

## **Education Research Brief**

# **Education Resource Gaps in Australia Remain Amongst the Largest in the World**

**Trevor Cobbold**

**October 2020**

**Save Our Schools**

<https://saveourschools.com.au>

[twitter.com/SOSAust](https://twitter.com/SOSAust)

[saveourschools690@gmail.com](mailto:saveourschools690@gmail.com)

## Summary

Disadvantaged students in Australia are being denied equal opportunities to learn because they face far more shortages of teachers and material resources than advantaged students. The gaps in access to education resources between advantaged and disadvantaged schools in Australia, between rural and city schools and between public and private schools are huge. Not only are they amongst the largest in the OECD but they are also amongst the largest in the world. This is totally unacceptable for a country that regards itself as egalitarian.

Data from PISA 2018 published in a supplementary report by the OECD show that disadvantaged schools in Australia experience more education staff (teachers and assistants) shortages and more shortages or inadequate material resources (educational materials and infrastructure) than advantaged schools. Advantaged schools are much better equipped to provide opportunities to learn. The resource gaps are largely unchanged from PISA 2015. The extent of the gaps is appalling:

- Australia has the largest gap in education staff shortages between disadvantaged and advantaged schools in the OECD and the 7<sup>th</sup> largest of 79 countries/cities participating in PISA 2018.
- Australia has the 3<sup>rd</sup> largest gap in the shortage or inadequacy of educational material and physical infrastructure between disadvantaged and advantaged schools in the OECD. The Australian gap is the 11<sup>th</sup> largest out of countries/regions participating in PISA 2018.

Rural schools in Australia also have greater human and material shortages than city schools.

- The gap in the shortage of education staff is the 2<sup>nd</sup> largest in the OECD. The gap is also the 3<sup>rd</sup> largest of all countries/cities participating in PISA 2018. Only Columbia and Uruguay have a larger gap.
- The gap in material resources between rural and city schools is the 3<sup>rd</sup> largest in the OECD and the 10<sup>th</sup> largest of the countries/cities participating in PISA 2018.

Public schools face much greater shortages of educational staff and material resources than private schools. Private schools are far better equipped in terms of human and material resources than public schools.

- The gap in the shortage of education staff between public and private schools is 10<sup>th</sup> largest in the OECD.
- The gap in shortages or inadequacy in educational materials and infrastructure is the 5<sup>th</sup> largest in the OECD

The OECD analysis of the PISA results found that Australia is one of 21 OECD countries where shortage of education staff is strongly associated with lower student achievement in reading. The reduction in student learning in Australia is equivalent to about six months of learning and is the equal 5<sup>th</sup> largest of the 21 countries.

In addition, Australia is one of 15 OECD countries where shortage of material resources is strongly associated with lower student achievement in reading. The impact on student learning in Australia is equivalent to over six months of learning and is the equal second largest of the 15 countries.

The impact of human and material shortages on student learning is greatest in disadvantaged schools. Shortages in advantaged schools are very small by international standards and the OECD analysis shows that the impact on student learning is much reduced when student and school socio-economic background is taken into account.

Australian governments are effectively discriminating against low SES schools in terms of their access to resources. They have failed to ensure high quality teaching and physical resources in these schools while high SES schools have amongst the most and best quality resources in the OECD.

The relative lack of teaching and physical resources in low SES schools in Australia contributes significantly to lower achievement by disadvantaged 15-year-old students and to the very large achievement gaps between disadvantaged and advantaged students of about three years of learning. This has deleterious effects on many individual lives, society and the economy.

Lifting the results of low SES and other disadvantaged students requires better targeting of teaching and material resources to disadvantaged schools as many studies show. It is imperative that Australian governments – Federal and state – do more to provide adequate resources for disadvantaged schools if the large achievement gaps are to be reduced.

## Introduction

A [supplementary report](#) recently released by the OECD on the Programme for International Student Assessment (PISA) 2018 provides new data on education resource gaps between disadvantaged and advantaged schools in Australia and 78 other countries/cities. Shortages in educational staff and materials hinder student learning, especially in disadvantaged schools.

The report shows that resource gaps in Australia remain amongst the largest in the OECD and in the world in some cases. They are little changed from PISA 2015.

The report measures resource shortages by indexes of shortage in educational staff and material resources constructed from principals' responses to the PISA 2018 questionnaire about the extent to which resource shortages or inadequacy hinder learning. Differences in index scores reflect differences in the shortage of resources in schools.

