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In Response to the Interim Report addressing Pillar 2 Building a skilled and adaptable workforce

The [interim report](#) prepared by the commissioners makes the following statement of the aim of education in Australia:

School education provides children with the foundational skills they need to undertake further education or training, enter the workforce, and [participate fully in society](#) as adults. A high-quality school system increases overall student achievement and broadens the range of [students who are reaching their potential](#).

(p. 7 underlining added)

I like many Australians can voice my broad agreement with this laudable goal. I have underlined what I believe are the ultimate goals of education with the other goals acting simply as potential stepping stones towards achieving them. However, it is important to acknowledge that the route through these goals is unlikely to be as linear or as simplistic as this statement suggests at first glance.

After reading this statement, it then becomes immediately obvious that central to a high-quality school **system** is the role played by the humans in the system; the students, the policy makers, the administrators and the teachers in particular. However, the [Consultation Questions](#) have nothing to say at all about these important human factors (p. 3) other than to consider students like a raw product that needs to be shaped by structured training to provide workers to areas of industry need. That is the commission has positioned the education system as a raw material processing line for the *real* system of interest, industry. Given the Productivity Commission's stated mission of "Providing independent research and advice to Government on economic, social and environmental issues affecting the welfare of Australians" this is somewhat understandable. However, by adopting this fundamentally flawed paradigm, the commission is proposing to make recommendations that have a high likelihood of breaking the very supply chain they aim to support.

I wrote and posted a fairly detailed opinion essay on this interim report ([linked](#) and included below for completeness). However, I will briefly make 3 points that can hopefully guide the Commissioners in formulating their final advice to government.

1) Education is not the same for everyone.

Each and every learner is a unique individual. While appearing trite, this statement hides the fact that each and every learner brings a unique set of experiences to the classroom and a unique set of needs. While teachers are fairly good at designing learning experiences that suit most students most of the time. Put another way, no one way of teaching suits more than one student perfectly and thus there will always be compromises. This reality has existed for many years (in fairness it has always been there) and has been formally and informally acknowledged in phrases such as, "teaching to the middle | top | bottom", or by structural decisions such as "setting" or "streaming". However, as we have become better at identifying individual needs, we have felt the ever-increasing responsibility to meet these needs so as to help students reach their potential. This individual level of differentiation has been a slow and steady change such that it has become an accepted aspect of what it means to be a teacher. However, in order to

truly achieve this goal, each student must be known to the teacher as an individual learner (hence Australian Professional Teaching Standard domain one) and this takes time and expertise.

2) Teaching is not just lesson delivery.

Identical with many professions, teachers do many tasks other than face-to-face delivery with students. [Windle et al. \(2022, Table 10\)](#) enumerates just some of the non-teaching tasks that teachers complete in a typical week. A brief look at this table might assign some of these tasks to “administrative tasks” but many of them are actually core to the process of professional teaching.

As outline in the Essay below, delivery of a 1-hour lesson can be thought of as being made up of: 1 hour face-to-face, 30 minutes+ for lesson preparation, 20 minutes+ for lesson differentiation, 72 minutes (averaged) for marking and feedback to students, 10 minutes for professional reflection. That is a total of 3 hours 12 minutes of “input” for 1 hour of “output” or a [productivity](#) of 31.25% *IF* we consider the only measure of value to be time. Clearly productivity can be improved by increasing the ratio of face-to-face time to behind the scenes time and that is the approach that the Commissioners are proposing in this interim report. Reduce the amount of time spent on behind the scenes tasks and the productivity automatically goes up. But this misses the point of teaching completely. Teaching should not be measured in units of hours (even though some state education boards continue to do this). Teaching should be valued by quality and not quantity.

3) Time is a zero-sum problem.

There is only a fixed amount of time in any given week that can (should??) be utilised for work. A full-time employee can typically expect to work [38 hours per week](#). Removing 4-weeks for annual recreation leave gives an annual total of 1824 hours which when divided down to a 40-week face-to-face teaching year would average to around 45.6 hours per week in term time. That’s a little on the high side, but the enforced ‘holidays’ every 10 weeks makes it all balance out pretty much.

Using the *theoretical* total of 192 minutes for each unit of teaching delivery, would mean a theoretical face-to-face teaching load of 14.25 lessons per week in term time. Using the numbers provided in [Windle et al. \(2022, p.17\)](#) teachers on *average* spent 21.53 hours per week in lessons. That is 51% more time in actual teaching than is theoretically possible. It is therefore essential to ask,

If teachers are doing 51% more work per week than physically possible, are they:

- a) Working more than 45.6 hours per week.
- b) Cutting out or reducing core teaching preparation tasks.
- c) Delivering a *product* that is of a lower standard than ideal.
- d) Exposing themselves to enhanced psychosocial risk.
- e) Likely to seek alternative employment.
- f) All of the above.

