# IMPACT EVALUATION OF AVID AUSTRALIA

## Public Report on Value-Added NAPLAN Analysis of AVID Australia Schools

Dr Pete Goss, 19 May 2025

# About this Public Report

In October 2024, Dr Pete Goss from S J Spencer Consulting Pty Ltd was commissioned by AVID Australia to do an *Impact Evaluation of AVID Australia*. Pete leads an evaluation team with diverse expertise, including Dr Leah Tang (an evaluation expert) and Trish Miller (a highly experienced principal and school reviewer).

The overall evaluation addresses three main questions:

- What is the evidence that AVID schools in Australia use effective teaching practices and boost student learning outcomes?
- What teaching practices or other factors are most strongly linked to AVID's impact on student outcomes in Australia?
- Do Australian schools that adopt AVID see improved teaching practices and improved student outcomes?

This document is a Public version of the Final Report from Phase 2: *The NAPLAN impact of AVID Australia Schools*. It addresses the question "*Is there evidence that AVID schools boost student outcomes?".* The main evaluation is ongoing, including a range of school visits to address the other questions listed above.

The Report uses data from Australia's National Assessment Program – Literacy and Numeracy (NAPLAN) to analyse school impact. NAPLAN is run by the Australian Curriculum, Assessment and Reporting Authority (ACARA) and school-level NAPLAN results are published on the My School website.

To robustly answer *"Is there evidence that AVID schools boost student outcomes?",* we needed a new way to analyse NAPLAN data across schools. This Report presents our **new and proprietary Value-Added NAPLAN methodology**. This methodology builds on the Equivalent Year Level (EYL) approach introduced by Grattan Institute,[1] but adds a mechanism to address the 2023 reset of the NAPLAN time series, enabling longitudinal analysis of value-add from 2014-24. It also introduces a way to compare schools with different levels of socio-educational (dis)advantage, enabling comparison of AVID Australia schools with non-AVID schools that are geographically close.

Questions about AVID Australia should be directed to Dr Claire Brown (Executive Director, AVID Center Australia). Questions about the Value-Added NAPLAN methodology should be directed to Dr Pete Goss.

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19 May 2025

Note 1: Goss, P. and Sonnemann, J. (2016). *Widening gaps: what NAPLAN tells us about student progress.* Report No. 2016-3. Grattan Institute. http://grattan.edu.au/report/widening-gaps/.
Goss, P., Sonnemann, J., and Emslie, O. (2018). *Measuring student progress: A state-by-state report card*. Report No. 2018-15. Grattan Institute. https://grattan.edu.au/wp-content/uploads/2018/10/Mapping_Student_Progress.pdf.

# Executive Summary: AVID Australia schools add significant value to student learning outcomes

**Value-added analysis of NAPLAN is a powerful new way to compare school performance**

- My School data shows that something good is happening in AVID Australia schools, but it is hard to quantify the scale of improvement.
- More broadly, My School presents a rich picture of school performance, but has major limitations.
- This report introduces a new methodology, Value-Added NAPLAN Analysis, that creates powerful opportunities to compare school performance.

**A worked example shows how Value-Added NAPLAN Analysis can be used to make sense of the value added by a school over time**

- One of AVID Australia's most established secondary schools has shown significant improvement in its Year 9 Writing over the past decade. In equivalent year level terms, it has closed nearly three-quarters of its Year 9 Writing gap to the national average.
- Value-add analysis shows the improvement is substantial and real; Year 9 Writing results have improved roughly two years *above* its demographic changes.
- The increased value-add in Year 9 Writing is a complete outlier among local schools, none of which have shown anything like the same level of improvement. In fact, for schools that are local and comparable to the AVID school, their Year 9 Writing value-add has decreased over the past decade.

**Value-Added NAPLAN Analysis shows that established AVID Australia schools tend to outperform students with similar backgrounds and comparable local schools**

- Established AVID schools show impressive Year 9 improvement across the three main NAPLAN domains, an indication of broad impact that may reflect AVID Australia's focus on whole-school improvement. New to AVID schools (i.e. implementing for 3 years or less) show more mixed results, reflecting that improvement takes time. The estimated value-add gains are highly consistent with ACARA's comparison to students with similar background.
- Greater value-add in Year 9 than in Year 7 suggests that these gains are not just about the incoming cohorts; most students have typically only attended a school for a few months by the time they sit Year 7 NAPLAN, versus over two years by the time they sit Year 9 NAPLAN.
- The Year 9 gains are even more impressive when contrasted against other local schools. Since 2014, established AVID Australia schools have added nearly **eight times as much value** as comparable local schools: 7.2 months versus 0.9 months ($p<0.02$). They are over-represented among the most-improved schools that we analysed.
- AVID Australia primary schools appear to be adding value across multiple NAPLAN domains, especially in Year 5.

**Overall summary and directions for further analysis**

- This analysis provides powerful evidence that AVID Australia schools have positive impact on student learning outcomes. Early insights from full evaluation suggest that schools that are more consistent in implementing AVID with fidelity see bigger gains than those with less consistent implementation; this is being investigated.
- Further analysis will validate the findings from this analysis against other forms of data and link the findings back to our analysis of teaching practice.

# Key findings

**This analysis provides powerful evidence that AVID Australia schools show improvements in NAPLAN results over time above what would be expected from their demographics, their incoming student cohorts, or what is seen in comparable local schools.**

## Raw improvements

- ✓ Students in established AVID Australia schools are making **impressive gains in their core literacy and numeracy skills**, especially in Years 5 and 9.
- ✓ One school **closed three-quarters of the Year 9 writing gap** between its students and the national average despite high teacher turnover.

## Clear value-add

- ✓ **Over 90% of established AVID schools** (12 out of 13) have improved their Year 5 or Year 9 NAPLAN results **as fast or faster than students with similar background**. Three-quarters have improved faster than comparable local schools, in four cases by a statistically significant margin ($p<0.05$).
- ✓ It seems like **the longer students spend at an AVID school, the better they do**: three-quarters of established AVID schools show higher value-add in Year 5 than Year 3 (for primary schools) or in Year 9 than Year 7 (for secondary schools). On average, this difference is worth an extra three months of learning ($p\sim0.050$).
- ✓ Even after accounting for demographics and national-level trends, **three of ten established AVID secondary schools (30%) have added more than a year's worth of extra learning** to their Year 9 students compared to a decade ago. Only six of 70 comparable local schools (9%) have added more than a year's worth of extra learning. This difference between AVID and local schools is statistically significant ($p\sim0.045$).

