Centre for Independent Studies (CIS) Submission to the NSW Productivity Commission Discussion Paper – Kickstarting the productivity conversation

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Foreword

The Centre for Independent Studies (CIS) is a leading independent public policy think tank in Australasia. Our work is driven by a commitment to the principles of a free and open society. The CIS is independent and non-partisan in both its funding and research, and does no commissioned research nor takes any government money to support its public policy work.

The CIS welcomes the opportunity to contribute to the NSW Productivity Commission's Discussion Paper — *Kickstarting the productivity conversation*. The CIS firmly holds that a quality education in school is vital for individual well-being and for a healthy society. This submission focuses on how to improve school productivity, in the context of the Discussion Paper's "Building human capital for a modern and evolving economy" priority area.

Recommendations

Training and preparation of the teaching workforce

1. Ensure initial teacher education courses at university adequately cover essential content, such as classroom management and reading instruction (particularly for primary school teachers).
2. Improve the quality of professional development courses by having a more rigorous process to ensure they are evidence-based.

Rewarding and incentivising performance in schools

3. Trial of performance-based pay for teachers.
4. Introduce market-based, differential pay rates for teachers, reflecting subject area and location demand.
5. Provide more autonomy over employment and budgetary decisions for school leaders.

Teaching activities and the classroom

6. Trial giving teachers fewer classes, more preparation time, and larger class sizes.
7. Ensure core competencies are rigorous and assessable.

Structural and organisational changes to schools

8. Pilot the Independent public school model.
9. Pilot the Charter school model.
10. Consider portable modes for school funding.
11. Ensure that more schools are at efficient scale.

Training and preparation of the teaching workforce

Ensure initial teacher education courses at university adequately cover essential content such as classroom management and reading instruction (particularly primary school teachers)

The NSW government controls who can teach in NSW schools, and can decide which university initial teacher education courses are recognised as providing a qualification for new teachers to teach. This means the NSW government is in a position to demand higher standards in university initial teacher education programmes.

There is a substantial and growing body of evidence to suggest that Australian university teacher education degrees are not adequately preparing new teachers for the classroom.[1] In particular, it appears that new teachers are not provided with evidence-based practices regarding the teaching of reading[2] and classroom management[3] — essential aspects of high-quality teaching.

Consequently, the NSW government should review the content of teacher education programmes, ensuring that these meet the highest standards, by incorporating the best available evidence. Any programmes that do not meet these standards should face greater scrutiny, including possible de-registration and refusal to allow graduates employment in NSW schools.

Improve the quality of teacher professional development courses by having a more rigorous process to ensure they are evidence-based.

Under the current teacher standards, all NSW teachers are required to attend regular professional development activities. All professional development accredited by the NSW Education Standards Authority (NESA) should meet consistently high standards.

The NSW government should introduce a more rigorous process to accredit professional development courses, to ensure they are all evidence-based. This would help to upskill teachers and generate a greater return on the significant recurring taxpayer investment into teacher professional development.

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[1] Joseph, B. 2019. *Teacher education degrees should face scrutiny*. https://www.cis.org.au/commentary/articles/teacher-education-degrees-should-face-scrutiny/

[2] For example: Buckingham, J., & Meeks, L. 2019. *Short-changed: Preparation to teach reading in initial teacher education*. https://fivefromfive.com.au/wp-content/uploads/2019/07/ITE-REPORT-FINAL.pdf Five from Five

[3] For example: O'Neill, S. C., & Stephenson, J. 2014. Evidence-Based Classroom and Behaviour Management Content in Australian Pre-Service Primary Teachers' Coursework: Wherefore Art Thou?. *Australian Journal of Teacher Education*, *39*(4)

Rewarding and incentivising performance in schools

Trial of performance-based pay for teachers

The NSW Legislative Council's Portfolio Committee on Education is currently in the process of reporting its findings from its inquiry into "measurement and outcomes-based funding for NSW schools."[4] Among the proposals presented before this committee is to consider performance-based pay for teachers.[5]

Under the current arrangements for teachers' remuneration, pay is almost completely determined by tenure and the degree(s) held. However, international evidence shows that these are poor predictors of teachers' effectiveness in the classroom.[6] Given that remuneration is determined through centralised wage bargaining processes, this also results in limited pay differentiation for teachers — with Australian teachers having among the flattest salary structures in the world.

