Chapter 4
How Well Equipped are Graduates to Meet the Requirements of the Diverse Settings in Which They are Employed?

Introduction

While there is a well-rehearsed international literature that points to the difficulties, many graduates face upon entering the profession (Lasky 2005; Tang 2011; Craig 2013), and the impact of external forces such as stakeholders' perceptions of the role of teachers in the context of education reform (Lasky 2005), the SETE project uniquely frames an Australian evidence base of perceptions of the effectiveness and preparedness of graduate teachers. The evidence that was gathered for the first key research question affirms that teacher education is a complex and multifaceted endeavour. In this book teacher education is thought of as a professional rather than technical practice that draws from a dynamic body of professional knowledge that grows and changes over time. How the elements of the early career trajectory, the initial course of study and the first employment experiences interact and are interpreted through complexity theory provide fresh ways of examining many of the well-worn issues of teacher education. This chapter helps illustrate how well-equipped graduates are to meet the requirements of the diverse settings in which they are employed.

As the literatures of the past decade or so have affirmed, the impact of external forces such as stakeholders' perceptions of the role of teachers in the context of education reform (Lasky 2005); how teachers position themselves in relation to others—micropolitical induction (Sparkes et al. 1993); and the changing nature of education are all known factors which impact on teacher identity (Grimmett et al. 2008) and workforce practises. In Chap. 3, the potential for deepening the knowledge and practices of teacher education through the take up of complexity theory was described. Complexity theory, as we have stated, is a change theory attentive to the evolution and adaptation that takes place through cooperation and competition (Stewart 2001; Battram 1999; Morrison 2002), and enables us to simultaneously grasp 'the many layers of dynamic nested activity that are constantly at play' (Davis and Sumara 2006, p. 28). In this chapter, the layers of the

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dynamic nested activity that are necessary and constantly at play in surfacing new knowledge about teacher education in Australia are developed by asking.

How well equipped are graduates to meet the requirements of the diverse settings in which they are employed? To further unpack this question, other questions are also addressed:

- What models and attributes of teacher education are most effective in preparing teachers for working in schools and for advancing in the teaching profession?
- What is the relationship between student learning outcomes, and models and attributes of teacher education programs?
- What is the relationship between student achievement and teachers' own reports of their teacher education experiences?

New Tools for Investigating a Complex and Diverse System of Teacher Education

The SETE project was a complex and ambitious project. The emergence of a reading of the data through a complex system (see Fig. 4.1) supported by complexity theory (Stewart 2001; Battram 1999; Morrison 2002; Cochran-Smith et al. 2014) and augmented by the use of spatial metaphors (the conceived, perceived and lived spaces), emerged as a way of making sense of the policy setting and practises at a time when the Australian Commonwealth government and (then) education minister Christopher Pyne were placing university-based teacher education providers under ever-increasing scrutiny. At the end of the first decade of the twenty first century, the investment in teacher education, which in Australia remains part of the higher education system, was being argued as part of the macro-economic reforms and global competitiveness agendas, as outlined in Chap. 1. These reforms and agendas continue to hover over western countries such as Australia and are fuelled by international comparators such as the Programme for International Student Assessment (PISA) and other OECD country comparison reports. In the SETE study, graduate teachers' perceptions of their own preparedness were analysed in

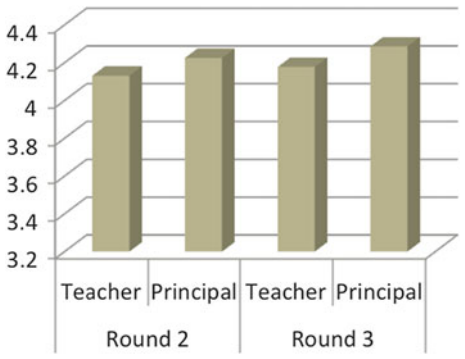

Fig. 4.1 Matched graduate teacher and principal means for overall effectiveness, Rounds 2 and 3

association with the characteristics of the schools in which they were employed, paying special attention to the diversity of settings that encompasses. This was an important aspect of the study and given the us of mixed methods and iterative design of the research this chapter, along with chapters five and six, progressively add to and further explain the interaction of preparedness and effectiveness within diverse contexts over time.

As is detailed later in this chapter, the qualitative case studies rendered rich understandings of the ways in which the Australian policy context and school cultures interact and differ significantly between schools and across states. These variations were captured in some ways in the quantitative data, with the richness of qualitative data adding nuanced understandings including bringing to the fore the emotional intensity of the graduate teacher experience. Some recapping of SETE research methodology is also provided in this chapter to assist readers in gauging the significance of this first question to the overall outcomes of the SETE research findings.

The Target Population of the SETE Study

As discussed in Chap. 3, the main target population for the large-scale quantitative component of the research was new teachers who were registered with either the Victorian Institute of Teaching (VIT) or Queensland College of Teachers (QCT); and those who graduated from a teacher education program in either 2010 or 2011. The size of the cohort was 15,034, with VIT having registered 9181 newly qualified teacher education graduates from October 2010 to February 2012 inclusive and QCT 5853 teachers. The secondary target population was the school principals in those schools where the graduate teachers were employed. One of the challenges in addressing the key research question that frames this chapter (how well equipped are graduates to meet the requirements of the diverse settings in which they are employed?) is that it cuts across all of the nine sub-scales, the case study and free-text qualitative data generated in the free-text responses from both principals and graduate teachers (see Chap. 3 for a more complete outline of these data sets).