## Shortage of education staff

Shortages of qualified teachers and support staff restrict effective learning. The OECD report states:

Out of all the school resources that are needed to boost students' learning and well-being, teachers are perhaps the most important. If schools do not have a sufficient number of teachers, or if teachers are not adequately qualified and able to support their students' needs, improving the quality and equity of education is unlikely. By contrast, effective teacher policies can be the foundation on which to build successful education systems. [p. 88]

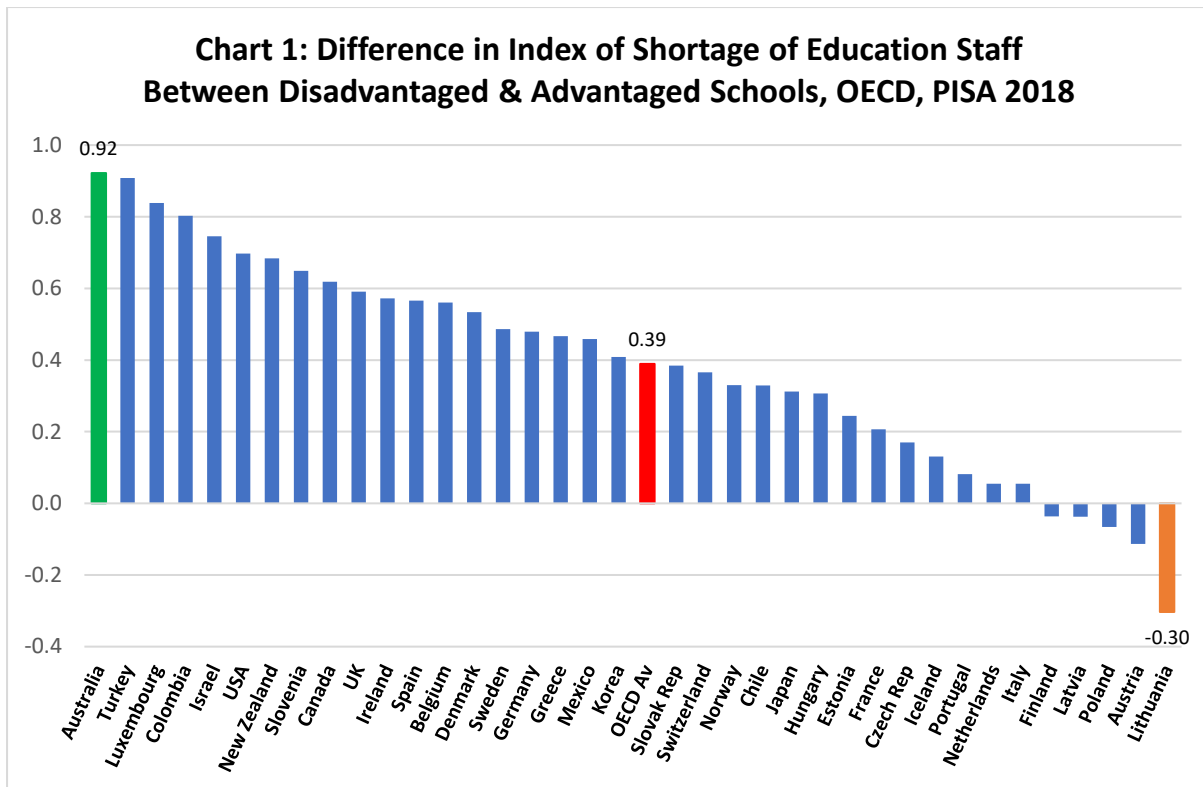
Seventeen per cent of Australian students attend schools whose principals reported a shortage of teachers in PISA 2018. This is significantly below the OECD average of 27%. Fourteen per cent attend schools with poorly or inadequately qualified teachers compared to 15% for the OECD. There is no statistically significant difference between the Australian figures PISA 2015 and PISA 2018.

The shortages of education staff (teachers and assistants) are far greater in disadvantaged and rural schools than in advantaged and city schools. The gaps are the largest in the OECD and among the largest of 79 countries/cities participating in PISA 2018.