## Widespread improvement

- ✓ Many AVID schools have **improved in multiple NAPLAN domains**, including the three core domains of Reading, Writing and Numeracy.
- ✓ If we define high-improvement as generating at least six months of extra value-add over a decade, established AVID schools are:
  - ✓ **More twice as likely (2.2x)** to be high-improvement schools in **two or more core NAPLAN domains** than comparable local schools ($p\sim0.023$).
  - ✓ **More than three times as likely (3.1x)** to be high-improvement schools in **three or more of the five NAPLAN domains** than comparable schools ($p\sim0.007$).
- ✓ Across a composite measure of Reading, Writing and Numeracy, established AVID secondary schools have added **nearly eight times more value (7.7x)** in Year 9 than comparable local secondary schools ($p\sim0.020$).

## Long-term gains

- ✓ Four AVID Australia schools have **sustained their NAPLAN improvement trajectory for at least ten years.** Improvement is complex, contextual and non-linear, but continued high-fidelity implementation that sustains continuous improvement appears to be what delivers the big gains.
- ✓ AVID is not a magic bullet; schools that have had significant leadership turnover, or other implementation challenges, do not always show the same levels of gain.

# VALUE-ADDED NAPLAN ANALYSIS IS A POWERFUL NEW WAY TO COMPARE SCHOOL PERFORMANCE

# Something good is happening in AVID schools, but it is hard to quantify the scale of improvement

We have selected one of AVID's most established secondary schools as a worked case study to illustrate why the value-added methodology is needed and how it works.

Looking at My School, the case study school has shown clear improvement in its NAPLAN results over the past decade:

- It was consistently 'at' or 'below' students with similar background in 2014 (white or light red shading)
- It is consistently 'above' students with similar background in 2024 (light green shading)

2014 My School NAPLAN data

Compare to ● Students with similar background ○ All Australian students

| | Reading | Writing | Spelling | Grammar | Numeracy |
|---|---|---|---|---|---|
| Year 7 | 487 | 441 | 489 | 478 | 486 |
| Year 9 | 536 | 470 | 527 | 521 | 534 |

Legend: Well above | Above | Close to | Below | Well below

2024 My School NAPLAN data

Compare to ● Students with similar background ○ All Australian students

| | Reading | Writing | Spelling | Grammar | Numeracy |
|---|---|---|---|---|---|
| Year 7 | 504 | 515 | 513 | 500 | 490 |
| Year 9 | 532 | 555 | 545 | 515 | 529 |

Source: MySchool, Australian Curriculum, Assessment and Reporting Authority (ACARA)

Yet this presentation My School data generates as many questions about the school's performance as it answers. For example:

- Is there statistically significant evidence that the case study school has improved over time?
- How educationally meaningful is the improvement, given that NAPLAN scores are not intuitive or easy to interpret?
- How does this improvement compare to other local schools?
- How well are the case study school's students performing today compared to the national average student?

This report presents a new way to use the data on My School to analyse the long-term NAPLAN performance of schools in the context of changes to school demographics and broader national performance trends.

There are also questions that NAPLAN data can inform but not answer, chiefly "what factors lie behind this improvement?" The broader evaluation of AVID Australia aims to address many of these questions.

# More broadly, My School presents a rich picture of school performance, but has major limitations

My School presents year-by-year NAPLAN achievement data for each school in two main ways:

### 1) Performance vs similar students

Compare to ● Students with similar background ○ All Australian students

| | Reading | Writing | Spelling | Grammar | Numeracy |
|---|---|---|---|---|---|
| Year 7 | 504 | 515 | 513 | 500 | 490 |
| Year 9 | 532 | 555 | 545 | 515 | 529 |

Source: My School

### 2) Performance vs all Australian students

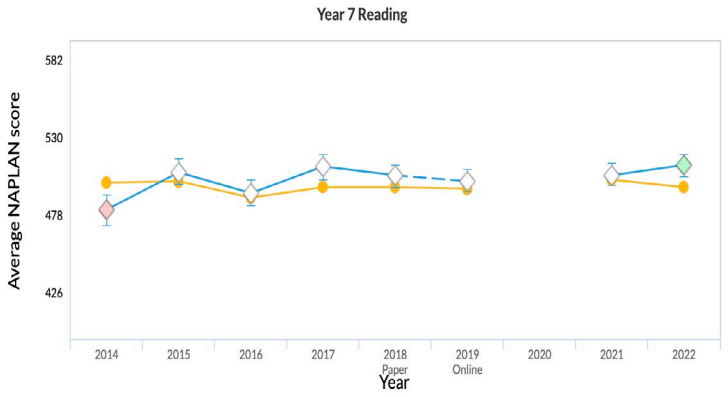
Compare to ○ Students with similar background ● All Australian students

| | Reading | Writing | Spelling | Grammar | Numeracy |
|---|---|---|---|---|---|
| Year 7 | 504 | 515 | 513 | 500 | 490 |
| Year 9 | 532 | 555 | 545 | 515 | 529 |

Source: My School

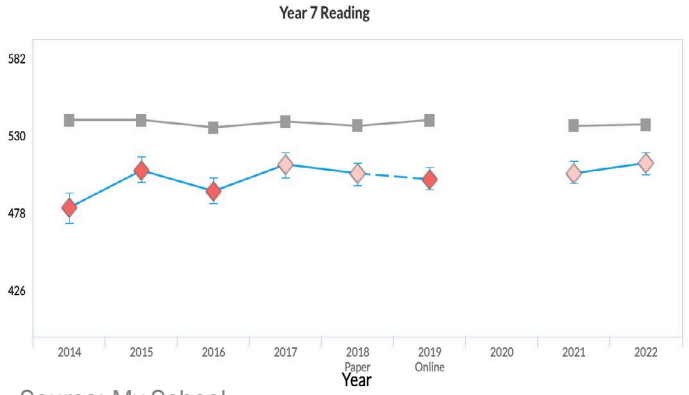
The data can also be aggregated to track performance over time in various ways: versus similar students[1], versus all Australian students, or across multiple year levels

