2015; Townsend & Bates, 2007) there is no denying the fact that they have attained enormous significance in the Australian educational landscape and therefore provide an important reference point for teacher educators who are involved in ongoing renewal and accreditation of teacher education programs.

With the Australian Professional Standards providing some important background, this paper explores graduate teachers’ preparedness to work with diverse groups of students. Drawing upon quantitative data collected from 971 early career teachers during the large scale, longitudinal *Studying the Effectiveness of Teacher Education* study (hereafter referred to as SETE) this paper focuses specifically on respondents’ self-reported levels of preparedness for teaching culturally, linguistically and socio-economically diverse learners, students from Aboriginal and Torres Strait Islander backgrounds, students with a range of abilities and students with a disability: groups that are all explicitly named within Professional Standard 1.

The paper that follows is divided into four parts. The first introduces the body of literature that has informed the writing of this paper and which establishes the significance of the research. Part two provides further detail about the design of the SETE project. The paper then presents the data concerning respondents’ preparedness to teach diverse learners. The fourth and final section identifies implications for policy and practice.

Background and Literature

Our focus in this paper is on teachers’ self-reported preparedness to teach diverse learners, noting that this is a key term used within Australia’s Professional Standards for teachers. The significance and contemporary relevance of this focus is reflected (nationally and internationally) within three strands of teacher education literature.

Literature Strand 1: The Impact of Teachers

The impact teachers can have on the experiences and achievements of their students is widely acknowledged albeit in different ways and for possibly different reasons by various educational stakeholders. Leading educational researcher, Lingard, captures the tone of much writing in this area by noting that: “Of all school variables...it is teachers who have the greatest effect on student learning outcomes” (2005, p. 174). This point is regularly reiterated within literature focused on schools and school outcomes (see, for example, Dinham, 2013; Loughran & Hamilton, 2016; Santoro & Kennedy, 2015).

Those working both directly and indirectly on the development of teacher certification frameworks, program accreditation and teacher professional standards have also made similar points with Hattie (for example) being widely cited in Australia (often uncritically: for discussion see Eacott, 2017) for his claim that “teachers are the biggest in-school variable impacting upon student achievement” (2003, p. 2). Political commentators, advisory groups

and think tanks of various kinds, including Australia's Teacher Education Ministerial Advisory Group (2015), and the OECD (2005), echo these beliefs: an endorsement which has been linked, among other things, to growing interest in the concept of teacher quality.

However, seemingly widespread agreement that teachers *matter* is, of course, paralleled by considerable disagreement concerning the ways in which teaching *quality* is best evidenced and/or produced. Bourke, Ryan and Lloyd (2016, pp. 3-4) demonstrate that measures of teacher quality have changed dramatically over time, noting a move away from emphasis on the moral character, personal attributes and qualifications of teachers towards an interest in exploring the (contested) relationship between teacher quality, student learning and student achievement. This issue occupies considerable space within educational debates across the world. In the contemporary Australian political landscape evidence of 'quality' teaching is increasingly linked by Governments to student performance within high stakes national and international testing regimes. Results from Australia's National Assessment Program for Literacy and Numeracy (NAPLAN tests) and scores from OECD PISA assessments are often cited when political commentators assert a need to maintain or improve student outcomes and/or arrest any apparent 'slip' in standards and achievements (TEMAG 2015, p. 2).

Speaking back to recurring claims that teacher quality can be effectively determined by measures of student 'achievement'—or the "value added" by particular teachers (for discussion of this concept see Floden, 2012)—many researchers have argued that teachers are only one influence of the very many that shape academic performance. Berry, Daughtrey and Weider (2010) for example, note that teachers make countless complex decisions each day, within what are often very different contexts, and with wildly variable support for their work. They report that 91% of teachers in their study strongly or somewhat agree that other teachers *and* school conditions play a role in defining and developing teacher effectiveness (Berry, Daughtrey, & Wieder, 2010). Similarly, in an analysis of Hattie's commonly cited work, Snook and colleagues identify a great many factors beyond a teacher's direct control that can impact upon student achievement (Snook, O'Neill, Clark, O'Neill, & Openshaw, 2009). Setting aside, for the moment, the lives of students and their families/carers, teachers' conditions of employment (including class size and resources available) provide just one example of how contextual factors can impact upon what teachers are able to achieve (Townsend & Bates, 2007). Thus, as Loughran and Hamilton remind us, "learning" does not exist in a linear relationship to "teaching" (Loughran & Hamilton, 2016, p. 3) and many different factors (in and out of school) impact upon how and what students learn and how and when this knowledge is performed. Scholars such as Dinham (2013, p. 93) therefore caution against ill-informed or knee jerk assessments that link teacher quality to student achievement and which, in this process assume it is the teacher's fault when students fail to learn.

In this context Cochran-Smith points out that while there is "little debate in the education community about the assertion that quality of teaching and teacher preparation ought to be defined (at least in part) in terms of student learning" (Cochran-Smith, 2003b, p. 3), it is important to also acknowledge that teaching is "*unforgivingly complex*" (emphasis in original Cochran-Smith, 2003b, p. 4). One of the factors contributing to this complexity is, of course, the diversity of the student population. The need for teachers and teacher educators to recognize and respond appropriately to this diversity is the focus of a second strand of contemporary scholarship that has shaped the writing of this paper.