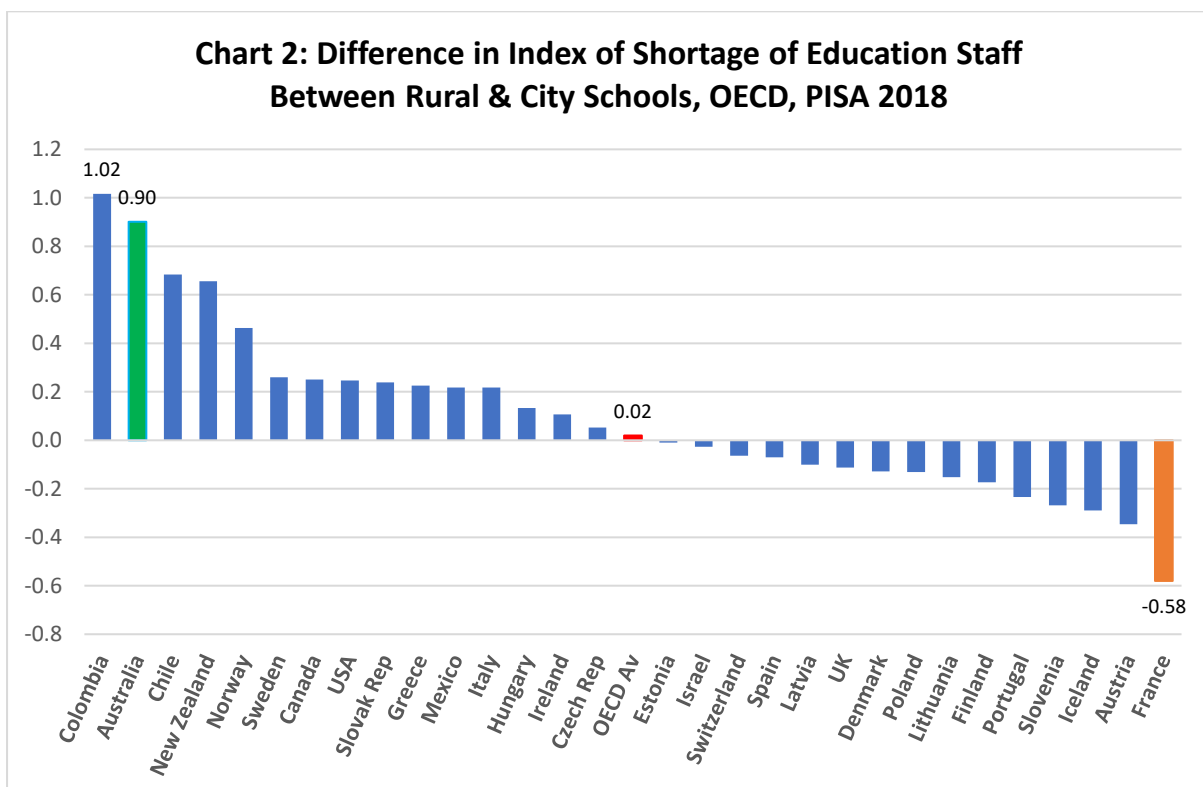
Australia has the largest gap in the shortage of education staff between disadvantaged and advantaged schools in the OECD [Chart 1]. Australia also had the largest gap in PISA 2015. The gap is very large compared to the average across the OECD and is much larger than in high performing countries such as Finland, Poland, Singapore, Taiwan and Vietnam. Disadvantaged schools in several countries such as Finland, Poland and Lithuania have fewer staff shortages than advantaged schools, although only in Lithuania is it statistically significant.

The gap in Australia is also the seventh largest of all countries/cities participating in PISA 2018. Only Cyprus, Hong Kong, Peru, Thailand, United Arab Emirates and Uruguay have a larger shortage gap than Australia. Australia also had one of the largest gaps in the world in PISA 2015.

The shortage of education staff in disadvantaged schools in Australia was slightly less than the average for the OECD while the shortage in advantaged schools was far less than the OECD average. Indeed, the staff shortage in advantaged schools in Australia was the third smallest in the OECD apart from Denmark and Poland.



Source: OECD, PISA 2018 Results (Volume V): Effective Policies, Successful Schools, Paris, 2020, Table V.B1.4.1.

