NATIONAL SCHOOL REFORM AGREEMENT REVIEW

TEACHERS AND TEACHING RESEARCH CENTRE

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OCTOBER 2022

The Teachers and Teaching Research Centre (TTRC) welcomes the opportunity to respond to the Productivity Commission's Review of the National School Reform Agreement.

Established in 2013, the TTRC is led by Laureate Professor Jenny Gore and sits within the School of Education at the University of Newcastle. Our current major research program, *Building Capacity for Quality Teaching in Australian Schools*, is supported by a $17.2 million grant from the Paul Ramsay Foundation. This program of research represents the largest study of teacher professional development in Australian education history and includes four randomised controlled trials on the impact of Quality Teaching Rounds (QTR) on student and teacher outcomes across New South Wales, Victorian, and Queensland government schools.

This program of research and scaling builds on our development of the Quality Teaching Model, which has been the NSW Department of Education's framework for high-quality pedagogy since its release in 2003.

We have also conducted a substantial program of research on student aspirations – including aspirations for teaching – involving students in Years 3-12 in NSW government schools. This longitudinal work conducted between 2012 and 2017 generated more than 12,000 student surveys and interviews/focus groups with more than 1000 students, parents and teachers.

Our submission is informed by more than two decades of educational research into initial teacher education, quality teaching, teacher development, school change, leadership, student aspirations, equity, and STEM education.

In its interim report, the Commission made several requests for information. We have addressed a sub-set of these requests (including 2.1, 3.1, 5.1, 5.2, 5.3, 5.5, 5.6, 6.1) where we can provide evidence-backed solutions and informed commentary. We also propose several reform initiatives for consideration.

Overview

Education in Australia currently sits at an important juncture. The nation-wide teacher shortages, which have been exacerbated but not caused by COVID-19, have shone a spotlight on the challenging conditions facing teachers and leaders in schools. Retention rates of initial teacher education students are falling, and teachers – early career and experienced alike – are leaving the profession in droves. Stagnating student achievement outcomes, particularly for students from equity cohorts, have been of concern for several years, growing more urgent in the context of ongoing disruptions to schooling over the past three years. Student wellbeing has spiralled and requires serious attention and investment. Education research remains woefully underfunded and undervalued. Australia's school system remains one of the OECD's most segregated, thanks in a large part to the differential funding model and missed opportunity to implement the Gonski reforms.

At the same time, critical policy work is underway. Following the Quality Initial Teacher Education Review, the government has committed to implementing several of its recommendations, including an expert panel for Initial Teacher Education Quality Assessment. A key outcome of the recent Teacher Workforce Roundtable is the commitment of state and federal education ministers to develop a new National Teacher Workforce Action Plan with the aim of increasing the number of people entering and remaining in the profession. As well as reviewing the National School Reform Agreement, the Productivity Commission is undertaking its flagship national productivity review – in which education plays a key part. All of this is underpinned by the Alice Springs (Mparntwe) Education Declaration which "sets out a vision for a world class education system that encourages and supports every student to be the very best they can be, no matter where they live or what kind of learning challenges they may face".

Right now, we have a rare opportunity for education reform that genuinely supports teachers and lifts outcomes for millions of students. To capitalise on this opportunity, we must adopt a system-wide approach that considers the entire teacher lifecycle. Genuine reform that will make a lasting difference to educational outcomes in Australia requires that policy is informed by research and practice; practice is supported by research and policy; and research is valuable for policy and practice.

1. Improving the national evidence base

Too often, evidence in education and initial teacher education comes from small scale and/or methodologically weak studies[1]. Often studies lack necessary sample sizes to generate generalisable findings, they measure proximal outcomes which are easier to change but less likely to demonstrate broad impact than distal outcomes, and they apply correlational or quasi-experimental designs which are more prone to bias than experimental research, particularly randomised controlled trials[2].

The prevalence of low-quality research in Australian education is not a slight on researchers – Australia has a great number of eminent researchers undertaking world-leading research in education. Rather, educational research is limited by the funding available in the field. Over the past 20 years, education has received just 1.6 per cent of all grant dollars provided by the ARC[3]. The average grant in education over that same period is $358,164 (compared to $472,273 for all fields), which is wildly insufficient to carry out the kind of large-scale, systematic research required to genuinely inform education policy and practice.