Literature Strand 2: Student Diversity and Teacher Education

It is increasingly accepted that teaching as a profession is becoming more and more complex at the same time that it is becoming more and more scrutinised (Dinham, 2013; Scholes, 2017). Two interrelated aspects of this complexity are the diversity of the student population and growing awareness of the multiple forms that ‘diversity’ actually takes. Clandinin (2009) and Le Cornu (2015) for example, each note “the impact of the ‘shifting social landscape’ on the complexity of teachers’ work” and “the influences of globalisation, refugee populations, immigration, demographics, economic disparities and environmental changes on teachers and teachers’ work” (Le Cornu, 2015, p. 4). Similarly, Wink (2011), refers to the demographic changes which are “evident worldwide” and makes the important point that “nowhere are those changes experienced more profoundly than in today’s classrooms” (2011, p. 435).

Santoro and Kennedy note that, in this context, “All teachers, regardless of their location, need to be culturally responsive practitioners who must be able to work productively with culturally and linguistically diverse children” (2015, p. 209). Of course ‘diversity’ is not something that relates only to cultural or linguistic differences. Decades of research has enriched teacher educators’ understandings of how many factors—such as, for example, disability (Bianco & Leech, 2010), socio-economics (Scholes, 2017), rurality (White, 2015), religion (Subedi, 2006), gender (Rogers, Rowan, & Walker, 2014) or sexual identity (Jones et al., 2015)—can shape educational experiences and outcomes and, as well, intersect to create amplified risks (lengthier reviews of these bodies of scholarship are provided by authors such as Alton-Lee, 2003; and Francis, Mills, & Lupton, 2017).

A key issue at the heart of this paper is that research relating to ‘student diversity’ and ‘social justice’ has consistently shown that the experiences and achievements of diverse and/or ‘at risk’ students can be linked to their teachers’ attitudes, prior experiences, personal backgrounds and, central to this study, the knowledge and skills they develop during their teacher education (Gregory & Roberts, 2017; Klehm, 2014; Martino, Lingard, & Mills, 2004). Literature informed by diverse theories including the work of feminists, post-colonial scholars, queer theorists, and others operating from sociological and anti-essentialist backgrounds (for some example see Bell, 2016; Francis et al., 2017; Keddie, 2012; McKay, Carrington, & Iyer, 2014; Rogers et al., 2014; Uptin, Wright, & Harwood, 2013) has consistently demonstrated that teacher threshold knowledge (Martino et al., 2004)—what teachers know and can do as a result of their teacher education, and the assumptions they hold about their students—can have a direct impact upon their students’ achievements.

Brought together, these two strands of literature remind us of obvious but powerful points: first, that teachers *matter* in the lives of students and second, that what teachers know about, believe and actually do when working with diverse learners in various classrooms can have significant and ongoing consequences; consequences routinely reflected in uneven patterns of educational achievement and very many poignant and painful stories of social alienation, isolation and fear experienced by children who feel themselves to be ‘other’ to a classroom or cultural norm (Groundwater-Smith, 2006; Groundwater-Smith, Ewing, & Le Cornu, 2011). This, in turn, highlights the importance of identifying what teachers actually *do* know, and how well prepared they believe they are to work with groups of students who are referenced (in the Australian standards) as diverse: students that literature consistently identifies as being at increased risk of problematic, uneven or inequitable educational experiences (Banks et al., 2005; Cochran-Smith et al., 2009).

Literature Strand 3: Research Needed to Inform Teacher Education in a Time of Intense Scrutiny

The first two strands of literature reviewed above indicate the importance of on-going research into teachers' preparedness to teach the full range of learners in their classrooms. There is, of course, a very large body of literature that explores various dimensions of this question. In a critical overview of research within the field of teacher preparation research, Cochran-Smith and colleagues (2015) note a diverse range of research projects focused collectively on "how teacher preparation has responded to the changing demographics of the precollege student population since 2000" and how this research "is concerned with how to prepare a teaching force capable of producing equitable learning opportunities for diverse students in the context of enduring inequalities" (Cochran-Smith et al., 2015, p. 114). They go on to identify four clusters of research within literature focused on Teacher Preparation for Diversity and Equity: "(a) the influence of courses and field-based opportunities on learning to teach diverse student populations, (b) strategies for recruiting and preparing a diverse teaching force, (c) analyses of the content, structures, and pedagogies for preparing teacher candidates for diversity, and (d) analyses of teacher educator learning for/experiences with diversity" (Cochran-Smith et al., 2015, p. 114).

Analysing this large body of literature the authors highlight the dominance of qualitative methodologies and small-scale studies in the associated research. They acknowledge that "These small-scale, mostly single-site studies contribute important insights to the field by theorizing complex aspects of teacher preparation practice" (Cochran-Smith et al., 2015, p. 117), a point also consistently made within reviews of Australia's teacher education research (see, for example Murray, 2008). However they go on to make the point that:

as reviews have pointed out many times (Cochran-Smith & Zeichner, 2005; Sleeter, 2001b; Wilson, Floden, & Ferrini-Mundy, 2001), the field also needs large-scale research studies, studies that use national and other data bases, genuinely longitudinal studies, studies that use established instruments, and multi-site studies. (Cochran-Smith et al., 2015, p. 117)