### Longitudinal comparison vs similar students



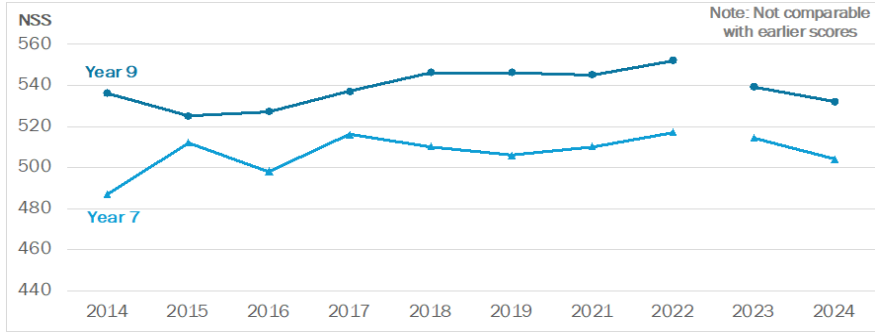

Source: My School

### Longitudinal comparison vs all Australian students




Source: My School

### Longitudinal achievement for different year levels




Source: Author's analysis of data from My School

These are rich datasets but have some important limitations. In particular,

- It is not possible to compare data before and after 2023 when the NAPLAN data series was reset
- It is not possible to directly compare any given school's performance with different schools, such as the other schools in its local area
- It is not easy to do statistical analysis of the performance of a group of schools.

Note 1: Formally this should be "students with similar background". In order to improve readability, this report uses the terms "similar students" and "students with similar background" interchangeably.

# This report introduces a new methodology, Value-added NAPLAN Analysis

Value-add is a concept that has been used extensively in school education to understand the relative performance of a group of students or schools given the demographics and background characteristics of their students. Value-added questions are typically asked in two ways:

- How are a group of students or schools performing *at a given point in time* compared to their expected performance?
- How has the performance of a group of students or schools *changed over time* compared to their expected performance?

This Report introduces a new methodology for school-level Value-Added NAPLAN analysis:

**Definition: A school's NAPLAN Value-Add is the gap (measured in months or years) between its average NAPLAN score and the national average after adjusting for the demographics and background characteristics (ICSEA) of its student cohort.**

Put another way, a demographically average school[1] with NAPLAN results equal to the national average has a value-add of zero, meaning that it is performing as expected.

The table below contrasts the My School comparison of NAPLAN versus students with similar background to the new Value-Added NAPLAN approach. In brief, while they are aiming to achieve similar ends and are very highly correlated, the value-added approach offers significant advantages, especially for comparison of multiple schools.

| **My School:** Compares each school's NAPLAN average to the average NAPLAN score of students with similar background | **Value-Added NAPLAN approach:** Adjusts a school's NAPLAN average based on its cohort then compares it to the NAPLAN average for all Australian students |
|---|---|
| Purpose of both approaches is to see how well a given school is performing given the demographics and background characteristics of its students | |
| Creates a matched sample of students with similar demographics and background characteristics, then compares the NAPLAN average of this cohort to the school's (unadjusted) NAPLAN average | Adjusts a school's average NAPLAN score as if it were demographically average as measured by ICSEA then estimates value-add by subtracting the average NAPLAN score of all Australian students |
| Data shown as NAPLAN scale scores (NSS) versus the matched sample of students | Data shown as value-add performance versus the national average in Equivalent Year Levels (EYL) |
| Authoritative and well-defined approach | New approach but internally well-validated and tightly correlated to the My School approach |
| NAPLAN scores and gaps are unintuitive and hard to interpret | Value-add uses the easily understood metrics of years or months of learning |
| Data analysed and published by ACARA each year on the My School website | Requires a proprietary transformation of My School data |
| Not possible to compare schools with different student cohorts (as measured by ICSEA) | Possible to compare all schools against each other by adjusting for ICSEA |
| Not possible to compare NSS before and after 2023 data reset | Possible to compare value-added performance across the full time series |
| The NAPLAN 'curve' complicates analysis[2] | EYL linearises the NAPLAN curve, greatly simplifying analysis |
| Challenging to do statistical analysis | Enables statistical analysis |

Note 1: Demographically average as measured by ICSEA, the Index of School and Community Socio-Educational Advantage (see LINK for more details). ICSEA captures individual student background characteristics (parental occupation and parental education) and school-level characteristics (remoteness and percent Indigenous student enrolment). This report uses the terms 'school demographics' or just 'demographics' as shorthand for 'school demographics as measured by ICSEA'. ACARA uses the term "students with similar background" to indicate a cohort of students with the same individual background characteristics as the students in a given school; however this does not include the broader school-level characteristics.

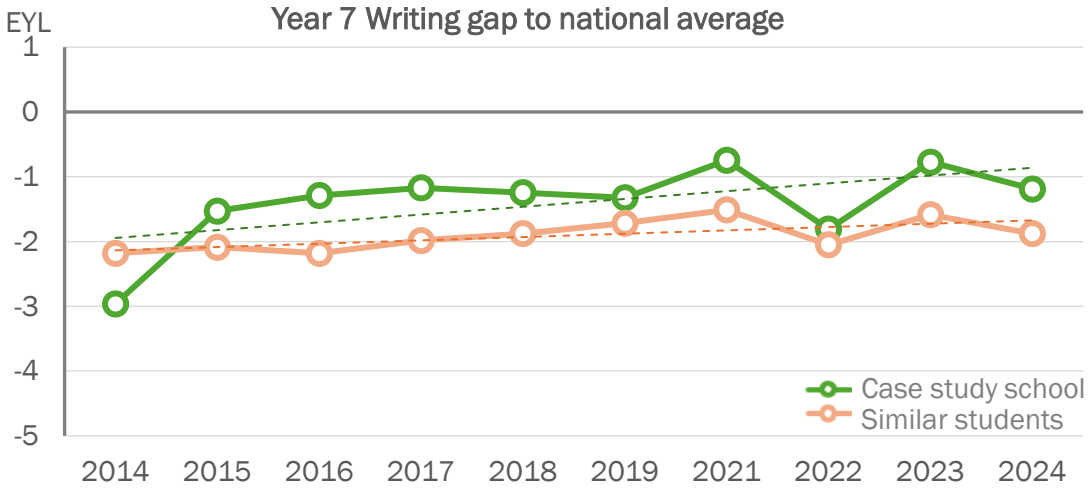
Note 2: See Goss et al. (2016), *Widening Gaps*, Grattan Institute for a detailed description of the issues with the NAPLAN curve and the conceptual development of the Equivalent Year Levels approach.

