Spotlight

Diversity in School Leadership
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Diverse, quality school leadership teams improve school performance, increase innovation, and provide more creative approaches to problem solving.

School leaders play a crucial role in the education of all Australian school children. Evidence demonstrates that strong school leadership, that emphasises quality teaching and learning, has a significant impact on student progress and achievement (Leithwood, Seashore Louis, Anderson, & Wahlstrom, 2004).

As of 2018, there were approximately 19,712 school leaders working in Australian schools comprising 6% of all teaching staff (Australian Bureau of Statistics, 2018b; Willett, Segal, & Walford, 2014). However, the demographics of school leaders do not match the gender and cultural diversity of Australia’s student community.

While the proportion of male and female students is fairly even, this is not reflected on the teacher side. Teaching is a female dominated profession – 73% of all in-school staff are female and there are more female than male school leaders (Australian Bureau of Statistics, 2018b; Mckenzie, Weldon, Rowley, Murphy, & Mcmillan, 2014).

Considering cultural diversity, while 5.7% of Australia’s students identify as Aboriginal and/or Torres Strait Islander, only 2% of Australian teachers and an even smaller proportion of leaders are of Aboriginal and/or Torres Strait Islander descent (Australian Bureau of Statistics, 2018b; Mckenzie et al., 2014).

“Australia needs a diversity of ideas, capabilities and cultural intelligence to navigate technological, social, economic and geopolitical changes”

– Australian Human Rights Commission, 2018
Research shows that the learning needs of a culturally diverse student population is better served by a diverse workforce (Buckskin, 2015) and accepting and encouraging diversity helps avoid discrimination and ensures we have the best possible leaders. In order to support Australia’s increasingly diverse student population, school leadership teams across the country should look to better reflect community demographics by including individuals from a variety of cultural and social backgrounds. In addition, teacher quality is the single most important in-school factor influencing student achievement (Hattie, 2009), therefore it is vital to consider both diversity and expertise in recruiting teachers and school leaders.

Achieving diversity in school leadership teams involves a number of processes, including but not limited to recruitment and selection. To recruit leaders from a diverse pool of applicants, the Australian guidelines for school leadership development suggest that recruitment processes include strategies targeting under-represented groups to achieve the broadest possible pool of suitable potential candidates (AITSL, 2017). However, in order to establish diversity in school leadership teams, the teaching staff must first be representative, and therefore it may be necessary to encourage more diversity in applicants entering initial teaching education programs.
At a glance

- The Australian Bureau of Statistics reports data on teachers including:
  - Number and FTE by state for both primary and secondary schools
  - Gender
  - Indigenous status.
- The Staff in Australia’s Schools Survey (SiAS) was discontinued after the 2013 round of data collection.
- The Australian Teacher Workforce Data (ATWD) project is currently being implemented and will ultimately provide a complete, longitudinal picture of initial teacher education and the teacher workforce.

Data on diversity

Data on diversity in the teaching profession is currently not as comprehensive as it should be. At present, gender is the most common diversity indicator captured, followed by Indigenous status. Even data on these indicators is not comprehensive, and beyond these two indicators diversity is generally not captured at all. This is, however, changing with the Australian Teacher Workforce Data project that is currently being implemented.

Existing Data

Australian Bureau of Statistics

Through the National Schools Statistics Collection, the Australian Bureau of Statistics (ABS) collects data on teachers, but it does not classify the workforce in terms of leadership status, and so statistics for school leaders are not generated (Australian Bureau of Statistics, 2018b).

Staff in Australia’s Schools Survey (SiAS)

The most recent collection of comprehensive data on diversity indicators in school leaders was through the Staff in Australia’s Schools Survey (SiAS) conducted by the Australian Council for Educational Research (ACER). This survey was conducted in 2007, 2010 and 2013 after which it was discontinued.

New Initiatives

Australian Teacher Workforce Data (ATWD)

The ATWD (Australian Teacher Workforce Data) will fill this data gap by collating demographic data from teachers across Australia into a central location.
Towards a national Australian Teacher Workforce Data Collection (ATWD)

In 2014, the Teacher Education Ministerial Advisory Group (TEMAG) was established, and its report, *Action Now: Classroom Ready Teachers* (2014), identified the compelling need for better national research and workforce planning as one of the key approaches to improving education outcomes through Initial Teacher Education (ITE). It found that a lack of consistent and timely national teacher data “hinders both continuous improvement in initial teacher education and workforce planning.”