Ineffective teachers benefit from across-the-board pay increases, and the OECD says that this results in lower quality teachers entering the workforce.[7] To the extent that performance is measured for teachers, it is in terms of vague professional standards, which are not closely tied with remuneration — and is subject to an appraisal process that has recently been identified as deficient[8] by the NSW Audit Office.[9]

Performance-based pay for teachers better aligns incentives for teachers with student outcomes. This can be through upfront bonuses (penalties), permanent increases (decreases) to salary, or using alternative non-direct financial incentives. Rewards do not need to be cash windfalls, but could instead be student debt forgiveness (particularly for recent graduates), which could lessen the fiscal burden on government. Any rewards should be subject to review in the event that performance is not

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[4] Parliament of NSW (2019). Measurement and outcome-based funding in New South Wales schools, access at https://www.parliament.nsw.gov.au/committees/inquiries/Pages/inquiry-details.aspx?pk=2539#tab-timeline

[5] Centre for Independent Studies (2019). Submission into Inquiry into measurement and outcome-based funding in New South Wales schools, Submission no 10.

[6] OECD (2012). PISA in focus: Does performance-based pay improve teaching? *PISA in Focus*, 2012/05 (May).

[7] OECD (2009). Evaluating and Rewarding the Quality of Teachers: International Practices, OECD Publishing, Paris.

[8] In 2018, just 102 teachers (0.1% of the teaching workforce) were recognised in the top two of four accreditation bands, well short of the 1,110 target by 2022. And only around one in four of them are in classrooms anyway — most are shifting into leadership roles. At the same time, just 53 teachers were formally identified as underperforming, around one sixth of a similar audit in 2003, which reported that this was an unrealistically low number. Only 29 were dismissed in 2018 through formal action addressing poor teaching.

[9] NSW Audit Office (2019). Ensuring teaching quality in NSW public schools, Performance Audit, September 2019, New South Wales Auditor-General's Report.

sustained. While not all efforts at merit pay have been effective, some reforms have delivered promising results. [10]

An example of a successful performance pay system is in Washington, DC. This approach employs rewards and sanctions, as well as multiple measures of performance. Teachers rated as highly effective earn a substantial bonus as well as an equally large permanent salary increase after two years, if performance is sustained. Teachers deemed to be 'minimally' effective are provided support of coaches and offered one year to demonstrate improvement. Teachers found to be ineffective are at risk of dismissal.

Some of the world's most effective and efficient education systems employ performance pay. In Shanghai, for instance, 30% of a teacher's salary is based on performance. There is clear evidence across OECD countries that those with performance pay arrangements enjoy significantly higher student achievement across each educational domain — resulting in up to an additional year of learning by age 15. [11]

The Productivity Commission has argued that student achievement scores should be among the performance measures employed for teachers. Measuring teachers' value-added contribution to student achievement is the fairest and most accurate approach. [12][13] Employing a broader set of performance measures is necessary to further contextualise student achievement scores. This can include ratings of teachers' classroom performance by outside evaluators — with several observations per year, numerical scores against multiple criteria, such as how well teachers explain concepts and if they check to see if students understand.

Introduce market-based, differential pay rates for teachers

Teachers' remuneration is almost entirely determined by centralised arrangements that do not consider supply and demand for teachers' expertise or geographical location. This means teachers with backgrounds in subject areas that are in higher demand may be not compensated appropriately, with no efficient price signals sent throughout the teaching (and wider) workforce.