A solution?

There is no easy solution to this problem. Reducing the face-to-face expectations placed on teachers is the only way to ensure that all the essential tasks associated with high-quality teaching are completable in a reasonable fraction of the time available each week. However, to do so would mean increasing the size of the teacher workforce, and thus increasing the [Schooling Resource Standard](#) by a comparable amount. Using the 2025 figures this would necessitate an increase in Commonwealth base funding to schools from \$22.1 billion to around \$33 billion with comparable fractional increases in state funding. Even if this were possible, we would need to expand the size of the teacher workforce by 50%. Given that teachers are already in short supply in many parts of the country, it is easy to see why this “real” solution is not practical.

However, shifting behind the scenes teaching tasks, particularly those associated with preparing lessons, to EdTech (read in large part as GenAI) is not the solution. Yes, it will allow for an increase in productivity by time-value measurements. Yes, it will lead to more teachers being able to deliver their allotted lessons in a given week. However, it will de-skill the teaching workforce. It will de-professionalise the teaching workforce. It will likely reduce job satisfaction. It will do nothing to improve student engagement in learning and may worsen it. It will do little to encourage more people into the teaching occupation. And, most importantly, it will kick the problem down the road by half a generation to a time when it is even harder to fix because there will be damage to fix as well as structural problems.

There must be a solution to improving education in Australia, and I for one would be glad and honoured to assist in trying to find these solutions. If I owned a fine dining restaurant and had to face the choice of serving greasy burgers or turning off the lights and closing the doors, I would probably do the latter. In education, turning off the lights is not an option. We must therefore find ways to allow our qualified, highly skilled and professional teachers to avoid the question posed above in (3) and give them the resources and trust to be able to really deliver a high-quality education for our country.

Original LinkedIn Essay

Education in Australia is unwell, and we may be about to make it worse!

On Monday 11 August 2025 the Productivity Commission released their [interim report](#) providing advice to the government around building a skilled and adaptable workforce. The first part of this report focuses on the role that schools play in providing children with the necessary foundations they need to enter the workforce and participate fully as adults in society. Setting aside any potential debate around whether the primary purpose of school is to prepare children for the workforce or to assist them to learn how to learn, the report does make three very important observations.

- Firstly, the ability of students across Australia varies significantly.
- Secondly, teachers spend much of their time on activities other than teaching delivery and are working long hours to do so.
- Finally, too many teachers are teaching out of field.

Extensive research (see for example [Teachers at breaking point](#) and [PISA 2022 Volume II](#)) has shown again and again that these premises are true.

The Commission are proposing two reforms that they believe could address these challenges:

- Investment in a single national platform for teachers to use for lesson planning and resource sharing to save planning and preparation time.
- A nationally integrated approach to the use of educational technologies (EdTech), including AI, in schools.

There are suggestions that EdTech for teachers might reduce administrative burdens, such as marking, planning, and feedback. On face value, these seem to be obvious solutions to the current problems and could theoretically be implemented at fairly low cost in a short period of time. However, are these recommendations by the Commission really in the best interest of our children? The answer I believe is a complicated “**sort of**”!

There is no doubt that AI, and Generative AI (GenAI) in particular, is permeating every aspect of our day to day lives including [in the classroom](#). I’m waiting for my local drive-thru to ask, “do you want AI with that?” To an everyday end-user GenAI appears miraculous and seems to be able to provide answers and recommendations on almost any subject, provided that the write question can be asked of course. The futurist and writer Arthur C. Clarke’s observation that, “any sufficiently advanced technology is indistinguishable from magic” seems very appropriate when listening to the marketing team describing AI! However, under the hood, GenAI text models like ChatGPT or Google Gemini are actually just a (really big) series of parallel calculations that are guessing the most likely next word in a sentence given the context of the search. For the interested reader with a few hours to spare, Grant Sanderson’s ([@3blue1brown](#)) [Neural Networks playlist on YouTube](#) is excellent viewing. In short, while clever, GenAIs are not intelligent, and most importantly they are (currently) not capable of making any *decisions* as most humans would define that term. Even so, for apparently mundane tasks GenAI does appear to be able to shift work away from the human and onto the microchip.

So could GenAI increase teacher productivity? Teachers have previously noted that they feel that their productivity increases when they [use GenAI for teaching strategies](#), but what does it really mean for a teacher to be productive? In order to answer this, we must first decide, "what does it mean for a teacher to teach?" This then inevitably leads to the question, "what does it mean for a student to do learning?"