As outlined in Chap. 3, the complexity, depth and breadth of the contexts in which graduates find themselves is significant. The case study sites consisted of thirty government schools in Victoria and Queensland and were selected on a desire to secure maximum variation in relation to

- Index of Community Socio-Educational Advantage (ICSEA) value.
- Percentage of students with language backgrounds other than English.
- Percentage of students of Aboriginal or Torres Strait Islander origin.
- Number of first year teachers employed.
- School location (Ministerial Council for Education, Early Childhood Development and Youth Affairs (MCEECDYA) Remoteness Indicator).
- Schooling level (primary, secondary, P-12).

The above data alone suggest that the complexity of the knowledge and skill base needed by graduates is substantial. As discussed in previous chapters, the overall findings from SETE suggest that graduate teachers feel prepared by their teacher education program and effective as beginning teachers across nine key areas of teaching:

- 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.

Analysis of the point-in-time responses revealed graduate teachers perceived themselves to be both prepared for teaching and effective, although they saw themselves as more effective than prepared. Their sense of effectiveness increased slightly over time. As has been outlined in Chap. 2 perceptions of preparedness and perceptions of effectiveness are highly correlated.

Principal Survey

Significantly, SETE also surveyed principals. As has already been discussed, this school component of the SETE project was to ask principals to comment on the preparedness and effectiveness of graduate teachers, the types of support offered to them in schools and the challenges the teachers faced. The demographics of the schools in which principal respondents were located are presented in Table 4.1 in order to reiterate the diversity of the school contexts in which graduate teachers are employed.

The demographic data were calculated using a combination of publically available school data and data made available by the Industry Partners involved in the project. When data from the ABS Schools Australia 2011 census were considered for comparisons between school sectors and the proportions of school types in the SETE survey, it showed an over-representation of secondary schools compared to their proportion of the total number of schools: 16% of all schools across Australia. Primary schools are under-represented in the survey compared to their proportion of total schools: 70% of all Australian schools. The location of schools where respondents were employed showed the majority (65%) were in capital cities or other large cities. Eight per cent of respondents' schools were in towns with a population of less than 500.

Table 4.1 School demographics

School Characteristic	%
Location of school	
Victoria	55
Queensland	45
Full-time (equiv) teachers	
1–10%	17
11–20%	17
21–50%	37
More than 50%	29
Student numbers	
<50	6
50–199	20
200–449	26
450–699	19
>700	29
Proportion of students of Aboriginal and/or Torres Strait Islander descent	
None	19
1–5%	61
6–10%	11
>10%	8
Proportion of students who have a language background other than English	
None	13
1–10%	55
11–20%	11
21–40%	12
>40%	9
School sector	
Government	78
Catholic	13
Independent	9
Rurality indicator	
Capital city	42
City >15,000 people	23
City 3000–15,000 people	13
Town 500–3000 people	14
Town <500 people	8
School type	
Primary	51
Secondary	29
K-12	15
Other	6

(continued)

Table 4.1 (continued)

School Characteristic	%
Proportion of students who have a disability	
None	4
1–5%	69
6–10%	16
>10%	10

Demographic Data

Records show that in Victoria and Queensland approximately 25% of government schools have ten or fewer teachers (Wildy and Clarke 2005). This number ranged from 9 to 29% across the three survey rounds and across all school types. Based on principal reports, three to ten per cent of the schools had student enrolments of 50 or less, and 21–36% had enrolments of more than 700. There were a higher proportion of respondents from secondary schools than was in the school population overall, so the high proportion of schools with large student numbers fits with this finding.

Sixty-one per cent of respondents' schools had between one and five per cent of their students identifying as Aboriginal or Torres Strait Islander. The proportion of Indigenous students in the whole school population (as reported in ABS Schools Australia, 4221.0) was 4.8% (ABS 2011). Eight per cent of respondents' schools had more than ten per cent of the student population from an Aboriginal and/or Torres Strait Islander background. Seventeen to twenty-five per cent of schools in the survey population had no Aboriginal or Torres Strait Islander students.

Across the three survey rounds, sixty-nine per cent of respondents' schools reported that between 1 and 5% of the student population had a disability. Sixteen per cent of respondents' schools had between 6 and 10% of their students with a disability. Four per cent reported that there were no students with a disability enrolled in a school in the survey. More than half the schools had less than 10% of their students from a language background other than English. Figures on national data show approximately ten per cent of students spoke a language other than English in their homes (Ainley et al. 2000).

Diversity in Australian School Contexts and Its Impact on Beginning Teachers

The diversity of schools and school sectors highlight how the geography of Australian education is a major variable in understanding the experiences of graduate teachers. The contextual variability is further illustrated in how initial workforce appraisals and performance management of graduate teachers take place. It is likely that lay perceptions are that it is the school principal as the school leader

Table 4.2 School position of person/team who conducts graduate teacher performance appraisal

School-based position	Round 1		Round 2		Round 3	
	n	%	*n*	%	*n*	%
The principal	33	29.2	74	37.4	55	23.3
School leadership team member	51	45.1	75	37.9	108	45.8
HR coordinator	1	0.9	0	0	1	0.4
Mentor of the graduate teacher	17	15.0	26	13.1	34	14.4
Other	11	9.7	23	11.6	38	16.1
TOTAL	113	100.0	198	100.0	236	100.0

who has the closest and key role in the performance appraisal of graduate teachers. The data however show that this role can be conducted both by the principal and a school leadership team member, again pointing to the contextual variation that occurs in the entity that is named a school, but can have widely diverging practices when schools across differing geographical areas are compared. Table 4.2 details the position of the person in the school who conducted the performance appraisal of graduate teachers.