While randomised controlled trials are expensive to conduct they provide one of the most rigorous ways to measure the impact of interventions. Unlike in other parts of the world however, in Australia there appears to be little appetite for, or understanding of, RCT research in education.

The University of Newcastle's Teachers and Teaching Research Centre is a leader in conducting large-scale, high impact research. Over the past 10 years we have conducted five major randomised controlled trials investigating the impact of our approach to teacher professional development, Quality Teaching Rounds, as well as a world-leading longitudinal study of student aspirations in years 3-12, all of which have included qualitative studies designed to provide deeper insight.

This program of research has only been possible given: a) our strong relationship with departments of education, b) significant funding from the philanthropic Paul Ramsay Foundation, and c) internal expertise in running RCTs that is rare in the field of education. From this experience, we've learned several key lessons:

- Strong buy-in is needed from system leaders if RCTs are to succeed. System leaders need to consider such evidence to be worthwhile and support recruitment of participants through internal communication channels.
- Opt-out consent for student participation (in non-invasive testing) is critical. Sample sizes and generalisability are negatively impacted by opt-in consent requirements.
- The cost of conducting RCTs must be recognised and funding provided if such rigorous evidence is to be obtained.
- Access to existing national datasets can reduce costs and administrative burden on schools.
- Other forms of evidence are also necessary. Our RCTs are always complemented by qualitative research.

Information request 2.1 asks how we can realise the full potential of evidence-based research through the Australian Education Research Organisation. And **Information request 5.6** how we can obtain more and better data on classroom practice.

Despite claims that we already know what works in education, there are many questions about teaching, learning and schooling more broadly for which the field does not have answers. Robust evidence about all facets of schooling is critical in building our understanding of what works and creating the conditions to achieve better outcomes for students, teachers and society more broadly. AERO has a crucial role to play in this space through three key functions:

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[1] Miller, D., Ho, P. (2020). Effect sizes in education: bigger is better right?, *Evidence for learning,* https://evidenceforlearning.org.au/news/effect-sizes-in-education-bigger-is-better-right

[2] Miller, D. (2021) Effect sizes: Bigger is better, right? ACER *Teacher* https://www.teachermagazine.com/au_en/articles/effect-sizes-bigger-is-better-right

[3] Australian Research Council (2022) NCGP Trends: Areas of Research, *accessed 13 October 2022* https://www.arc.gov.au/funding-research/funding-outcome/grants-dataset/trend-visualisation/ncgp-trends-areas-research

1. Evidence synthesis:

Developing mechanisms to support the synthesis and dissemination of high-quality research for key audience groups, i.e. practical guides and accessible reports for teachers and school leaders, reports with clear implications for policy makers, communication for the broader field of education researchers.

2. Commissioning research:

Following the successful model of the UK's Education Endowment Foundation, and to a lesser extent, Evidence4Learning in Australia, AERO should commission and fund rigorous, independent, peer-reviewed evaluations of interventions and initiatives in education to build the evidence base for policy and practice.

3. Brokering access to national datasets:

AERO provides the perfect platform to negotiate with ACARA and state and territory departments of education to enable access to inter-jurisdictional datasets, such as NAPLAN, for specialist researchers around Australia. Enabling access to datasets like NAPLAN would significantly reduce the costs of running many forms of education research, and provide the conditions for large, longitudinal programs of research – the kind which could properly inform research, policy and practice.

2. National strategy for teacher and school leader professional development

As evidenced by the rhetoric surrounding the National Teacher Workforce Roundtable, education reform in Australia is highly focused on initial teacher education (inputs and outputs). However, reform in ITE impacts a small minority of the workforce (those graduates entering employment in schools), and most changes will take decades to show effects at scale.

We argue that attention to building the capacity for quality teaching of the more than 300,000 teachers currently in the workforce is a better strategy for achieving the core goals of quality and equity. This can be done at the same time as reform in ITE to ensure maximum, consistent and lasting impact.