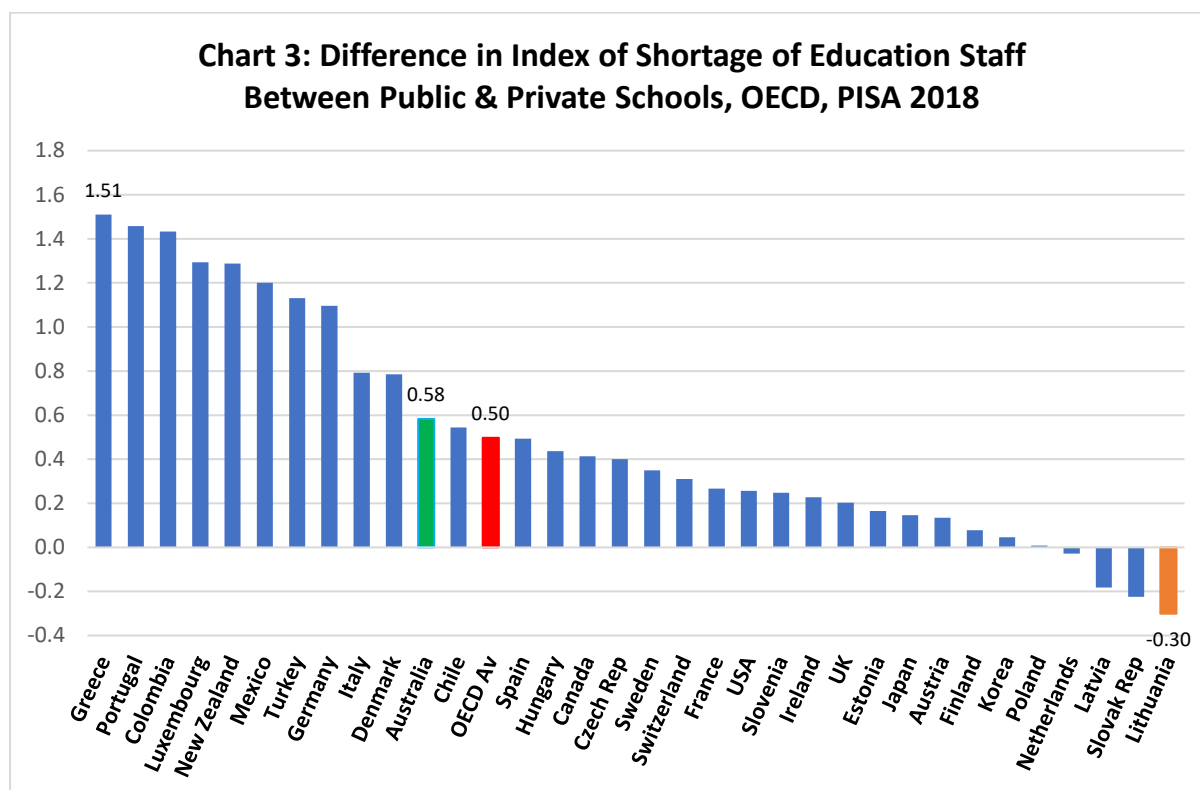


Source: OECD, PISA 2018 Results (Volume V): Effective Policies, Successful Schools, Paris, 2020, Table V.B1.4.1.

The gap in the shortage of education staff between rural and city schools in Australia is the second largest in the OECD [Chart 2]. Only Colombia and Uruguay have a larger gap. The gap in Australia is also the third largest of all countries/cities participating in PISA 2018. Australia's ranking has

deteriorated since PISA 2015. In contrast to Australia, rural schools in half of the OECD countries for which data is available have fewer staff shortages than city schools.

Public schools also have a greater shortage of education staff than private schools and the gap is tenth largest in the OECD [Chart 3]. The gap is larger than in most high performing countries. Disadvantaged schools in several countries such as Latvia, the Slovak Republic and Lithuania have fewer staff shortages than advantaged schools, although only in Lithuania it is statistically significant.



