

Shifting away from distractions to improve Australia's schools: Time for a Reboot

Jack Keating Memorial Lecture

John Hattie

Laureate Professor of Education, University of Melbourne

June, 2016

This paper argues that we must intentionally change the narrative that frames our definition of 'success' in education and our priorities for reform. The narrative of choice and autonomy has impeded and undermined our focus on enhancing achievement for every student.

There is evidence to suggest that marketization produces the opposite effect, amplifying and normalising "brand value" associated with academic excellence. Instead of promoting greater diversity, secondary schools ... find themselves chasing the same academic pot of gold in a market in which "being academic" is the prime indicator of market value. ... There is limited incentive in this environment for schools to develop vocational or alternative (or personalised) learning models, as doing so optimises their market position. Then the government school sector is also forced to privilege an academic curriculum in order to compete with the private sector for middle-class and high-achieving students. Keating et al., 2013, pp. 276-277.

This current narrative of "success" leads to a relentless focus on the differences between schools, and arguments about school choice. We risk a major residualisation of our public school system (and parts of our Catholic and Independent systems), while at the same time increases in education funding are funnelled towards uses which do not improve educational quality or outcomes. Over the past ten years we have had more than doubling the funding to schools relative to increased student numbers but our overall performance is stagnating or declining. Spending more to continue the current system is not wise behaviour.

Social stratification is sharper in Australian, and a lower proportion go to socially mixed schools than in most countries which we wish to compare. Paradoxically, this not only leads to more low-income students facing greater obstacles to educational achievement because they are segregated into residualised schools, but also to more 'cruising' schools serving better off students, but not adding significant value to their educational achievement. This latter trend is a major contributor to Australia's declining educational performance.

We need a reboot which focuses effort and resources on supporting teachers to work together, collaboratively, to improve student achievement over time. This requires that we build a narrative based on identifying and valuing expertise, working together and opening classrooms to collaboration, targeting resources at need, accepting evidence and evaluating progress transparently over time. The five high level goals for our education system should be:

1. Building confidence in the public school system
2. The percentage of students at L2 Math and Reading by Age 8
3. Schools demonstrating that they are inviting places to come and learn as reflected in the retention rates to the end of high school
4. Having multiple ways to be excellent in upper high school
5. Every school having at least one Highly Accomplished or Lead Teacher.

Time for a reboot.

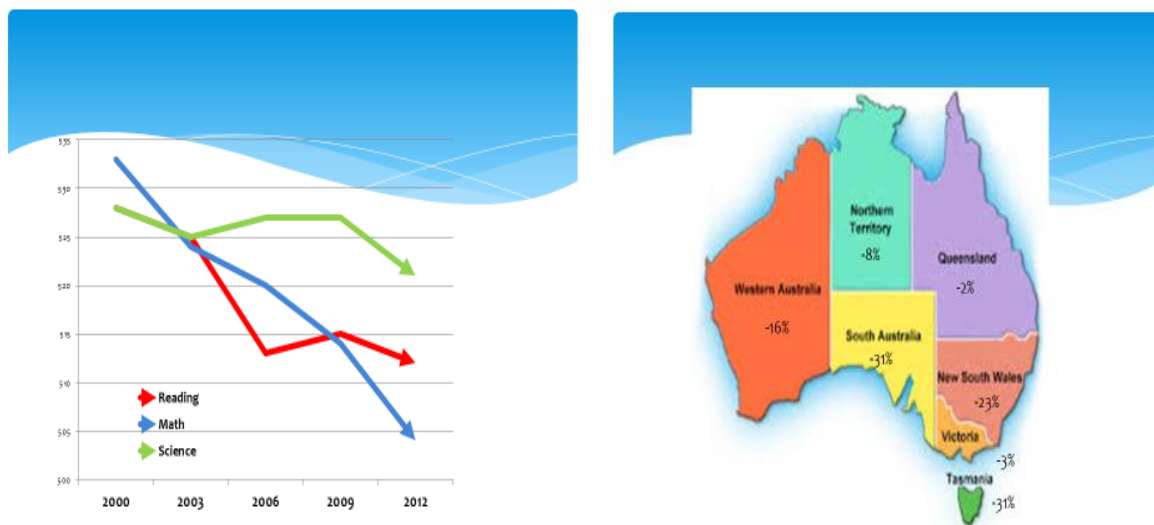
1. The need for a reboot in our education system