As Table 4.2 indicates, in the schools that were part of the SETE survey graduate teacher performance is more likely to be devolved to the school leadership team. This factor is an example of a workforce practice that needs to be kept in mind as considerations are given to how graduate teachers are supported in their early years of teaching. This is an important theme emerging from the SETE study.

Graduate Teacher and Principal Means for Overall Effectiveness

In the following figures and tables the graduate teacher and principal means for overall effectiveness are compared. Figure 4.1 shows the matched graduate teacher and principal means for overall effectiveness.

These responses show that principals, on the whole, perceive graduate teachers as being effective. In general, principals tended to report higher agreement in relation to graduate teacher effectiveness than did the teachers. It is important to note, however, that the scale used in the figure above exaggerates small differences.

Table 4.3 presents teacher and principal means for each of the nine areas of effective teaching of particular relevance to the SETE project:

- Collegiality.
- Design and implementation of curriculum.
- Professional ethics.
- Engagement with ongoing professional learning.
- Assessment and the provision of feedback and reporting on student learning.
- Classroom management.

Table 4.3 Matched graduate teacher and principal means for the effectiveness sub-scales

	Round 1	Round 2		Round 3	
	Principal (n = 115)	Teacher (n = 217)	Principal (n = 227)	Teacher (n = 234)	Principal (n = 243)
Collegiality	4.29	4.28	4.45	4.27	4.55
Design and implementation of curriculum	4.01	4.08	4.14	4.16	4.13
Professional ethics	4.35	4.32	4.53	4.35	4.61
Engagement with ongoing professional learning	4.46	4.35	4.52	4.33	4.52
Assessment and the provision of feedback and reporting on student learning	4.09	4.07	4.14	4.16	4.18
Classroom management	4.05	4.11	4.04	4.19	4.23
Professional engagement with parents/carers and the community	3.95	4.09	4.16	4.16	4.33
Teaching culturally, linguistically and socio-economically diverse learners	3.99	3.77	3.81	3.84	3.89
Pedagogy	4.11	4.02	4.07	3.99	4.11

- Professional engagement with parents/carers and the community.
- Teaching culturally, linguistically and socio-economically diverse learners.
- Pedagogy.

It is clear from these data that principals' perceptions of effectiveness across the key areas highlighted in the sub-scales were similar but generally slightly higher than the graduate teachers' self-rating. The exceptions were slight differences in 'Classroom management' in Round 2 and 'Curriculum' in Round 3.

The areas with the greatest percentage of agreement on graduate teacher effectiveness were 'Collegiality', 'Engaging in professional learning' and 'Professional ethics'. The areas where agreement was lower were 'Teaching culturally, linguistically and socio-economically diverse learners' and 'Classroom management'.

Graduate Teachers and Principal Perceptions of Effectiveness and Preparedness in Diverse Settings

Overall in the SETE study, graduate teachers argued that the preparation provided by their teacher education programs could have been enhanced by more time spent in schools, more time on strategies for teaching and less theory. Principals

supported this thinking. The two dynamic factors found to have the greatest bearing upon perceptions of preparedness and perceptions of effectiveness were employment and workplace context: those who were employed on an ongoing, permanent basis felt that they were better prepared and more effective in comparison to those in casual/contract positions, and graduate teacher perceptions were mediated by the workplace context. From the surveys, and supported by the case study data, graduate teachers felt less well prepared in the areas of (i) classroom management, (ii) professional engagement with parents/carers and the community, (iii) assessment and the provision of feedback and reporting on student learning and (iv) teaching culturally, linguistically and socio-economically diverse learners. These perceptions were mediated by the workplace context (see Chap. 6 for a more detailed discussion on this issue). The analysis of principals' additional comments about the preparedness of graduate teachers reflected three major themes:

- Their emphasis on schools as sites of further professional learning to increase teachers' preparedness;
- Their views of teacher education providers as solely accountable for teacher preparedness; and
- Their emphasis on the personal qualities, characteristics and attributes of graduate teachers as central to one's preparedness for work.

This diversity of perceptions was related to how the principals perceived the term 'preparedness' and what they considered to be the most important factors in this regard. The majority of the principals perceived 'preparedness' as an ongoing process and as something that continued well into the first two years of initial employment. The following quote captures this general perception:

> I don't think any graduate teacher is truly ready for the rigor of teaching for the first time. Much of this is based around learning over the first two years of their work life and it is a maturing process for most graduates. Provided there is good support from the school in a leadership capacity and a collegiality perspective, graduate teachers become better equipped for the needs of the first couple of years of school. (Principal, Round 2)

Many principals had put support and mentorship structures in place to make the transition process as productive as possible. The first two years were seen as an extension opportunity for beginning teachers to learn the 'craft' through their immersion into the 'real' world of teaching. In this regard, most of the principals perceived their beginning teachers as generally prepared for work and assessed their general preparedness as a foundation on which teachers can build their professionalism.

