

GROWING GREAT TEACHERS

REVIEW OF LITERATURE

SVA Education commissioned Educational Transformations, led by Professor Brian Caldwell, to conduct a literature review on early career teachers in low socioeconomic status (SES) schools. This research provides an independent evidence-base of the issues facing early career teachers in low SES schools. It also details the practices that are proving effective in attracting, retaining, and developing effective early career teachers in low SES schools.

This review of literature is intended to make a contribution to the Growing Great Teachers project in several ways, each of which is a normal expectation for a review of literature in research and evaluation. A review of literature is a review of existing documents and reports derived from research, policy and practice in the field or on the issue that is the focus on the project. As such, it must first establish that the project is worth undertaking, that is, the field or issue is of significance and worth undertaking, demonstrating that there is a gap in knowledge that the project is intended to help fill. Second, the review of literature should suggest matters to be investigated and, often, aspects of the methodology, including who should provide information and how that information is to be collected. Third, the review may suggest particular questions that should be posed to those who will provide information.

Each of these purposes is addressed in the pages that follow. A synthesis is provided in the concluding section, highlighting the matters to be investigated and illustrations of questions to be posed.

The purpose of the Growing Great Teachers project is to consider how schools, communities and education systems attract and support Early Career Teachers (ECTs), that is, those teachers in schools who have less than three years' teaching experience. The focus of interest for this project is particularly on these teachers in disadvantaged schools across Australia. The review that follows shows evidence that ECTs are more likely to start their careers in disadvantaged schools and that there are higher concentrations of teachers with less than three years' experience in disadvantaged schools.

There are two parallel justifications for carefully considering the support that is given to ECTs. The first is *retention*. That is, keeping teachers in schools, and particularly in disadvantaged schools. The second is *effectiveness*. That is, supporting ECTs to develop as quickly as possible into highly effective teachers that can have maximum impact on student learning.

Early Career Teachers (ECTs)

The early years of a teaching career are a critical period in the development of committed and effective career educators. Eckert (2013) found that teachers with less than three years of teaching experience were unlikely to have reached their full potential in their ability to impact student learning. Buchanan, Prescott, Schuck, Aubusson, Burke & Louviere (2013) found in their 4 year longitudinal study of ECTs that those who had been teaching longer were more likely to report that they felt they were becoming better teachers, that teaching was more manageable for them, and that they were increasingly likely to stay in the profession for the long term.

Early career teacher distribution

The Staff in Australia's Schools (SiAS) survey was conducted by the Australian Council for Educational Research (ACER) in 2007 and 2010 and is currently being undertaken again to be completed in December 2013. The 2010 survey contained responses from 4,599 primary teachers and 10,876 secondary teachers. In this survey ECTs were categorised as having had less than five years' teaching experience. The results, illustrated in Table 1, show that the remote schools category had the highest proportions of ECTs. Thirty percent of primary teachers and 24 percent of secondary teachers were classified as ECTs in remote schools compared with 25 percent of primary and 19.5 percent of

secondary ECTs in metropolitan schools. Similar disparities were identified in percentages of teaching staff classified as ECTs according to school socio-economic status (SES). 27.7 percent of primary and 23.9 percent of secondary were ECTs in low SES schools compared with 23.8 percent primary and 17.9 percent secondary ECT in high SES schools.

Table 1: Proportion of early career teachers by location and SES (McKenzie, Rowley, Weldon and Murphy, 2011)

		Primary percent	Secondary percent
School Location	Metropolitan	25.1	19.5
	Provincial	23.5	21.4
	Remote	29.8	24.1
School SES	High	23.8	17.9
	Medium	23.3	19.4
	Low	27.7	23.9
Australian Average		24.8	20.1

Early Career Teacher Challenges

The literature is consistent in the view that the start of a teaching career is often a challenging transition from pre-service training to the practical day-to-day realities of classrooms and schools. Turns of phrase such as ‘emotional rollercoaster’ (Clark, 2012), ‘sink or swim’ (Lawson cited in Clark, 2012) and ‘baptism of fire’ (Hall, Pataniczek and Isaacson, in Clark, 2012) illustrate how overwhelming this experience can be.

An important and challenging part of the transition is developing a new identity as a ‘teacher’ (Helms-Lorenz, Slof, Vermue and Canrinus, 2012). Day (2008) reported a significant project which investigated the work, lives and effectiveness of 300 teachers in England. The development of a sense of efficacy in the classroom was identified as the most important focus for successfully negotiating the first three years. In Australia, Plunkett and Dyson (2011) found from their three year longitudinal study of 102 teaching graduates that in the early stages of their career many did not feel a sense of belonging to the profession or their school and that they did not see themselves as ‘complete’ in the role of teacher. In these initial years the development of teacher identity and efficacy is a fragile process and significantly impacts on teacher retention (Buchanan, et al., 2013; Manuel, 2003).