When your computer system has major problems then it may be time for a reboot. A reboot causes the system to reconfigure itself, preserving the essential things you have on your computer, but then makes it all run more smoothly, gets rid of corruptions and ensures the desired paths are restored. It is time for a reboot of Australian schooling – provided we keep the excellence we have but rid ourselves of the creeping, perverse parts of our system that are clogging up this excellence, leading us down wrong paths, and leading to introducing absurd corrections to solve the wrong problems.

There are at least six major indicators that the Australian Education system is moving in the wrong direction and thus needs a reboot. The major argument is that the narrative that drives our education system is wrong, we are wasting so much money on driving the wrong narrative, and it's time for a reboot

i. We are among the World's biggest losers in literacy and numeracy

Literacy and numeracy remain the critical bases of any educated person, and while many would (correctly) argue that these are attributes of narrow excellence; they are the building blocks of the wider excellence many aspire towards. Literacy and numeracy are capabilities which facilitate higher learning, not necessarily ends in themselves. Over the past 16 years Australia systematically went backwards, both relatively and absolutely, and we need a major reboot to reverse this trend. Our PISA results in Reading, Mathematics, and Science have slipped in every testing cycle since the turn of this century. And the decline is across every Australian state.



This contrasts with almost every other OECD country increasing in absolute terms; such as Switzerland, Russia, Thailand, Italy, Portugal, Germany, Latvia, and Poland. Yes, there are other countries declining and four more so than us: Sweden, UK, New Zealand, and Iceland. We are indeed the fifth biggest loser! We need, however, not to rush to judgement that this decline is a function of low socio-economic students, an increase in immigrants (who outperform locals), or a lack of funding. A deep analysis of the PISA decline shows that Australia has more cruising schools and students than other countries – the major source of variance in the decline is among our top 40% of students (Ainley & Gebhardt, 2015). This decline has occurred during a time when funding has increased to schools by 30% (while student numbers have increased by only 13%).

We need a reboot.

ii. We are driving down Math and Science participation and success

We also need a reboot in schools attracting students into STEM subjects. We have spent trillions of dollars over the past 16 years in advancing the STEM agenda with a steady decline. More STEM scholarships will make nary a dent – they have not in the past and most of these schemes remain un-allocated and, finally, there is no evidence that increasing the content knowledge of teachers alone makes a difference to the quality of teaching math and science. Indeed, we need a reboot in how we configure Science and Math in our schools – these subjects should not be sold as the domain of the brightest, the talented, and the engineers and scientists. In many ways scholarships create substitution effects and we divert resources to those who would have come to teaching anyway. Instead, we should promote the struggle that major scientists and mathematics engage in and all of us can struggle – the art of teaching is to help students enjoy the struggle. I also note that the

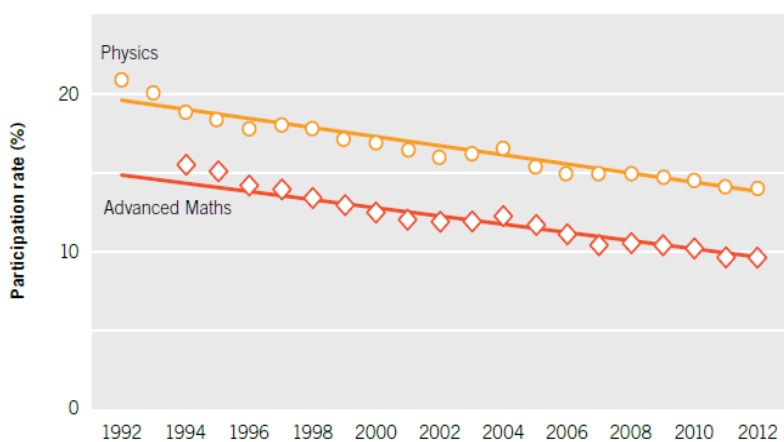


Figure 2 National participation rates in Year 12 physics and advanced mathematics (1992–2012)