The potential value of developing different, large scale data sets to inform teacher education has, indeed, been emphasized many times by many different authors (see for examples Brouwer & Korthagen, 2005; Darling-Hammond, 2000, 2005; Darling-Hammond & Haselkorn, 2009; Grossman, 2008; Kennedy, Ahn, & Choi, 2008; Ludlow et al., 2010). A great many claims have also been made about the research that "teacher education has to have": claims that often reference not only the potential of various data sets to impact positively upon teachers' abilities and skills, but also an associated potential to help teacher educators speak back to the ongoing representation of teacher preparation as somehow failing, broken or in need of repair: an imperative that has long been identified as a priority for Australian researchers (Murray, 2008). This, again, is important work. More than 40 reports, reviews and investigations exploring various issues relating to the education of pre-service teachers in Australia have been published in the last decade and many appear to proceed from the belief that teacher education is broken, failing, and in fundamental need of reform (Louden, 2013). This representation was recently reinforced in Australia by a report from the Federal Government's Teacher Education Ministerial Advisory group (or TEMAG). Established in 2014 to (once again) review teacher education across Australia the TEMAG report noted that its work was shaped by "two clear propositions: that improving the capability of teachers is crucial to lifting student outcomes; and that the Australian community does not have confidence in the quality and effectiveness of new teachers" (Teacher Education Ministerial Advisory Group, 2015, p. 1).

Returning to the previous point, we note again here, a growing acknowledgement that teacher educators are not (always) in a good position to interrupt the persistent criticisms directed at the profession because of an absence of large-scale, quantitative, or mixed methods data sets. Sleeter (2014), for example, writes that “The existence of too little systematic evidence examining the impact on students of organized venues for teacher professional learning enables policy advocacy based on ideology more than evidence” (2014, p. 146). This echoes the oft-cited comment of Grossman who notes that teacher educators appear “ill prepared to respond to critics who question the value of professional education for teachers with evidence of our effectiveness” (2008, p. 13).

When considered alongside the first two themes of the literature review, questions about the nature and scale of the data sets that teacher educators have access to highlight both the scarcity of large scale data relating to early career teachers’ self-reported preparedness to teach diverse learners *and* the practical and political significance of this absence.

Contribution of This Study

Reflecting the key insights from the literature cited above, this paper proceeds from the (interrelated) beliefs that: first, the skills and knowledge of teachers has an impact upon the achievement of students and that—although there is no consensus on how impact is most effectively measured—the relationship between teachers’ beliefs /actions and students’ experiences/outcomes is profound and long lasting; second, that diverse teaching contexts and an increasingly heterogeneous student population can be challenging for early career teachers (who remain, in Australia, a relatively homogenous population); third, that teacher educators have a responsibility to review and renew professional programs in ways that genuinely respond to the needs of pre-service teachers and their future students, regardless of how this endorses and/or challenges wider political agendas and an associated responsibility to support early career teachers as they seek to address the Professional Standards for Graduates; and finally, that this ongoing work of professional, programmatic and personal renewal will be enhanced by close attention to early career teachers’ evaluations of how well prepared they regard themselves to be when it comes to meeting the performance standards outlined in Australia’s Professional Standards for Teachers at the graduate level.

Each of these beliefs has influenced the design and conduct of the SETE project introduced briefly above. The following section of this paper provides further detail about this project.

Methodology and Methods for the SETE Project

The SETE research project was a mixed methods study following a sequential exploratory design. Data collection proceeded through four stages, over four years, with each stage informing the other. It involved:

- An initial mapping of the terrain of teacher education activity across Australia identifying the range of teacher education programs on offer in 2011-2012 (551) and key program features as described by representatives and/or online materials from 47 sites of initial teacher education (with some universities offering programs on different campuses). This mapping provided contextual information to support the design and distribution of the survey ensuring that the language used in the survey was an appropriate reflection of the current landscape, and that the survey addressed current features of teacher education program design such as program type

- (undergraduate or postgraduate); program structure (including length, delivery and practicum format); specialisations on offer, and campus locations
- Graduate Teacher Surveys: Four rounds of surveys of teachers who graduated in 2010 and 2011 (surveyed 2012-2014; 8,460 responses collected from 4,907 graduate teachers) (discussed further below)
- Surveys of the principals of graduate teacher respondents (three rounds 2012-2013; 1,001 responses)
- Intensive case studies of new graduates involving 29 case study schools and 197 teachers with visits in 2011-2014.

As one of a network of publications emerging from this research (for example Allard & Doecke, 2017; Mayer et al., 2017; Rowan & Townend, 2016), this paper reports only on data relating to the first round of the *Graduate Teacher Survey* which was completed between March-April 2012, between six months and two years after respondents first entered the paid teaching workforce. Considered alongside the literature reviewed above, the unique nature of this data set—relating both to its size (one of the largest surveys of Australian graduates to date) and its focus (graduates attitudes towards their preparedness to teach diverse learners: a key priority nationally and internationally)—justifies close attention to this set alone within this publication. Details of the survey are provided below.