High demand locations have been identified by the NSW Department of Education:

- In metropolitan areas (western and south-western Sydney),

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[10] Education Endowment Foundation (n.d.). Evidence for Learning Teaching and learning toolkit: Performance pay, https://evidenceforlearning.org.au/teaching-and-learning-toolkit/performance-pay/

[11] Woesseman, L. (2011). Merit Pay International, *Education Next*, 11 (2).

[12] Productivity Commission (2012). Education and Training Workforce: Schools Workforce, Research Report, Canberra.

[13] For more information on value-added models' use in NSW, see Bradford, D. and Clarke, S. (2015). High value-add schools: Key drivers of school improvement, Centre for Education Statistics and Evaluation, Sydney NSW.

- and in rural and remote locations (in 12 areas in the inland Northern region; 5 in western region; and 16 in the inland southern region). [14]

The department has also identified subject areas that are in high demand (mathematics, physics, technology and assisted studies, special education, and school counsellors). The OECD has recommended that education systems "target larger salary increases to key groups in short supply," rather than rely on centralised pay decisions. [15] It also suggests that systems "develop special programmes and incentives to attract subject specialist teachers" to address short supply.

Some incentives have been introduced in NSW to address location and subject area shortages, but there has not been clear evidence of success. Many individuals with relevant professional experience, who would be interested in teaching, are discouraged from entering the profession because principals are not able to offer suitable compensation or more flexible job offers (such as part-time positions). Better strategies could provide principals with the budgetary flexibility to recruit a teaching workforce that reflects their school's needs.

A particular problem that impacts on educational performance is the lack of qualified mathematics teachers. Around 80% of Australian students have mathematics teachers with no major or specialisation in mathematics in their own study[16] and only 19% of Australian secondary school teachers have university level STEM qualifications.[17] This has obvious implications for their motivation, confidence, and capacity to teach the subject, which impacts on students' performance in mathematics. Moreover, since mathematics is the foundation for further learning in senior secondary subjects (and beyond) — like physics, chemistry, engineering, and economics — this can have permanent detrimental effects on students' learning.

Provide more autonomy over employment and budgetary decisions of school leaders

OECD research has clearly demonstrated that greater school-level autonomy over resource allocation is associated with educational improvement[18] — particularly in concert with effective accountability

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[14] NSW Department of Education (2015). 2015 Teaching Workforce Supply and Demand School teachers in NSW public schools, People and Services Directorate, Blacktown.

[15] OECD (2011). Teachers Matter: Attracting, Developing and Retaining Effective Teachers; Pointers for Policy Development, OECD Publishing, < http://www.oecd.org/education/school/48627229.pdf>.

[16] Thomson, S.; Wernert, N.; O'Grady, E.; and Rodrigues, S. (2017). TIMSS 2015: Reporting Australia's results, Australian Council for Educational Research.z

[17] Australian Bureau of Statistics (2014). 4250.0.55.005 - Perspectives on Education and Training: Australians with qualifications in science, technology, engineering and mathematics (STEM), 2010–11.

[18] OECD (2016), PISA 2015 Results (Volume II): Policies and Practices for Successful Schools, PISA, OECD Publishing, Paris; chapter 4.

arrangements.[19] Research has also found that Australian parents are more confident in the use of funding in school sectors where there is more school-level decision-making about spending.[20]

Greater decentralisation of decision making on spending at the school level means less authority placed in the hands of centralised bureaucracies. The Gonski Review[21] argued that "with greater autonomy and budgetary control, schools are best placed to make decisions about how best to use resources."

In NSW, the *Local Schools Local Decisions* programme notionally offers greater discretion for school leaders in managing their school's finances. However, the evaluation of this initiative found that many principals lacked the necessary financial administration skills to take advantage of the spending discretion.[22] In addition, because principals enjoy little practical control over the largest budget line item — staffing (over 70% of the school budget) — , because of inflexible employment relations (pay determination, selection, and performance management), it is misleading to claim that *Local Schools Local Decisions* genuinely provides principals with spending autonomy.