# A WORKED EXAMPLE OF VALUE-ADDED NAPLAN ANALYSIS SHOWS HOW IT CAN BE USED TO MAKE SENSE OF THE VALUE ADDED BY A SCHOOL OVER TIME

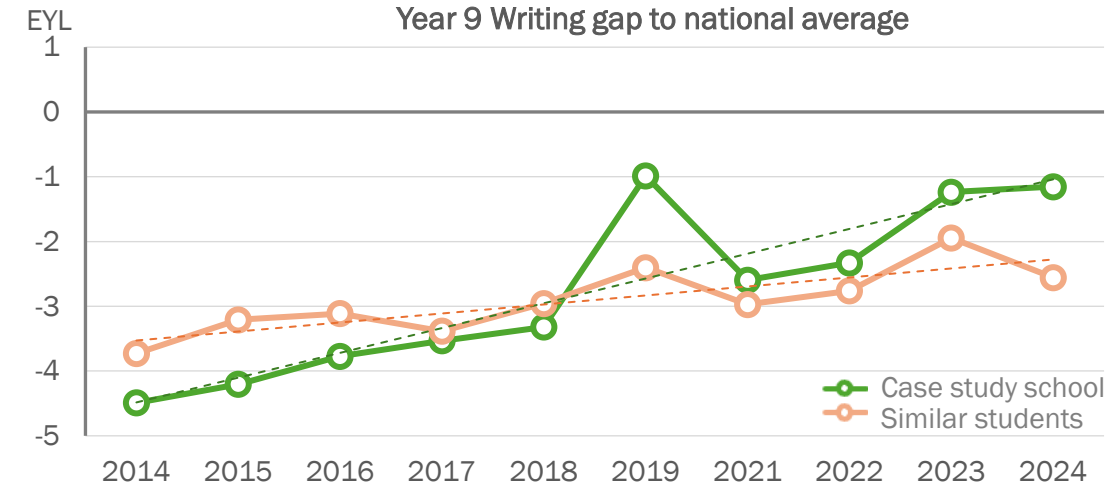
# The case study school has significantly improved its Year 9 Writing over the past decade

The data presented on My School can be made more useful by translating NAPLAN scale scores into Equivalent EYL and then comparing the gap to the national average. The translation to EYL makes the data more intuitively meaningful and removes the issues created by the NAPLAN curve. Using the gap to the national average enables comparison of relative NAPLAN performance across the full time series.

The charts below show that the case study school has shrunk the gap between its Writing scores and the national average, closing nearly three-quarters of its Year 9 Writing gap since 2014. Some of this may be attributable to changing demographics (the school's ICSEA has increased over time), but the Year 9 improvement *relative to similar students* (from one year behind in to more than one year ahead) shows that it has delivered about two years of value-add over the past decade.




Source: Author's analysis of data from My School




Source: Author's analysis of data from My School

Interpretation:

- In Year 7, the NAPLAN writing performance of both the case study school and students with similar background is 1-2 years below the national average. This is primarily a reflection that these students are relatively disadvantaged.
- Over time, the gap for the case study school has reduced from about two years in 2014-15 to about one year in 2023-24. On its own, this data does not clarify whether the improvement is from changing demographics or better teaching.
- The gap for similar students has decreased by about six months, suggesting that part of case study school's improvement may be attributable to demographics.

Interpretation:

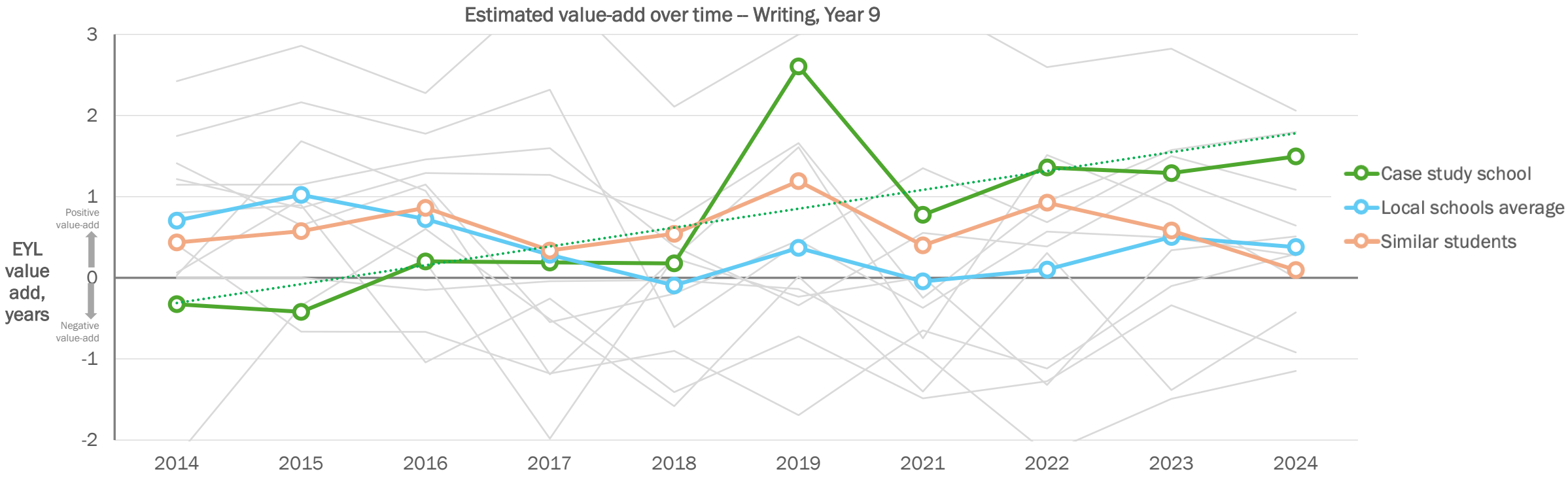
- The Year 9 writing gap is bigger than the Year 7 gap, reflecting the fact that gaps for disadvantaged students tend to widen as they move through school.
- Over time, the case study school has reduced its gap from about 4.5 years to about 1 year–an impressive increase that will improve the lives of its students.
- The writing gap for similar students has reduced by about 1 year, again suggesting changing demographics or some other external factor. However, the improvement *above that of similar students* is genuine value-add.