employment of math graduates in the US is diving down – but those math graduates with low social skills is a deep dive, and those math graduates with social skills is upward! It is the communication and interpretation of mathematics that is needed in mathematicians and scientists but in our schools we still promote the lone scholar, the individual's exam results, and working alone. There are some claims that the best preparation for teaching science in high schools is not to teach science in primary school at all! Perhaps if the teaching of Science and Mathematics is as dire as some claim, a simple and cheaper solution is to reintroduce excellent textbooks! Given reasonable subject /content knowledge AND content pedagogical knowledge AND text books we might get somewhere. We need a reboot of the methods of teaching math and science, and how we invest in this area.

iii. We are overly focused on school differences.

Imagine setting up a new McDonalds on a corner close to a current McDonalds. Then allowing the new owners the autonomy to do what they like, use their own views and opinions about what the customers want and need and thus stock the store, and then evaluate the success of their business by the number of customers they steal from the nearby McDonalds. In this case, success is destroying a rival in the same business with the same overall owners! This is indeed what we do in education – we set up schools, allow school leaders the autonomy to run them almost how they want, and esteem them when the rolls increase at the expense of the neighbouring schools. We have a system where schools *within* the same sector compete; and where schools compete *across* sectors. No wonder there is little upscaling of success, little cooperation in learning better ways to serve our students, and why most networking of schools debate the things that do not matter. Once a year at enrolment time these same principals are competing against each other, so, dare they share their secrets of success with their rivals? We need a reboot in how we perceive success in our schools and in how we network across schools.

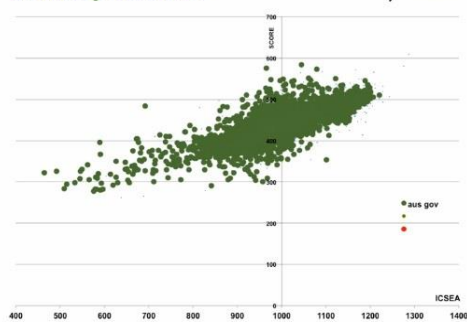
It is a major distraction that we have also allowed the debate about school choice. In many senses it has worked – schools do have choice of their students. We have invited parents to debate the merits

of schools (and they do incessantly) but the variance *between* schools in Australia is much smaller than the variance *within* schools. What matters most is the teacher your child has, but we do not (for many good reasons) allow parents to choose teachers but default to give them the almost meaningless decisions about the choice of school – which ratchets up the competition. We need a reboot.

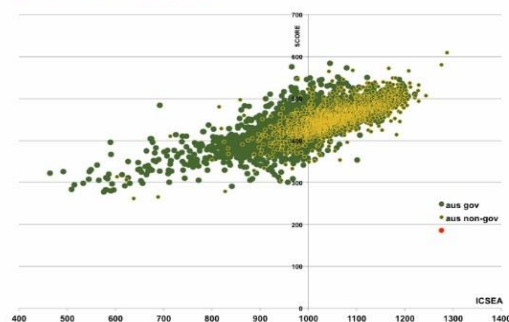
School choice has led to a clogging of the motorways. In Melbourne, so many students pass by their local schools enroute to a chosen alternative – and nearly all this choice is based on hearsay, the nature of the students, and rarely on whether the school is or is not adding value to the students' learning. We need a reboot in our debates about the value of the local school.

Then we have debates about government versus private or Catholic schools. When prior achievement of the students entering private schools is considered, there is no difference on the impact of these forms of schooling. Indeed, even ignoring prior differences of who goes to private schools, it is hard to see any difference between private and government schools – except private schools have no tail! There is a major danger in the residualization of the government school system. We must change the narrative away from school choice.