Challenges in developing this identity and sense of efficacy can be exacerbated in disadvantaged contexts for several reasons. ECTs that relocate to rural or remote communities have the additional trials of assimilating with new cultural and social contexts (Adie and Barton, 2012). Schuck, Aubusson, Buchanan, Prescott, Louviere and Burke (2011) conducted a four and a half year research project commissioned by the NSW Department of Education which tracked a cohort of ECTs working in NSW public schools. They described the way in which challenging teaching experiences can interfere with development of teacher identity.

ECTs, when they begin, are not yet complete, able, independent teachers. Most have some weaknesses that are exposed and the more challenging their teaching situation is the more likely it is that they will find it difficult to experience the sense of personal achievement that teaching can bring. (Schuck, Aubusson, Buchanan, Prescott, Louviere and Burke, 2011: 90)

Relationships with students are central to success in teaching and learning and therefore to ECTs development of a strong sense of efficacy (Hargreaves, 1998; Le Cornu, 2013). Managing student behaviour and engaging students in learning is one of the most commonly reported challenges that ECTs have in any classroom (Buchanan et al., 2013; Day, 2008; Schuck et al., 2011). In disadvantaged contexts these challenges can be considerably more demanding and time consuming. Ferfolja described these challenges well:

[B]eginning teachers are frequently placed in challenging schools where there are high levels of sociocultural disadvantage and inadequate social and material resources, often resulting in a range of issues related to discipline, student welfare, and – either alone or in combination – social, emotional or

learning difficulties (Lareau and McNamara Horvat, 1999; Thomson, 2002). Care and support agencies in these communities have often been limited or retracted, and local schools frequently find themselves endeavouring to deal with such voids (Thomson, 2002). These factors add another dimension to the many trials that face teachers. (Ferfolja, 2008: 242)

The other significant area of challenge reported in the literature is accessing sufficient support from peers, colleagues and their school leaders (Day, 2008; Le Cornu, 2013; Schuck et al., 2011). This has been recognised as an important aspect of supporting ECTs for some years and, with a growing trend of induction and mentoring programs in all systems, ECTs generally have greater access to such support. However, research has shown that the impacts of this are more complex than just implementing a program and assuming that all will be well. The nature of the relationships developed and the support offered requires specific consideration. These issues are explored later in this review. Worthy of note now is that the literature broadly finds that ECTs in disadvantaged schools have greater difficulties in accessing enough support from peers, colleagues and school leaders. (ASPA, 1999; Le Cornu, 2013, Ramsey, 2000,)

Educational disadvantage in Australia

Australia has one of the highest quality educational systems in Organisation for Economic Cooperation and Development (OECD) countries, based on international measures such as the Programme for International Student Assessment (PISA). However, overall, Australia's PISA results have not improved since 2000 and there are clear inequalities for some students. Compared to other OECD high-performing countries, the gap between high-performing students and low-performing students is greater in Australia and many of our lowest-performing students are not meeting minimum standards. These students are more likely to be from disadvantaged backgrounds (Commonwealth of Australia, 2011). For example, students from rural schools performed on average 56 points lower on PISA than students in Australian cities and only 20 percent of Indigenous people 15 years of age and above complete Year 12 or equivalent (OECD, 2013). The recent OECD *Education Policy Outlook* report identified one of Australia's key challenges as 'continuing to reduce inequalities between students from different socio-economic and ethnic backgrounds by tackling system-level policies which hinder equity in education' (OECD, 2013: 6).

Opportunities for educational success for Australia's students are clearly linked to social, economic and cultural factors (McLachlan, Gilfillan and Gordon, 2013). The widest achievement gap demonstrated through PISA participation in 2006 and 2009 is between students from high and low socio-economic backgrounds, with a difference in reading being the equivalent of almost three years (McGaw cited in Black, 2007; Thompson, 2011). McGaw (cited in Black, 2007) stated that 70 percent of variance in achievement between schools can be accounted for by social background.

Compounding these inequalities is that educational disadvantage is linked to location. 'Poor Australian students are increasingly clustered in schools with poor educational outcomes located in economically depressed areas with low educational profiles' (Black, 2007: 8). The compounding effect of this is that, regardless of background, students attending schools with greater numbers of students from low socio-economic backgrounds have lower achievement levels than if they attended schools with fewer students with low socio-economic backgrounds (Black 2007).

Inequality in educational opportunity and educational achievement are increasingly being associated with the future of a nation's prosperity and wellbeing (Fenwick and Cooper, 2013). The OECD report *No More Failures: Ten steps to equity in education* (Field, Kuczera and Pont, 2007) presented findings from a study of educational equity in ten member countries. It reported that '[t]he long term social and financial costs of educational failure are high. Those without the skills to participate socially and emotionally generate higher costs for health, income support, child welfare and security' (Field, Kuczera and Pont, 2007: 11).