The Productivity Commission has observed that "ongoing unsatisfactory performance by a teacher rarely leads to dismissal or other disciplinary action" and recommended that "governments should delegate to government school principals the authority to take disciplinary action." [23]

Evidence provided by the NSW Audit Office, however, revealed that many principals carry out little performance appraisal in school, largely as a result of burdensome performance management arrangements that have been heavily influenced by teachers' unions.[24] A lack of flexibility in employment arrangements makes it difficult for schools to effectively identify under-performing teachers — which ultimately reduces school performance, and affects students' learning.

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[19] OECD (2011). School autonomy and accountability: Are they related to student performance?, PISA in Focus, 2011/9 (October).

[20] Fahey, G. (2019). What do parents want from schools?, Policy Paper No. 26, Centre for Independent Studies, Sydney.

[21] Gonski, D. (2011). Review of Funding for Schooling—Final Report, Department of Education, Employment and Workplace Relations, Canberra, p. 219

[22] Because principals are primarily educators rather than administrators, it is not particularly suprising that some lack financial administration skills and experience. One way to compensate for this deficiency is by having school governing boards assist in resource allocation. OECD evidence has identified that school governing boards are effective in bringing broader skills to school governance, which can compensate for the skills that school leaders may lack. This has also been observed in independent public schools in Western Australia, in particular.

[23] Productivity Commission (2012). Education and Training Workforce: Schools Workforce, Research Report, Canberra, p. 167.

[24] The performance management process in NSW was co-designed with the NSW Teachers Federation.

The OECD has recommended that education systems "provide processes that enable ineffective teachers to either move out of the school system or into non-teaching roles."[25] The NSW Commission of Audit[26] has previously recommended loosening the constraints on dismissal of underperforming or 'over-establishment' (temporarily or permanently not required) teachers. School leaders need to be afforded the autonomy to make staffing adjustments as they see fit.

Teaching activities and the classroom

Trial giving teachers more preparation time, fewer classes, and larger class sizes.

Australian teachers spend more time each day teaching in class, relative to the OECD and top-performing countries.[27] On average, Australian teachers spend one hour more per day teaching — in both primary and secondary schools — than their peers in high-achieving countries like Korea, Japan, and Finland.

This means teachers in Australia have less time for lesson planning, collaboration, refinement, reflection, and review, all of which have significant positive effects on teaching quality and student outcomes.[28]

The cost of giving teachers more preparation time could be offset by relatively small increases in class sizes. There is no clear relationship between class sizes and student outcomes, and many high-achieving countries have considerably larger average class sizes in both primary and secondary.[29] This approach has the potential to improve student results without requiring more taxpayer funding.

Trialling this approach in some schools could inform future education policy and possibly lead to productivity gains in NSW schools.

Ensure core competencies are rigorous and assessable.

The priority for the NSW government is to identify the core knowledge and skills that a modern school system should provide. International examples (such as Singapore, Japan, and Finland) are an excellent source of guidance.

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[25] OECD (2011). Teachers Matter: Attracting, Developing and Retaining Effective Teachers; Pointers for Policy Development, OECD Publishing, < http://www.oecd.org/education/school/48627229.pdf>.``

[26] NSW Commission of Audit (2012). Final Report — Government Expenditure, Part II Service Delivery.

[27] OECD. 2019. *Education at a Glance*. https://www.oecd.org/education/education-at-a-glance/ p. 427

[28] Joseph, B. 2017. *Getting the Most out of Gonski 2.0: The evidence base for school investments*. https://www.cis.org.au/app/uploads/2017/10/rr31.pdf The Centre for Independent Studies. pp. 9–10

[29] Joseph. 2017. pp. 13–14

In the interest of supporting teachers and students, any future iterations of the NSW curriculum should be as clear and unambiguous as possible — and avoid untested and experimental strategies, such as the proposed learning progressions and online formative assessment tool (neither of which is currently being used in any high-performing education system). The current review of the NSW curriculum makes decisions on this a matter of urgency.