Average NAPLAN numeracy Score by ICSEA (Primary Schools) News Corp Australia



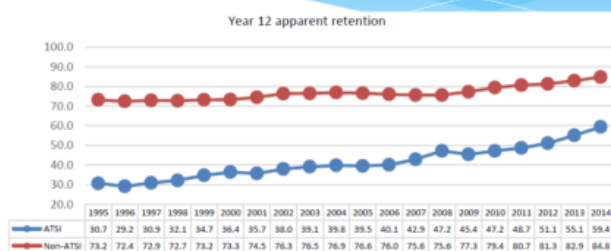
Average NAPLAN numeracy Score by ICSEA (Primary Schools) News Corp Australia



iv. We do not have as a driver that schools must be inviting places to learn.

As a father of three boys (now completed schooling) I was continually reminded of the evidence from Henry Levin (an esteemed educational economist). He showed that the best predictor of adult health, wealth and happiness was NOT achievement at school, but the number of years of schooling. So, how do we make our schools inviting places for students to want to come to learn? I deliberately phrase the reaction this way; rather than arguing for raising the school leaver's age (which can result

1-5 not finishing high school

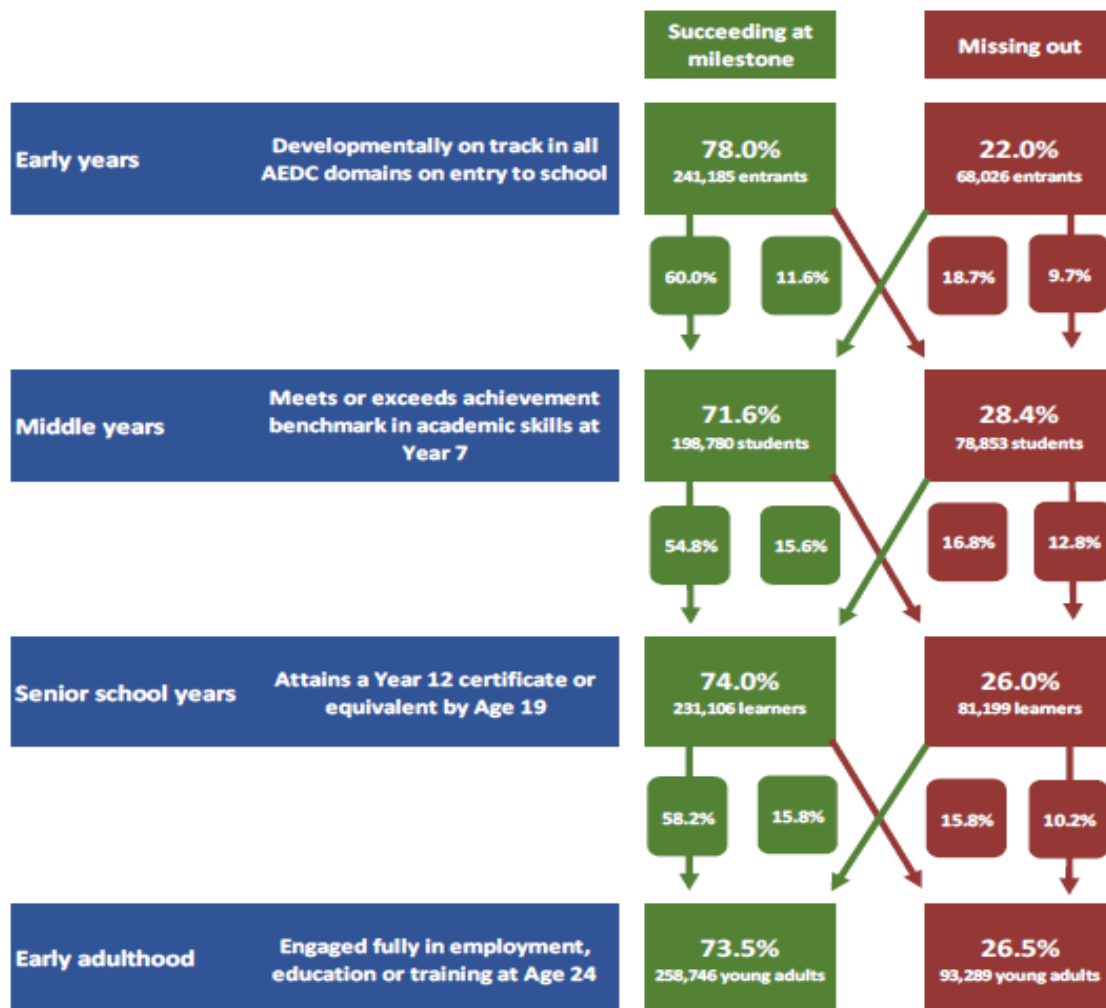


in schools not changing for students) schools should change to optimise learning for all students to entice them to remain at school.

One in five Australian students do not complete high school – this should be a national disgrace. Yes, some students leave to take apprenticeships, further training and this is admirable. The retention rate has barely changed for 20 years, but thank goodness for Aboriginal students and their increase

over this same time span. About 26% do not attain Year 12 or equivalent by age 19, the SES gap is as much as 28% between highest and lowest (Lamb et al., 2015).

The index of educational opportunity in Australia



The answer lies in changing our high schools, not blaming the students or their families. The answer lies in making our schools more inviting places to come and learn, not raising the leaving age. I look to my experiences in New Zealand where they had a similar problem with the retention rate through to the end of high school. After many interventions, the one that had the greatest effect was changing the assessment systems in upper high school. They moved from a narrow set of assessments (mainly focused on helping universities select students) to a wider range based on reliably discriminating between Excellent, Merit, Achieved and Not achieved. Any school subject that could devise reliable assessments to make these distinctions was considered to be part of the final three years' assessments. This allowed students and schools to privilege moving towards excellence across a range of subjects (from panel beating, sports coaching, physics, language, history). I recommend consideration of this approach to help make