**Source:** OECD, PISA 2018 Results (Volume V): Effective Policies, Successful Schools, Paris, 2020, Table V.B1.4.1.

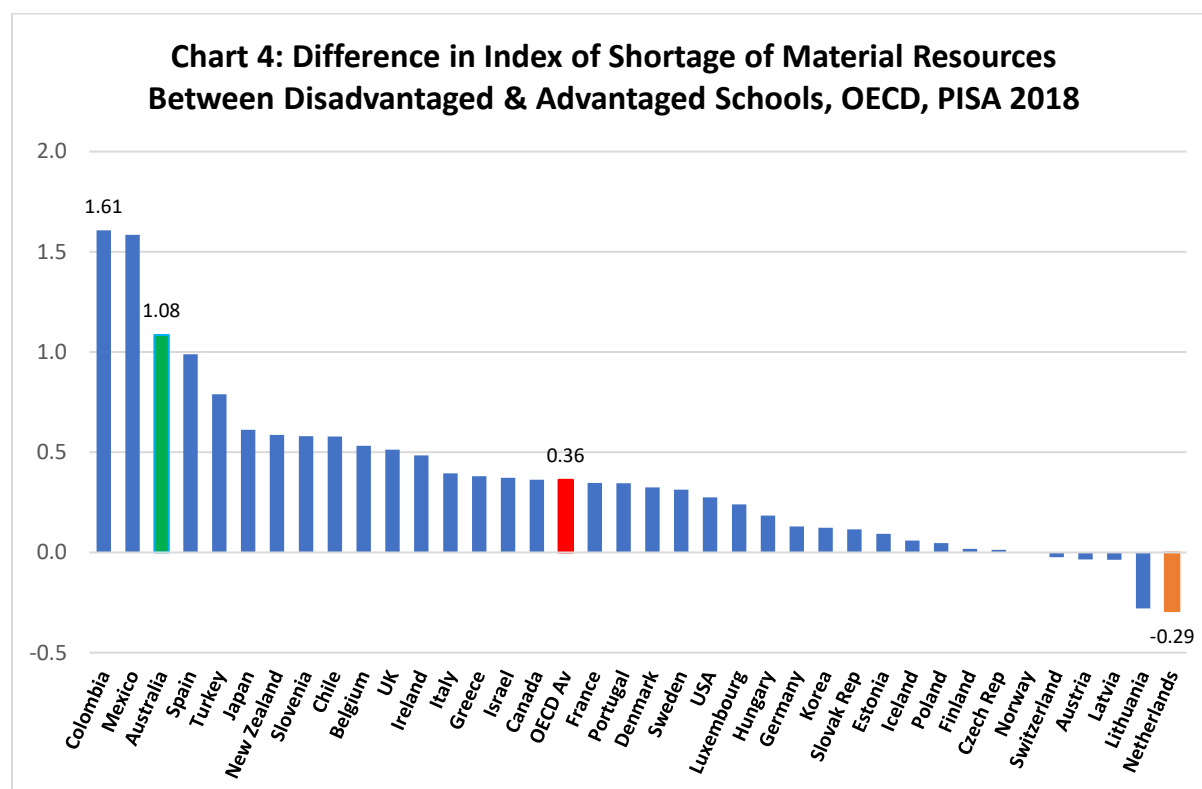
## Shortage of material resources

Inadequacy of physical infrastructure (buildings, grounds heating and cooling systems) and educational material resources (textbooks, science laboratories, information technology and libraries) can also impact on student learning.

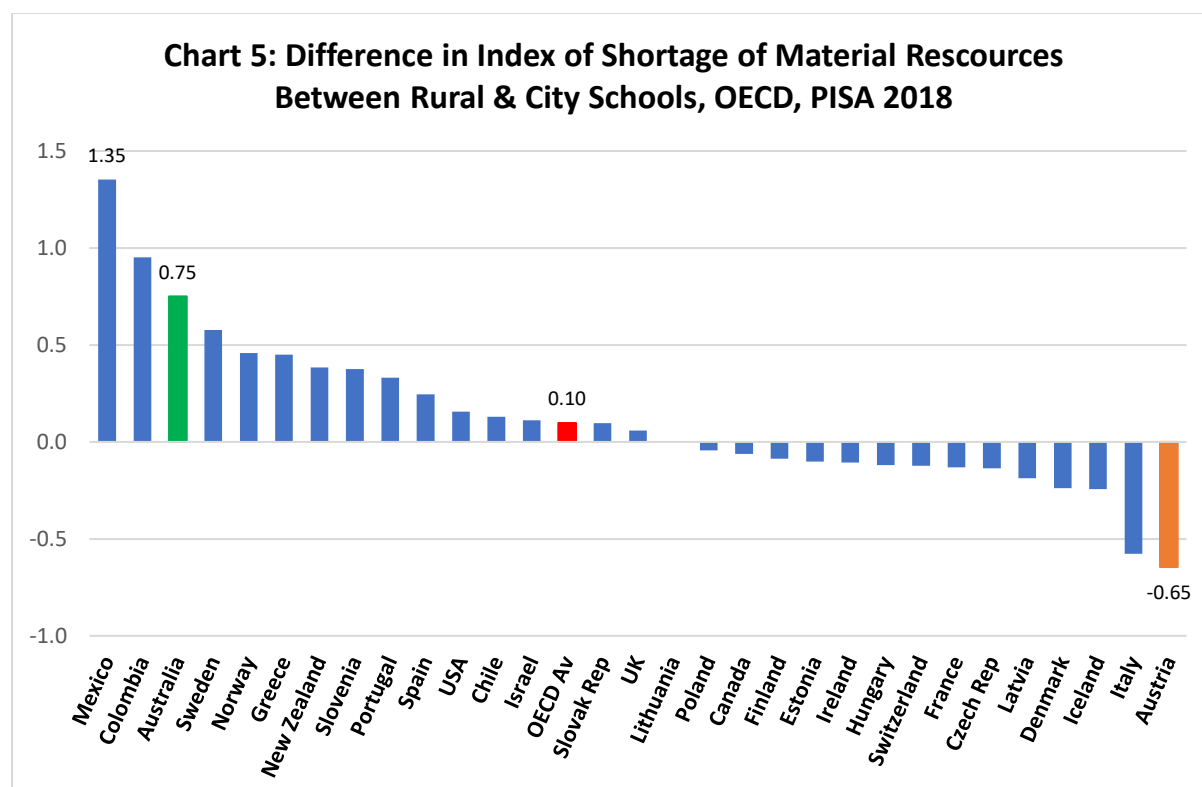
About 10% of students in Australia attend schools where principals reported that a lack of educational materials hinders learning and 9% attend schools with poor or inadequate materials. However, 25% are in schools with inadequate or poor quality physical infrastructure. These proportions are significantly lower than the OECD averages of 28%, 25% and 33% respectively. There is no statistically significant difference between the Australian figures PISA 2015 and PISA 2018.