The Graduate Teacher Survey

The Graduate Teacher Survey was designed to gather information about graduate teachers' perceptions of their preparedness for employment in Australian schools and their effectiveness as beginning teachers. The surveys included categorical, continuous-scaled and open-ended questions. Three scales were built into the Graduate Teacher Survey used in the first round of data collection:

- Attraction to teaching (12 items)
- School-based support (9 items)
- Preparation for teaching (46 items)

The Preparation for Teaching scale is the focus of this paper. This scale contained nine sub-scales and 46 items. These sub-scales and items were selected after, first, a detailed review of international literature related to the characteristics of effective and quality teachers and, second, an analysis of the key expectations outlined within Australia's Professional Standards for Teachers. The nine sub-scales addressed were:

- Teaching culturally, linguistically and socio-economically diverse learners
- Design and implementation of the curriculum
- Pedagogy
- Assessment and the provision of feedback and reporting on student learning
- Classroom management
- Collegiality
- Professional engagement with parents/carers and the community
- Professional ethics
- Engagement with ongoing professional learning

The 46 items within these sub-scales were presented to graduate teachers in the form of statements. For each item teachers rated their perception of their preparedness on a five-point Likert scale (1=strongly disagree, 5=strongly agree). The preparation for teaching scale had strong internal consistency with a Cronbach's alpha coefficient of 0.971 (inter-item

correlations mean 0.428, range 0.675) and all but one of the preparedness sub-scales had a Cronbach's alpha coefficient above 0.7. The exception was the collegiality sub-scale that was made up of only two indicator variables.

This paper focuses primarily upon the sub-scale referred to as: "Teaching culturally, linguistically and socio-economically diverse learners" but uses some data from the other sub-scales as a point of comparison. The title and the design of this sub-scale reflect the Australian context of the research, and, more specifically, the Australian Professional Standards referenced above. As outlined previously, Standard 1—*Know Students and how they learn*—requires graduate teachers to demonstrate knowledge and understanding of:

- students from diverse linguistic, cultural, religious and socioeconomic backgrounds
- the impact of culture, cultural identity and linguistic background on the education of students from Aboriginal and Torres Strait Islander backgrounds
- the specific learning needs of students across the full range of abilities
- teaching strategies that support participation and learning of students with disability

Teachers were therefore asked to respond to 10 individual statements about their preparedness in regards to these areas, many of which referenced the standards, and others of which were informed by related scholarly literature. Table 1 indicates the specific items in the sub-scale.

Sub-Scale	Items in sub-scale: each item begins with the stem "My Teacher Education program"....	Alpha if item deleted	Alpha coefficient
Teaching culturally, linguistically and socio-economically diverse learners	gave me the knowledge and skills to adapt my teaching for the local context	.895	.905 (inter-item correlation mean .496, range .282)
	prepared me to cater for differences in learning styles in my classes	.895	
	prepared me to teach in a culturally diverse classroom	.891	
	prepared me to teach students from diverse socioeconomic backgrounds	.891	
	prepared me to teach to linguistic diversity in the classroom	.898	
	prepared me to develop inclusive classroom activities	.896	
	prepared me to teach students with a range of abilities	.892	
	gave me the knowledge and skills to establish learning environments in which diverse ideas and opinions are valued	.896	
	prepared me for supporting full participation of students with a disability	.898	
	helped me develop skills to understand and respect Aboriginal and Torres Strait Islander students	.903	

Table 1: Cronbach's Alpha coefficient for SETE preparation for teaching culturally, linguistically and socio-economically diverse learners sub-scale.

We pause here to acknowledge that data relating to this sub-scale is presented with caution. We do not intend to suggest that teachers can realistically consider their preparedness to teach diverse learners (in regards to any of the items listed above) without simultaneously reflecting on their preparedness in regards to other key areas such as curriculum, pedagogy and assessment. That is to say: pedagogy does not exist without

learners. Nor do we believe *some* students are ‘diverse’ and other students are not. However, the research cited above has consistently shown that teachers are prone to overlooking or ignoring the diversity of their classroom and thus to *not* notice who they include/exclude, value/devalue. The specific inclusion of a sub-scale focused on “diverse learners” has the potential to remind respondents to consider *all* of their students when reflecting on their preparedness to teach. This is particularly important as the survey was conducted in 2012, with graduate teachers who would not necessarily have experienced programs or courses designed with the Professional Standards in mind but who nevertheless needed to respond to their standards in their search for ongoing employment.

In addition to this, in the context provided by the survey as a whole (which covers all aspects of Australia’s professional standards) the inclusion of the “diverse learners” sub-scale allows the research team to go beyond generic observations about graduate teachers *overall* preparedness to teach in order to make more nuanced and focused observations regarding their preparedness to teach *all students*. Our perspective on the significance on this issue is captured by Cochran-Smith (2009) who argues that:

teacher education for social justice has the deliberate intention during the preservice period of providing the social, intellectual, and organizational contexts that prepare teachers to teach for social justice in K–12 educational settings and also support them as they try to live out this commitment as educators. (2009, p. 350)

We argue that in order for pre-service teachers to be provided with the necessary kinds of support we need to know much more about the areas within which graduate teachers believe they are more or less prepared. The inclusion of the separate sub-scales allows us to undertake this work.

Finally, and more pragmatically, the survey is intended to capture early career teachers’ beliefs about their preparedness to teach across 9 key domains. Embedding the 10 items from sub-scale 1 within or across each of the other domains would significantly increase the length of the survey and, potentially, impact negatively upon response rates and survey completion rates, both of which would undermine the scale (and significance of the study).

The Survey Sample

The main target population for the Graduate Teacher Survey was new teachers registered with regulatory authorities in Victoria and Queensland (Victorian Institute of Teaching and the Queensland College of Teachers) and who graduated from an initial teacher education program in either 2010 or 2011. Between March and April 2012, all newly registered teachers were emailed an invitation to complete the first SETE survey via their regulatory authority. A total of 1,443 responses were received. Of these respondents only those currently teaching completed questions about their preparedness for teaching. As such, 971 of these responses are considered in the analyses that follow.

