EDU1 June 2021

Bringing out the best in every child

An Education strategy for the ACT

Liberals

Paper prepared by Dr Karen Macpherson, BEd, PhD in collaboration with Jeremy Hanson, CSC, MLA ACT Shadow Minister for Education

Recommended citation: Macpherson, KJ (2021) Bringing out the Best in Every Child: An Education Strategy for the ACT (A paper prepared for Jeremy Hanson, CSC, MLA, ACT Shadow Minister for Education)

June 2021

"State and Territory results show that after taking account of intake and context differences, ACT government schools on average achieve negative results on every measure."

Lamb, in ACT Auditor-General's Report Performance Information in ACT Public Schools, 2017:5

At a primary school level "by Year 5 students in the ACT are almost 6 months behind students in comparable schools."

> Victoria University, Melbourne Government School Performance in the ACT, 2017:4

At the high school level "in writing and numeracy, in Years 7 and 9, almost all mean results from government high schools [tested] were below the equivalent mean results from statistically similar schools."

> Australian National University Academic underperformance in ACT schools; 2018:13

It's <u>time</u> to <u>re-set</u> Education in the ACT.



About Jeremy Hanson Jeremy Hanson, CSC, MLA

Jeremy Hanson is the ACT Shadow Minister for Education and Higher Education and Shadow Minister for Early Childhood Education. He is also Shadow Minister for Police and Veterans' Affairs. He has been a member of the ACT Assembly since 2008 and has previously held positions including Leader of the Opposition, Shadow Minister for Health and Shadow Attorney General. Jeremy is the Opposition Whip and has extensive experience on Assembly committees including the Assembly's Standing Committee on Education and Youth Affairs, Economic Development and Tourism and Justice and Community Safety.

Prior to being elected to the Assembly, Jeremy served as an Army officer for 22 years, including operational service in East Timor and Iraq. He was awarded the Conspicuous Service Cross for his service in 2006. He is a graduate of the Royal Military College and Australian Command and Staff Course and has a Bachelor's degree from the University of New England and a Master's degree from the University of Canberra.



About Karen Macpherson Dr Karen Macpherson, BEd (USyd), PhD (UCan)

An undergraduate degree in Primary School teaching from the University of Sydney led Dr Karen Macpherson some years later to a varied career at the University of Canberra, where she was a Communication academic and Education researcher specialising in the pedagogy of teaching; critical thinking; and assessment for more than 20 years.

Dr Macpherson has served on ACT High School and College Boards, and on Advisory Panels for the ACT Board of Senior Secondary Studies. She has conducted research in ACT government and non-government schools for the Australian Computer Society on students digital media consumption; and understanding of careers in ICT.

Her PhD thesis in Education demonstrated the importance of concept-based teaching to the development of critical thinking and information literacy skills in online environments. Her postdoctoral research extended these educational principles to examining analytic thinking in ANU medical students, and to the effect of cognitive bias on clinical decision-making processes in emergency medicine interns and consultants at Royal North Shore Hospital.

Dr Macpherson has published a range of papers in international academic journals ranked in the top 5% of quality worldwide. She was an Expert Reader for the Australian Research Council for ten years. In recognition of her contributions to the scholarship of teaching, she was made a Fellow of the Centre for the Enhancement of Learning, Teaching and Scholarship at the University of Canberra.

Dr Macpherson is now a consultant writer, analyst and researcher in Education. She has no party-political affiliations. Her undertaking of the preparation of this policy paper reflects her abiding passion and interest in ensuring that education provides the best possible learning outcomes for every student.

FOREWORD

The education of school aged children to prepare them for their lives ahead is in my view the most important area of government policy and service delivery that the ACT government has responsibility for. We have a workforce of dedicated teachers who are passionate about students' learning and wellbeing. We need to support them by improving the system in which they work.

The government education system is complex including varied levels of parental interaction and choice, politically charged funding debates, philosophical arguments about curriculum and pedagogy, significant infrastructure investment decisions and equity challenges.

At its core however is the very simple question of whether the ACT system is delivering the best education for every child, regardless of their background or ability? My conclusion after collaborating with Dr Karen Macpherson for the development of this paper is that no, it isn't.

This paper lays out the issues that are holding our system back from achieving its full potential, and outlines a way ahead to make the improvements that are needed across the key areas of academic standards; equity; bullying and violence; school funding and governance; and overcrowded schools and ageing infrastructure.

An independent systemic review of the ACT Education system is needed to address these issues and a terms of reference for such a review is provided as part of this paper.

I invite feedback and consultation of the issues raised in this paper and look forward to hearing from you in person or by email.

Jeremy Hanson

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Our Vision

To bring out the best in every child, regardless of their background or ability.



REPORT ON A PAGE

The ACT Education System has been underperforming in literacy and numeracy outcomes relative to other Australian regions of similar socio-economic advantage for at least 10 years.

The ACT Liberals propose a **FIVE POINT STRATEGY** to achieve better education outcomes for every child.

		WHAT	HOW
1		Improving Falling Academic Standards	 Exceptional Teaching + Focused Curriculum. Equipping teachers with the tools and support they need to provide strong learning gain for every student, in every year of schooling. Streamlining curriculum to focus on Literacy and Numeracy foundations.
2		Genuine Equity for Every Student	 Creating Real Opportunity. Making equity of access to education a reality for every student, regardless of their background or ability. Creating environments that bring out the best in every child.
3	M i	Reducing Bullying and Violence	 Stronger Leadership + Positive School Cultures. Working with communities and families to make our schools safer. Creating positive cultures in every school.
4		More Support for Schools through Better Funding and Governance	 More Effective Funding + Better Governance. Ensuring funds are spent on what works. Re-balancing governance for a stronger Government school system. Building policy and programs based on evidence and review.
5		Fixing Overcrowded Schools + Ageing Infrastructure	 Realistic Planning + Better Management. Improving school capacity planning to meet demand proactively. Better management of school infrastructure.

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EXECUTIVE SUMMARY

The ACT has been underperforming in Literacy and Numeracy outcomes for at least ten years. No fewer than five independent research reports on ACT long-term results in NAPLAN have reached the conclusion that when compared with other States and Territories across Australia:

"after taking account of intake and context differences, ACT government schools on average achieve negative results on every measure."

Depending on the specific focus of these reports, they calculate that between two and 16 months of learning gain is lost. Further, international assessments reveal that the ACT's underperformance extends to Science.

The big question is of course, why? Despite the ACT having the highest teacher salaries, the smallest class sizes, and the second highest education funding per student in Australia, evidence from numerous sources suggests that over time, a cluster of important factors under the control of the ACT government has combined to create a stagnating education system that is overdue for reform.

That stagnation is neither inevitable nor irreversible. A range of policy "levers" available to government can be utilised to improve educational outcomes so that every child in the ACT has the opportunity to fulfill their potential.