# Value-add analysis shows that this improvement is both substantial and real

The case study school's value-add can be estimated by adjusting its results as if it were a demographically average school (based on ICSEA). Scores of zero reflect performance as expected; scores above zero reflect positive value-add; scores below zero reflect negative value-add. This step brings two significant benefits:

- The value-add estimate is unaffected by any changes in the level of (dis)advantage of the students that the case study school is teaching.
- Value-add can be calculated for comparable local secondary schools, which gives an indication of how uncommon it is to see a relative improvement of two years.[1]

The case study school's Year 9 Writing has moved from negative in 2014-15 to significantly positive since 2019 – a two-year improvement *above* its demographic changes. This isn't just 'something in the water' – none of the 11 comparable local schools has shown anything like that level of improvement.[2]

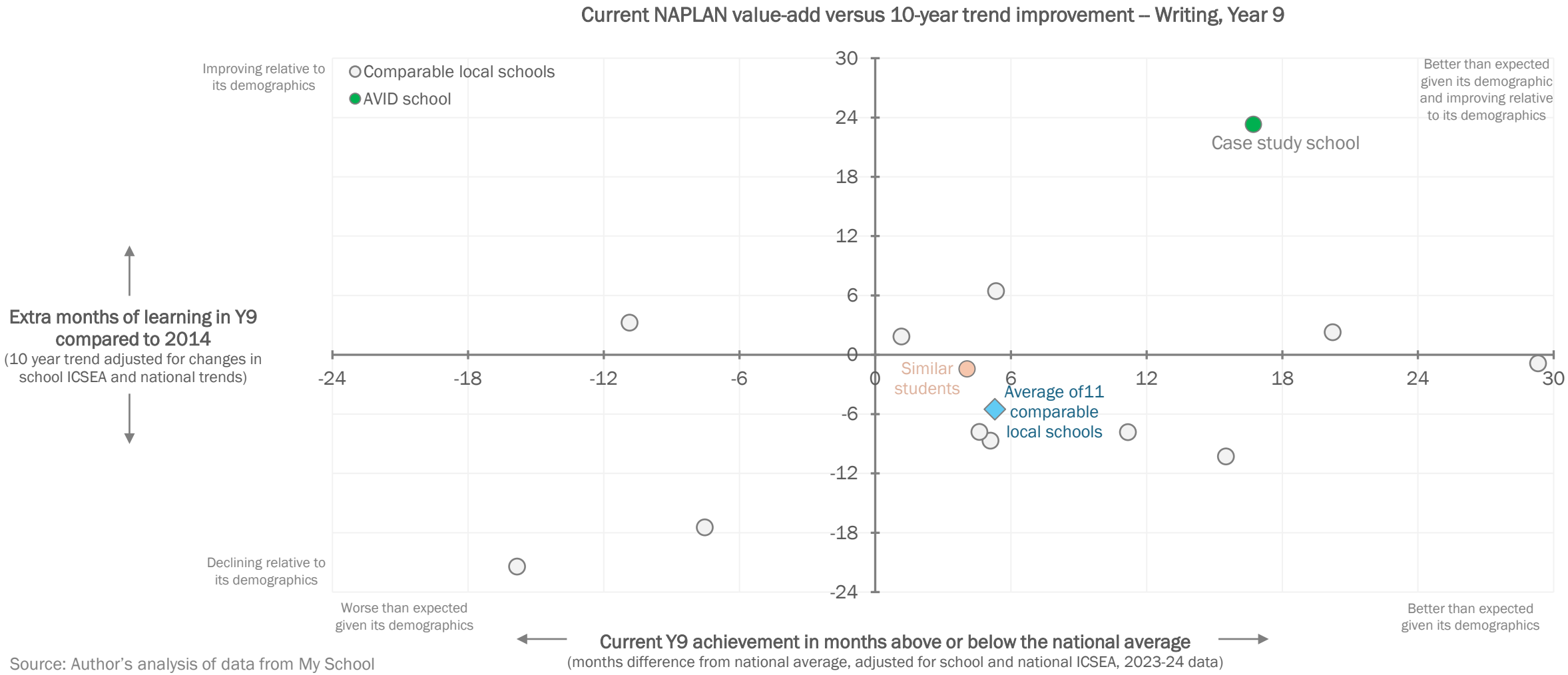



Source: Author's analysis of data from My School

Note 1: Comparable local schools are the case study school's closest neighbour schools except those with significantly different student cohorts (special schools, selective schools, or schools with very different ICSEA values) or those with insufficient data.
Note 2: One school has had impressively high value-add over the past decade. However, for the purposes of evaluating AVID's impact, improvement over time is the most important outcome.

# The case study school's increased value-add is a complete outlier among local schools

Value-add can also be used to visualise current performance (x-axis, showing average value-add of the past two years) and improvement over time (y-axis, showing trend improvement over 10 years). This shows clearly that the case study school's improvement is unlike any of its comparable local schools.[1] In fact, the average performance of those local schools (the blue dot) shows that their Year 9 Writing value-add has decreased over the past decade.