Results

Mean Scores for the Preparedness Sub-Scales

The focus of this paper is on the sub-scale “Teaching culturally, linguistically and socio-economically diverse learners”. This data needs to be positioned in the context provided by respondents’ overall beliefs regarding their preparedness for teaching. The overall mean score for all 46 items in the survey that make up the preparation sub-scale was

3.61. Figure 1 shows the mean scores for each of the sub-scales mapped against the mean score for the preparation scale as a whole:

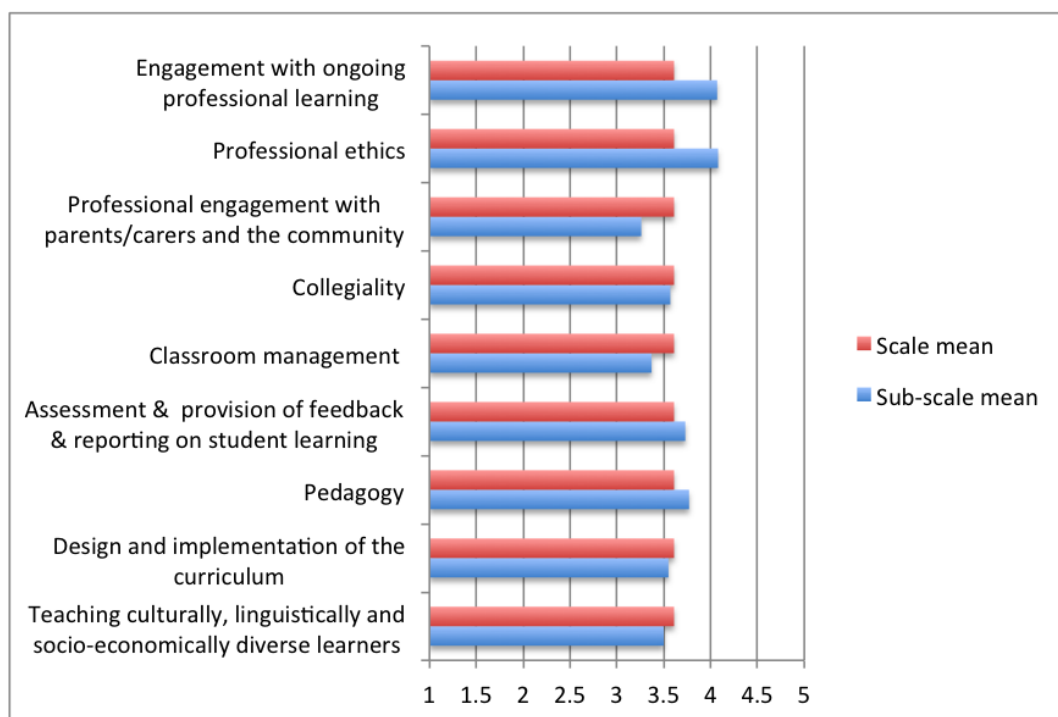


Figure 1: Mean scores for the preparedness sub-scales compared to scale mean

As this figure indicates, mean scores across the sub-scales ranged from 3.3 to 4.1. Overall, responses were positively skewed indicating greater levels of agreement than disagreement that initial teacher education prepared graduates for all nine key domains of teaching.

A Closer Look at Preparedness to Teach Culturally and Linguistically Diverse Learners

Graduate teacher responses to the ten items that make up the Preparedness to Teach Culturally and Linguistically Diverse Learners sub-scale are presented in Table 2 which outlines the range of responses.

Sub-scale item: Teaching culturally and linguistically diverse learners. Response prompt: My Teacher Education Program:	Strongly Agree %	Agree %	Neither Agree nor Disagree %	Disagree %	Strongly Disagree %
Gave me the knowledge and skills to adapt my teaching for the local context	15.1	49.5	17.9	13.4	4
Prepared me to cater for differences in learning styles in my classes	17.6	58.2	13.2	9	2.1
Prepared me to teach in a culturally diverse classroom	15.2	47	20.1	14	3.7
Prepared me to teach students from diverse socioeconomic backgrounds	12.7	46.8	20.4	16.2	4
Prepared me to teach to linguistic diversity in the classroom	7.7	27.6	25.3	29.4	10
Prepared me to develop inclusive classroom activities	17.9	58.5	13.9	8.1	1.5

Prepared me to teach students with a range of abilities	13.2	50.4	18.3	14.8	3.3
Gave me the knowledge and skills to establish learning environments in which diverse ideas and opinions are valued	17	58	16.5	6.8	1.8
Prepared me for supporting full participation of students with disability	8.2	34.3	22.7	24.5	10.3
Helped me understand and respect Aboriginal and Torres Strait Islander students	13.8	39.6	22.5	16.8	7.3

Table 2: Range of responses for the preparedness to teach culturally, linguistically and socio-economically diverse learners sub-scale (N = 971)

Table 3 (below) presents mean scores and a range of other simple descriptive statistics relating to these responses.