In 2008 the Ministerial Council on Education, Employment, Training and Youth Affairs (MCEEDYA) adopted the *Melbourne Declaration on Educational Goals for Young Australians* which identified

issues in equity and outlined these three areas where Australian school education needed to make significant improvements:

First, Australia has failed to improve educational outcomes for many Indigenous Australians and addressing this issue must be a key priority over the next decade. Second, by comparison with the world's highest performing school systems, Australian students from low socioeconomic backgrounds are under-represented among high achievers and over-represented among low-achievers. Third, there is room for improvement in Australia's rate of Year 12 completion or equivalent. (Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA), 2008: 5)

The concerns around inequality are clearly evident in the two goals of this declaration 'Goal 1: Australian schooling promotes equity and excellence' and 'Goal 2: All young Australians become: successful learners; confident and creative individuals; and active and informed citizens'.

The Melbourne Declaration has been followed by many significant policy initiatives, for example the National Partnerships initiatives (see DEEWR, www.smarterschools.gov.au), but many students in communities in remote, rural and low-SES metropolitan areas continue to be disadvantaged in their educational opportunities and their schools and the systems that manage them continue to search for ways to address this.

Disadvantaged schools

When referring to schools the term *disadvantaged* is often used interchangeably with *at-risk* or *hard-to-staff* (Lampert and Burnett, 2012). The desire to highlight the link between low socio-economic background, school location with regard to social, economic and cultural setting and opportunity for educational success, leads to the term *disadvantaged* as the most relevant for the purposes of this review. The Growing Great Teachers project is specifically concerned with the challenges of getting effective teachers in disadvantaged schools and so the notion of hard-to-staff schools is also relevant. As is demonstrated above in *Table 1: Proportion of early career teachers by location and SES* (McKenzie, Rowley, Weldon and Murphy, 2011), disadvantaged schools have greater numbers of less experienced staff (Darling-Hammond, 2003; Eckert, 2013; Ferfolja, 2008). A focus on how to 'grow' (attract and retain) great teachers for these schools necessitate focus on how ECTs are supported in these contexts. This acknowledges the current circumstance in recruitment and recognises that focusing resources and attention as such will have the most significant impact on these schools.

The *Australia's Teachers: Australia's Future* report (Commonwealth of Australia, 2003) described hard-to-staff schools as being in rural and remote areas and some metropolitan areas. Australia has very large areas that are classified as 'remote' or 'very remote' and attracting teachers to these areas of the country is not a new problem. Some locations in metropolitan areas, generally inner-city or outer fringe suburbs whose communities have high numbers of students from low socio-economic and/or non-English speaking backgrounds are also considered hard-to-staff (Commonwealth of Australia, 2003).

The result of these factors is that the schools and communities with the lowest levels of educational achievements and where the best practice teaching and learning is needed are also those which struggle to attract and retain teachers. Teachers that are at these schools are more likely to be inexperienced and are likely to leave the school after only a few years (Brasche and Harrington, 2012; Darling-Hammond, 2003; Eckert, 2013; Hanushek and Rivkin, 2010; Rice, 2010).

School staffing: attraction and retention

The issue of retaining high quality teachers in the profession has been a long-standing concern in many countries. The 2005 OECD report *Teachers Matter: Attracting, Developing and Retaining Effective Teachers* (OECD, 2005) demonstrated that attrition rates had been increasing in most of the participating countries. Although some attrition is seen as inevitable and to some degree a healthy sign of a progressive profession, recent higher levels of attrition in countries such as the UK, USA and Australia are alarming. The loss of professional and financial capital is significant. The most

concerning evidence for this review is that the two groupings of teachers that are reported to have the highest attrition rates are Early Career Teachers (ECTs) and teachers in disadvantaged school settings. Rates of 30 - 40 percent of teachers are leaving within their first five years of service and up to 50 percent of ECTs teaching in disadvantaged contexts (Ashiedu and Scott-Ladd, 2012; Buchanan et al., 2013; Ewing and Smith, 2003, Hargreaves and Fullan, 2012; Manuel, 2003; Smith and Ingersoll, 2004).

In Australia, recent studies have also found alarming numbers of ECTs who report that they intend to leave teaching within a decade. The Australian Education Union (AEU) 2008 New Educators Survey (AEU, 2009) reported that of the 1,545 respondents, 50.6 percent believed they would not be teaching in the public system in ten years' time, with 56.9 percent of that group saying that they would be working in another industry altogether. The 2008 survey was the fourth annual survey by the AEU of educators in their first three years of teaching and the rates of similar response to this item were consistent if not increasing each year.