In December 2016, Education Council¹ agreed that AITSL would implement the Australian Teacher Workforce Data (ATWD) collection project. The ATWD will unite existing national and jurisdiction-based ITE and teacher workforce datasets to provide a picture of ITE and the teacher workforce at the national level. It will enable supply and demand modelling for workforce planning and increase our understanding about the workforce outcomes of ITE. For the first time Australia will have a complete and longitudinal evidence-based picture of the teaching workforce nationally from ITE to exit.

As data from the ATWD becomes available, the knowledge gained will identify national and local workforce trends that will support better responses to emerging workforce developments and strengthen the positive impact on student outcomes across all systems and sectors. For example, by collecting demographic information from teachers across Australia, the ATWD will provide comprehensive and up to date information about diversity within the teaching workforce. For the first time since the 2013 SiAS, information about the gender breakdown of school leaders will be available. Similarly, the ATWD will help to build a better understanding of the cultural and linguistic diversity of teachers and leaders.

The ATWD will also provide a complete picture of the employment outcomes of ITE and help us better understand teacher career pathways; this can be used to inform improvement in ITE programs and courses and allow aspiring students to make better decisions about what to study and where to work. The ATWD will build on the ITE Data Report series by extending the analysis and reporting to include workforce outcomes and trends.

Implementation of the ATWD is well underway through the collaboration of many key stakeholders including State, Territory and the Commonwealth Governments and teacher regulatory authorities (TRAs). Initial data for some states will be available by mid 2019, which will build over the next three years to provide a complete, longitudinal picture of ITE and the teacher workforce.

¹ The Council of Australian Government’s Education Council provides the mechanism through which national policy on school education can be coordinated between the Commonwealth and State and Territory Governments. More information about Education Council can be found at: http://www.educationcouncil.edu.au/
Why is diversity in leadership important?

Diversity is variety and difference both in terms of inherent qualities (race or gender, for example) and acquired experiences (Rock, Grant, & Grey, 2016). In the schooling context, this refers to having a workforce that reflects the variety that exists in community demographics such as different cultural and social backgrounds, or those from other groups such as individuals who identify as having a disability.

Research indicates there are considerable benefits to diverse teams and diversity in leadership (NSW Public Service Commission, 2018). Some of these are outlined below.

**Diversity makes teams smarter**

Evidence suggests diverse teams may treat information differently compared to homogenous ones. For example, research has demonstrated that during decision making, racially diverse groups consider more facts with greater care and accuracy when compared with homogenous groups (Rock & Grant, 2016; Sommers, 2006). In the education context this can mean better decisions around pedagogy in the classroom, or how pastoral care is provided.

**Diversity increases innovation**

Evidence from the financial sector suggests diversity in leadership teams (in terms of gender, age, country of birth, career path and education) boosts innovation in new product development, leading to increases in profits reported (Lorenzo et al., 2018). In schools this translates to school leaders potentially adopting new processes to reduce the workload of teachers and increase collaboration.

"People with different backgrounds and experiences often see the same problem in different ways and come up with different solutions, increasing the odds that one of those solutions will be a hit."

— Lorenzo et al., 2018
Diversity improves performance

Research conducted in corporate sectors, such as banking and finance, has demonstrated that companies with greater gender or cultural diversity in their boards and senior management report higher profitability, growth and performance when compared with their less diverse competitors (Credit Suisse, 2012; Hunt, Layton, & Prince, 2015; Lorenzo & Reeves, 2018). In education this is likely to mean that diversity in the teaching workforce both in the classroom and in leadership positions can go on to lead to better outcomes for students academically as well as more broadly in areas such as overall wellbeing.

Diversity is ethically important

Ethically, having leadership teams that reflect the population they represent or the group they are servicing is important. Diverse leadership teams ensure that processes and approaches that are adopted are less likely to be discriminatory to particular groups or subject to bias that may adversely affect minorities. Diversity in voices around the leadership table is also likely to break entrenched practices that are not producing the best outcomes (Lorenzo et al., 2018). In the school leadership context, diversity is particularly ethically important to demonstrate to the student population that individuals from different groups are able to strive for leadership positions in the community, something that is likely to influence their future decisions (Prout Quicke, & Biddle, 2017).
In *Leading for impact: Australian guidelines for school leadership development*, AITSL recommended that schools, systems and sectors take active steps toward increased quality and diversity within the leadership pool (AITSL, 2017).