Sub-scale item: Teaching culturally and linguistically diverse learners. Response prompt: My Teacher Education Program:	Mean	Std. Deviation	Skewness	Std. Error of Skewness	Min	Max
Gave me the knowledge and skills to adapt my teaching for the local context	3.58	1.027	-0.735	0.078	1	5
Prepared me to cater for differences in learning styles in my classes	3.8	0.902	-1.013	0.078	1	5
Prepared me to teach in a culturally diverse classroom	3.56	1.027	-0.643	0.078	1	5
Prepared me to teach students from diverse socioeconomic backgrounds	3.48	1.034	-0.586	0.078	1	5
Prepared me to teach to linguistic diversity in the classroom	2.94	1.129	0.029	0.078	1	5
Prepared me to develop inclusive classroom activities	3.83	0.869	-0.98	0.078	1	5
Prepared me to teach students with a range of abilities	3.55	1.003	-0.686	0.078	1	5
Gave me the knowledge and skills to establish learning environments in which diverse ideas and opinions are valued	3.82	0.855	-0.968	0.078	1	5
Prepared me for supporting full participation of students with disability	3.06	1.152	-0.192	0.078	1	5
Helped me understand and respect Aboriginal and Torres Strait Islander students	3.36	1.132	-0.467	0.078	1	5

Table 3: Mean scores for the preparedness to teach culturally, linguistically and socio-economically diverse learners sub-scale (N = 971)

While responses for this sub-scale trended positively, only three items had a mean score above the scale average and one item had a negative skew; that is, responses to this statement tended towards disagreement rather than agreement. This suggests that graduate teachers perceive themselves as less prepared to teach diverse learners when compared to other dimensions of their professional work.

It is worth highlighting here that means for the following items fall below the overall scale mean of 3.61:

- My teacher education program prepared me to teach in a culturally diverse classroom: 3.56
- My teacher education program prepared me to teach students with a range of abilities: 3.55

- My teacher education program prepared me to teach students from diverse socioeconomic backgrounds: 3.48
- My teacher education program helped me understand and respect Aboriginal and Torres Strait Islander students: 3.36
- My teacher education program prepared me for supporting full participation of students with a disability: 3.06
- My teacher education program prepared me to teach to linguistic diversity in the classroom: 2.94

Variables Associated with Teacher Responses

Additional analyses (independent-samples t-tests and one-way analysis of variance) to compare groups were undertaken to investigate factors that impact upon perceptions of preparation for teaching culturally, linguistically and socio-economically diverse learners. Eta squared represents the variance in the dependent variable explained by the independent variable, and is a value between 0 and 1 (Pallant, 2011). Statistically significant differences ($p < .05$) were found in the following areas.

- Graduate teachers who completed an initial teacher education program with a primary focus ($M = 3.56$, $SD = .72$) and secondary focus ($M = 3.44$, $SD = .76$; $t(774) = 2.24$, $p = .03$, two-tailed). The magnitude of the differences in the means (mean difference = .12, 95% *CI*: .015 to .229) was very small (eta squared = .006). This was *not* the case for the overall mean score for preparedness for primary focus ($M = 3.56$, $SD = .72$) and secondary focus ($M = 3.66$, $SD = .64$; $t(774) = 1.36$, $p = .17$, two-tailed).
- Graduate teachers born in Australia ($M = 3.46$, $SD = .73$) and teachers born overseas ($M = 3.66$, $SD = .80$; $t(969) = -3.093$, $p = .002$, two-tailed). This was also the case for the overall mean score for preparedness. The magnitude of the differences in the means (mean difference = -.19, 95% *CI*: -.314 to -.702) was small (eta squared = .01).
- Graduate teacher who speak only English ($M = 3.46$, $SD = .74$) and graduate teachers who speak languages other than English ($M = 3.71$, $SD = .73$; $t(969) = -3.946$, $p < .0001$, two-tailed). This was also the case for the overall mean score for preparedness. The magnitude of the differences in the means (mean difference = -.26, 95% *CI*: -.385 to -.129) was small (eta squared = .02).
- Graduate teachers who completed a distributed practicum (1-2 days in schools over a number of weeks) ($M = 3.61$, $SD = .71$) and those who did not complete a distributed practicum ($M = 3.46$, $SD = .76$; $t(966) = 2.765$, $p = .01$, two-tailed). This was also the case for the overall mean score for preparedness. The magnitude of the differences in the means (mean difference = .15, 95% *CI*: .044 to .260) was small (eta squared = .01).
- Graduate teachers who completed an internship (this concept was not defined) ($M = 3.61$, $SD = .74$) and those who did not complete an internship ($M = 3.47$, $SD = .75$; $t(966) = 2.455$, $p = .01$, two-tailed). The magnitude of the differences in the means (mean difference = .14, 95% *CI*: .028 to .251) was small (eta squared = .01). This was *not* the case for the overall mean score for preparedness for graduate teachers who completed an internship ($M = 3.68$,

$SD = .64$) and those who did not complete an internship ($M = 3.59$, $SD = .65$; $t(966) = 1.842$, $p = .07$, two-tailed).

- Graduate teachers who completed a Bachelor degree, Masters degree and Graduate Diploma. There was a statistically significant difference at the $p < .05$ level in preparedness to teach culturally, linguistically and socio-economically diverse learners for the three groups: $F(2, 961) = 3.8$, $p = .02$. The difference in mean scores between groups was small ($\eta^2 = .01$). Post-hoc comparisons using the Tukey HSD test indicated the mean score for those who completed a Bachelor degree ($N = 431$, $M = 3.55$, $SD = .72$) was significantly different from those who completed a Graduate Diploma ($N = 462$, $M = 3.43$, $SD = .75$). Scores for graduate teachers who completed a Masters program ($N = 71$) did not differ significantly from the other two groups ($M = 3.61$, $SD = .84$).