Information request 6.1 asks whether principals have the resources, support and professional development opportunities required for their demanding roles; whether there are policy efforts to identify and prepare potential leaders effectively; and what are the relative merits of a nationally coordinated approach to supporting a pipeline of future school leaders?

We believe addressing school leadership as part of the entire teaching career lifecycle is an important opportunity for meaningful reform. **A National Strategy for Teacher and School Leader Development** could provide both a unifying framework for understanding and delivering quality teaching and a clear pathway from ITE to beginning teacher induction and ongoing teacher and leader development.

Adopting such a strategy would help achieve two overarching goals for teachers (aligned with the Alice Springs Education Declaration's Goals for Young Australians):

1. The Australian education system values teachers and supports them to promote excellence and equity.
2. All Australian teachers:
    - become confident and creative practitioners
    - have time to teach, plan and collaborate in ways that support career-long professional growth
    - are treated as professionals and as respected members of the community.

At every stage of the teaching career lifecycle (based on a model adopted by AITSL[4]) a national strategy for teacher and school leader development could support reform efforts, addressing urgent government objectives to:

- Raise the status of the profession
- Reform initial teacher education
- Improve retention in ITE and the teaching workforce
- Support teacher and student wellbeing
- Lift student achievement.

Attract	Develop a national approach to teacher recruitment
Prepare	Strengthen mechanisms for ensuring ITE program quality
Place	Strengthen mechanisms for placement across jurisdictions
Induct	Guarantee induction supports and conditions
Develop	Build capacity in teaching and leadership
Recognise	Expand national system for recognising teachers including clear leadership pathways
Retain	Expand national system for retaining teachers and school leaders

Importantly, this strategy would need to be underpinned by an agreed definition of quality teaching. One empirically tested and powerful framework for defining and understanding quality teaching is the Quality Teaching Model.

3. Quality teaching for every student, every day

The Quality Teaching (QT) Model is comprised of elements of practice for which there is evidence of impact on student outcomes[5]. It was developed in 2003 by Associate Professor James Ladwig and Laureate Professor Jenny Gore at the University of Newcastle. The QT Model was commissioned by the NSW Department of Education and has been its endorsed pedagogical framework ever since.

The QT Model focuses on three key concepts:

1. Intellectual Quality - pedagogy focused on deep understanding of important knowledge.
2. Quality Learning Environment - pedagogy that creates productive classrooms that boost student learning.
3. Significance - pedagogy that connects learning to students' lives and the wider world.

The QT Model provides concepts and language with which to define and understand quality. Having a quality teaching framework is a partial step to improving teaching practice. When combined with the powerful processes of Quality Teaching Rounds professional development, we find significant positive effects on student academic achievement[6] and the quality of teaching[7]. Just as importantly, in the face of the current alarming teacher shortages, when teachers participate in QTR they experience enhanced morale and stronger individual and collective efficacy, and the culture of their schools

[4] AITSL (2021) Teaching Futures: Background paper. https://www.aitsl.edu.au/teachingfutures

[5] Ladwig, J., and King, M. (2003). "Quality teaching in NSW public schools: An annotated bibliography." Ryde: NSW Department of Education and Training Professional Support and Curriculum Directorate.

[6] Gore, J., Miller, A., Fray, L., Harris, J., Prieto, E. (2021). Improving student achievement through professional development: Results from a randomised controlled trial of Quality Teaching Rounds. *Teaching and Teacher Education*, https://doi.org/10.1016/j.tate.2017.08.007

[7] Gore, J., Lloyd, A., Smith, M., Bowe, J., Ellis, H., Lubans, D. (2017). Effects of professional development on the quality of teaching: Results from a randomised controlled trial of Quality Teaching Rounds, *Teaching and Teacher Education*. https://doi.org/10.1016/j.tate.2017.08.007

improves[8] [9] [10]. Creating the policy conditions (as sought by **Information request 5.3**) to support widescale implementation of QTR could help ameliorate attrition.