Source: Author's analysis of data from My School

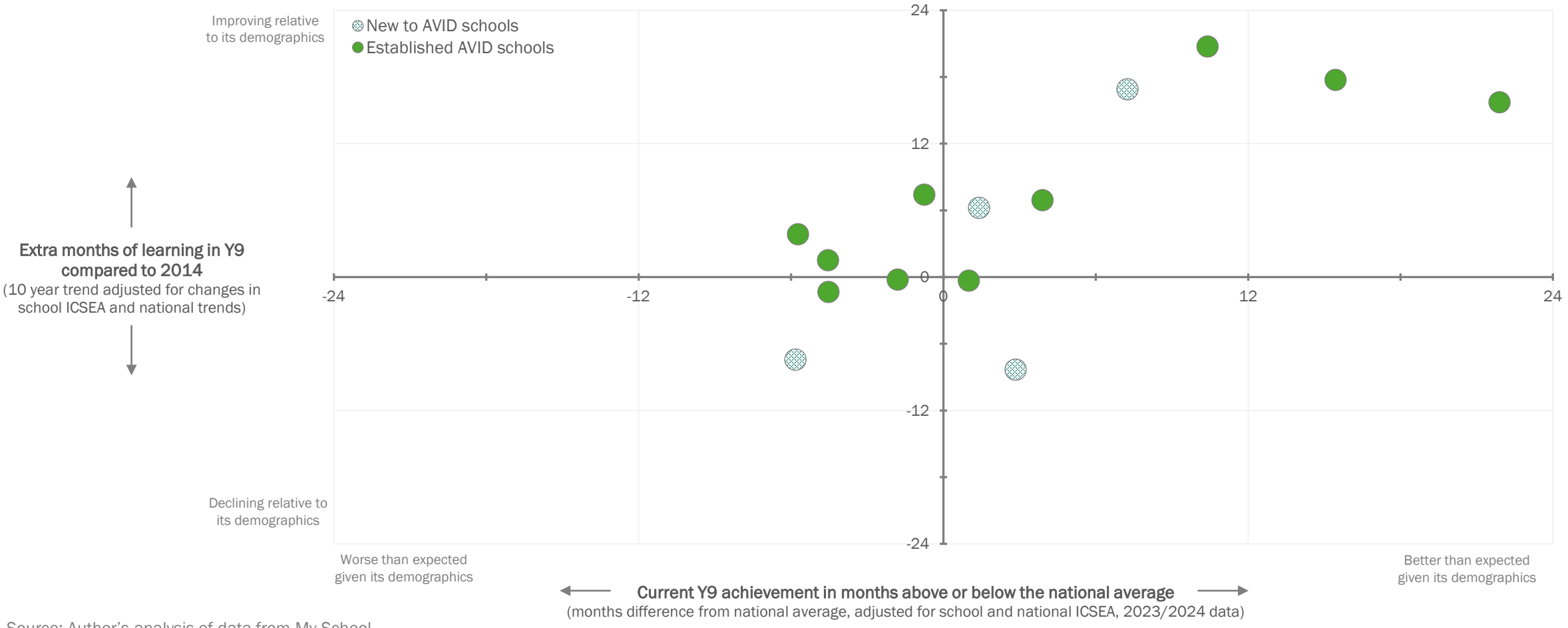
Note 1: Comparable local schools are the closest neighbour schools except those with significantly different student cohorts (special schools, selective schools, or very different ICSEA scores) or insufficient data.

# VALUE-ADDED NAPLAN ANALYSIS SHOWS THAT ESTABLISHED AVID SCHOOLS TEND TO OUTPERFORM SIMILAR STUDENTS AND COMPARABLE LOCAL SCHOOLS

# Established AVID schools show impressive Year 9 improvement across multiple domains

AVID Australia currently supports 14 schools that teach secondary students, most of which are focused on whole-school improvement. Of these, 10 schools have been implementing AVID for more than 3 years. Five of the established AVID schools shown at least a six-month improvement in Year 9 value-add across an average of the three main NAPLAN domains of Reading, Writing and Numeracy.[1] New to AVID schools (i.e. 3 years or less) show more mixed results, reflecting that improvement takes time.

**Year 9 value-add for AVID Australia schools across NAPLAN Reading, Writing and Numeracy**
10-year improvement vs current achievement, adjusted for school ICSEA and national trends, months

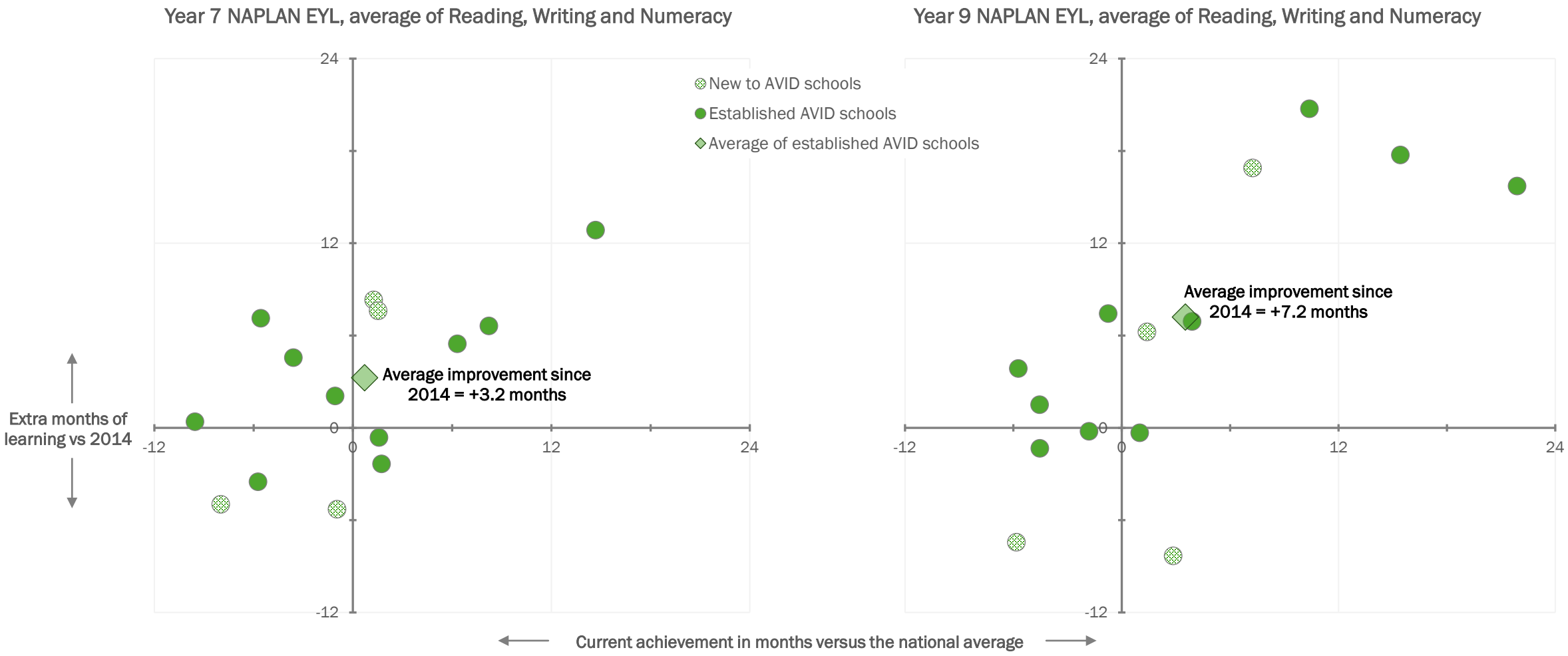



Source: Author's analysis of data from My School

Note 1: Separate analysis confirms that improvement in established AVID schools is broadly consistent across all three individual NAPLAN domains.