It is important to note that with large sample sizes, as is the case for the analyses above, small differences can reach statistical significance. This does not necessarily mean that they are of practical significance (Pallant, 2011). The small effect sizes reported make it necessary to consider with caution these findings. Nevertheless, these issues provide valuable information for teacher educators as they engage in ongoing analysis of their programs.

There was not a statistically significant difference in the mean scores for preparedness to teach culturally, linguistically and socio-economically diverse learners for:

- males ($M = 3.42$, $SD = .75$) and females ($M = 3.51$, $SD = .74$; $t(969) = -1.69$, $p = .09$, two-tailed). This was also the case for the overall mean score for preparedness in Round 1.

Discussion and Implications

People charged with the design and delivery of teacher education programs clearly need to consider more than the perspectives of graduate teachers when evaluating preparedness to teach. Nevertheless, the data reported above has implications for a number of different dimensions of teacher education. As noted in the introduction, concerns about teachers' preparedness to work with diverse learners have long been shared across international borders. To date, however, attempts to develop a coordinated response to these concerns have been hindered by ongoing political attempts to raise "quality" teaching in very specific ways such as increasing graduates' discipline knowledge and, of course, the simple introduction of professional standards themselves. The SETE data supports a more nuanced approach to evaluation and renewal of teacher education. Key implications are outlined below.

Implications for the Content of Teacher Education Programs

Literature reviewed earlier argues that teachers' knowledge of, and confidence, regarding diversity and diverse learners can have a direct impact upon the experiences and outcomes of their students. An overall mean of 3.5 relating to the sub-scale "Preparedness to teach culturally, linguistically and socio-economically diverse learners" suggests that teacher educators are having a significant, valuable impact upon graduate teachers' ability in this area. However, the fact that several

sub-scales relating to Professional Standard 1 are below the overall mean and that all recorded means are not at the highest point of the scale raise questions about how, and in what ways, teacher education is able to address these issues.

Reflections on this issue could usefully involve analysis, not only of program content, but also the ways in which this content is articulated with in-school components of teacher education and support for early career teachers. More specifically: it is important for teacher education programs to reflect upon how much of their program explicitly provides teacher with the threshold knowledge about 'diversity' that is required to ensure that teachers have both an understanding and capacity to respond to the *multiple* forms of diversity which characterize modern classrooms.

Implications for Length of ITE Programs; Program Specialisations and in-School Teacher Education

Darling-Hammond (2000) has previously argued that "teachers who have had more preparation for teaching are more confident and successful with students than those who have had little or none (2000, p. 166). Looking to the results of the independent-samples t-tests and one-way analysis of variance, the SETE survey data appears to lend further weight to this claim. These tests suggest that completing a teacher education program of more than one-year in duration and spending an extended period of time in a school setting (in the form of an internship or extended practicum) both have a small positive association with perceptions of preparedness ($p < .05$). This data raises questions about investments in short, intensive, training approaches such as Teach for America and Teach for Australia which are often represented as ways to improve the quality of the teacher workforce.

Program focus (specifically, on primary or secondary schooling) also appears to impact upon sense of preparedness. The SETE data revealed that graduate teachers whose main program focus was primary education had a mean score of 3.56 for the teaching culturally, linguistically and socio-economically diverse learners sub-scale while those prepared as secondary teachers had a mean of 3.44: a finding consistent with other research (McKenzie, Rowley, Weldon, & Murphy, 2011). Here, again, we note a statistically significant difference with implications, for program design (including time spent in schools and the relationship between schools and universities), as well as the support offered to secondary teachers completing end-on graduate diplomas or masters of teaching as they transition into the profession. Those involved in the development of induction programs and professional development of teachers working in secondary schools are challenged to consider whether their support mechanisms are sufficiently robust to support this particular cohort of graduating teachers.

Implications for Recruitment and Retention of ITE Students: Demographics

In analyzing the data from the first survey round, we considered the impact of country of birth, languages spoken at home, and gender. Speaking languages other than English at home and being born in a country other than Australia appear to contribute to elevated perceptions of preparedness. It was noted earlier in the paper that "students least likely to meet standards are also those most likely to be

linguistically, culturally, and academically diverse” (Sobela, Gutierrez, Ziona, & Blanchett, 2011, p. 436). In an important parallel, the SETE data suggests (perhaps unsurprisingly) that the graduates who are least likely to see themselves to be prepared to teach diverse students are those who are not, themselves, from these diverse backgrounds. This confirms previous findings but also serves as a valuable reminder that teacher education has ongoing challenges associated with recruitment and retention of future teachers who reflect the diversity of the broader Australian population. It seems appropriate to suggest that teacher education providers need to consider the value of working to recruit a more diverse student cohort: a decision which would necessarily also involve ongoing analysis on how students who don’t fit the stereotypical ‘education student’ profile—or who may not easily meet new criteria regarding prerequisites for entry into teacher education courses in Australia (such as specific achievements in science, English and Mathematics)—can be supported into, and throughout, their program of study. Among other things, this requires programs that recognize and value the diversity of the teacher education student cohort, and which position this diversity as a strength, and not a limitation, of the future teaching profession. This requires teacher educators to also recognize that the ways in which programs are designed and delivered needs to provide support to students who are under represented in the teaching workforce. This includes paying careful attention to strategies in place to generate sense of belonging amongst students from groups whose underrepresentation can be linked to cultural background, first language or Aboriginal and Torres Strait Islander identity.