Those principals who perceived 'preparedness' as workplace readiness, developed a more critical perspective on what beginning teachers should be able to do after graduation. These perceptions were situated within particular contexts of schools and hence reflected more specific rather than general concerns. The most frequently mentioned improvement areas identified by principals were classroom management, pedagogical content knowledge particularly in the areas of literacy and numeracy education, teachers' ability to respond to the needs of the English as

an Additional Language (EAL) students and students with disabilities. Other areas that principals identified as requiring a better initial preparation were the development of teacher capacity to engage with parents and community, working collegially with others, building awareness of the broad role of the teacher, raising graduate teachers' sense of increasing accountability and its effects on how schools operate and a better understanding of school organisation.

A significant number of principals provided more general comments on how the preparedness of beginning teachers could be improved. In particular, they put emphasis on increasing the quality and length of school practicum, incorporating selection interviews or aptitude testing into the admission process in addition to raising ATAR scores for entry in university and familiarising pre-service teachers with federal and state government initiatives and policies in their final year of preparation. These comments signified the key areas for improving the quality of beginning teachers from the point of view of principals. In particular, this reflected their views about the importance of the personal characteristics, attitudes and experiences of students who apply to teacher education programs, linking this to the performance and professionalism of beginning teachers in their first years of teaching. Indeed, as one principal argued, 'their preparedness to work professionally and with professionals is a key indicator for me of their likely suitability for our school and their future effectiveness as a teacher' (Principal, Round 2). The principals argued that, in the currently perceived context of teacher oversupply, they have opportunities to be more selective and 'choosy', thereby employing higher quality and more prepared graduates.

Influence on Student Learning and Perceptions of Preparedness and Effectiveness

In the Principal Survey, the questions about the effectiveness of teachers in key areas were followed by questions on whether the principal agreed or disagreed that the teacher had been successful in influencing student learning. The graphs in Fig. 4.2 compare what principals said in relation to graduate teachers' success in

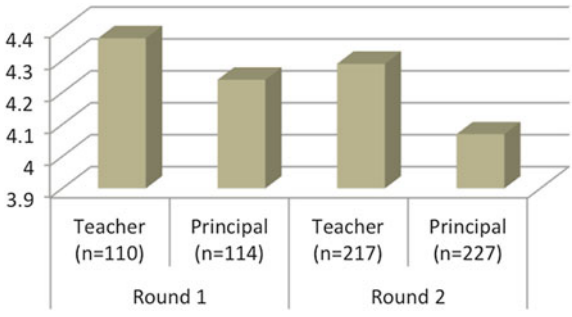

Fig. 4.2 Matched graduate teacher and principal mean scores for graduate teachers' successes influencing student learning, Rounds 1 and 2

influencing student learning to the graduate teachers' responses to the same questions. The question asked in Rounds 1 and 2 was altered in Round 3 to enable collection of additional information about the area of influence.

Comparison of responses showed that while a clear majority of teachers and principals either agreed or strongly agreed that the teachers had been successful in influencing student learning, teachers' responses were spread evenly across 'agree' and 'strongly agree', while principals were more likely to select 'agree'. Principals were also more likely to select 'disagree' or 'strongly disagree' than the teachers, resulting in lower mean scores being provided by principals in Rounds 1 and 2. This was the first question for which principal reports were on the whole less positive than the self-report of the individual graduate teachers.

In Round 3 a new question was introduced to ascertain if principal and teacher agreement about graduate teachers' influence on student learning differs for particular areas. Comparisons of teacher and principal responses revealed higher mean scores provided by principals for each area of student learning (Fig. 4.3).

The majority of principal comments about graduate teachers' influence on student learning related to overall effectiveness, quality and improvement that occurred as graduates moved from their first year into their second year. Interestingly, many of the comments that principals made about the nature of this improvement related to the key areas of teaching identified through analysis of the literature and professional standards, including

- General improvement due to experience and the passage of time.
- Improvements in relation to curriculum: teachers in their second year of teaching have a better idea of how a school works and of how to engage their students. In addition, they know more about curriculum and how to plan for diverse learners.

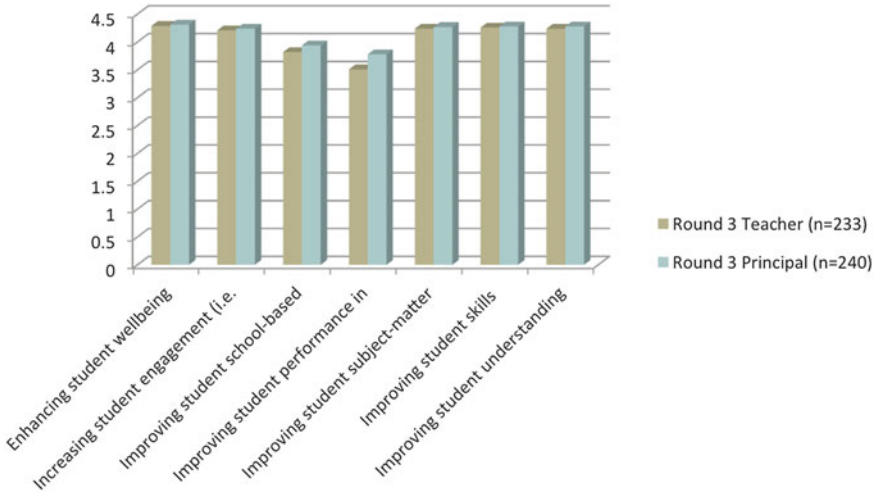

Fig. 4.3 Matched graduate teacher and principal mean scores by areas of student learning, Round 3