# Greater value-add in Year 9 than in Year 7 shows it is not just about the incoming cohort

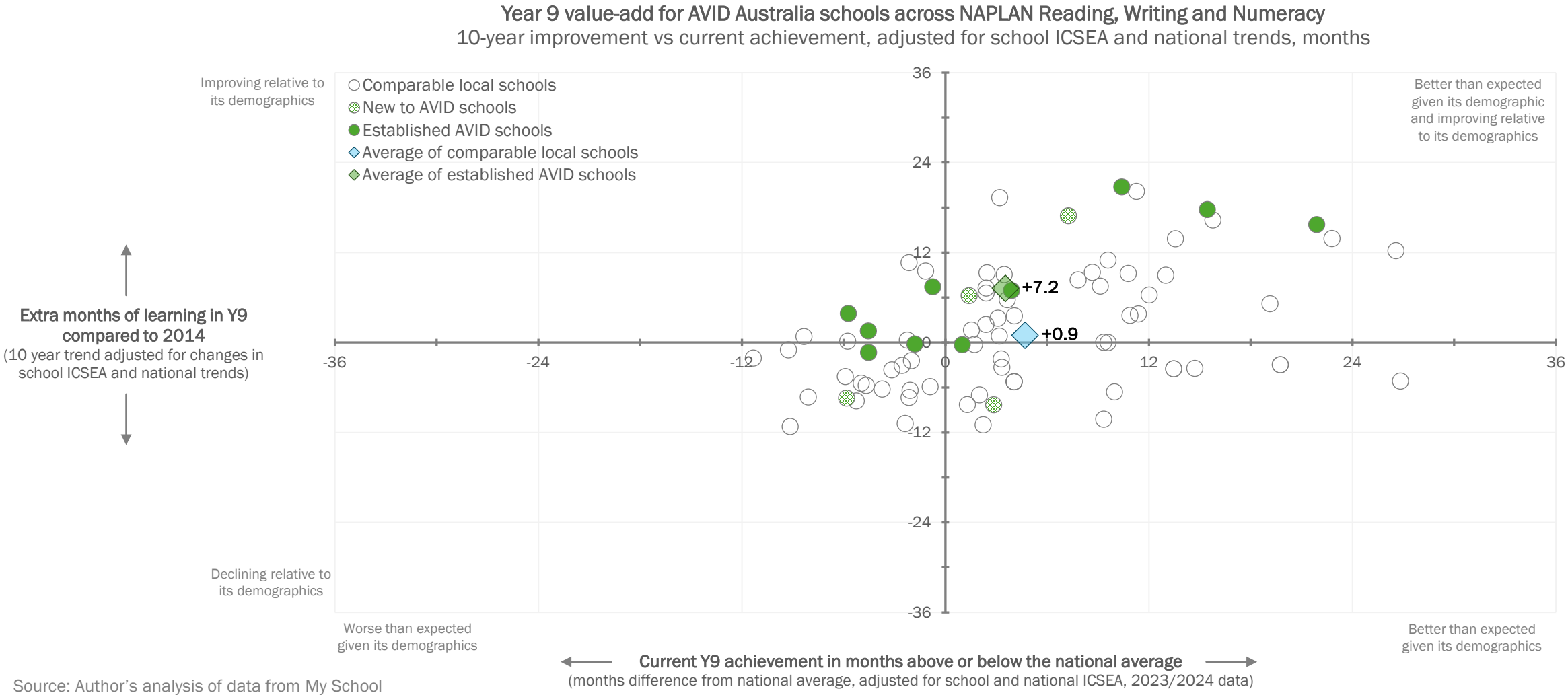
Comparing Year 7 and Year 9 performance gives additional insight: most students have typically only attended a school for a few months by the time they sit NAPLAN in Year 7, versus over two years by the time they sit Year 9 NAPLAN. The fact that established AVID schools typically add twice as much value to Year 9 students (+7.2 months) than to Year 7 students (+3.2 months) is strong supporting evidence that the schools themselves are having impact, not just teaching better prepared incoming cohorts.




Source: Author's analysis of data from My School

# Year 9 gains in AVID schools are even more impressive compared to their local schools

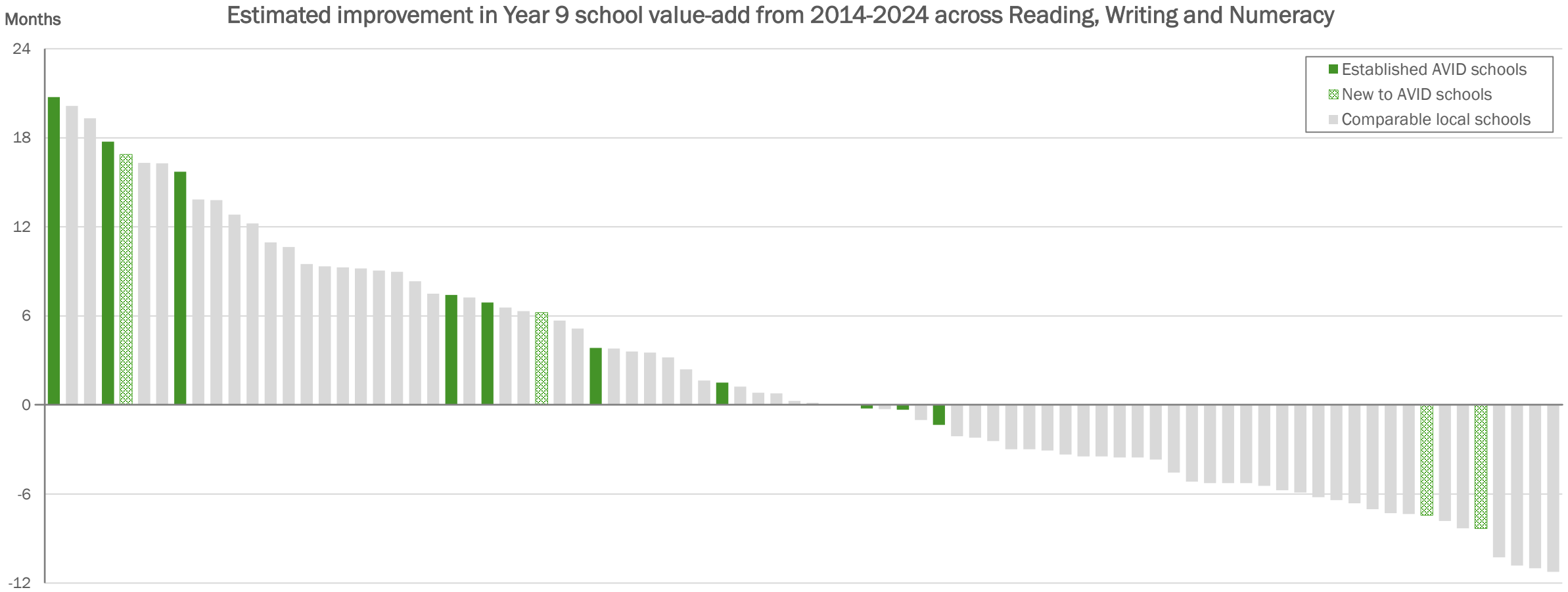
A major advantage of the value-added analysis is that it can be used to compare the impact of AVID Australia schools against local schools. As part of the analysis, we explored the NAPLAN value-add for 70 comparable local schools, including at least five comparison schools for each established AVID school. Since 2014, the average established AVID Australia schools has added nearly **eight times** as much value as the average of its comparable local schools: +7.2 months versus +0.9 months.