³ The Hon Alan Tudge, Federal Minister for Education, 27 April 2021 "Lifting Australia's school performance: Lessons from abroad" *The Age Schools Summit*

PART A: The ACT Education System

1. // The Issue: An Underperforming System

ACT Labor came to power in 2001. In their 20 years in office, Labor's public stance has always been that the ACT is one of the highest performing education systems in Australia. But from as early as 2005-6, the ACT government was aware that this was not the case.² Analysis of publicly available national and international standardised assessments for the last ten years has enabled the real outcomes in the ACT government school system to emerge.

Headline claims that the ACT is one of the top performing Australian jurisdictions in Education mask the true situation: long term underperformance and downward trends in Literacy and Numeracy outcomes at both primary and secondary levels, where ACT students can be up to six months or more behind achievement levels reached in other regions of similar socio-economic advantage.

ACT's performance is not simply a reflection of the Australia-wide trend of stagnation in Literacy and Numeracy outcomes evidenced by the OECD international assessment PISA. That series of assessments reveals that an Australian 15-yearold today "is a full year of learning behind where the average 15-yearold was in 2000. In mathematics, they are a full 14 months behind."³

In the ACT, there are other factors at play.

¹Lamb, S . 2017: Government School Performance in the ACT Analysis Paper prepared for the ACT Education Directorate, Victoria University, Melbourne; p 4 ² Strategic and Functional Review of the ACT Public Sector and Services, 2006: p 180

2. // Evidence of Underperformance

Chronic underperformance in ACT Literacy, Numeracy and Science outcomes is revealed by longitudinal data from multiple, highly-regarded research institutions and assessment processes in the ACT; nationally; and internationally.

The first is the most recently reported Education performance indicators, available in the ACT Education Directorate Annual Report 2019-2020. Out of seven key performance indicators, only one was met.

The second is 13 years of national standardised Literacy and Numeracy assessment (NAPLAN). Compared to other regions of similar socioeconomic advantage, the ACT has been underperforming on these assessments since at least 2012 and has a downward trajectory.

The third is years of international standardised assessment of Maths, Science and Reading (PISA); and of Maths and Science (TIMSS). On the most recent PISA assessment, the ACT is below the average for comparably high Australian socio-economic advantage quartile groups on every indicator: Literacy, Maths, and Science. On TIMSS in 2019, ACT mean Maths and Science scores were well below the means used for assessing socioeconomic advantage in both Year 4, and Year 8.

Although ACT, national and international assessments all point to a long-term underperformance in the ACT on Literacy, Numeracy, and Science, latest results for other comparable countries such as the USA and the UK on PISA, show improvement; indicating that the decline is neither inevitable nor irreversible.

3. // What are the Causes?

Two points need to be made at the outset. Firstly, that whilst Literacy and Numeracy are not the only desirable outcomes of schooling, they are the most important ones for lifelong learning, jobs, and participation in society. Secondly, the long-term underperformance in Literacy, Numeracy and Science outcomes in the ACT is in no way a criticism of teachers. On the contrary, teachers in the ACT are as dedicated and hardworking as they are anywhere else in Australia, and the causal factors are complex, and lie elsewhere - in the system.

Over time, a complex interplay of factors under the control of the ACT government have combined to create a stagnating system that is overdue for re-invigoration.

Regarding the ACT Education system structures, the longstanding model of school autonomy has led to increasingly local-level decision making and management being devolved to school leaders, increasing workload for school leaders, blurring their necessary focus on their core business of educating students; and producing considerable variability and inequality within the government school system.

Equity of access to education remains a real issue for some groups of students, particularly for the economically disadvantaged, and First Nations Australians. Meanwhile, education funding, which although the second highest in Australia, appears to be spent on policies that make little difference to student outcomes. The government school system is plagued with capacity issues, and ageing infrastructure maintenance is under-funded. There appears to be little formal evaluation and review of policies and programs, with the result that professed attention to "evidencebased decision making" is lip service only.

At the school level, leadership variability and staff turnover, leave or lack of regular relief teachers means that not every school provides an optimal environment for teaching and learning to thrive. Although most teachers feel connected to their school, only slightly more than half of students do, and their parents not much better.

Bullying and even violence are issues in some schools in playgrounds, classrooms and towards staff, and there is no overarching policy on these and other matters such as use of personal mobile devices, or technology in classrooms, which would benefit from a unified approach within the system.

Teacher training is ripe for review, given low ATARs and no prerequisites for students wishing to gain a University teaching qualification. Further, it is arguable that curriculum content in teaching degrees does not provide students with the full range of teaching knowledge and skills they need in the classroom due to trends in teaching practice that have not proven to be effective.

In schools, teacher workloads are an issue, as is the workforce composition; and there are chronic shortages of teachers in maths, science, languages, EDU1

and teacher librarians. The shortage of male teachers across the board but particularly in primary schools means fewer positive male role models for students.

Research suggests that the Australian Curriculum, which is adapted by individual ACT schools, is too crowded in content and dissipates the concentration that needs to be trained on the acquisition of strong literacy and numeracy skills as the foundation of future learning, participation, and employment.

PART B: ACT Liberals Strategy for Change

4. // Our Vision: To Bring out the Best in Every Child, regardless of their Background or Ability.

We know that the problems with education outcomes in the ACT are systemic, and that the key areas of concern are: system structures and funding; leadership and culture; teacher education and practice; and curriculum.

The good news is that all of these factors are within the control of government. They can be improved, continuously, through policy, funding and program initiatives that target the problems within each of these areas.

In order to focus our efforts to achieve better education outcomes for every child, five priorities have been identified: Improving Falling Academic Standards; Genuine Equity for Every Student; Reducing Bullying and Violence; More Support for Schools though Better Funding and Governance; and Fixing Overcrowded Schools + Ageing Infrastructure. The Liberal Strategy is summarized in the Table shown right.

ACT Liberal Five Point Strategy for Change: AT A GLANCE

Bringing Out the Best in Every Child

1. Improving Falling Academic Standards Exceptional Teaching + Focused Curriculum	 We will: Review all aspects of teacher education to ensure that our dedicated teachers are equipped with the tools and support they need to provide strong learning gain for every student, in every year of schooling Establish the building blocks for literacy and numeracy in the early learning years Streamline the curriculum in primary and secondary schools to enable the essential skills for jobs and lifelong learning to be developed Ensure a full range of academically challenging subjects for high schools and colleges
2. Genuine Equity for Every Student Creating Real Opportunity	 We will: Make equity of access to education a reality for every student, regardless of indigenous or other background, ability, gender, economic disadvantage, or any other need Consult with the community and stakeholders on how best to meet the needs of disadvantaged students and implement findings Create environments that bring out the best in every child
3. Reducing Bullying and Violence Stronger Leadership + Positive School Cultures	 We will: Reduce bullying and violence in schools by: Working with communities and families to make our schools safer; and focusing on the recommendations of the Inquiry into the management and minimisation of bullying and violence in ACT schools Develop outstanding school leaders with the ability to establish strong positive school cultures that enable students and staff to flourish Create a supportive and challenging education environment that encourages high achievement, and embraces diversity
4. More Support for Schools though Better Funding and Governance More Effective Funding + Better Governance	 We will: Engage in rigorous, timely evaluation of policies and programs to ensure money is spent on what works Re-balance ACT education governance to achieve a strong united framework for government schooling that blends clear common objectives with flexible school autonomy Develop school autonomy structures to better support school leaders to focus on learning and teaching excellence Provide faster, centralised data analysis and information to support evidence-based decisions for better learning outcomes
5. Fixing Overcrowded Schools + Ageing Infrastructure Realistic Planning + Better Management	 We will: Improve school capacity planning to better anticipate and meet demand Review priority enrolment area guidelines Reinvigorate ageing school infrastructure; and eliminate risk from toxic materials Revise systems of school infrastructure management for more efficient outcomes

5. // The Strategy: What Works

The six most important factors that influence learning are: Teacher; Teaching; Curricula; School; Student; and Home. Out of these six effects, four are under the control of the education system: School; Curricula; Teacher; and Teaching. These four factors comprise 69.3% of the effects on student learning.