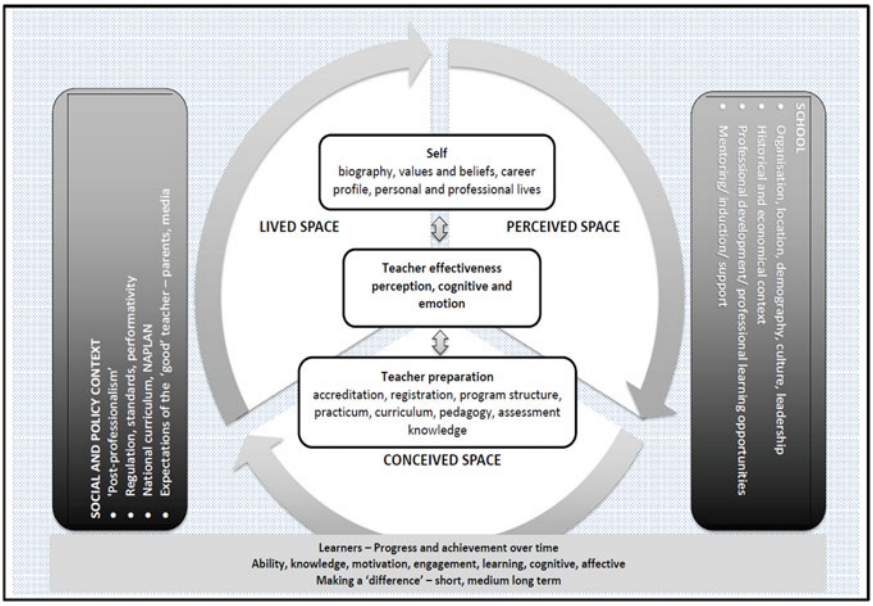

Fig. 4.4 Factors contributing to perceptions of effectiveness—the complex system of teacher education

- Improvement in classroom management.
- Improvement in influencing student learning.
- Improvement in focusing on needs of diverse learners.
- Relationships with students.

Less strongly but illustrative of general perceptions of teachers that are reflective in graduate teacher discourse more broadly are observations that graduate teachers are still learning, still needing support, partially inadequate and poorly prepared by university (Fig. 4.4).

Changes Over Time in Graduate Teachers and Their Knowledge Base for Diverse Settings

In Round 2, there was a statistically significant difference for perceptions of preparedness associated with school location (based on the MCEECDYA Remoteness Indicator), with graduate teachers working in remote and very remote schools reporting the lowest means for preparedness and those working in major cities and outer regional locations reporting a higher mean score. There was also a significant difference in the perceptions of preparedness and effectiveness scores between males and females, with females consistently reporting higher scores for both

scales. This trend also applied to 'recommendation of program' and 'perceptions of student outcomes'.

Languages spoken at home emerged in some rounds as having an association with perceptions of preparedness and effectiveness; graduate teachers who spoke languages other than English at home had higher preparedness scores (Round 2) and lower effectiveness scores (Rounds 3 and 4). A higher than expected number of respondents in the longitudinal sample who spoke languages other than English at home were represented in the top 25% for preparedness and a lower than expected number of respondents who spoke languages other than English at home were represented in the top 25% for effectiveness. This trend was not statistically significant.

In Round 2, respondents in the longitudinal sample employed in government schools had lower mean scores for recommendation of program to others than their colleagues employed in non-government schools. More graduates than expected who were employed at the same school across at least two rounds were represented in the top 25% for effectiveness and less than expected in the bottom 25%.[1]

The Relationship Between Student Learning Outcomes, and Models and Attributes of Teacher Education Programs

The relationship between graduate teacher preparedness and effectiveness, and student learning outcomes was investigated as a sub-research question. Models were developed to explore associations between graduate teachers' perceptions of student outcomes, the teacher education program completed and the characteristics of the schools the teachers worked in. Correlation analysis for the preparedness and effectiveness scales, and for recommendation of program to others and influence on student learning (or the student outcomes scale in Round 3 and Round 4), suggest that all items are related, with strength in one area of teaching associated with strength in others. All items examined were correlated at the $p \leq 0.01$ level of significance. Standard multiple regression found that 24.6% of variance in teachers' influence on student learning could be predicted by looking at graduate teachers' scores on the items that made up the SETE effectiveness scale (Round 2, point-in-time data) ($r^2 = 0.246$, $p < 0.001$). Beta values above 1 were found for 'Classroom management', 'Professional engagement with parents and the community' and 'Pedagogy'. The greatest per cent of unique variance in recommendation of teacher education program was found for 'Classroom management' (1.4%).

[1]Chi square tests for independence (with Yates Continuity Correction) examined the relationship between graduate teachers in the top and bottom 25% for effectiveness and teachers' school mobility. The relationship between the top and bottom 25% for effectiveness and school mobility from Round 2 to 3 was significant (x^2 (1, $n = 168$) = 10.67, $p = 0.001$, $\pi = 0.269$). The relationship between the top and bottom 25% for effectiveness and school mobility from Round 3 to 4 was near significant (x^2 (1, $n = 165$) = 3.04, $p = 0.081$, $\pi = 0.152$).

When the graduate teachers with the highest and lowest scores for perceptions of student outcomes *over time* were compared, a number of patterns emerged. Although these results were interesting, they were not statistically significant. However, the difference between the top and bottom 25% for those who completed a distributed practicum was significant. Those who completed a distributed practicum were less likely to be represented as highly as expected in the top 25% and were more represented than expected in the bottom 25% for student outcomes. A lower than expected number of respondents who spoke languages other than English at home were represented in the top 25% for student outcomes. A slightly higher than expected number of female respondents were represented in the top 25% for student outcomes. A higher than expected number of respondents who were born in countries other than Australia were represented in the top 25% for preparedness and less than expected in the top 25% for effectiveness.