Teacher supply issues that have been recognised as impacting more significantly on disadvantaged schools and on certain subject areas, such as mathematics and science. These areas are considered to be more an issue of attrition than attraction (Commonwealth of Australia, 2003; Ingersoll, Merrill and May 2012; Kapadia, Coca and Easton, 2007).

The 'hidden' shortages

Some staffing challenges are less overt and are 'hidden' by the numbers of teachers who are teaching in curriculum areas in which they are not qualified. The impact that this can have on ECTs is clear. With a greater percentage of teachers in disadvantaged schools being in their first five years of teaching they are more likely to be expected to teach outside their subject specialisations in secondary schools, or cover a broader range of curriculum in primary schools. The extract below is taken from a case study included in *Retaining Effective Early Career Teachers in NSW Schools* (Schuck et al., 2011):

Jack ... became a teacher to teach music to school students. Jack commenced his first year of teaching in his mid-forties and in his first year taught Music, English, Maths, French and Japanese to years 7 to 10 at a small outback school (170 enrolments; class sizes 22 maximum)... Jack found that there was a huge amount of preparation time required, particularly for unfamiliar subjects. Even teaching English was a struggle at first because he had not seen the curriculum. Maths was manageable because he taught the lowest Maths class, but even so the majority of students had behavioural issues. (Schuck et al., 2011: 60)

Subject-based attrition

As well as the phenomenon of ECTs teaching in areas that they are not trained for, there is also evidence that in the particular areas in which the shortages are reported, ECTs are more likely to leave within their first few years. The 2003-2005 US Schools and Staffing survey is the largest and most comprehensive data source on elementary and secondary teachers in the US and it uncovered discrepancies in teacher attrition based on subject area (Ingersoll et al., 2012). The subject areas with the highest attrition rates were Science, with 18.2 percent of teachers leaving after one year, and Mathematics, with 14.5 percent leaving after one year. For all other areas the average attrition rate was 12.3 percent (Ingersoll et al., 2012).

A study by the Australian Secondary Principals' Association (ASPA) showed that 67 percent of the participating schools had difficulty in getting trained mathematics teachers and 92 percent of participating schools classified as remote indicated that they were expecting some loss of curriculum offerings due to teacher shortages (Review of Teaching and Teacher Education 2002, Submission No. 138, in Skilbeck and Connell, 2003). The likelihood of less diverse curriculum options in disadvantaged schools was also found in the 2010 Staff in Australia's Schools Survey (McKenzie et al., 2011).

Teacher turnover in disadvantaged schools

Teachers in disadvantaged schools tend to stay working in that school for shorter periods than teachers in other schools which leads to high levels of what is commonly called ‘teacher turnover’ (OECD, 2005; Smith and Ingersoll, 2004). This phenomenon in relation to ECTs was illustrated by Smith and Ingersoll (2004) from their research in the USA that showed in a school with 50 percent more students eligible for free or reduced-price lunch (the most common measure of poverty in the USA), there was a 50 percent increase in the likelihood of a new teacher leaving at the end of their first year.

In many of Australia’s school systems teaching in a ‘hard-to-staff’ school is an unofficial ‘rite-of-passage’ for ECTs that is either specifically encouraged by policy initiatives, or is an outcome of free-market, competition-based employment processes. Roberts (2004) reported that figures from Western Australia indicated that 90 per cent of graduate teachers were appointed to regional or remote schools and Queensland had similar figures with 87 per cent of teachers working in regional or remote schools within their first two years. It is common that experienced and effective teachers successfully apply for the most desirable schools (Eckert, 2013; Hanushek and Rivkin, 2010; Rice, 2010), leaving disadvantaged schools with less experienced, or less effective teachers applying for their positions (ASPA, 1999; McKenzie, et al., 2011; Rice, 2010), as is illustrated by the ECT distribution in Table 1 above. These teachers often choose to leave a challenging school when they have built up enough experience and/or effectiveness for a successful application or transfer to a more desirable school elsewhere (Rice, 2010).

Many state and territory governments, and Catholic systems have long histories of recruiting teachers for disadvantaged schools through targeted programs that include two or three years of service in return for transfer to more desirable schools once the time is served, as well as other financial incentives (Association of Independent Schools South Australia, 2011). These practices, although having the practical effect of increasing the likelihood that there will be a teacher in front of the students in hard-to-staff schools, also leads to high turnover levels and can have negative effects for the culture of the school and the relationship between the school and the community (Reid, Green, Cooper, Hastings, Lock and White, 2010; Plunkett and Dyson, 2011).

Consequences

Teacher attrition from the profession and high levels of turnover in schools have several significant and disadvantageous consequences for the system, the school community and the students. A loss of intellectual capital is a concern when an individual teacher leaves a school. ECTs have amassed considerable knowledge through their pre-service training and their knowledge and experience increases rapidly during their first few years of teaching. Many teachers report that they learn more in their first year of teaching than they did any time during their pre-service training or will in their future years of teaching (Gavish and Friedman cited in Clark, 2012).