Australia is one of many countries where student learning in socio-economically disadvantaged schools is hindered by a lack of or inadequate material resources to a greater extent than in advantaged schools. However, the gap in Australia is the third largest in the OECD, only exceeded in Colombia and Mexico [Chart 4]. It is much larger than in high performing countries such as Canada, Estonia, Finland, Korea and Poland. The Australian gap is the 11<sup>th</sup> largest out of the 79 countries/cities participating in PISA 2018. Australia also had one of the largest gaps in the world in PISA 2015.

The shortage of material resources in disadvantaged schools in Australia is slightly less than the average for the OECD while advantaged schools have the smallest shortage in the OECD.



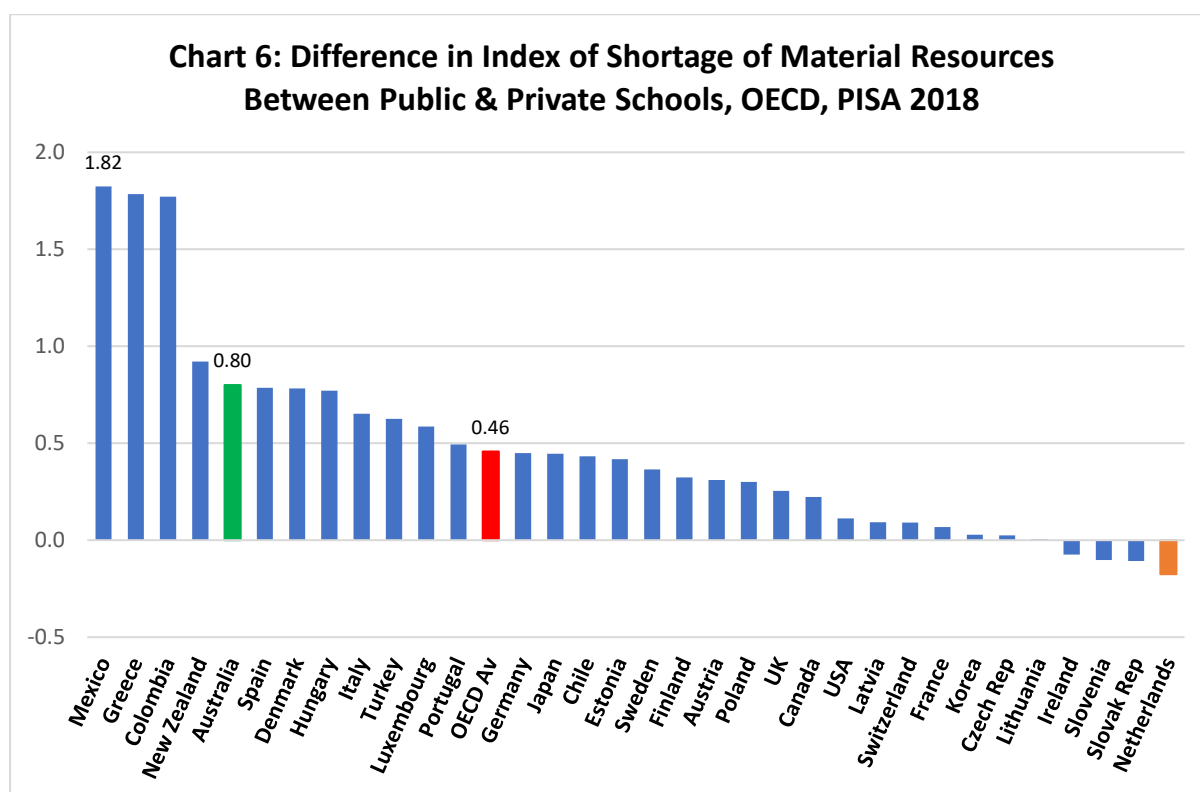
Source: OECD, PISA 2018 Results (Volume V): Effective Policies, Successful Schools, Paris, 2020, Table V.B1.5.2.



Source: OECD, PISA 2018 Results (Volume V): Effective Policies, Successful Schools, Paris, 2020, Table V.B1.5.2.

Rural schools in Australia also face greater shortages of material resources than city schools. The gap is the third largest in the OECD apart from Mexico and Colombia [Chart 5]. It is the tenth largest of all the countries/cities participating in PISA 2018.

Public schools in Australia also face much greater shortages or inadequacy in physical infrastructure and educational materials than private schools. The gap is the fifth largest in the OECD behind Mexico, Greece, Colombia and New Zealand [Chart 6]. Private schools in Australia face fewer shortages than their counterparts in almost all OECD countries. Only private schools in Greece, Mexico, New Zealand and Turkey face fewer shortages.



Source: OECD, PISA 2018 Results (Volume V): Effective Policies, Successful Schools, Paris, 2020, Table V.B1.5.2.