In Round 4, respondents in the longitudinal sample who had completed a distributed practicum reported a statistically significant lower mean score for student outcomes than peers who did not complete a distributed practicum.

Characteristics of Teacher Education Programs Which Are Most Effective in Preparing Teachers to Work in a Variety of School Settings

Key characteristics of teacher education programs were identified through a national mapping of teacher education programs. All Australian programs accredited by state registry authorities were considered. Additional program characteristics were provided by graduate teachers who completed the surveys. Associations between these characteristics of teacher education and teachers' preparedness and effectiveness in diverse school contexts were considered. The relationship between effectiveness and employment type in Rounds 2, 3 and 4 was significant. Graduate teachers with permanent full-time positions were consistently more highly represented than expected in the top 25% for perceptions of effectiveness and less represented in the bottom 25%. The reverse was true of graduate teachers with casual employment and part-time contracts. The results for graduate teachers with full-time contract positions varied between rounds. There was a higher than expected representation of those who completed a distributed practicum in the top 25% for preparedness and less than expected in the top 25% for effectiveness.

The quantitative data however yielded a number of findings that were **not** statistically significant. For example,

- In Round 2 there were slightly more graduate teachers than expected working in single-gender schools in the top 25% for effectiveness, and in Rounds 2 and 3 fewer graduate teachers than expected working in inner regional Australia in the top 25% for effectiveness.

- Respondents who were the first in their family to complete a tertiary qualification were represented less than expected in the top 25% for preparedness and more than expected in the bottom 25%. For effectiveness, they were more highly represented in the top 25% and less than expected in the bottom 25%.
- Graduate teachers who completed their programs on an outer-metro campus or off-campus had higher than expected representation in the bottom 25% and lower than expected in the top 25% for preparedness. Those who completed on a metropolitan campus were more highly represented than expected in the top 25%.
- There was higher than expected representation of those who completed an internship in the top 25% for preparedness and less than expected in the top 25% for effectiveness.
- There was no significant interaction between teacher education program type (Master's, Bachelor's or Graduate Diplomas), mode of study (full-time, part-time or combination of both), campus location (metropolitan, outer-metropolitan, regional, off-campus) and *time* for perceptions of preparedness.
- There are statistically significant changes in effectiveness scores for each time point and the main effect for program type is significant—graduates with Master's and Bachelor's qualifications perceive themselves as more effective than those with Graduate Diploma qualifications. The effect size for program type is small.

Outer-metropolitan and off-campus completion of teacher education was much higher than expected in the bottom 25% for effectiveness. In the top 25% for effectiveness (Rounds 2, 3 and 4 combined) there was a nearly significant higher than expected representation of graduate teachers who completed Master's and Bachelor's level teacher education programs. Graduates of Graduate Diplomas were over represented in the bottom 25%. Investigation of the impact of mode of study and campus location, in combination with time, on effectiveness scores revealed that there was no significant interaction between the program characteristics and time, but there was a substantial main effect for time. Effectiveness scores increased slightly in each round.

22.1% of the variance in recommendation of program, which could be considered a proxy for program satisfaction, was associated with the SETE preparedness sub-scales (Round 2, point-in-time). The independent variables with the largest Beta values are 'Classroom management', 'Design and implementation of curriculum', 'Teaching culturally, linguistically and socio-economically diverse learners' and 'Engagement with ongoing professional learning'.

The Relationship Between Perceptions of Preparedness and Selected Teacher Characteristics, School Characteristics and Perceptions of Preparedness and Program Characteristics

Exploration of the relationship between perceptions of preparedness and selected teacher characteristics, school characteristics and perceptions of preparedness and program characteristics using standard multiple regression did not reveal characteristics that could account for significant amounts of variance in preparedness. However, these analyses suggest that graduate teachers' gender (male/female), prior industry experience (yes/no), language spoken at home (English only/languages other than English) and proportion of Aboriginal or Torres Strait Islander students enrolled in the schools in which graduate teachers work have a statistically significant association with perceptions of preparedness. The effect size and the magnitude in the differences in the means are generally small to very small. Being female, speaking a language other than English and having previous industry experience were associated with higher scores for perceptions of preparedness (Round 2, longitudinal data). Further explorations into what this might mean for teacher education could be explored in future research.

Graduate Teachers and Their Knowledge Base for Diverse Settings

The final part of this chapter is a synthesis of the questions and sub-questions that relate to how well-equipped graduates are to meet the requirements of the diverse settings in which they are employed. In SETE, 'well-equipped' means how well the beginning teachers perceived they were prepared by their teacher preparation program for work in the school context in which they were employed, and includes perceptions of their effectiveness as beginning teachers. As has been foregrounded in the previous chapters the research design for SETE understands teacher education as a complex system that benefits from the adaptive use of spatial metaphors: the conceived, perceived and lived spaces. These spaces are both real and imagined and can be thought of as sites of learning which emerge from experiences that trigger transformations in learners and in teacher education (Davis and Sumara 2006). Rowan et al. (2015) have stated that 'in each space, "teacher education" and "teacher effectiveness" can have different meanings and each of these meanings raises different questions for the design and conduct of research' (p. 281)

We examined these notions of 'preparedness' and 'effectiveness' from the perspectives of the graduates and also from their principals' perspectives. 'Diverse settings' represented the broad range of socio-economic, geographic, culturally and

linguistically diverse school communities in which teachers might be employed. Part of this was employment conditions as well as the particular employer jurisdictions.