More broadly, the reported high levels of teachers leaving the profession within the first few years of their career is a considerable drain on time, effort and money invested in developing their knowledge and experience. Estimates in the US of the costs of teacher turnover have been in the range of 25% of 200% of the leaving teacher’s annual salary (Shockley, Guglielmino and Watlington cited in Corbell, Osbourne and Reiman, 2010). Further evidence from a study in California illustrated that every \$1.00 invested in new teacher support programs produces a return of \$1.66 after five years, adjusted for inflation (Villar and Strong cited in Corbell et al., 2010). This demonstrates that finding the most effective ECT support strategies as the Growing Great Teachers project aims to do, should have economic benefits for the schools and systems that heed them.

The professional and financial costs are intensified when there are high levels of attrition or turnover from a particular region or school as the capacity to support the new, usually inexperienced teachers is limited due to a lack of depth of experience, shared organisational knowledge, or sense of community at the school (ASPA, 1999; Ramsey, 2000; Stanulis and Floden, 2009). This is illustrated by evidence in the NSW study that found ECTs in disadvantaged settings had difficulty accessing

consistent, experienced mentors. In one case, a second year ECT was made a mentor for a first year ECT (Schuck, et al., 2011).

It is often reported in these communities that there is a feeling that there is no point getting to know any newly arrived teachers because they won't be there for long enough to develop any significant relationships (Brasche and Harrington, 2012; Reid, et al., 2010; Yarrow, Ballantyne, Hansford, Herschele and Millwater, 1999). This has an intensifying impact on the development of the very important school and community relationships and the ability of the students and their families to develop trust or respect for their teachers. In turn, this makes the role of an inexperienced, newly arrived teacher even more challenging (Brasche and Harrington, 2012; Munns, Zammit and Woodward, 2008; Smith and Ingersoll, 2004).

The impacts of high teacher turnover and attrition may be devastating on student learning (Buchanan et al., 2013). In disadvantaged schools where the influences of student, family and community background often make educational achievement a greater challenge, the students are more likely to be taught by younger, less-experienced teachers who are not likely to be part of their lives for any significant length of time.

In 2008 the OECD conducted the Teaching and Learning International Survey (TALIS) which collected data from teachers and principals of lower secondary students in schools across 24 countries including Australia. *The Experience of New Teachers: Results from TALIS 2008* (Jensen, Sandoval-Hernandez, Knoll and Gonzalez, 2012) reported a study of new teachers classified as having less than two years' experience. In evaluating how effective new teachers are the researchers found that 'New teachers provide less actual teaching and learning time in their classes', 'New teachers spend more time than experience teachers keeping order in the classroom' and 'New teachers report significantly lower levels of self-efficacy than experienced teachers' (Jensen et al., 2012: 98). Teaching and learning time, classroom management and self-efficacy have all been shown to be influential on instructional practice and student academic results (Jensen et al., 2012).

Increasing teacher effectiveness has been consistently demonstrated to be the most productive way to improve student performance. Jensen (2010) suggests that 'Improving teacher effectiveness would have a greater impact on economic growth than any other reform before Australian governments' (Jensen, 2010: 4) with a 10% increase in teacher effectiveness making Australians 12% richer by the turn of the century and leading to improved productivity, prosperity and well-being in our society. Studies have found that teacher effectiveness increases sharply throughout the first three to five years by but tends to level off after that (Ferguson & Ladd cited in Eckert, 2013; Darling-Hammond, 2003; Gordon, Kane & Staiger, 2006). This suggests that retaining teachers in disadvantaged school past the three years of experience mark would have significant benefits for student performance.

Attracting high quality early career teachers to disadvantaged schools

The evidence is clear that there is a need to attract high quality teachers to disadvantaged schools (Lampert, Burnett and Davie, 2012; Rice, 2008). The current situation is that these schools receive disproportionate numbers of ECTs (Darling-Hammond, 2003; Eckert, 2013; Ferfolja, 2008; McKenzie, et al., 2011) but that the highest achieving teacher graduates are less likely to work in disadvantaged schools (Cochran-Smith, Davis and Fries cited in Lampert et al. 2012). The current challenge is clearly that combined with the higher turnover rates in disadvantaged schools it is common that the least experienced, lowest achieving teachers are working with the students with the greatest needs (Grossman and Loeb, 2010).