QTR has impact on teachers at every stage of the teaching career lifecycle, as demonstrated in the table below. Like the national strategy for teacher and leader development, if QTR was implemented systematically it could support reform efforts, addressing urgent government objectives to:

- Raise the status of the profession
- Reform initial teacher education
- Improve retention in ITE and the teaching workforce
- Support teacher and student wellbeing
- Lift student achievement

Attract	Presents teaching as intellectually challenging and rewarding work
Prepare	Strengthens ITE program quality and coherence
Place	Builds graduate confidence and preparedness for diverse teaching contexts
Induct	Supports high quality teaching practice in collaborative professional cultures
Develop	Improves student achievement, teaching quality, teacher morale and school culture
Recognise	Supports teacher accreditation and promotion
Retain	Increases job satisfaction and wellbeing

Teacher development requires serious investment. Participation in QTR at all career stages is precisely the kind of activity teachers are crying out for. Teachers are rejecting recently announced reform proposals such as rewarding excellent teachers (performance pay) and the development of lesson resources. Instead, they are calling for time to collaborate, plan, and review their work. A one-off experience of QTR (which takes four days of teachers' time spread over a school term) has transformative effects on the quality of teaching, teacher morale and teacher efficacy. Such valuing of professional growth should be fundamental to any reform initiatives.

Induction and mentoring

Information request 5.2 asks would measures for improving early career teachers' access to induction and mentoring programs lend themselves to being a national policy initiative under the next intergovernmental agreement on schools?

QTR is unique because it is applicable for teachers across grades and subject areas and has been successfully implemented across a diverse range of school types including, primary and secondary schools and schools in metropolitan, rural and remote areas, as well as in distance education, inclusive education, environmental education centres and hospital schools.

Linking beginning teachers with more experienced colleagues through QTR helps build a shared vision of quality teaching, a strong sense of professionalism, confidence in their teaching ability, and deep collaborative relationships among teachers in ways that are critical to better retention.

Reform efforts that improve early career teachers' access to high quality induction programs like QTR are likely to have broad impacts for teachers, students, and schools.

Narrowing equity gaps

Information request 3.1 asks would programs that provide intensive, targeted support to students who have fallen behind lend themselves to being a national policy initiative under the next intergovernmental agreement on schools?

[8] Gore, J. Rickards, B. (2020). Rejuvenating experienced teachers through Quality Teaching Rounds professional development, *Educational Change*, https://doi.org/10.1007/s10833-020-09386-z

[9] Gore, J., Rosser, B. (2020). Beyond content-focused professional development: Powerful professional learning across grades and subjects, *Professional Development in Education,* https://doi.org/10.1080/19415257.2020.1725904

[10] Gore, J., Bowe, J. (2015). Interrupting attrition? Re-shaping the transition from preservice to inservice teaching through Quality Teaching Rounds, *International Journal of Educational Research,* https://doi.org/10.1016/j.ijer.2015.05.006

In NSW and Victoria, education departments have rolled-out large-scale tutoring programs aimed at providing intensive targeted support to students at risk of falling behind. While these programs have not been systematically or rigorously evaluated, anecdotal evidence is that they have had a positive impact on the students able to access them. However, this has come at substantial cost – both financially, in the hundreds of millions of dollars announced to support the policies, and in human resource terms by massively depleting the available casual teacher workforce at a time of acute teacher shortages. The targeting of the program itself has been managed on a local level and there are concerns about inequities in the system. For example, in hard-to-staff schools, where arguably this funding and support is most needed, principals have been unable to access staff to implement the tutoring program.

In our 2019 RCT on QTR, the improvement in student achievement in mathematics was slightly stronger among students in schools with an ICSEA below 950 – indicating a level of community disadvantage. This important finding signals the potential of QTR to help narrow equity gaps and boost achievement, equitably, on a large-scale. In an independent cost-benefit analysis, Deloitte Access Economics reported that QTR is low cost and returns between $40 and $150 to the economy in gross state uplift for every dollar spent on direct program costs [11]. By comparison, government investment in higher education returns around $3[12].