In other words, almost 70% of the factors that affect student learning are under the control of an education system and can therefore be improved through introducing effective policy settings.

5.1 // Improving Falling Academic Standards: Exceptional Teaching + Focused Curriculum

Of the four factors under the control of education systems, Teacher Characteristics and Teaching Skills are by far the most important: they account for almost 40% of student learning variability. ⁴

5.1.1 Teacher Quality

Top-performing education systems set high standards for who becomes a teacher... The quality of an education system cannot exceed the quality of its teachers. ⁵

Considerations for Teacher Quality (Sn 5.1.1) include a suite of guidelines for improving teacher university entry levels and content; workforce initiatives to attract high quality candidates; professional development; and attractive career paths.

EDU1 5.1.2 Focus on Literacy and Numeracy

Children and young people continue to develop literacy and numeracy skills throughout their formal schooling, from Early Years learning to the end of college, and beyond. Attention to the development of these skills needs to be ongoing through formal education.

Considerations to improve Literacy and Numeracy outcomes (Sn 5.1.2) include a range of initiatives to ensure early learning introduction, explicit teaching of foundations, regular formative assessments to identify issues in a timely fashion; and support interventions that are proven to be effective.

5.1.3 Streamlined Curriculum

Curriculum review is on the agenda of many countries. As of 2021, a major review of the Australian curriculum is in progress. In April, the Federal Minister of Education stated that: "We will have a more streamlined, coherent and focused Australian Curriculum ready to be implemented from Term 1 next year." ⁶

Considerations for Curriculum Review (Sn 5.1.3) include the importance of developing an ACT system-level approach; a review of secondary school guidelines; and a review of college subjects.

⁴ Hattie, J. *Visible Learning: A synthesis of over 800 meta-analyses relating to achievement.* First published 2009 ⁵ The Hon Alan Tudge MP, Minister for Education and Youth. 11 March 2021: *A world beating education*, Address delivered at Menzies Research Centre

⁶ The Hon Alan Tudge, Federal Minister for Education, 27 April 2021 "Lifting Australia's school performance: Lessons from abroad" *The Age Schools Summit*

5.2 // Genuine Equity for All Students: Creating Real Opportunity

It is surely a fundamental role of schooling to enable anyone to climb out of a lower socio-economic situation.⁷

In addition to the "hidden" socioeconomic disadvantage in the ACT, there are many other factors that affect engagement with education, such as disability; challenging behaviours; being from a culturally and linguistically diverse background; or being gifted or talented.

Considerations for Genuine Equity and Real Opportunity (Sn 5.2) are wideranging. Each group experiencing disadvantage or challenge has a unique cluster of issues that must be identified and addressed to produce better outcomes. Equity and opportunity for every individual within a framework of strong social cohesion needs to be the goal.

5.3 // Reducing Bullying and Violence: Stronger Leadership + Positive School Cultures

5.3.1 Reducing Bullying and Violence

Schools experience the same challenges as other parts of society in relation to bullying and violence. Measures to eliminate violence outside school environments may contribute to the elimination of bullying and violence within schools. This requires an ongoing public commitment to changes in attitudes and beliefs associated with violence. ⁸ Considerations for Bullying and Violence (Sn 5.3.1) include system-level policies; school-level interventions; and community engagement as essential components of any concerted effort to reduce the incidence of anti-social behaviour in schools.

5.3.2 Leadership and Culture

High-quality school leadership is the practice of positively influencing individual and collective teaching expertise in a professional learning culture to secure a strong rate of progress for all learners.⁹

By their actions, school leaders set the standards, tone and expectations that together create a school's culture. High quality schools have a strong positive culture that provides a safe environment for learning and promotes excellence and achievement.

Considerations for School Leadership and Culture (Sn 5.3.2) include professional development, community engagement for safer schools; and leadership effects on school culture establishment.

5.4 // More Support for Schools though Better Funding and Governance: More Effective Funding + Better Governance

5.4.1 Governance and School Autonomy

There has been a strong political consensus that greater school autonomy and local decision making improves public education. There is little evidence for this consensus.

⁷ Hattie, J. 2015: *What Doesn't Work: The Politics of Distraction*, Pearson; p 6

⁸ Standing Committee on Education, Employment and Youth Affairs, Report 6, September 2019: *Inquiry into the management and minimisation of bullying and violence in ACT schools*; Finding 1, p x

⁹ Australian Institute for Teaching and School Leadership: Leading for impact: *Australian guidelines for school leadership development*. n.d. Available at: aitsl.edu.au

Instead, evidence indicates greater autonomy has increased inequalities across education systems.¹⁰

The existing model of school autonomy has gradually devolved more and more responsibility to individual schools. Currently instead of a strong government education system, we have a collection of schools.

Considerations for Governance and School Autonomy (Sn 5.4.1) include a review of governance and autonomy structures within the ACT education system to ensure a better balance between system-wide policy and decision making, and school autonomy, and rigorous and timely evaluation of policies and programs.

5.4.2 Funding to Where It's Needed

Taxpayers are now fully aware of the billions upon billions of dollars spent on schooling, but it is the human cost that should occupy our minds... For thousands of young people, the dismal reality is that they lack the essential knowledge and skills that enable individuals to thrive. ¹²

Considerations for Funding (Sn 5.4.2) include the importance of maintaining school funding, whilst making it work more effectively through smart reform in investment.¹³ This means a thorough review of where education funding goes; and rigorous evaluation of value-for-money in programs to generate either improved learning outcomes directly; or indirectly by way of creating support to achieve those outcomes. Approaches that are widely implemented elsewhere, or popular, should not be adopted without careful review of their evidence base and actual success in improving learning. For example, money invested in teacher quality improvement is much more effective than small changes in class size.

5.4.3 Evidence-based Decisions and Practice

Governments are responsible for making policy decisions to improve the quality of life for individuals and the population. Using a scientific approach to investigate all available evidence can lead to policy decisions that are more effective in achieving desired outcomes as decisions are based on accurate and meaningful information. ¹⁴

The recognition of the importance of evidence-based decision making and practice is not new. It has been the underpinning of modern healthcare for decades.