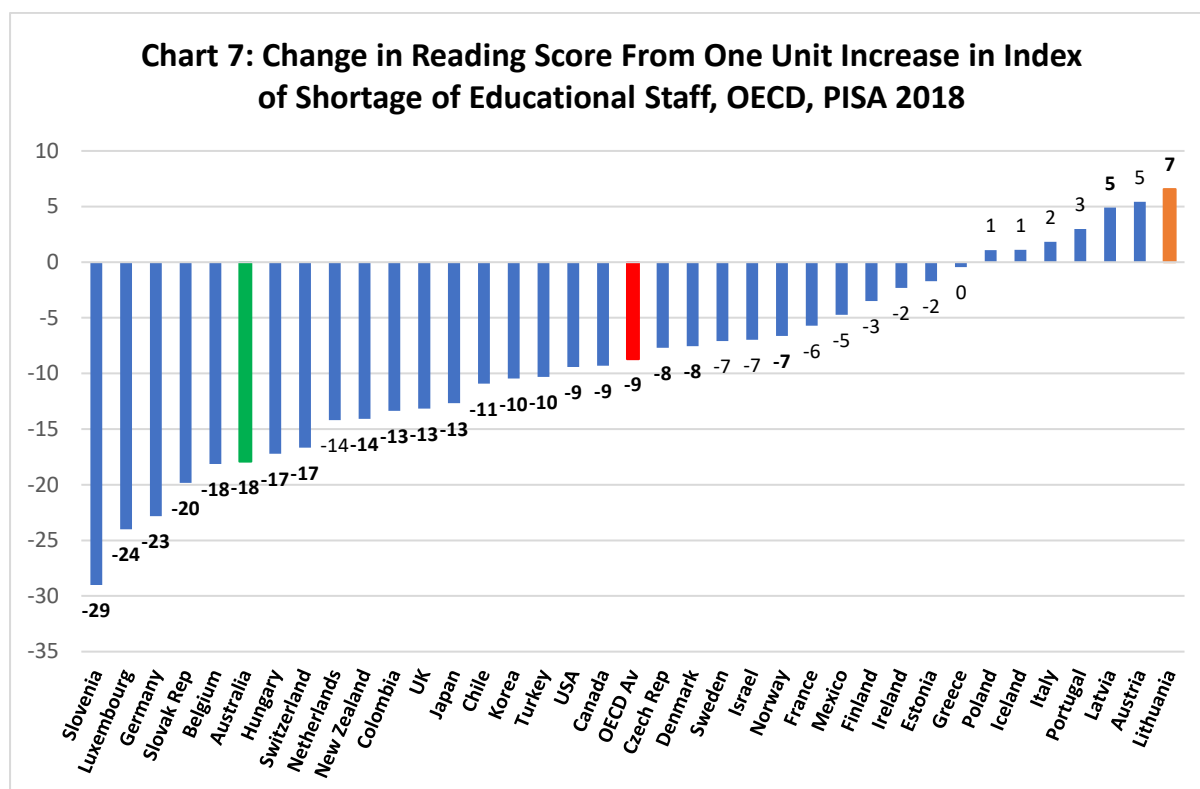
## Impact of shortages on learning

The OECD analysed the impact of shortages in human and material resources on reading achievement in each country. It found that Australia is one of 21 OECD countries where a shortage of education staff is strongly associated with lower student achievement in reading. A unit increase in the index of shortage in educational staff resulted in lower reading achievement of 18 points on the PISA scale, which is equivalent of about six months learning. The impact on student learning in Australia is the equal fifth largest of the 21 countries [Chart 7].

Australia is one of 15 OECD countries where shortage of material resources is strongly associated with lower student achievement in reading. The impact on student learning in Australia was a reduction of 23 points which is over six months of learning. The loss of learning is the equal second largest of the 15 countries [Chart 8].