In 2021, we trialled a wholly online version of Quality Teaching Rounds. “QTR Digital” was developed to ensure teachers in small, rural and remote schools could access the same high quality professional development as their colleagues in regional and metropolitan areas. In our randomised controlled trial, we found that QTR Digital – like the traditional version of QTR – improved teaching quality, teacher morale. We also found two-month’s growth in reading achievement for students whose teachers participated in the program compared to the control group.

By developing a deep understanding of the QT Model, QTR (and QTR Digital) provide a powerful way for teachers to understand good teaching. For those teaching out-of-field (which is more common in small, rural, remote and hard-to-staff schools), the emphasis tends to be on disciplinary knowledge and curriculum. But teaching out of field also depends on being able to relate lessons to the wider world and to engage students.

QTR prepares teachers and graduates for all contexts of teaching and helps them develop real confidence in providing powerful learning experiences through intellectual quality, a quality learning environment and high levels of significance, or making learning meaningful to students.

Assumptions about quality teaching

Using the QT Model we have tested assumptions about teaching quality in different contexts – such as rural and remote schools and hard-to-staff schools in disadvantaged communities. This evidence is of great importance given these contexts experience higher rates of attrition, more difficulties in recruitment, and are more likely to employ beginning teachers and teachers teaching out of field.

- Experience[13]: we found no significant difference between beginning and experienced teachers in the quality of teaching delivered. Two possible explanations with merit are: a) universities are doing an increasingly good job at preparing graduates; and, b) most current professional development is not having a meaningful impact on the quality of teaching practice.
- Disadvantage: we found a statistically significant relationship between quality of teaching and school-level advantage using ICSEA as a measure. However, the relationship is primarily leveraged by the poorer schools. In schools with an ICSEA above 950 the relationship no

[11] Deloitte Access Economics (2020) Quality Teaching Rounds – Cost benefit analysis https://qtacademy.edu.au/wp-content/uploads/2020/10/Deloitte-Access-Economics-QTR-Cost-Benefit-Analysis-Final-report-9-Sept.pdf

[12] Deloitte Access Economics (2020) The importance of universities to Australia’s prosperity, *Universities Australia.* https://www.universitiesaustralia.edu.au/wp-content/uploads/2022/04/Report-The-importance-of-universities-to-Australias-prosperity.pdf

[13] Gore, J., Rosser, B., Jaremus, F., Miller, A., Harris, J. (under review). Fresh evidence on the relationship between years of experience and teaching quality.

longer exists[14], that is, there is no difference in quality of teaching delivered between mid-ICSEA and high-ICSEA schools.

- Location: we found a small but significant difference in the quality of teaching between rural and urban schools. However, in our sample there were no urban schools at the lower end of the ICSEA range and no rural schools at the upper end. When we only look at schools with overlapping ICSEA, the relationship no longer exists.

Given that teachers in all ICSEA bands produced higher quality teaching after participating in QTR, the result in low-ICSEA (and rural) schools suggests that the issue is less about the quality of teaching or teachers and more to do with enduring and pervasive structural disadvantage.

Teacher Performance Assessments

Information request 5.1 asks about Teacher Performance Assessments.

Teaching Performance Assessment (TPA) arrangements are relatively new in Australia and yet to be adequately tested. We caution against adopting a single national TPA until institutions/consortia and independent assessors have gathered rigorous evidence of their reliability and validity.

Implemented from 2018, the University of Newcastle TPA (NTPA) forms the critical capstone portfolio-based assessment of performance as a teacher during internship. It is integrated as the final semester component of an existing e-portfolio that students develop. It provides evidence of meeting the Australian Professional Standards for Teachers at Graduate level, classroom readiness, and capacity to positively impact student learning.

To evaluate the classroom readiness component, the NTPA includes a lesson observation coded by a trained tertiary supervisor using the coding system for the 18 elements of the QT Model.

Preliminary analysis of evidence, as reported to AITSL[15], shows a correlation between students' QT score during internship and their GPA, and between their QT score and overall performance on the NTPA (which has several other components). These data provide early signs of the validity of the QT score as a measure of ITE quality. Internal consistency for the total NTPA score (using Cronbach's alpha estimates[16]) was very high at .90, while the planning (.79), teaching (.81), and assessing (.72) domains obtained alpha measures conventionally seen as 'acceptable' to 'good/excellent'.