Considerations for Evidence-Based Practice in Education (Sn 5.4.3) include initial teacher education content on critical thinking, assessment, and evaluation of evidence in the context of classroom teaching and practice; assessment data from national and international sources to be analysed by experts in a timely fashion; and information to be distributed to those who need it, when they need it, in useable form.

¹⁰ Keddie, A et al, 2020: *School Autonomy Reform and Social Justice in Australian Public Education*, Progress Report 1. Deakin University; Monash University; Curtin University. Available at schoolautonomyandsocialjustice.org

¹² Mueller, F., 27 Jan 2020: 'Human cost of failing the education test', The *Canberra* Times

¹³ Fahey, G. Dec 2020: Dollars and Sense: Time for smart reform of Australian school funding, *Centre for Independent Studies*

¹⁴ ABS, 20 Oct 2010: 1500.0 - "A guide for using statistics for evidence based policy, 2010"

5.5 // Fixing Overcrowded Schools + Ageing Infrastructure: Realistic Planning + Better Management

So concerning are the issues with infrastructure management and capacity that in February 2021 the Standing Committee on Education and Community Inclusion resolved to inquire into and report on the management of ACT school infrastructure. Issues to be investigated include but are not limited to: the management of hazardous substances and materials in schools; and the management of capacity issues in schools, including the use of temporary facilities. The Inquiry will report in December 2021.

5.5.1 Overcrowded Schools

School capacity is a major issue in the ACT. Full utilisation of school infrastructure is affected by changing demographics; new suburb development; urban infill; priority enrolment policies; and the reputation of the school. All of these factors are either directly or indirectly under the control of the government - and are foreseeable.

Considerations for School Capacity (Sn 5.5.1) include the need for more proactive approaches to capacity bottlenecks, such as longer-term more precise demographic forecasting and projections; and more timely responses to over-capacity issues including those occurring in urban infill suburbs.

5.5.2 Ageing Infrastructure

A report by the ACT Auditor-General in 2019 detailed many issues in government school asset management.¹⁵ The main issues are: that although there is a framework for management of school infrastructure assets, implementation of that framework is poor or variable at the individual school level due to "poor supporting systems and processes"; software purchased to facilitate asset management had been populated in only two of 88 (now 89) schools; and consistent budget over-runs with maintenance. There have been recent issues with a number of ageing school buildings still requiring remediation and removal of toxic substances such as lead and asbestos, at significant cost.

Considerations for Ageing Infrastructure (Sn 5.5.2) include whether buildings that are decades old are still fit-for-purpose in a modern educational setting; possible better outcomes through system-level management of school infrastructure; the need to eliminate risk from toxic substances; and the retiring of demountable buildings.

¹⁵ ACT Auditor-General Report No 11 of 2019: Maintenance of ACT Government School Infrastructure

6. // Conclusions

Every Australian State and Territory has been part of the general slide in literacy, numeracy and science outcomes that has become a feature of national and international assessments for a decade. The ACT has its own particular difficulties arising out of systemic stagnation, and far from being a star performer, is consistently below other regions of similar socio-economic advantage in outcomes.

These downward trends are not inevitable, and several international examples of dramatic improvement in educational outcomes demonstrate that improvement is achievable.

There are two major reasons why improvement in learning outcomes is so important, if indeed such an aim needs any explanation: firstly, in the national interest, we need a future workforce that can rise to the challenges of a technology-driven world.

But secondly, as any parent will tell you, "I just want my child to be happy." The most potent way we can support children and young people to achieve this universal goal is to provide a challenging, supportive, and effective education system that brings out the best in every child.

A comprehensive independent review of the ACT Education system is needed. Terms of Reference for an independent review into the ACT Education system form Appendix A.

¹⁸ ABS, Feb 2021: Schools. Available at https://www. abs.gov.au/statistics/people/education/schools/latestrelease



¹⁶ The ACT has the highest percentage of enrolments in non-government schools in Australia. ABS, Feb 2021: Schools. Available at https://www.abs.gov.au/ statistics/people/education/schools/latest-release ¹⁷ ACT Education Directorate, Feb 2020: *Census of ACT Schools*; p 2

ACT EDUCATION SYSTEM: KEY FACTS

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Education in the ACT supports parental choice within a broad framework of government and non-government schooling, and home schooling.

Number of government schools:	89	Number of students:	50,272
Number of non- government schools:	48	Number of students: ¹⁶	30,144
Total number of students enrolled in ACT schools: ¹⁷			80,416
Aboriginal and Torres Strait Islander students enrolled in all ACT schools: (3.2% of the total school population) ¹⁸			2,645

COSCOSCOSCO CONTRA

INTRODUCTION

Declining academic performance is jeopardising the attainment of Australia's aspiration for excellence and equity in school education. Since 2000, Australian student outcomes have declined in key areas such as reading, science and mathematics.¹⁹

The Alice Springs (Mparntwe) Education Declaration (2019) sets out two clear goals for Australia:²⁰ Firstly, that the Australian education system promotes excellence and equity; and secondly, that all young Australians become confident and creative individuals, successful lifelong learners and active and informed members of the community.

We know what we are aiming for. But learning outcomes across Australia are falling short of what is needed, and they are declining. Together with every other State and Territory in Australia, the ACT has been experiencing this decline. International assessments reveal that an Australian 15-year-old today "is a full year of learning behind where the average 15-year-old was in 2000. In mathematics, they are a full 14 months behind."²¹

However, the ACT Education system has an additional problem. For the past 10 years, Literacy and Numeracy outcomes for ACT schools have been at or near the lowest achieved. compared to other regions of similar socio-economic advantage across Australia.

No fewer than five independent reports examining ACT Literacy and Numeracy outcomes have concluded: "After taking account of intake and context differences, ACT government schools on average achieve negative results on every measure."²² Depending on the specific focus of these reports, they calculate that between two and 16 months²³ of learning gain is lost.

This concerning situation has arisen, and is ongoing, in the jurisdiction which enjoys the highest relative socio-economic advantage in Australia: the highest teacher salaries; the second highest expenditure per student in Australia;²⁴ and the smallest class sizes.

The big question is of course, why? Combined evidence from numerous sources suggests a picture of a system that is overdue for reform.

¹⁹ Gonski, D. Arcus, T. , Boston, K. et al , 2018: Through Growth to Achievement: Report of the Review to Achieve Educational Excellence in Australian Schools; p viii

²⁰ Measurement Framework for Schooling in Australia 2020, Australian Curriculum Assessment and Reporting Authority (ACARA)

²¹ The Hon Alan Tudge, Federal Minister for Education, 27 April 2021 "Lifting Australia's school performance: Lessons from abroad" The Age Schools Summit

²²Lamb, S. 2017: Government School Performance in the ACT Analysis Paper prepared for the ACT Education Directorate, Victoria University, Melbourne; p 4 ²³ Macintosh, A. and Wilkinson, D. 21 Aug 2018: Academic underperformance in ACT schools: An analysis of ACT

school performance in NAPLAN over the period 2012-2016, Australian National University Law School Working Paper, p 9 ²⁴ Australian Bureau of Statistics

PURPOSE

The purposes of this paper are firstly in Part A, to present the evidence that points to the possible reasons for the chronic underperformance of ACT's Education system; and secondly in Part B, to outline the ACT Liberals' strategy to improve the education system so that every ACT school can work toward bringing out the best in every child.