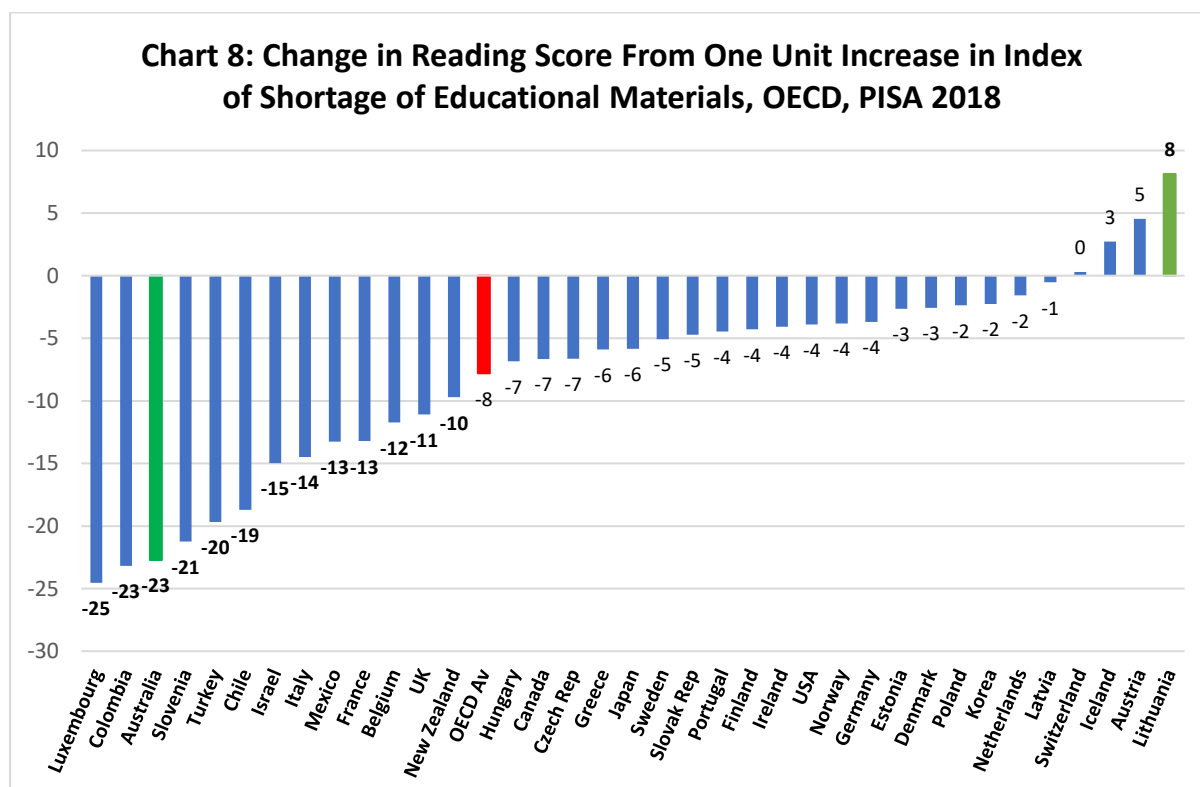
The impact of staff and material shortages on student learning is greatest in disadvantaged schools. Staff shortages in advantaged schools in Australia are very small by international standards and the OECD analysis shows that the impact on student learning is much reduced when student and school socio-economic background is taken into account.





**Source:** OECD, PISA 2018 Results (Volume V): Effective Policies, Successful Schools, Paris, 2020, Table V.B1.4.1.

**Note:** Figures in bold are statistically significant.



**Source:** OECD, PISA 2018 Results (Volume V): Effective Policies, Successful Schools, Paris, 2020, Table V.B1.5.2.

**Note:** Figures in bold are statistically significant.

## Conclusion

Achievement gaps are inextricably linked to gaps in the opportunity to learn. The opportunity to learn is affected by factors outside and within schools. Disadvantage is constantly reproduced in society through poverty, low incomes, unemployment, lack of affordable housing, poor health and other factors. Schools are in a constant battle against the reproduction of inequality and poverty in society. Their efforts must be supported by economic and social policies to reduce growing inequality and increasing poverty. It is critical that they are also provided with adequate human and material resources to ensure that disadvantaged students achieve at the levels of advantaged students.

The new PISA data shows that low socio-economic status (SES) secondary schools in Australia are highly disadvantaged in their access to education resources – teachers, teaching assistants, educational materials and school infrastructure. Australian education systems devote more and better quality resources to high SES secondary schools than low SES schools. As the OECD report on PISA notes, low SES “students face a double disadvantage: one that comes from their home background and another that is created by the school system” [p. 4].

Australian governments are effectively discriminating against low SES schools in terms of their access to resources. They have failed to ensure high quality teaching and physical resources in these schools while high SES schools have amongst the most and best quality resources in the OECD.

The relative lack of teaching and physical resources in low SES schools in Australia contributes significantly to lower achievement by disadvantaged 15-year-old students and to the very large achievement gaps between disadvantaged and advantaged students of about three years of learning. This has deleterious effects on many individual lives, society and the economy

Lifting the results of low SES and other disadvantaged students requires better targeting of teaching and material resources to disadvantaged schools as many studies show. It is imperative that Australian governments – Federal and state – do more to provide adequate resources for disadvantaged schools if the large achievement gaps are to be reduced. As the OECD report states:

While students from well-off families will often find a path to success in life, those from disadvantaged families have generally only one single chance in life, and that is a great teacher and a good school. If they miss that boat, subsequent education opportunities will tend to reinforce, rather than mitigate, initial differences in learning outcomes. [p. 4]