The education system we have today is not just complicated, it is truly complex. This simple statement captures the idea that an education system is more than the sum of its parts. Almost everyone has experienced being a part of the education system and the vast majority will remember what worked for them. I for one remember Dr Rowe as a truly inspirational, and slightly crazy (in a good way), Physics teacher who strove to build a love of the subject in us as students as much as he tried to get us to pass our exams. However, I'm sure that some of my peers remember him for other reasons and that others still have other teachers who immediately spring to mind, both positively and negatively, when they reflect on their time at school. The point here, is that as well as benefiting from rose-tinted-glasses syndrome, reflecting on *my* experience as a student tells me very little about the experiences of others and even less about what teachers experience. It also emphasises that the things I value may not be the same as the things other people value. Most importantly it emphasises that often it is *people* not *activities* that really cause change. In my opinion, teaching is the process by which a professional designs appropriate experiences that engage students allowing them to develop new skills and understandings which are followed up by meaningful and targeted feedback to further refine their comprehension.

So how do teachers *do* teaching? As a former Head of Department, classroom teacher, and now as a Senior Lecturer in Education, I have had the opportunity to get a rough idea of how this works. I was once told that teaching is a blend of about 50% art, 50% science, and about 50% magic. Yes, I know this doesn't add up, but this is the mystery of teaching! Teaching is also very hard work. Research has shown that during term time, it is not at all uncommon for full-time classroom teachers to [work up to 60 hours per week](#) or 52 hours per week on average. Interestingly, that same research shows that the hours worked do not vary much by experience, location or the socioeconomic status of the school so as a teacher gets more experienced, the job doesn't get less intense; it just gets *different*. An observer may retort that teachers have around 12 weeks of holiday per year so it "all evens out in the wash." Even when spread out over the whole calendar year an *average* teacher is working the equivalent of 43 hours per week with nearly 22 hours face-to-face with students. Is that good or bad though?

If you do not personally know a teacher, some further context may be needed. Twenty-two hours face-to-face leaves an average teacher with about 30 hours to plan, mark, provide feedback, collaborate with colleagues, attend meetings, answer emails and phone calls, work on their own professional development, counsel students, engage in other extracurricular activities, and handle any other general administration that comes their way. That's a lot of time for a lot of tasks so it should be doable right, particularly if you can offload some of that administrative burden onto EdTech? But how much of those non-face-to-face jobs are burdensome bloat, and how much is core to the process of learning?

Let's identify the elements that make up a *typical* (not that such a thing exists) 1-hour unit of teaching aka "a lesson" and we shall assume a class size of 24 students (because it makes the maths easier).

Lesson Delivery (1 hour)

Teaching an hour-long lesson might be thought of as running a meeting or performing on stage for an hour. There are times when you are the centre of attention, and times when you are acting as a ring-master. This is the "teaching" that immediately comes to mind for most people.

Lesson preparation (>30 minutes to ~1 hour)

If you have got this far, then you probably have some experience of running formal meetings. I believe that you would likely agree that it is reasonable for a presenter to spend at least 30 minutes preparing to lead a one-hour meeting. If there are resources to make or collect, such as worksheets or if there are videos to record then this could increase significantly. If there are resources you can use from previous years, then this may go down a bit but you still need to find them, load them into your learning system (or print them), read over them etc. Taking this into account this time could easily rise to an hour but I'll be generous and use 30 minutes.

Lesson Differentiation (20 minutes)

Differentiation is primarily the process of modifying learning materials and outcomes so that all students can access the learning experiences at an appropriate level and achieve successful learning. At the extreme end of this lies individualisation, but for the sake of this argument, I am assuming that the core materials will be differentiated twice; once to add additional "core support" and once to add "extension activities". This is an aspect of teaching that is subject to [Parkinson's law](#), so I, only going to allocate 20 minutes to the task.

Marking and Feedback (3 minutes per student per lesson)

Love it or hate it, homework does serve a purpose in building a child's understanding of their learning (see for example [Marzano & Pickering, 2007](#); [Fernández-Alonso & Muñiz, 2022](#)). Tasks do not need to be long or arduous (I'm not having a go at all the Maths teachers here) but they do need to give students (a) a chance to show what they understand / can do, (b) an opportunity to experience learning challenge and to find misunderstandings, and (c) the chance to help their teacher to guide their learning. In today's information age, learning is not synonymous with *knowing*, in the same way that teaching is not synonymous with *telling*. If we allow for 6 minutes per student every other lesson (i.e. 3 minutes per lesson on average), for a teacher to open the student's book (or find the file in the LMS and open the file), skim read what has been submitted, and provide a feedback of the form, "Well done. You have clearly watched the video that I set and have got some of the core ideas. Next time, try to go into a bit more detail in your answers so that you can begin to make the links between concepts stronger". I leave it to parents and policy makers to decide for themselves if 3 minutes per child per lesson is really sufficient for effective learning?