SCOPE

The ACT Education system is administered by the ACT Education Directorate. The Directorate implements government policy, and is responsible for the government school system from pre-school, through primary school, high school; specialist schools and colleges. Two government sector bodies report to the Directorate. The first is the ACT Teacher Quality Institute, which is responsible for teacher registration and quality; and ACT university teaching degree accreditation.

The second is the ACT Board of Senior Secondary Studies, which accredits ACT college courses, moderates, issues Senior Secondary Certificates and tertiary entrance statements, and provides vocational education and training (VET) pathways to industry-specific training in years 11 and 12. The Canberra Institute of Technology (CIT) is a vocational education provider not under the administration of the Directorate.

The Directorate is also responsible for registration of non-government schools, home education and early childhood learning centres. For focus and clarity, the scope of this paper is the government school system in the ACT from Kindergarten to Year 12.

METHOD

Using relevant evidence from multiple sources, the performance of the ACT Education system is evaluated in Part A of this paper using the structure outlined in Figure 1 below. This figure shows key features of an effective education system.

Any modern education system exists in an environment where change is the only permanent dynamic; and where technology has an increasing pervasiveness. At the highest system level, government settings influence coal-face school practices, that in turn produce outcomes: student learning and life skills.

Stakeholders are those who are affected by system outcomes; and they should form part of an ongoing consultation and continuous improvement process. For an education system, there is no stakeholder group; no aspect of society, unaffected by its outcomes.

In an effective education system, government settings and school practices rest on a strong foundation of evidence and consultation to ensure continuous improvement in student outcomes.

ECISION MAKING

EVIDENCE BASED

Environment: Changing work and jobs; technology; need for flexibility

GOVERNMENT SETTINGS

GOVERNANCE Policies Decision-making (centralised/decentralised) Funding Teacher Quality Assessment and Reporting

SCHOOL PRACTICES

LEADERSHIP Management Culture Teaching Practices Classroom Professional Development Parent and Community engagement

STUDENT OUTCOMES

OUTCOMES Strong Literacy and Numeracy skills Equipped to be:* Confident Creative Lifelong learners Active and informed

Stakeholders: Students; Parents; Teachers; Unions; Employers; Community

Figure 1: Characteristics of an Effective Education System *The Alice Springs Education Declaration, Goal 2

PART A: THE ACT EDUCATION SYSTEM

1. // The Issue: An Underperforming System

The ACT government education system comprises preschool from the age of 3-4 years; primary school years K-6; high school years 7-10; and college - years 11-12. The ACT system has two features that distinguish it from other Australian States and Territories: the separation of secondary education into high school and college instigated in the mid-1970s; and the School Autonomy Model, under which school principals exercise considerable independent authority to make local-level decisions, with the rationale that this will make the school more responsive to the intake area's needs.

In recent years the ACT government has followed the trend toward "Super Schools": the co-locating of preschools with primary schools; primary schools with high schools, in order to generate economies of scale, and theoretically to enable more streamlined transitions for students between school levels.

Controversially, in its newer schools, it has also embraced student-directed inquiry-based learning in multi-age/ multi-level, open classrooms for children from Kindergarten, under Labor's flagship 2018 *Future of Education Strategy*: the "roadmap" for Education over the next ten years.

In their 20 years in office, ACT Labor's public stance has always been that the ACT is one of the highest performing education systems in Australia. But from as early as 2005-6, the ACT government was aware that this was not the case.²⁵ Analysis of publicly available national and international standardised assessments for the last ten years has enabled the real outcomes in the ACT government school system to emerge.

Two points need to be made at the outset. Firstly, that whilst of course Literacy and Numeracy are not the only desirable outcomes of schooling, they are the most important ones. Whilst we do not need every student to become a scientist, almost any job in our society today requires sound Literacy and Numeracy skills. Without them, any student will be unable to thrive in a future technology-driven world.

Secondly, it must be emphasised that the long-term underperformance in Literacy and Numeracy outcomes in the ACT is in no way a criticism of teachers. On the contrary, teachers in the ACT are as dedicated and hardworking as they are anywhere else in Australia. Rather the causal factors are complex, and lie elsewhere - in the system. As one of the world's most highly-regarded researchers into the practices that impact learning outcomes, Prof John Hattie, has observed:

I have met with many political leaders and department officials and continue to be impressed with their commitment to improving ... outcomes for students. But they struggle to have the hard ... discussions about the variability in the effectiveness of what happens at the classroom level and instead focus on policies which are politically attractive but which have been shown to have little effect on improving student learning.²⁶

²⁵Strategic and Functional Review of the ACT Public Sector and Services, 2006: p 180
 ²⁶ Hattie, J. (2015) The Politics of Distraction, Pearson; p 1

This statement could have been made with the ACT Education system in mind. Politicians, administrators and teachers want good outcomes for students. But the fact remains that ACT results are consistently below those achieved in other regions of similar socio-economic advantage.

All ACT government schools are subject to a strategic external review every five years. The recent external review of the new Margaret Hendry School: the *National School Improvement Tool Review Report* ²⁷ (the "Review"), illustrates clearly how following "politically attractive" classroom practices can result in very poor learning and behaviour outcomes for students, even when staff are strongly committed.

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NAPLAN results for Margaret Hendry School in 2019 showed that Year 3 students were "well below" those of students with a similar background in all assessment areas: Reading, Writing, Spelling, Grammar and Numeracy.²⁸ There is a wide range of ethnicities represented at the school, with 52% of its students speaking a language other than English at home.²⁹

The findings of the external Review of Margaret Hendry Schools are summarised in the Box shown on the next page.

²⁷ ACT Education Directorate, March 2021: National School Improvement Tool Review Report: Margaret Hendry School
 ²⁸ Margaret Hendry School NAPLAN: https://www.myschool.edu.au/school/52685/naplan/results

²⁹ Margaret Hendry School Profile: https://www.myschool.edu.au/school/52685

³⁰ Parent comment, in Lansdown, S., 22 May 2021: "Bullying and suspension 'disaster' at ACT school", *The Canberra Times.* pp4-5

³¹ Parent comment, in Lansdown, S., 22 May 2021: "Bullying and suspension 'disaster' at ACT school", *The Canberra Times*. pp4-5

³² Lansdown, S. 29 May 2021: 'Minister defends ACT school of future', *The Canberra Times*; p 3

"That this could possibly be the future for ACT schools is frightening."³⁰

Margaret Hendry School opened in early 2019, the first under Labor's Future of Education Strategy. The school's classroom model is designed to implement that "innovative" policy, and is built on student-centred learning in open classrooms from Kindergarten; working in multi-aged/ multi-level student groups; and guided by "learning coaches" (teachers). Far from being an ideal environment in which children thrive and "take control of their own learning", the school struggles with poor academic outcomes, a culture in which bullying is facilitated in multi-aged classroom cohorts, and inexperienced teaching staff.