The benefits of attracting high quality ECTs to disadvantaged schools are firstly in the clear evidence that more effective teachers have greater impact on student achievements. There are also studies that show that higher achieving teachers are less likely to move on from schools or to leave teaching (Darling-Hammond, 2003; Goldhaber, Gross and Player cited in Rice, 2008). Further attracting and retaining high quality teachers to disadvantaged schools should more broadly impact the culture of a school as student achievement gains are made and staffing is stabilised. Such a change in culture is significant to continued attraction and retention of high quality staff as there is evidence to suggest that

effective teachers are attracted to schools that project a sense of success and where there is an opportunity to make a difference and be recognised for their efforts (Ado, 2013; Darling-Hammond, 2003; Lovett and Cameron, 2011; Timperley and Alton-Lee, 2008). This change in culture by attracting and retaining high quality teachers could essentially produce an 'upward spiral' for a disadvantaged school leading to significant improvements in educational opportunities not only for students that these teachers work with directly but also into the future.

Schools and universities have important roles to play in the important transition from pre-service to in-service teachers in disadvantaged schools.

The experiences of ECTs are inextricably linked to their teacher preparation. Accordingly, it is essential for teacher educators to be aware of, and analyse, these experiences so that they can modify their courses to ensure relevance and support for graduates in their early years. (Buchanan et al., 2013:115)

This understanding has seen teacher preparation programs more commonly include opportunities for experiences in disadvantaged settings and specific courses that address cultural and learning needs of disadvantaged communities. Inclusions of specific education sociology and focus on disadvantage and inequality through teacher education is seen as worthwhile in both preparing teachers for such settings and, if done well, sparking an interest in teaching in these settings (Delano-Oriaran, 2012; Green and Reid, 2004; McFarland and Lord, 2008; Reid, et al., 2010; White and Kline, 2012).

Teaching practice experience in disadvantaged settings is an important precursor to employment decisions made after graduation. Early exposure through practicum placements familiarise student teachers with these challenging contexts and positive experiences inspire and begin to enculturate prospective teachers to the diverse settings. Research has demonstrated that where student teachers have been encouraged to undertake placements at disadvantaged schools a significant number have accepted positions at these schools after graduating (Department of Education and Training, 2004; Gregson, Waters and Gruppetta, 2006).

Effective strategies to support early career teachers in disadvantaged schools

Induction and mentoring: broadly effective strategies

Supporting ECTs in any school to increase effectiveness as quickly as possible has been identified as an important concern over the last few decades. Research has been prolific, with best practice approaches being identified and evaluated (Buchanan et al. 2013; Wang, Odell and Schuille 2008). The international interest in this area is summarised in the OECD research report *Teachers Matter*:

The quality of the professional experience in the early years of teaching is now seen as a crucial influence on the likelihood of leaving the teaching profession. Induction and support programmes for beginning teachers can improve teacher retention rates by enhancing the effectiveness and job satisfaction of new teachers. (OECD, 2005: 117).

The most reported, researched and recognisable forms of support are induction and mentoring. Grossman and Davis (2012) suggested that both empirical and anecdotal evidence indicates that ECTs who receive these types of support 'generally have higher levels of job satisfaction, commitment, and retention within the profession' (Grossman and Davis, 2012: 55) as well as larger student achievement gains.

Induction programs are a combination of several support approaches and may include mentoring, formal professional learning opportunities, meetings, collaborations, and orientation seminars (Flannigan and Fowler, 2010; Jensen, 2012; Smith and Ingersoll, 2004). A significant study in effective induction programs was conducted by Smith and Ingersoll (2004) who examined a variety of induction programs in the USA and compared the attrition rates of 3,235 ECTs. The results showed that the lowest attrition rates were for those ECTs who participated in the most comprehensive induction programs.

Mentoring is broadly recognised as a key strategy of effective induction and mentoring programs are popularly implemented in Australian schools. 'Mentoring is the personal guidance provided, usually by seasoned veterans, to beginning teachers in schools' (Smith and Ingersoll, 2004: 683). The implementation of a mentor program can vary broadly and there has been significant research to identify factors that make this initiative more effective. The Smith and Ingersoll (2004) study found that the effectiveness of mentor programs is impacted by differences in factors such as training for mentors; attention to the compatibility between the mentor and mentee; the degree to which the mentor is compensated for their efforts, either through salary or extra time provision; and whether the mentor's experience is in teaching in the same area as the mentee. Grossman and Davis (2012) supported these findings with their conclusion that effective mentoring includes three features: highly trained mentors, a focus on content and allocated time for mentoring.

Developing a Sense of Belonging and Contribution

Connecting to the school and the school community is important for the ECT in developing teacher identity and effectiveness. An Australian study of factors that influence the development of resilience in ECTs found that relationships and school culture were essential. The quality of relationships that ECTs already have to support them (family and peers) and those that they will establish (professional peers, school leaders, students and families) will influence the connections that ECTs make and their sense of belonging at a school. Immersion in a school culture that values their contributions and fosters trust and collaboration will enhance a sense of belonging, social connectedness, well-being and the development of professional identity (Johnson, Down, Le Cornu, Peters, Sullivan, Pearce and Hunter, 2010).