Reflecting on Teaching (10 minutes)

Those who cannot remember the past are condemned to repeat it. (George Santayana)

Not all meetings go as planned. Very few lessons go as planned! It is therefore essential that teachers dedicate time to explicitly reflecting on each lesson because it not only informs future and experiences, but it also informs what needs to be re-taught in the next lesson, what can be skipped over, and what tangents might provide fruitful learning for students.

Bringing all these items together we find that for our single **1-hour unit of teaching** we need to allocate 192 minutes of the week. That is a whopping 3-hours 12-minutes of total time for a face-to-face time of 1 hour. Multiply this up by the average "22 hours" of lesson delivery and we

get a grand total of **70 hours 24 minutes** per week. And there were no staff meetings, compulsory professional development sessions, emails (reading or writing), playground duties, or phone calls home in there!!!

Clearly, the Commission are right in noting that teachers are spending too much time each week on tasks that are not “lesson delivery”, and I know of no teacher who would disagree with this blanket statement. But as the very simple argument here shows, teaching is much, much more than lesson delivery.

Teachers are professionals. From the Oxford English Dictionary, “Professional (*noun*): A person who does something with a high level of competence, commitment or expertise.” As a society we have historically acknowledged the professional status of teachers and entrusted them to know the students in front of them, know how those students best learn, know how to plan for and implement effective learning, and know how to assess students and provide them with feedback on their learning to get to the next step. These core role descriptors come directly from the [Australian Professional Standards for Teachers](#). Are the jobs identified above *really* essential for **good** teaching and learning? Probably, yes. Are all teachers equally good at doing all of these jobs? Probably, no! Are we as a society willing to accept a *less good* product because we can't afford what we really want? Only you can answer that question.

Offloading planning and feedback processes to AI, as suggested by the Commission's report, will undoubtedly reduce the time spent by teachers on non-face-to-face tasks but there are consequences that must not be overlooked.

- Learning will be reduced to “parroting the correct answer”; AI is reasonable at finding the “right” answer when one actually exists but it is not creative. Using AI to provide marking feedback and summary reports of “performance” will allow teachers and students to know what they do and do not recall. However, in its current state, it will not promote critical thinking or suggest subtle changes to working habits etc. in the same way as a professional, well trained human teacher will.
- Teaching will be reduced to “delivering the predefined plan.” Ignoring the fact that although we have an Australian Curriculum which is implemented differently in different states, it is safe to state that no two classrooms are identical. Therefore, learning plans do have to be adapted and adjusted for local context. By producing off the shelf lesson plans that are implemented the same everywhere, the teaching workforce will be de-professionalised, and we may as well replace teachers with robots. If you have ever had to deliver a presentation prepared by someone else you will understand the discomfort this causes and the shift in quality.
- The next generation of Australians will regress to the mean. Without opportunities to experience difficult problems in a safe(ish) environment like school, our students will seek out ways to game the system, find the right answer and get things over and done with. If we make learning more “standardised” and “cookie-cutter” then interesting and tailored learning will not happen, students will struggle to think outside the box, and the next generation of workers will not be able to solve the wicked problems we are creating for them right now.

Am I against the use of AI in Education? No. Along with my colleagues I have [researched and published](#) on possible uses for AI that can be used to *enhance* teachers' roles in the classroom. However, suggesting that teachers give up their professional autonomy and

judgement in favour of AI reduces them to the level of *classroom-overseer*. Such a seismic shift in the role of the teacher has the potential to make the current teacher shortages and teacher burnout worse and not better. I know that I would not have got into teaching 20 years ago if I was told all I would have to do is "open the book to page 101 and work my way through exercise 13!"

It is clear to me that the real problem is not really the *role* of the teacher; it is simply that we have far too few people who are willing or able to take on that role as it is currently conceived. As a consequence, the system **needs** teachers to *deliver* 22 hours in the classroom per week because we have insufficient trained people to do anything else. Even asking teachers to teach *just 15* 1-hour units of teaching equates to a real workload of 48 hours per week in term time. This is the real problem that needs to be investigated, and the solutions need more than just money.

Unfortunately, what the Productivity Commission are proposing here is to education as treating a patient's symptoms and not the underlying disease is to medicine. At best it may make the patient feel better in the short term but ultimately it could lead to their death. Are we about to witness the death of the teaching profession in Australia?