Broader capabilities — such as critical thinking, creativity, and collaboration — are domain-specific, rather than generic.[30] That is, they are built on the foundations of content knowledge.[31] There is little evidence that broader skills can be taught or assessed in any meaningful way independently from subject knowledge.

In contrast, literacy and numeracy, for example, are clearly measurable. Results from standardised tests such as NAPLAN and PISA measure school system and student progress in key learning areas, and should continue to guide education policy.

Structural and organisational changes to schools

For autonomy, flexibility, and competition to be effectively enhanced in the school system, there is a need for structural and organisational changes to be made to schools. This ranges from change to school governance modes, to funding arrangements and infrastructure planning. More devolved authority and localised decision making — that returns control to parents and consumers — would help in delivering the needed improvements in school performance in NSW.

NSW is becoming a national anomaly with limited parental involvement in school governance. In other states and territories (even those without independent public schools), like Victoria and the ACT, there are roles for school councils and boards in governance — albeit to differing degrees. However, school boards were abolished in NSW in 1936. This makes the NSW government school sector among the most centralised and unresponsive in the country, which is detrimental to NSW school performance.

Pilot the independent public school model

As at 2018, there were 788 independent public schools in Australia. An independent public school is a government school, but with greater school-based management[32] — meaning more autonomy and flexibility than is enjoyed by traditional public schools.

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[30] NSW Centre for Education Statistics and Evaluation. 2019. *General capabilities: A perspective from cognitive science*. https://www.cese.nsw.gov.au//images/stories/PDF/General-capabilities.pdf

[31] Willingham, D. 2019. *How to Teach Critical Thinking*. https://education.nsw.gov.au/our-priorities/innovate-for-the-future/education-for-a-changing-world/media/documents/exar/How-to-teach-critical-thinking-Willingham.pdf

[32] For a discussion, see, Jha, T. and Buckingham, J. (2017). Free to Choose Charter Schools: How charter and for-profit schools can boost public education, Research Report No. 6, Centre for Independent Studies, Sydney.

While there are differences across the states and territories in which they operate, the key features of the Western Australian model (by far, representing most independent public schools in Australia) are: flexibility in spending decisions (namely, single line budgets overseen by school boards); school boards assist in decision-making and governance (including resource allocation); and (until a change in approach in 2017) more flexible employment decisions (rather than centralised staffing allocations).

Evaluations of the independent public school programmes in Western Australia and Queensland have been positive.[33] [34] [35]

Pilot the charter school model

In order to further stimulate dynamism in the NSW school sectors (beyond the traditional government and non-government sectors), more competition and choice are needed. Recent research has highlighted the limited choice reported by Australian parents, including the barrier of affordability for parents seeking alternatives to their local government school.[36]

Charter (or 'free') schools are another type of school that is privately operated, but remains free for students to attend. They also have greater flexibility by facing less red tape than government schools — particularly around employment decisions and curriculum.[37] Charter schools operate across 44 states in the United States, with a range of possible models which could be adopted.

International research has found that charter schools use this flexibility to incorporate more effective practices into classrooms, which improves student achievement, especially for disadvantaged students.[38] This makes charter schools an effective source of innovation in teaching practices. They are also subject to wider employment relations legislation, rather than the teachers' award arrangements, which are heavily influenced by trade union bargaining. This makes it an effective approach for introducing more flexible remuneration and performance management arrangements.

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[33] Potential Solutions (2018). Evaluation of the Independent Public Schools Initiative Queensland 2018, prepared for The Department of Education, Queensland.

[34] Melbourne Graduate School of Education (2013). Evaluation of the Independent Public Schools Initiative, prepared for the Department of Education, Western Australia.

[35] Hamilton Associates (2015). School autonomy: building the conditions for student success, prepared for the Department of Education, Western Australia.