An effective leadership development strategy focuses on increasing the quantity, quality and diversity of future leaders for all school leadership roles and in all geographical locations, from rural and remote to metropolitan. Diversity in leadership teams correlates with improved performance and contributes to increased innovation and more creative approaches to problem-solving. Embedding strategies to find future leaders in under-represented groups – including women, people with a disability and Aboriginal and/or Torres Strait Islander peoples – within systemic identification processes will achieve greater equality and improve diversity.

These strategies should support individuals to retain their cultural identity and value the contribution it makes to leadership. Successful implementation of a leadership strategy depends on culture. Culture describes the way that people behave and significantly influences who will step up and lead, whether in an informal or formal capacity. Deliberately developing a culture that encourages every individual to consider themselves as a leader and participate in leadership activities is critical. Early development of a leadership identity increases the likelihood of an individual taking up a leadership position in the future. Supportive and regular opportunities to engage in leadership should be provided in a safe-to-fail environment, so more teachers form a view that they can and, more importantly, want to lead.

**What is needed to build a leadership development strategy and culture?**

Effective development is best when strategic priorities and actions for leadership growth:

- recognise the richness of Australian school contexts and community cultures
- are future focused and clearly communicated across a jurisdiction or school
- support the jurisdiction’s or school’s overall education goals and equity and diversity targets
- address challenges in sustaining an effective leadership workforce.

To learn more about the Australian guidelines for school leadership development, visit: [https://www.aitsl.edu.au/lead-develop/build-leadership-in-Australian-schools/leading-for-impact](https://www.aitsl.edu.au/lead-develop/build-leadership-in-Australian-schools/leading-for-impact)
At a glance

- In 2013, women comprised 71% of the teaching workforce and 57% of school leaders.
- In 2018, women comprised 73% of the teaching workforce, but since the Staff in Australia’s Schools Survey (SiAS) was discontinued after 2013, it is currently unknown what proportion of school leaders are female.

Women in school leadership positions

Gender is one of the few indicators of diversity with available data on teachers. However, the gender breakdown in school leadership positions hasn’t been documented since 2013, when the Staff in Australia’s schools survey (SiAS) was discontinued.

Students in Australian schools have an almost equal gender split, with 51% male and 49% female (Australian Bureau of Statistics, 2018b). However, in 2013, 71% of the overall teaching workforce and 57% of school leaders were women (McKenzie et al., 2014). While women currently make up 73% of the teacher workforce (Australian Bureau of Statistics, 2018b), data is not available regarding what percentage of current school leaders are female. Male teachers make up just 18% of primary school teachers and 40% of secondary teachers (Australian Bureau of Statistics, 2018b).

In 2013, women were under-represented in leadership positions when compared to the percentage of female teachers in the workforce (Figure 1). While 81% of teachers in primary school were female, 65% of leaders in primary school were female. In secondary school, 58% of teachers were female, and 48% of school leaders were female (McKenzie et al., 2014).

Figure 1
Percentage of women and girls in the population, compared to schools.

<table>
<thead>
<tr>
<th>Percentage</th>
<th>School Children</th>
<th>Teachers</th>
<th>School Leaders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary School</td>
<td>49% (Mckenzie et al., 2014)</td>
<td>65% (Mckenzie et al., 2014)</td>
<td>81% (Mckenzie et al., 2014)</td>
</tr>
<tr>
<td>Secondary School</td>
<td>58% (Mckenzie et al., 2014)</td>
<td>48% (Mckenzie et al., 2014)</td>
<td>50% (Australian Bureau of Statistics, 2018a)</td>
</tr>
</tbody>
</table>
At a glance

A higher proportion of primary teachers and leaders were female in comparison to secondary teachers and leaders.

However, there was evidence of an upward trend of women represented in leadership positions between 2007 and 2013, with the greatest increase occurring between 2010 and 2013. Female teachers in both primary and secondary grew by 2 percentage points, while female leaders in primary schools grew by 8 percentage points and in secondary by 7 percentage points (Figure 2). Given this upward trend, it is likely that today women are more equitably represented in leadership positions based on the percentage of female teachers.