Opportunities to engage with the broader school community are important for ECTs in disadvantaged schools as often the socioeconomic and cultural background of teachers is different from that of the communities that they are working in (Ferfolja 2008; Skilbeck and Connell, 2003). This disjunction is usually more pronounced in rural, remote and indigenous communities (Brasche and Harrington, 2012; Fenwick and Cooper, 2013, Gregson et al., 2006; Reid et al., 2010). Induction programs that include a focus on the whole school community have been shown to have positive impacts on retention and effectiveness. (Ferfolja, 2008, Manuel, 2003, Kapadia et al., 2007).

Positive and Collaborative Learning Communities

In disadvantaged schools, where it has been shown that ECTs need extra support to self-identify as effective teachers, opportunities in learning communities where their contributions are seen as valuable are particularly worthwhile (Le Cornu, 2013). Approaches such as 'communities of practice' or 'learning communities' have been shown to be powerful catalysts for enabling teachers to improve their practice. Of particular note is the assertion that locally-based *and* virtual communities of practice are valuable for ECTs. The relationships between the members of these communities rely on trust and confidence in one another and a sense of community and common identity is developed (Hildreth, Kimble and Bourdon, 2008). Le Cornu suggested that these learning cultures 'support the acquisition of a positive teacher identity for early career teachers through a process called 'mutual identification' (Le Cornu, 2013: 11). This is when members of the culture identify and interact with each other as 'members of the profession' (Morrison cited in Le Cornu, 2013).

School Leadership Support

School leadership support influences ECTs at two levels in these early, vulnerable years of their career. Firstly, leaders that develop schools as high-functioning learning communities with supportive and welcoming cultures will impact ECTs as outlined above. Clearly-articulated vision and expectations along with distributed and empowering instructional leadership practices, provide ECTs with the guidelines and structures for focusing their efforts and the scaffolding for improving their teaching (Johnson et al. 2010; Le Cornu, 2013; What Works, 2012). The Research Report of the 2005 survey of Chicago Public School Teachers reported that the stronger the school leadership the more likely it is that ECTs report positive experiences and intention to continue teaching (Kapadia et al., 2007).

Secondly, the individual professional relationship between school leaders and ECTs to encourage and support them directly is significant. Recent Australian research into what supported or hindered the development of resilience in ECTs (Johnson et al., 2010) found that 'where leaders took the time to develop relationships based on respect, trust, care and integrity, the early career teachers appeared to flourish' (Le Cornu, 2013: 5.). Importantly, these relationships had impact not only on the teachers' confidence and development of classroom teaching skills but also on their willingness to take risks in their development and to participate actively and confidently in the broader school and the broader community (Le Cornu, 2013).

Peer-to-peer networking

Connections with peers were identified as important earlier in this review, with discussion of the importance of welcoming and supportive school cultures and opportunities to collaborate in professional learning communities. These approaches to supporting ECTs are strongly based on the connections that are made with colleagues and peers. Smith and Ingersoll (2004) found from their comprehensive research of effect of induction programs that the largest reductions in teacher turnover were associated with activities that connected new teachers in a collaborative network with their more experienced peers. It is also clear from the literature that ECTs seek out opportunities to network with and learn from peers through professional learning opportunities and that these experiences have positive effects on their development (Jensen et al., 2012; Johnson et al., 2010; Le Cornu, 2013). In the study of ECT resilience (Johnson et al., 2010) peer relationships with other ECTs were found to be very important in providing essential professional and personal support. The influence on emotional well-being and professional support in areas of reflecting, problem solving and sharing resources were particularly valuable for the ECTs. The study found that the majority of the ECT participants actively sought out their ECT peers. Many developed contact with other ECTs and/or maintained contact with university friends, often using electronic communication methods (Le Cornu, 2013).

Virtual networking

With the development of virtual technologies, networking opportunities have expanded dramatically and there are greater opportunities for access to collective resources and social interactions (Luehmann and Tinelli, 2008). One example of virtual networking supporting ECTs is the Education Alumni Support Project (EdASP) which aimed to provide online support for graduate teachers from the University of New England (UNE) (Maxwell, Harrington and Smith, 2010). The project was established to increase the support available to the first year ECTs and provide environments for professional and social interactions. The evaluation of the project demonstrated that for many of the participants, having access to this virtual network decreased feelings of professional and social isolation and provided opportunity for participants to share and to support each other during their first year of teaching (Maxwell, et al., 2010).