While we strongly reject the use of the QT Model for producing simple measures of ITE student performance, given that context matters enormously, the Model does offer powerful feedback that can assist students in improving their practice. Such a mechanism would likely be enhanced by providing ITE students, university assessors, and supervising teachers with training in QTR as a basis for providing rich and constructive feedback on the quality of teaching through the lens of the QT Model.

The QT Model and the QTR processes provide both substance and structure for generating rich and comprehensive insights and meaningful feedback on improving teaching practice.

Initial teacher education

We have conducted two pilot studies to examine the impact of a two-day modified QTR workshop for University of Newcastle teacher education students just prior to their final 10-week internship. The studies sought to test the effectiveness of the QT Model in fortifying students' preparedness for their internship.

[14] Gore, J., Jaremus, F., Miller, A. (2021). Do disadvantaged schools have poorer teachers? Rethinking assumptions about the relationship between teaching quality and school-level advantage. *Australian Education Researcher*. https://doi.org/10.1007/s13384-021-00460-w

[15] Imig, S. & Ladwig, J. (2021) Newcastle Teaching Performance Assessment. University of Newcastle, Australia, Report to AITSL (not publicly available).

[16] Growth, C. (2015) Using and interpreting Cronbach's Alpha. University of Virginia Library. https://data.library.virginia.edu/using-and-interpreting-cronbachs-alpha/

In 2021, 37 final year student teachers participated in the workshop. Given initial success, the project was extended into 2022 with an additional 32 student teachers. Insights from the participants were gathered from pre-workshop, post-workshop, and post-internship surveys.

Although an ongoing and relatively small-scale study, the preliminary results establish the workshop as impactful for student teachers. Major findings of the project to date are:

- participants felt overwhelmingly positive about the workshops;
- the QT Model helped student teachers to understand the important links between theory and practice. The links were made clear through the practical experience of 'coding', or using, the QT Model to assess lesson quality in the workshop;
- following the workshop, participants were surveyed and overwhelmingly reported increased confidence prior to their internship.

4. Educational and career aspirations

Enthusiasm for teaching exists[17]. We argue that heavily regulating who can teach and the relentless policy and media discourse on needing "better and brighter teachers"[18], devalues teachers, their work, and their sense of professional identity, ultimately working against the aims of policy makers to attract a high achieving and diverse cohort.

- Our research found teaching to be the second most popular career aspiration among students in NSW government schools in Years 3-12. Prior academic achievement (based on NAPLAN results) was ***not*** a significant predictor of interest in teaching[19] [20].
- Gender (a higher proportion of girls), age (fewer students in the middle years of schooling) and Indigeneity (a higher proportion of Indigenous students) were predictive of interest in teaching. However, Indigenous students in the highest NAPLAN quartile (quartile 4) were far less likely to desire to go to university than non-Indigenous students – a result that highlights deep-seated cultural and historical factors that shape interest in attending university[21].
- Specific strategies are required for attracting a more diverse cohort into ITE which may include: allocating places for students from underrepresented groups (at all universities, including prestigious institutions); offering targeted early entry schemes that do not rely solely on academic measures; and, providing financial support through scholarships and fellowships for disadvantaged students[22].
- Policies and initiatives should be developed that capitalise on the widespread interest in teaching among school students.

Transferring to teaching from other professions

Information request 5.5 asks about streamlining pathways into teaching for mid-career entrants.