[36] Fahey, G. (2019). What do parents want from schools?, Policy Paper No. 26, Centre for Independent Studies, Sydney.

[37] See, for instance, Jha, T. and Buckingham, J. (2017). Free to Choose Charter Schools: How charter and for-profit schools can boost public education, Research Report No. 6, Centre for Independent Studies, Sydney.

[38] See, for example, Angrist, J.; Pathak, P.; Walters, C. (2013). Explaining Charter School Effectiveness, *American Economic Journal: Applied Economics*, 5 (4), pp. 1-27.

Like West Australian independent public schools, charter schools typically operate under a 'performance agreement' (the 'charter') with jurisdiction authorities. Accountability is most strongly felt from the parental community, as represented by school governing boards. OECD research shows that this type of governance (particularly over resources) is associated with more equitable outcomes for students.[39]

Consider portable modes for school funding

The current school funding model calculates an individual entitlement for each student and school in a consistent way, based on their demographics — at both the federal and state level. A base amount of funding is determined for students at different rates if they are in primary and secondary school — again, at both federal (Schooling Resource Standard) and state level (according to the Resource Allocation Model).

However, because the funding amounts that students attract are made to *schools* rather than *students*, there is little transparency for parents, and this does not foster competition among schools (which could potentially compete across and between school sectors). It means parents do not have an accurate price signal for schooling — because it is perceived as notionally 'free' in the current arrangement. A more direct method is to provide 'vouchers' to families to allow them to make school choices.

Vouchers are government-supplied coupons that families redeem to offset school tuition fees. Arrangements of this type are employed in many high-performing education systems around the world, such as Finland, Flanders, and Estonia.[40] The OECD finds that universal vouchers (provided to all eligible children, sometimes means-tested) are effective in promoting competition and expanding choice of schools, while targeted vouchers (provided to disadvantaged households) improve equity in school access.[41]

Because school funding formulae already compute the cost incurred by schools to educate students (including the additional cost burden for various types of disadvantage, based on student demographics), the current arrangements do not differ markedly from a voucher system administratively. The key difference being that current arrangements are less direct, opaque, and inefficient than a voucher system would be.

Ensure that more schools are at efficient scale

Much of the education policy debate over recent decades has focussed on class size rather than school size. The matter is important because across metropolitan areas, in particular, there are examples of

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[39] OECD (2016), PISA 2015 Results (Volume II): Policies and Practices for Successful Schools, PISA, OECD Publishing, Paris; chapter 4.

[40] Musset, P. (2012). School choice and equity: Current policies in OECD countries and a literature review, *OECD Education Working Paper Series*, Working Paper No. 66.

[41] OECD (2017). School choice and school vouchers: An OECD perspective, OECD Publishing, Paris.

very large, oversubscribed government schools, as well as many that would benefit from greater scale — which can mean more diverse student cohorts, greater specialisation in teaching staff and learning resources, and wider course offerings to students.

Given projections of sustained population growth, particularly in greater Sydney, ensuring greater capacity of existing facilities, campuses, and human resources, will be necessary to ensure improved performance of NSW schools. A 2018 report[42] indicates that Sydney is expected to experience population growth projections of 74–79% over the coming three decades. This presents an obvious opportunity to better plan new and existing physical and human resources.

Effective policy should ensure that schools are at an efficient size so as to minimise economic inputs while maximising academic outputs. Empirical research[43] has found that Australian secondary schools in major cities maximise academic achievement when they have 1,060 students, and minimise cost per student when they have 1,400 students. 78% of secondary schools in major cities in NSW have fewer than 1,060 enrolments, meaning that there could be potential for cost savings as well as academic improvements in these schools if their enrolments increase.

[42] Infrastructure Australia (2018). Future Cities: Planning for our growing population, February 2018, Reform Series.

[43] Drew, J.; Kortt, M., and Fahey, G. (2019). Does size count Down Under? Australian school performance, school size, and public policy, *Public Administration Quarterly*, 43 (4), pp.