This change in representation has been observed in other fields; while only 28% of directors in the ASX 200 are women, women comprised 44% of new appointments to ASX 200 boards in 2018 (as of September 2018; Australian Institute of Company Directors, 2018).

Figure 2

Percentage of female teachers and leaders in Australian primary and secondary schools, 2010 and 2013. (Data source: McKenzie et al., 2014)²

² These proportions were derived from 2013 SiAS data on the proportions of male and female school leaders, as a function of total ABS teaching staff numbers by gender; as a proportion of the known breakdown of teachers and school leaders as reported in the National Teaching Workforce Dataset (NTWD; Willett, Segal, & Walford, 2014).
At a glance
A lower proportion of female teachers work full-time in comparison to their male counterparts.

Challenges for recruiting women in school leadership positions
In the overall Australian workforce, women constitute 37% of all full-time employees and 69% of all part-time employees, indicating women are more likely to either seek out or take on a part-time position than men (WGEA, 2018).

In 2013, over 90% of school leaders were employed full-time, with virtually all principals employed full-time (McKenzie et al., 2014). Moreover, though 91% of male teachers were employed in full-time roles, only 69% of female primary teachers and 73% of female secondary teachers were in full-time roles (McKenzie et al., 2014).

Looking at this data, it is possible that the full-time requirement of many principal and deputy principal roles may discourage a considerable proportion of potential female candidates from applying for senior leadership roles.
Culturally and linguistically diverse leaders

Though the ABS regularly publishes up-to-date information about the cultural and linguistic diversity of the Australian population, the most recent data on this topic that is relevant to the teaching profession is the 2013 SiAS.

In total, about 49% of people living in Australia were born overseas or have a parent who was born overseas (Australian Bureau of Statistics, 2017). A significantly lower proportion of primary (16.4%) and secondary (19.2%) teachers were born outside Australia (Mckenzie et al., 2014).

Similarly, though more than one-fifth (21%) of Australians and almost a quarter of Australian students (24.8%) speak a language other than English at home (ACARA, 2017; Australian Bureau of Statistics, 2017), the teaching profession is considerably less culturally and linguistically diverse (Figure 3). This is particularly pronounced at the primary level where only 2.6% of school leaders speak a language other than English at home compared with 8.9% of teachers. At the secondary level, 7.7% of school leaders speak a language other than English at home compared with 10.8% of teachers (Figure 3) (Mckenzie et al., 2014).

Figure 3
Percentage of people that speak a LOTE at home in the population, compared to schools.

- The Australian teaching workforce does not reflect the cultural and linguistic diversity of the Australian population.
- A considerably lower proportion of school leaders, at both the primary and secondary level, are culturally and linguistically diverse in comparison to the broader Australian population.
- Fewer school leaders speak a language other than English (LOTE) at home compared to the general teaching population.
“Australian schooling promotes equity and excellence – provide all students with access to high-quality schooling that is free from discrimination based on gender, language, sexual orientation, pregnancy, culture, ethnicity, religion, health or disability, socioeconomic background or geographic location”.


**Why are culturally and linguistically diverse leaders important?**

It has been found that the capacity to interact positively with diverse cultural, ethnic and religious groups is of crucial social and educational importance for school students (Halse et al., 2015). Intercultural capacities are a national social priority for Australia with nearly 50% of people born overseas or with a parent born overseas (Australian Bureau of Statistics, 2017). The Melbourne Declaration on Educational Goals for Young Australians (Ministerial Council on Education Employment Training and Youth Affairs, 2008) identified an appreciation of Australia’s social, cultural, linguistic and religious diversity and the ability to relate to and communicate across cultures as nationally agreed goals of schooling. Students with both parents born overseas scored significantly higher on ‘intergroup skills’ and ‘openness to cultural diversity’ than their peers, including students with one parent born overseas or both parents born in Australia (Halse et al., 2015).
Aboriginal and Torres Strait Islander leaders

Aboriginal and Torres Strait Islander people are significantly underrepresented as both teachers and school leaders. Although 3.3% of the Australian population and 5.7% of Australian schoolchildren identify as Aboriginal and/or Torres Strait Islander, only 1-2% are teachers or leaders (Australian Bureau of Statistics, 2018b, 2018c; McKenzie et al., 2014). According to SiAS, in 2013, only 1% of teachers and less than 1% of school leaders, identified as Aboriginal and/or Torres Strait Islander (McKenzie et al., 2014). In 2016, 2% of teachers in Australia identified as Aboriginal and/or Torres Strait Islander, a growth from 1.17% in 2011 (Australian Council of Deans of Education, 2018).