The National School Improvement Tool Review Report released in March 2021 has revealed a school in which, with regard to learning outcomes, "students were mostly unaware of their goals and were unsure of next steps for learning" (p 11); and learning coaches reported "the need for more structured intervention approaches in Literacy" (p 8).

Further, parents "identified a need for increased focus on improved academic rigour and opportunities to cater for more able learners" (p 6). One parent has commented that "she was told her child was performing well academically for two years, only to receive a report this year that the year 6 student was reading at the level of an eight-year-old."³¹

Some students reported that they were made to feel "unsafe by the behaviour of other students and this often disrupted their learning when they could be working and thinking harder" (p 6). With regard to teaching practices and experience, "a high number of early career educators, and teachers new to the school present challenges in maintaining the cohesion of pedagogy and expected practice" (p 7). As for systematic curriculum delivery: "the progression of learning from year to year is not consistently evident" (p 10).

Recommendations by the Review Committee included requirements for the school to meet fundamental levels of competence: the need to "establish and maintain student learning and wellbeing in an environment that is safe, and that promotes intellectual rigour" (p 15); and to ensure that every teacher can use "effective evidence-based teaching methods, including explicit instruction and feedback to improve learning outcomes" (p 15).

Independent experts in Education not connected with the Review have also commented on their concerns with aspects of the school's pedagogical approaches. For example, Prof Lorraine Hammond of Edith Cowan University observed:

Inquiry-based teaching ... had a place in schools but basic skills and knowledge was best taught directly in a traditional classroom layout... if I had a child in a school that wasn't teaching reading directly, I'd be very concerned."³²

A second new school using the Margaret Hendry School model opened in Denman Prospect in Term I, 2021.

2. // The Evidence

Put simply, the problem is this: when the ACT is compared with other regions of similar socio-economic advantage across Australia:

"The ACT is the worst performer. On a like-for-like basis, its students make two to three months less progress than the national average in both primary and secondary school."³³

Other reports conclude that the underperformance represents up to 16 months of learning.³⁴ The results are most pronounced in Writing and Numeracy in secondary schools.³⁵ These deficits have also been identified in the ACT non-government sector, to a lesser degree but still statistically significant.³⁶

There are three important sources of evidence that support the claim of chronic underperformance in the ACT system. The first is the most recently reported Education performance indicators, available in the ACT Education Directorate Annual Report 2019-2020. The second is 13 years of national standardised Literacy and Numeracy assessment (NAPLAN). The third is years of international standardised assessment of Maths, Science and Reading (PISA); and of Maths and Science (TIMSS). Results are discussed below.

2.1 // ACT Education Performance Indicators

In 2018 the ACT government launched its Future of Education Strategy, the "roadmap" for Education over the next ten years. Its foundations are:

- 1. To place students at the centre of their learning.
- 2. To empower teachers, school leaders and other professionals to meet the learning needs of all students.
- 3. To build strong communities for learning.
- 4. To strengthen systems to focus on equity with quality.

To date, that Strategy has been unsuccessful. The ACT Education Directorate's most recent Annual Report (2019-2020) lists three Strategic Objectives and seven related Key Performance Indicators stemming from the four foundations listed above. Of those seven strategic indicators, only one was met.³⁷

2.1.1 Strategic Objective 1- Equity

The strategic indicator for improving equity in Reading was met, but not for improving equity in Numeracy.

2.1.2 Strategic Objective 2 - Literacy and Numeracy Gains

All four Strategic Indicators were not met. As Table 1 below indicates, actual gains in Years 3-5 Reading and Numeracy were both 12% under targets. Actual gain in Years 7-9 Reading was 27% under target; and in Numeracy, 30%.

Actual gains in years 7-9 for both Literacy and Numeracy of around 30% under target, pre-COVID 19, are worrying. And the trend in all of these indicators has been downward since at least 2012.

 ³³ Goss, P. and Sonneman, J., 2018: *Measuring Student Progress: a state-by state report card*, Grattan Institute; p 3
 ³⁴ Macintosh, A. and Wilkinson, D. 21 Aug 2018: *Academic underperformance in ACT schools: An analysis of ACT school performance in NAPLAN over the period 2012-2016*, Australian National University Law School Working Paper, p 9
 ³⁵ Macintosh, A. and Wilkinson, D. 21 Aug 2018: *Academic underperformance in ACT schools: An analysis of ACT school performance in NAPLAN over the period 2012-2016*, Australian National University Law School Working Paper, p 9
 ³⁶ Macintosh, A. and Wilkinson, D. 21 Aug 2018: *Academic underperformance in ACT schools: An analysis of ACT school performance in NAPLAN over the period 2012-2016*, Australian National University Law School Working Paper, p 22
 ³⁶ Macintosh, A. and Wilkinson, D. 21 Aug 2018: *Academic underperformance in ACT schools: An analysis of ACT school performance in NAPLAN over the period 2012-2016*, Australian National University Law School Working Paper, p 12
 ³⁷ Macintosh, A. and Wilkinson, D. 21 Aug 2018: *Academic underperformance in ACT schools: An analysis of ACT school performance in NAPLAN over the period 2012-2016*, Australian National University Law School Working Paper, p 19
 ³⁷ ACT Education Directorate *Annual Report 2019-20*, p 25

Table 1:ACT Government School Literacy and Numeracy Underperformance:Target Gain vs Actual Gain 2017-2019

(compiled from ACT Education Directorate Annual Report 2019-20) 38

	2017-19	2017-19			
	Target Gain	Actual Gain	Target Met	% of target	Under- performance %
Years 3-5 Reading	84	74	Νο	88%	12%
Years 3-5 Numeracy	90	79	Νο	88%	12%
Years 7-9 Reading	40	29	Νο	73%	27%
Years 7-9 Numeracy	47	33	Νο	70%	30%

Figures 2 and 3 below clearly show the trend in declining gains in both Literacy and Numeracy from 2013-15, to 2017-19 - the most recent year in which NAPLAN assessment has been conducted.