Partnerships

The rise in interest in partnerships to enhance education provision is one response to the changing nature of education in the 21st Century (Smith, 2012). The benefits of partnerships to enhance teacher education have been considered, particularly in regard to connections between universities and schools. The 2007 *Top of the Class* report of the national inquiry into teacher education recommended that school and university partnerships were supported and funded (House of Representatives, 2007). There are many examples of successful and targeted relationships between university teacher education faculties and disadvantaged schools (for example, see UWS Classmates – Ferfolja, 2008, Beyond the Line, and the TERRAnova project – Reid et al., 2010). The School of Education at the University of South Australia has implemented a three-year regional initiative that has seen pre-service teachers from the Masters of Teaching program nominate for the regional placement program. This program supports the pre-service teachers to connect with their partner schools in regional locations and includes connection with mentor teachers, and orientation to the community through welcoming barbeques and access to local activities with community members (Carter, 2012).

Partnerships, particularly school-university partnerships, offer opportunities to support ECTs through in-service professional learning programs (see for example, Kenny, 2012 and Moss, 2008). The *Fair Go Project* (Munns et al., 2008) exemplifies such opportunities in disadvantaged schools. This joint project of the University of Western Sydney and the NSW Department of Education and Training, Priority Schools Program, worked with teachers in disadvantaged settings to implement a classroom intervention that aimed to increase student engagement through changes to teachers' pedagogy. Partnerships with various bodies can open up opportunities for disadvantaged schools to secure resources and connect with their communities. Programs that offer professional learning or enhance connections are valuable for ECTs and the students and communities that they work in.

Importance of Further Innovation

Educational innovation is seen to be important to the effective growth of school communities and school systems (Caldwell, 2011; Hannon, 2007). Rice (2010) found from her study of the reasons why teachers moved or left schools in Victoria, Australia, that 'innovative' schools are attractive to effective teachers. Teese (2006) contends that innovation is more likely to occur in disadvantaged schools and suggests that systems should encourage these schools to become 'engines for innovation' where new ideas for curricula and pedagogies that engage students in new ways evolve. The enthusiasm and energy of ECTs would be harnessed in such environments and the perspective of approaching a problem as an opportunity for innovation is one that may enable a positive 'lens' on the challenges of working in disadvantaged schools.

Synthesis

This synthesis provides a summary of the salience or relevance for what was found in the review to the Growing Great Teachers Project; implications for methodology, namely, the design of interviews and case studies; and illustrations of questions that may be posed. This summary is contained in Table 2.

Table 2: Salience, implications and illustrations arising from review of literature

Theme	Salience for ECTs in disadvantaged schools	Implications for methodology
Identity and Efficacy	Self-identification as an effective teacher is an important predictor of retention and effectiveness	Information from interviews with ECTs and school leaders may provide illustrations of the factors that support this development of identity and efficacy.
Appraisal and Feedback	Appraisal and feedback are essential for improvements in ECTs developing effectiveness, and self-efficacy.	Appraisal and feedback are effective ingredients of mentoring and collaborative relationships. Investigation of ECTs experiences of these supportive structures and relationships will be explored through the interviews and emphasised in the case studies.
School Culture	Effectively inducting ECTs into a welcoming, supportive school community that values collaborative professional learning is most likely to see them develop a sense of belonging and support effective professional practice.	The school leaders and the ECTs will be asked to describe their school and discuss the way that ECTs are supported. The semi-structured interview approach will allow for investigation of the aspects of the school culture that are most supportive.
Relationships	Relationships underpin these themes. ECTs need to have positive and supportive connections with a variety of significant individuals as they navigate these early years in their career.	Topics covered during interviews will include discussion of the formal and informal supportive relationships that the ECTs have. A list of discussion prompts will include asking about mentors, leadership support, peer, student and school community

		relationships. This will include discussion of various methods of making connections (e.g. online, professional learning connections)
Partnerships	Partnerships with organisations can provide broader resources for professional learning and connections to the community.	Case studies of specific partnership programs will be undertaken. These will illustrate the possible advantages for schools and ECTs.
Innovation	Opportunities to collaborate in innovative ways to improve outcomes for students can inspire and engage ECTs and is advantageous particularly in disadvantaged settings.	Innovative approaches to supporting ECTs in disadvantaged schools will be explored through the semi-structured interviews to inform the case studies. Where possible, innovative providers of support for ECTs will be included as case studies.

Conclusion

This review has demonstrated that the attraction, retention of and support for Early Career Teachers in disadvantaged school contexts is indeed an important one. Consideration of policy and practice to attract quality ECTs to disadvantaged schools can make a difference to educational outcomes and equality in Australian systems. Further, effective support through these early years where ECTs are vulnerable to being overwhelmed by the challenges is required in order to accelerate effectiveness and increase the likelihood of retention. The themes identified through this literature review will provide context and salience for the case studies of the schools and programs that have been identified as 'bright spots'.

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