Recurring discourses in the literature and practice of teacher education often accept the notions of what it means to be prepared for teaching and to be an effective beginning teacher as universally understood and unproblematic. The terms are rarely questioned or problematized. The rhetoric suggests that a teacher is either (i) effective and therefore well prepared, or (ii) not effective and therefore not prepared. In the latter situation, the task then becomes about finding out exactly what it is they are not prepared in, or for, and making recommendations that these areas be included in the teacher education program as another unit of study in the program or as another topic to be addressed in program documentation submitted for accreditation purposes. Issues of context are rarely considered. Moreover, a linear connotation is often implicit—one is prepared first and then one can be effective. However, the SETE study highlights the messy, non-linear and sometimes unexpected ways of learning teaching that problematise these generally accepted ways of thinking about graduates' preparedness for teaching by their teacher education programs and their effectiveness as beginning teachers.

Worldwide, one of the key concepts in relation to thinking about the quality of teacher education currently in focus is the effectiveness of the teachers being 'produced' by those programs. There are currently many ways in which teacher effectiveness is determined, sometimes dominated, particularly in the US (e.g. Gansle et al. 2012), by a focus on value-added approaches and students' standardised test scores. However, teacher effectiveness is not a single concept with a single meaning (Cochran-Smith and Power 2010). Teachers make countless complex decisions each day, in often very different contexts, with wildly variable supports for their work and with increasingly diverse students. Therefore, gaining an understanding of teacher effectiveness must take into consideration a number of dynamics.

Understanding teacher education as a complex phenomenon and utilising the trialectics of the spaces of teacher education helps researchers to move beyond what are often crudely managerialist and politically detached understandings of teacher quality or teacher effectiveness. It enables us to focus on the lived space of graduate teachers' experiences that capture both real and imagined understandings of their effectiveness in particular contexts. This, in turn, draws attention to the possibility that teachers' sense of effectiveness and preparedness may change over time rather than simply 'being a fixed outcome of teacher education' (Rowan et al. 2015 p. 294). Investigating how teachers manage and negotiate these factors and their expectations for being classroom ready and ready to teach provides an understanding of how they see their effectiveness in terms of a professional knowledge base that they are equipped with (or not) and how key stakeholders such as principals understand this knowledge and its interaction with the local school context.

Professional Knowledge

Classroom management is an area that has long been identified as a key challenge by all teachers (both novice and experienced alike) and indeed the twenty first century proves that Australian teachers are faced with an ever growing diverse student population as well as the expectation to be 'all things to all students across all key learning areas'. Further examination of the open-ended responses to survey questions and case study data revealed that graduates explained that they knew the importance of building and maintaining supportive relationships with their students. They highlighted the need to build rapport and they knew how to develop a safe and supportive learning environment. It is important to note that beginning teachers are more likely to be in contract positions making these key areas difficult to develop and maintain. In the case studies, good relationships with students were identified as a sign of effectiveness. The case study data also highlighted that beginning teachers sometimes found themselves placed in the most challenging situations/classrooms. However, by the second year, graduate teachers tended to indicate that they were able to focus their energies more on curriculum and differentiating instruction rather than on classroom management issues. Establishing a relationship of trust with their students was seen as central to this and staying at the same school was deemed an important contributor towards this type of relationship, especially in schools where teacher turnover was high.

Professional engagement with parents and communities is one area where graduate teachers identified themselves as less well prepared. Given the relatively narrow 'classroom' focus of most professional experiences this is perhaps not surprising. It is likely that ongoing learning teaching is particularly relevant for the areas of classroom management and engaging with parents and the community. Analysis of the case study data over time supports a notion that only 'some' of the learning in these areas can be developed during teacher education and that learning and growing expertise only develops in the specific setting of an individual teacher's workplace. The workplace setting and the learning support available during induction are particularly influential on how knowledge and skills in these areas develop.

The school culture, and how the community and the role of teachers are constructed within it, influences how early career teachers are able to teach and to build rapport with parents and students. Many of the participants commented that they felt obligated to reproduce the teaching practices they saw around them, even when they regarded them as problematic. This was particularly true of graduate teachers on contract. This process of institutionalisation was often noticeable in the later visits when, as 3- or 4-year experienced teachers, participants stopped critiquing the practices they initially identified as questionable.

Some settings failed to recognise the different expectations and skills that graduate teachers bring to the school, and teachers believed that the schools therefore did not take advantage of what they had to offer. In some instances, even when they had permanent positions, early career teachers (a number of whom came

to teaching from other successful careers) opted out of the school because they believed it did not support their teaching approaches or did not value their knowledge and expertise.

By the third year, many graduate teachers had only distant recollections of their teacher education and were less able to comment or reflect on their teacher education programs in any detail. Many claimed they could no longer recall what was covered.

These findings suggest that teacher education can do more to improve in these areas and there is much to be learnt from those working in teacher education. However, the longitudinal nature of the SETE study demonstrates how learning in these areas develops over time. Some foundational knowledge and skills are developed in initial teacher education and then expertise is further developed over time as a result of practice and learning in the workplace. As earlier research has demonstrated, this can also include revisiting and growing in expertise as a teacher moves into another school workplace (e.g. Berliner 1987, 1988; Day 1999; Day et al. 2000). The question then becomes what is possible and desirable to expect during and by the end of teacher preparation? The case study data suggest that graduate teachers often attributed their effectiveness to their own hard work and assistance from mentors; successful mentoring was characterised by shared responsibility for planning and willingness to discuss teaching and learning openly. Case study participants indicated that they learnt through shared planning. Their teacher preparation program was credited with giving them 'the tools' to work with and that the journey to effectiveness built on this foundation, but that this came as a result of their own hard work.