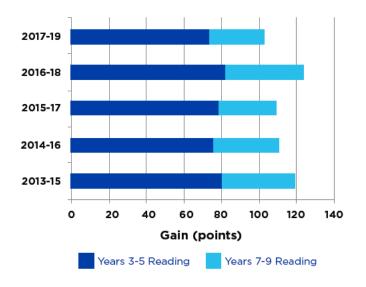


Figure 2:ACT Government School Literacy Gains (Actual) 2013-2019

(compiled from ACT Education Directorate Annual Report 2019-20; pp 25-28)³⁹

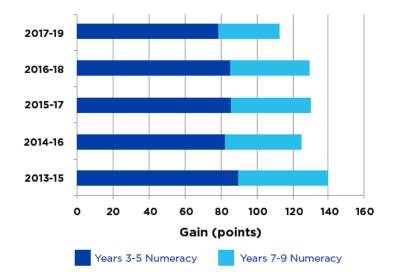


Figure 3: ACT Government School Numeracy Gains (Actual) 2013-2019

³⁸ ACT Education Directorate Annual Report 2019-20, p 25

³⁹ ACT Education Directorate Annual Report 2019-20, p 25-28
 ⁴⁰ ACT Education Directorate Annual Report 2019-20, p 25-28

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⁽compiled from ACT Education Directorate Annual Report 2019-20; pp 25-28)⁴⁰

2.1.3 Strategic Objective 3 -Identification with School

None of the three targets relating to "strongly identifying" with their school: student; staff; or parent/ carer; were achieved.

Concerningly, only 60% of students "strongly identified" with their school; unchanged from 2018⁴¹. The parent "identification" with schools result was 73%, which was not only 16% under target, but was also a 15% drop from 2018. In other words, there was a large drop in the number of parents who "strongly identified" with their child's school over that 12 month period.

Low outcome measures on a sense of belonging suggest the lack of a strong positive school culture and community. Arising out of weak school identification, lack of strong positive culture and sense of community are behaviours such as bullying and violence. A recently released report from the Standing Committee on Education, **Employment and Youth Affairs in** 2019: Inquiry into the management and minimisation of bullying and violence in ACT schools, describes iustified concerns around the levels of bullying and violence in ACT schools.42

⁴¹ ACT Education Directorate Annual Report 2019-20, p 29

⁴² Standing Committee on Education, Employment and Youth Affairs, Report 6, September 2019: *Inquiry into the management and minimisation of bullying and violence in ACT schools*

2.2 // National Program for Literacy and Numeracy Assessment: NAPLAN

The central issue with conflicting claims of performance based on NAPLAN results is that ACT government reporting on NAPLAN focuses inappropriately on comparing broad averages between States and Territories that have very different characteristics. This is the classic "apples and oranges" comparison. When ACT average performance results are compared with average performance results of other States and Territories such as NSW and Queensland, there is a superficial appearance of achievement.

But the ACT is not the same as NSW and Queensland. The ACT is a small, urbanised jurisdiction with the highest socio-economic advantage in Australia. It has a relatively highlyeducated professional workforce, no issues with remoteness, a small indigenous demographic, and comparatively few issues with poverty and disadvantage.

As the ACT is uniquely advantaged, it is not directly comparable to other Australian States and Territories characterised by much more variability in socio-economic advantage, parental education and occupation, diversity, remoteness, and urbanisation. Crude comparisons of average results between jurisdictions with widely different demographics does not provide meaningful information. As University of Canberra researchers have observed:

... relying on the ACT's comparative 'average' rank in national and international testing hides the significant inequity in the ACT's education system.⁴³

The true performance of the ACT education system can only be assessed by comparing it to regions that are similar to the ACT: urban areas in other States and Territories with high socio-economic advantage.

When these comparisons are made, the conclusions are compelling. No fewer than five independent research reports on ACT long-term results in NAPLAN have reached the conclusion that when compared with other schools situated in areas of similarly high socio-educational advantage (major cities; parental education and occupation) in every other Australian state, the ACT is a consistent underperformer:

ACT Auditor-General's Report, 4/2017:

ACT public schools are performing below similar schools in other jurisdictions despite expenditure on a per student basis for public schools being one of the highest in the country.⁴⁴

The Australia Institute, 2017:

The results of the analysis suggest there is a systemic problem with the relative performance of high SES government primary schools in the ACT in NAPLAN tests.⁴⁵

⁴⁴ ACT Auditor-General's Report, 4/2017 (May): Performance Information in ACT Public Schools, p 1

⁴³ Roberts, P. and Leonard, S., Youth Coalition of the ACT and ACTCOSS, July 2015: *Issues Paper: Educational Inequity in the ACT*; p 5

⁴⁵ Macintosh, A., Wilkinson, D. and Constable, A. July 2017: *Leading the Nation? The NAPLAN performance of the ACT's high socio-economic schools*, Policy Brief, The Australia Institute, p 7

Victoria University, 2017, commissioned by ACT Education Directorate:⁴⁶

Numeracy is the area of greatest concern... The Numeracy results are markedly below the rest of the country, compared to what would be expected based on the populations schools are serving in the ACT... by Year 5 students in the ACT are almost 6 months behind students in comparable schools.

ANU, 2018:

For government schools, there was systemic underperformance in primary and high schools in NAPLAN over the period 2012-2016.⁴⁷ Although underperformance in Literacy and Numeracy outcomes extends to the non-government sector, it is not as marked as in government schools.⁴⁸

Grattan Institute, 2018:

The ACT is the worst performer. On a like-for-like basis, its students make two to three months less progress than the national average in both primary and secondary school.⁴⁹

There are two important factors to be noted about these sources: firstly, that they are from a range of political backgrounds and "think tanks"; one was even commissioned by the ACT Education Directorate. Secondly, despite their varied ideological backgrounds, the central conclusions of these rigorously researched reports and papers are remarkably similar. Depending on the specific focus of these reports, they calculate that in the ACT between two and 16 months of learning gain is lost.

The latest NAPLAN test in 2019 continued these trends. When considering socio-economic advantage as measured by both Parental Education and Parental Occupation, the ACT was behind NSW and Victoria, and below the Australian mean scale score for Numeracy in all of Years 3, 5, 7 and 9.⁵⁰

In the face of such consistently damning evidence, the ACT government continues to claim that performance is among the best in Australia. At the same time it asserts variously that NAPLAN testing has only a narrow focus; is seriously flawed: stressful and unnecessary; inaccurate; or not useful. This "shooting the messenger" strategy is aimed at deflecting attention from the ongoing underperformance of the ACT. The ACT government's antipathy is not reflected in the attitudes of school leaders, however: only 10% of principals do not agree that NAPLAN data is useful in supporting their decision making.⁵¹

⁵⁰ National Assessment Program, Literacy and Numeracy: National Report for 2019. Australian Curriculum Assessment and Reporting Authority; pp 53-56; 117-120; 181-184; 245-248

⁵¹ ACT Auditor-General's Report, 4/2017 (May): Performance Information in ACT Public Schools; p 88

⁴⁶ Lamb, S . 2017: *Government School Performance in the ACT* Analysis Paper prepared for the ACT Education Directorate, Victoria University, Melbourne; p 4

⁴⁷ Macintosh, A. and Wilkinson, D. 21 Aug 2018: *Academic underperformance in ACT schools: An analysis of ACT school performance in NAPLAN over the period 2012-2016*, Australian National University Law School Working Paper, p 22

⁴⁸ Macintosh, A. and Wilkinson, D. 21 Aug 2018: *Academic underperformance in ACT schools: An analysis of ACT school performance in NAPLAN over the period 2012-2016*, Australian National University Law School Working Paper, p 22