This underrepresentation of Aboriginal and Torres Strait Islander leaders is not limited to schools and is similar in Australian ASX 200 companies, universities and government departments (Australian Human Rights Commission, 2018).

Figure 4
Percentage of Aboriginal and/or Torres Strait Islander people in the population versus schools.
The More Aboriginal and Torres Strait Islander Teachers Initiative (MATSITI) 2011-2016, was a four-year initiative aimed at increasing the number of Aboriginal and Torres Strait Islanders entering teaching positions in schools (Buckskin, 2016). MATSITI research found that in 2015, 83% of Aboriginal and Torres Strait Islander teachers were classroom teachers, 7% were deputy principals and 3% held positions as principals. Furthermore, the proportion of Aboriginal and Torres Strait Islanders holding leadership positions increased overall from 2011 to 2016, because while principals declined between 2012 and 2015 (from 4% to 3%), there was a considerable gain in Aboriginal and Torres Strait Islander deputy principals (from 2% to 7%).

There was also a notable intersectional disparity, specifically that while 75% of Aboriginal and Torres Strait Islander teachers were women there was also a considerable rate of attrition of female principals (Buckskin, 2016). The data also revealed that full-time and ongoing female principals were more likely to stay in their roles than part-time or fixed-term principals (Buckskin, 2016).

Why are Aboriginal and Torres Strait Islander leaders important?

The gap in school completion rates between Indigenous and non-Indigenous students was 23.8 percentage points in 2016 (Department of the Prime Minister and Cabinet, 2018). In order to address this, there has been a push for schools to have a “culture and leadership that acknowledges and supports Indigenous students and families” and that it is vital to involve the Indigenous community in the planning and provision of education (Helme, S., Lamb, 2011). The necessity of Indigenous teaching and leadership has been stressed as a key component of improving Indigenous schooling outcomes because “teachers who have grown up and completed their schooling as Indigenous learners have a wealth of experience and knowledge about the pedagogies that are likely to be successful for Indigenous students” (Santoro, Reid, Crawford, & Simpson, 2011).
Initial Teacher Education

The life cycle of the teaching workforce begins with higher education. As such, the supply of university graduates has important implications for the teaching workforce. Without diversity in ITE and the supply of teachers, diversity in the teaching workforce will be limited. This in turn limits diversity in the pool of potential leaders and leadership teams.

Gender breakdown in initial teacher education

Each year, around 30,000 students commence initial teacher education at an Australian university (AITSL, 2018). In 2016, the majority of commencing ITE students were female (72%, 21,612) and aged 24 and under (64%, 19,310).

The proportion of female students who complete their ITE program has remained static since 2011, with 76 – 77% female completions each year (AITSL, 2018). In three decades, the proportion of female students completing ITE has increased three percentage points and has remained above 70% since at least the 1990s.

Similarly, the proportion of teachers who are female has gradually increased during the past two decades and reached 73.5% in 2018, an increase of five percentage points from 68.6% in 2000 (Australian Bureau of Statistics, 2015, 2018b). However, the gender breakdown of school leaders has not followed this trend to the same extent as teachers and ITE students. Therefore, it does not appear that the supply of teachers, that is, the progression of prospective teachers through higher education and into the workforce, solely accounts for the gender breakdown in the school leadership workforce. While the gender mix of ITE students will impact the gender breakdown in teaching and school leadership, there also appears to be an inequitable access to leadership positions as females make up the vast majority of the supply of teachers and the teaching workforce and yet do not make up such proportions of the leadership positions.