Source: Author's analysis of data from My School

# AVID schools are over-represented among the most-improved schools that we analysed

The chart below ranks 84 secondary schools (14 AVID schools and 70 comparable local schools) according to their improvement in Year 9 value-add across the three main NAPLAN domains of Reading, Writing and Numeracy. Three of the eight most-improved schools are established AVID schools, and another started AVID in 2022.

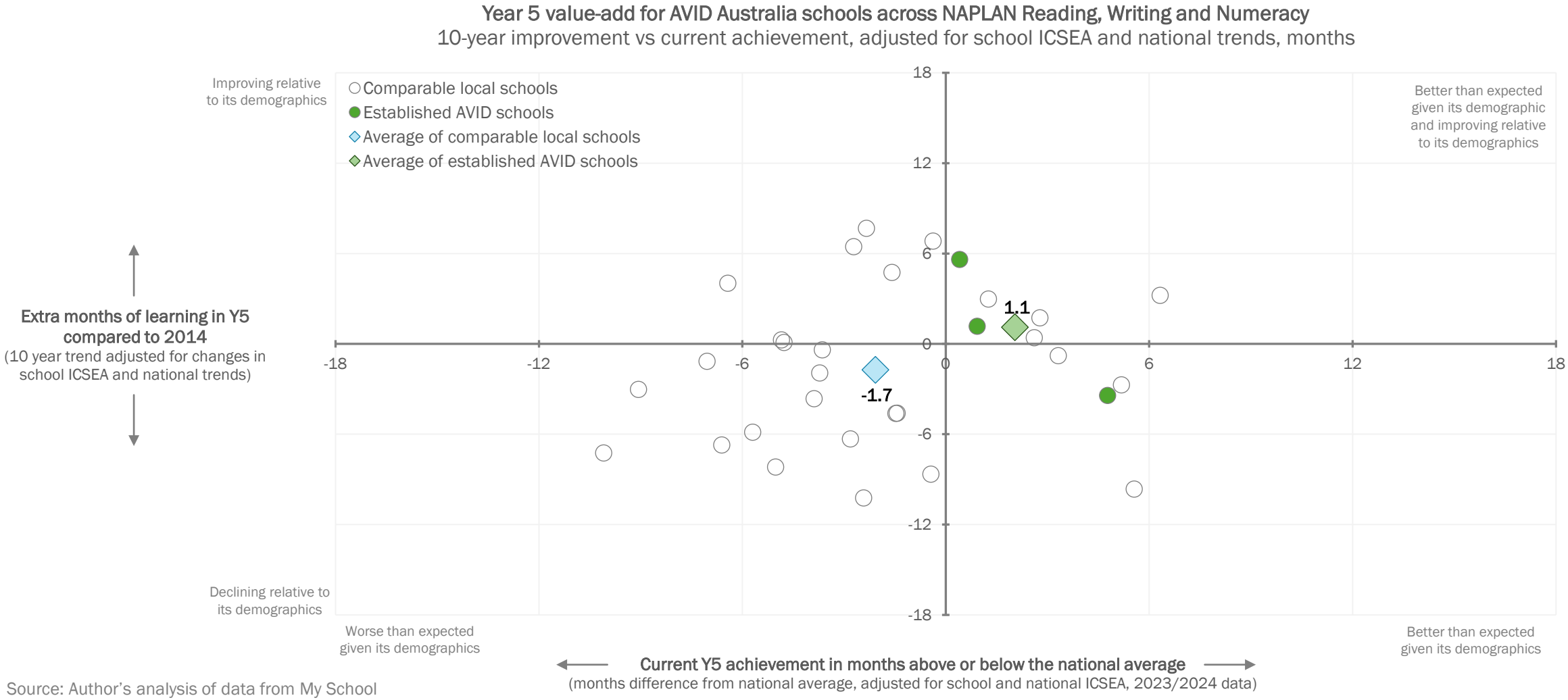



Source: Author's analysis of data from My School

Note 1: Schools are ranked highest to lowest in terms of improvement in Year 9 value-add

# AVID Australia primary schools appear to be adding value, especially in Year 5

AVID Australia supports 3 established schools. They have added on average 1.1 months of extra learning to their Year 5 students compared to Year 5 students in 2014, while a sample of 31 comparable local schools lost on average 1.7 months of learning in Year 5. Further analysis confirms that current value-add for all AVID schools is higher in Year 5 then Year 3, on average by 3.7 months. This supports the idea that improvement is something the AVID schools are doing, not just a changing cohort.[1]




Source: Author's analysis of data from My School

Note 1: By contrast, only 9 out of 31 comparable local schools have higher current value add in Year 5 than in Year 3, and the average change in value-add between Year 3 and Year 5 is -1.8 months.