Encouraging mid-career professionals to transfer into teaching is an important approach to reducing the impact of the teacher shortage. However, it should not come at the expense of the

[17] De Bortoli, L. (2021) What are the occupational aspirations of Australian 15-year-olds? ACER https://research.acer.edu.au/cgi/viewcontent.cgi?article=1014&context=snapshots

[18] Mockler, N. (2022). Constructing teacher identities: how the print media define and represent teachers and their work, *Bloomsbury Academic*, https://www.google.com.au/books/edition/Constructing_Teacher_Identities/zM5EEAAAQBAJ?hl

[19] Gore, J., Barron, R.J., Holmes, K., Smith, M. (2016). Who says we are not attracting the best and brightest? Teacher selection and the aspirations of Australian school students. *Australian Educational Researcher*. https://doi.org/10.1007/s13384-016-0221-8

[20] Fray, L., & Gore, J. (2018). Why people choose teaching: A scoping review of empirical studies, 2007–2016, *Teaching and Teacher Education*. *75*: 153-163. https://doi.org/10.1016/j.tate.2018.06.009

[21] Gore J, Patfield S, Holmes K, et al. (2017). When higher education is possible but not desirable: Widening participation and the aspirations of Australian Indigenous school students. *Australian Journal of Education*. https://doi.org/10.1177/0004944117710841

[22] Jackson, J., Tangalakis, K., Hurley, P., Solomonides, I. (2022) Equity through complexity: Inside the "black box" of the Block Model, NCSEHE https://www.vu.edu.au/mitchell-institute/tertiary-education/inside-the-black-box-of-the-vu-block-model

professionalism of teaching. Reducing the two years master's degree requirement to a one-year graduate diploma works against the government's expressed desire to raise the status of the profession. We wouldn't advocate reducing the length of postgraduate medical degrees. To raise the status of the profession, teaching needs to be seen and understood as intellectually demanding work.

Good teaching practice requires strong disciplinary knowledge. It is important that student teachers, undergraduate and postgraduate alike, are supported to gain classroom experience throughout their studies – but it is the quality of time spent in schools, not just the quantity, that matters. To be beneficial, practical experience must be underpinned by defensible theoretical perspectives and robust evidence. Otherwise, we're unlikely to achieve the sought-after step-change in student outcomes.

Other approaches to encouraging mid-career professionals to transfer to teaching such as scholarships and stipends should be considered before reducing the quality or duration of teaching degrees.

Broader educational and career aspirations

After age and gender, the most frequent predictor of aspirations across all occupational categories is prior academic achievement[23].

- Attracting a more diverse cohort of students is a challenge across the board in the higher education sector, not just in teaching degrees. Our research on factors that affect students' capacity to 'choose' higher education[24] highlights the challenge in ITE and other disciplines.
- Only one-in-four Australian adults holds a bachelor-level or higher qualification. A young person with a university-educated parent has almost double the odds of attending university. Students from socially disadvantaged groups remain significantly less likely to go to university than their more advantaged peers and, when they do, they are more likely to enrol in less prestigious institutions and degrees[25] [26].
- Supporting student aspirations requires improved understanding. Based on our existing research and funded by the federal Department of Education, we developed a free 10-hour accredited online professional development course that explores how aspirations are formed and powerful strategies for teachers, career advisers and school leaders to nurture aspirations in their students. This course offers an inexpensive, research-backed approach to capitalise on the existing interest in teaching in our schools[27].
- Given the major social upheaval over the past decade and especially since the advent of COVID-19, a national replication study to understand changes in student aspirations is warranted.

[23] Gore, J., Holmes, K., Smith, M., Fray, L., McElduff, P., Weaver, N., & Wallington, C. (2017). Unpacking the career aspirations of Australian school students: Towards an evidence base for university equity initiatives in schools. Higher Education Research and Development, 36(7), 1383–1400. https://doi:10.1080/07294360.2017.1325847

[24] Patfield, S., Gore, J. & Fray, L. (2021). Stratification and the illusion of equitable choice in accessing higher education, *International Studies in Sociology of Education.* https://doi: 10.1080/09620214.2021.1912633

[25] Bradley, D., Noonan, P., Nugent, H., & Scales, B. (2008). *Review of Australian higher education: Final report.* Department of Education, Employment and Workplace Relations. http://hdl.voced.edu.au/10707/44384

[26] Reay, D. (2017). *Miseducation: Inequality, education and the working classes*. Policy Press.

[27] University of Newcastle (2018), Aspirations: Supporting students' futures. https://www.aspirations.edu.au/