At a glance

- Since the 1980s, the majority of commencing ITE students have been female, aged 24 and under, non-Indigenous and from an English speaking background.
- The proportion of female students completing ITE has remained above 70% since at least the 1990s.
- The proportion of female teachers has increased five percentage points during the past two decades.
Culturally and linguistically diverse ITE students

In 2016, students from non-English speaking backgrounds made up 4% of commencing higher education students across all areas of study, but only 2% of all ITE students (AITSL, 2018). This is low considering that people with a non-English speaking background make up more than 20% of both the Australian population and Australian school students. However, ITE students with a non-English speaking background also had the highest rate of undergraduate retention at 82%, 6 percentage points above the average. This suggests that though the number of ITE students with non-English speaking backgrounds is low, these students consistently progress through their ITE studies.

In order for the cultural and linguistic diversity of Australian schoolchildren to be proportionally represented in the teaching workforce, there needs to be an increase in the diversity of the supply of new teachers – that is, the number of students with non-English speaking backgrounds commencing and completing ITE. Consideration should be given about how to attract more non-English speaking background individuals into ITE.

Aboriginal and Torres Strait Islander ITE students

The number of Aboriginal and Torres Strait Islander people in all higher education courses more than doubled from 8,803 in 2006 to 17,728 in 2016 (Department of the Prime Minister and Cabinet, 2018).

In 2016, 2% of both commencing and completing ITE students were Indigenous (AITSL, 2018). However, the retention rate for first to second year Indigenous ITE students was only 68%, which is 8 percentage points lower than the average ITE retention rate. As such, there is work to be done to understand why more Indigenous students don’t complete ITE and become part of the teaching and school leadership workforce.

In order for the number of Indigenous teachers and leaders to grow, the possibility and desirability of higher education for Indigenous students must be enhanced. In the report Universities Australia: Indigenous Strategy 2017-2020, universities across Australia committed to maintaining enrolment growth rates for Indigenous students of at least 50% above the growth rate of non-Indigenous student enrolment, and ideally 100% above (Universities Australia, 2017). They are also aiming for retention and success rates for Indigenous students to equal domestic non-Indigenous students by 2025.

However, Gore et al., 2017 also stressed the importance of understanding the aspirations of Indigenous students in relation to existing social, cultural, economic and racial divides and working towards making university a place where these aspirations can be pursued and attained.
Conclusion

Research has demonstrated the value of diversity in leadership teams, and schools are no exception. Diversity promotes innovation, improves performance and boosts decision making. In schools, school leaders have a profound impact on the progress and achievement of students. The data presented here demonstrates there is work to be done to optimise the diversity of the Australian teaching and school leadership workforce.

Currently available workforce data is incomplete, but it suggests the teaching/school leadership workforce is not representative of the broader Australian population and Australian students. In particular, the cultural and linguistic diversity of Australia is not reflected in the proportion of teachers and leaders with language backgrounds other than English. Similarly, though 5.7% of Australian school children identify as Aboriginal and/or Torres Strait Islander, there are few Aboriginal and Torres Strait Islander teachers and even fewer school leaders. Evidence suggests that there are numerous benefits to representative teaching and school leadership teams. Thus, the lack of diversity in leadership teams limits the availability of effective role models for our most vulnerable students.

It is also important to note the significance of the supply of potential teachers to the issue of diversity in the teaching workforce. The overwhelming majority of ITE students are female, under 24, from an English speaking background and are non-Indigenous. This trend has been evident over many decades and continues to contribute to the limited diversity in the teaching workforce. As ITE students are the teachers and possibly the school leaders of the future, the diversity, or lack thereof, within commencing and completing ITE student cohorts contributes to the ongoing issue of diversity in teaching and school leadership.

To monitor the diversity trends of the teaching workforce, the ATWD will collate demographic data from teachers across Australia. With all jurisdictions involved, this data will provide a national understanding of the diversity of Australia’s teachers and school leaders.

Australia is a multicultural and multilingual society. In order for our teachers and school leaders to best meet the needs of our diverse young people it is vital that the question of diversity in our education workforce is carefully considered.
References


AITSL. (2017). Leading for impact Australian guidelines for school leadership development. AITSL.


Credit Suisse. (2012). Press release: Large-cap companies with at least one woman on the board have outperformed their peer group with no women on the board by 26% over the last six years, according to a report by Credit Suisse Research Institute. Retrieved from https://www.credit-suisse.com/corporate/en/media/news/articles/media-releases/2012/07/en/42035.html