This is not to suggest that initial teacher education was not significant in their development but that it is more complex than this. Factors beyond the teacher education program were also influential in how graduates responded to the question of how prepared and effective they felt. Overall, correlations between personal and school characteristics and perceptions of preparedness and personal and school characteristics and perceptions of effectiveness were weak. The two variables found to have the greatest bearing on perceptions of preparedness and effectiveness (as measured in the surveys) were employment and gender, with the findings from the case study data adding support to the quantitative findings. In this study, graduates were employed in casual, contract and permanent positions. Only about one-third started their teaching careers in permanent positions while almost 60% commenced teaching in a contract position and 11% had casual positions. Those who were employed on an ongoing, permanent basis felt that they were better prepared and more effective in comparison to those in casual/contract positions. Many of the case study teachers were on contract or working in casual/supply roles in their first two years. These early career teachers in short-term or contract positions often indicated a reluctance to seek assistance from leadership and colleagues for fear of jeopardising their chance of securing permanency. They also commented that they started to see other graduates as their competition. This situation caused tension and compromised collegial working environments. Competition and the need to prepare

multiple applications and attend interviews was seen by the early career teachers as taking time away from their core teaching duties and distracted them from supporting student learning.

Geography and Preparedness

There were no significant differences for graduate teacher perceptions of preparedness and effectiveness based on aggregated school location (metropolitan and non-metropolitan) from the survey data. Differences in experiences of graduate teachers, based on school location, were, however, apparent in the case studies and in the disaggregated simple descriptive statistics. It is important to understand here that, due to the small number of responses from graduate teachers working in remote and very remote schools, their perspectives are potentially obscured in this analysis. For example, working on a small staff, catering for a large age and stage range, professional isolation, career planning, engaging the local community and teaching across the curriculum were among the challenges faced by teachers in isolated and small schools (Kline and Walker-Gibbs 2015). Exposure to leadership opportunities and access to financial and transfer incentives were among advantages more common for participants working in regional and rural schools. This finding illustrates the value of a mixed methods study because each method on its own does not tell the whole story. The qualitative data present an opportunity to look at the magnitude of differences in graduate teachers experiences in various school settings by exploring what works differently for teachers in the different environments. The qualitative data can be read alongside the large-scale survey data to provide a more complete picture of the experiences of graduates in their early years in the teaching profession.

SETE case studies suggest that the ways in which the policy context and school culture interact differ significantly between schools, even schools which are similar in terms of student demographic and location. These variations are not readily captured in the quantitative data. Case studies revealed that staffroom politics can act to isolate graduate teachers and position them as cultural immigrants. This political facet of schools may account for why the school was framed as a normalising apparatus; within which graduate teachers often felt pressure to 'fit in'. Further to this, policy over-lay, including the introduction of the Australian Curriculum and, in Queensland schools specifically 'Curriculum into the Classroom' (C2C), was reported to change the way teachers teach.

One of the circulating discourses is that the school context is critical in teacher effectiveness and this is reflected in the literature of teacher education. Literature, in the last decade in particular (Craig 2012; Lasky 2005; Tang 2011), reveals the difficulties many graduates face upon entering the profession in coming to terms with the shifting nature of both education and their identities as shaped by contextual factors. More recent contextual factors that have been identified as having an impact on teachers' identity in the literature include educational reform. The

demands of performance in regard to registration and to contract requirements have far-reaching impacts on perceptions of effectiveness and also on preparedness. Thus, effectiveness in diverse locations is determined through the graduates' and principals' perceptions of the relational aspects of their preparation and work (Day et al. 2006, 2007; Sammons et al. 2007) coupled with the notion that teacher education is indeed 'initial' and that learning teaching is ongoing and continues in schools (Berry et al. 2010; Mockler 2013). We think of effectiveness in terms of how the new teachers perceive their own effectiveness in relation to context and personal variables (as opposed to the way effectiveness is often determined, either through teacher performance assessments or value-added measures of student achievement). Perceptions are contextualised within the broader social, political, historical and economical contexts of schools in Australia, as well as the specific contextual factors of the schools such as school philosophy, location and student population, to name a few. Personal qualities and variables included notions of the self, interactions and experiences in relation to the context.

Conclusion

In the SETE project diversity is understood in multiple ways and includes geography and location (rural/urban/remote), school size, sector and student demographics including socio-economic status (SES). Diversity is also apparent in the variety of pathways into teaching and the diversity of ways in which graduates are employed and the coming together (or not) of the learnings from their initial teacher education program that arise in the 'first' teaching appointment. How well-equipped graduates were to meet the requirements of the diverse settings in which they were employed is a critical question, not only for the wider literature of teacher education and to deepen our understanding of the construction of teacher identity, but also to the development of workforce policy for graduate teachers, a central theme which is progressively revealed in this book. This chapter has outlined the dilemmas of working with generic Australian professional teaching standards and the situated nature of teacher education within Australian higher education. The impact of which is that it (re)surfaces teacher education as a curious practice that continues to attract significant and vested interest outside of its professional community.

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