⁴⁹ Goss, P. and Sonnemann, J., Oct 2018: *Measuring student progress - a State by State report card*, Grattan Institute, p 3

It should be noted that ACT government criticisms of NAPLAN are not supported by rigorous review of the NAPLAN system. A comprehensive review commissioned by the ACT, QLD, NSW, and VIC governments handed down in August 2020, concluded with some changes, "that standardised assessment is important in Australian education and that it serves a variety of purposes."⁵²

The 2017 Australia Institute study ⁵³, and the 2018 ANU report on ACT underperformance in NAPLAN both concluded that "There is a need for a government inquiry to be undertaken to determine why ACT schools ... are underperforming in NAPLAN"⁵⁴

2.3 // International Assessments

Australia's National Assessment Program stipulates participation in international assessments such as the Programme for International Student Assessment (PISA); and the Trends in International Mathematics and Science Study (TIMSS).⁵⁵

2.3.1 PISA

Administered by the Organisation for Economic Co-operation and Development (OECD), the Programme for International Student Assessment (PISA) is taken by a sample of 15-yearold students from 78 nations every three years. The assessment measures Mathematics, Science and Reading.

In the last Assessment in 2018, Australia dropped six places in Maths, from 23rd in 2015, to 29th. It dropped

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one place in each of Science and Reading. In contrast, the UK and USA improved in all three of the subjects and improved their overall world placings significantly from 2015 to 2018: UK from 23rd to 13th; USA from 31st to 25th, whilst Australia remained the same (21st).⁵⁶ Figure 4 shows the long-term decline in Australian performance since 2000.

The decline is such that the average achievement of an Australian 15-year-old in 2018 is: almost one year of schooling behind in reading compared to an Australian 15-yearold in 2000; more than one full year of schooling behind in maths compared to in 2003; and almost one full year of schooling behind in science compared to in 2006.⁵⁷

⁵²McGaw, B, Louden, W and Wyatt-Smith, C, 2020: *NAPLAN Review Final Report*. State of New South Wales, State of Queensland, State of Victoria, and Australian Capital Territory. August; p 3.

⁵³ Macintosh, A. Wilkinson, D. and Constable, A. July 2017: *Leading the Nation? The NAPLAN performance of the ACT's high socio-economic schools Australia Institute*; p 7

⁵⁴ Macintosh, A. and Wilkinson, D. 2018: Academic underperformance in ACT schools: An analysis of ACT school performance in NAPLAN over the period 2012 to 2016; ANU. p 23

⁵⁵ Measurement Framework for Schooling in Australia 2020 (ACARA); p 6

⁵⁶ PISA worldwide ranking; comparison of 2015 and 2018-19 results

⁵⁷ ACER, 2019: *Australian Students' Performance*. Available at: https://www.acer.org/au/discover/article/pisa-2018-australian-students-performance

The ACT is below the average for comparably high Australian socio-economic advantage quartile groups on every indicator: Literacy, Maths, and Science.⁵⁸ (See Figure 5). Socio-economic status is a strong predictor of performance in mathematics and science in all PISA participating countries.⁵⁹

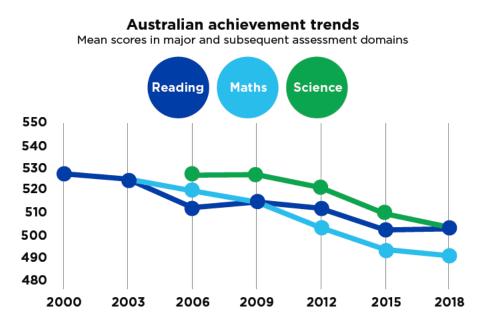


Figure 4: Australian Achievement Trends on PISA 2000-2018 Source: https://www.acer.org/au/pisa/key-findings-2018

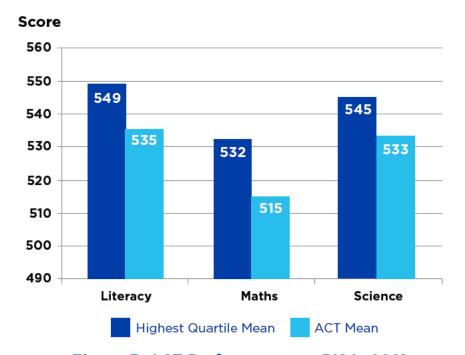


Figure 5: ACT Performance on PISA, 2018. Comparison to Mean for Highest Quartile of Socio-Economic Advantage

Derived from Australian Council for Educational Research, PISA 2018 -Reporting Australia's Results, Vol. I.⁶⁰

⁵⁸ Thomson, S, De Bertoli, L, Underwood, C and Schmid, M. 2018: PISA 2018 - *Reporting Australia's Results*, Vol. I. Available at: https://research.acer.edu.au/cgi/viewcontent.cgi?article=1035&context=ozpisa
 ⁵⁹ https://www.oecd.org/pisa/publications/PISA2018_CN_AUS.pdf: p 5
 ⁶⁰ Thomson, S, De Bertoli, L, Underwood, C and Schmid, M. 2018: *PISA 2018 - Reporting Australia's Results*, Vol. I. Available at: https://research.acer.edu.au/cgi/viewcontent.cgi?article=1035&context=ozpisa; pp 48 and 81 (Literacy); 129 and 161 (Maths); 191 and 221 (Science).

2.3.2 TIMSS

The Trends in International Maths and Science Study (TIMSS) is administered to an international sample of students in Years 4 and 8 of schooling, every four years. The latest iteration was in 2019. In the ACT, 563 Year 4 students; and 973 Year 8 students participated.

ACT mean Maths and Science scores were well below the means used for assessing socio-economic advantage in both Year 4, and Year 8.⁶¹

Further, ACT Maths Year 4 mean decreased, and there was a decrease in percentage of high performers. Conversely, the mean scores for NSW, VIC, QLD and SA increased.⁶²

ACT, national and international assessments all point to a longterm underperformance in the ACT on Literacy, Numeracy, and Science. But latest results for other comparable countries such as the USA and the UK on PISA, show improvement; indicating that the decline is neither inevitable nor irreversible.

3. // What are the Causes?

Factors affecting the ACT Education system's effectiveness can be grouped into four main categories: System Structures and Funding; Leadership and Culture; Teacher Education and Practice; and Curriculum.

Figure 6 represents the analytic approach used to identify key issues that over time have likely been involved in the underperformance of the system; and to develop strategies that can be implemented to improve educational outcomes.

The main issues affecting performance of the ACT Education system are described below, using the four categories as a framework.

⁶¹Thomson, S, Wernert, N, Rodrigues, S, and O'Grady, E. 2019: *TIMSS 2019 - Australia*, Vol I, available at: https:// research.acer.edu.au/cgi/viewcontent.cgi?article=1001&context=timss_2019; pp 25,35,55,66, 97, 107, 127, 137, 138 ⁶² https://research.acer.edu.au/cgi/viewcontent.cgi?article=1001&context=timss_2019 pp 27,28