Gender in this survey was not found to have an association with preparedness to teach culturally, linguistically and socio-economically diverse learners – though in subsequent survey rounds female respondents, on the whole, reported being more prepared than their male colleagues: an issue to be explored in future papers.

Implications for the Development of Teacher Educators

When considered in the light of a political climate that continually asks teacher educators to defend and justify their practices the data reported above draws attention to issues relating to course content, program design and student recruitment and retention as noted above. However, in addition to this, the SETE project data raises questions about whether teacher educators themselves may require ongoing support and opportunities for professional renewal, including access to time and funding that might support research relating to their own knowledge, skills and abilities. This is a routinely neglected issue. Discussions of teacher quality generally focus on graduate attributes (before and after ITE); program structures; and disciplinary knowledge. Studies focused on teacher educators themselves comprise a relatively small amount of the larger teacher education literature. Lanier and Little introduced their 1986 *Handbook of Research in Teacher Education* by acknowledging that “Teachers of teachers—what they are like, what they do, what they think—are systematically overlooked in studies of teacher education. Even researchers are not exactly sure of who they are” (Lanier, 1986). Thirty years later Loughran and Hamilton have made similar points arguing that “[j]ust as teaching is superficially understood as easy...teacher education similarly suffers from simplistic views about the nature of the work and the skills, knowledge and abilities that underpin scholarship in teaching” (2016, p. 18). .

It has further been argued that, “the nature of teaching about teaching demands skills, expertise and knowledge that cannot simply be taken for granted. Rather, there is a need for such skills, expertise and knowledge to be carefully examined, articulated and communicated so that the significance of the role of the teacher educator might be more appropriately highlighted and understood within the profession (Korthagen, Loughran, & Lunenberg, 2005, p. 107). Reflecting on related issues, Cochran-Smith has argued “the need for more attention to what teachers of teachers themselves need to know, and to what institutional supports need to be in place in order to meet the complex demands of preparing teachers for the 21st century” (2003a, p. 6). The data reported above lends further weight to these claims and suggests an urgent need to ensure that teacher educators have a nuanced understanding of what is meant by the complex and contested term “diverse learners” and that this understanding informs the content, and delivery, of all teacher education subjects: not just those with a particular focus on, for example, Indigenous learners or students from culturally and linguistically diverse backgrounds. In addition to this, the SETE data demonstrates the importance of developing large scale research projects that map, not only the preparedness of *teachers* but also the preparedness of *teacher educators* to teach to/about and for diverse learners: a key absence in much current teacher education literature and an important focus for ongoing research (Rowan et al., 2017).

Notes and Limitations

While the data presented above relates to one of the largest surveys of Australia’s early career teachers ever completed, there are limitations that need to be acknowledged. First, the questionnaire employed terminology related to and reflecting the Australian context of the research, including the broad term “diverse learners”. This is a term with multiple meanings and the survey did not provide an opportunity for the nuanced and contested nature of the term to be discussed with teachers. Similarly, the inclusion of a sub-scale focused on “culturally and linguistically diverse learners” can create the artificial sense that some students are different to the ‘normal’ cohort. The reasons for this design have been argued above, and we emphasise here, again, the need to interpret results with caution.

Second, and on a related point, the paper does not include the rich and wide reaching qualitative data collected across four years of case studies which has a valuable role to play in explicating how teachers make sense of student diversity when reflecting upon such as curriculum and assessment. This will be the subject of future papers.

Third, the survey collected data on teachers’ self-reported preparedness. This may or may not be related to what they were actually taught, or how they actually teach. As such, data such as this must be read alongside smaller, site based studies that investigate what teachers *actually* do.

Finally, we wish to acknowledge that while this paper identifies a number of teacher education program and individual teacher characteristics associated with statistically significant differences in perceptions of preparedness, the effect sizes are generally small. Further, the size of the sample increases the likelihood of small differences being statistically significant. As such it is important to consider these results alongside other information from graduate teachers and teacher educators.

Conclusion

The data considered throughout this paper suggests that, relative to other aspects of their work, early career teachers feel *less* prepared to support culturally, linguistically and socio-economically diverse learners, students with a disability, and students from Aboriginal and Torres Strait islander families. This does not, of course, automatically mean that issues relating to all of these areas are not already being addressed within teacher education programs. Nevertheless, the SETE research raises discussion prompts for teacher educators that could usefully be drawn upon to shape both the design and conduct of research into teacher preparation, and reflection on the diverse dimensions of teacher educators' practice in both the short and the long term. These include how teacher education develops understanding of various conceptualisations of, and responses to, multiple forms of diversity; the ways in which school/university partnerships can explicitly foster teacher preparedness to work with diverse learners (particularly in a context of a relatively homogenous teaching population); the challenges relating to recruiting, retaining and graduating teachers who reflect that diversity of the broader Australian community; and, the potential value of increased investment in both teacher education research and teacher educators' professional renewal. Consideration of each of these issues has a valuable role to play in ensuring that teachers are genuinely ready to meet the requirements of Australia's Professional Standards and, most importantly of all, the multiple needs of our diverse student population.

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