schools inviting places for students to want to stay and excel. Have we the courage to reconceptualise the final 2-3 years of schooling, esteem a wider range of subjects, allow multiple paths to excellence and not just narrow university entrance, and see our success in terms of the inviting nature of our upper high schools? By introducing more legitimate ways to become excellent, NZ moved the retention rate from 80% to 92% in three years. It can be done. We need a reboot of our upper secondary examinations and curricula and evaluate schools in terms of whether they are inviting places to stay and learn.

v. Are we dumbing down teacher education?

There are currently 80,000+ students enrolled in the 400+ teacher education programs across Australia. 30,000 enter each year, 18,000 graduate, 7,000 get full time (often contract) teacher jobs, and about 4-5,000 are still in teaching 5 years later. Such oversupply creates a depressed return in terms of teacher pay; but do we really have a supply or a retention policy? Yes, the evidence of declining entry scores into teacher education has continued unabated for the past 15 years and the debate about ATAR or not has not helped. We do not want the message to be that if you are not smart, then at least you can become a teacher. The *Revolution School* shows the complexity, the need for passion, but most of all the critical importance of expertise which is needed when you first begin to teach.

We know, from the Teacher Capability Assessment Tool, that there are more defensible and rigorous assessments we can undertake in both academic and non-academic domains to optimally select those into teacher education. Most desperately we need such entry assessments to help build the evidence base to support teacher education. It is a travesty that teacher education seems the most evidence-free part of our education system when opinions, just-watch-me, and an absence of common assessments across the 400+ programs prevail. Teacher education programs can no longer demand to be left alone, no longer be left with such open entry policies, and no longer allowed to make claims without evidence of their impact. There is an opportunity on the table with the TEMAG implementation – which asks about the nature of the evidence that all graduates can use to change the learning lives of their students – and we need to entice the ablest students to enter our profession. Who wants to enter a profession with low or no standards for entry, no evidence base as to how to best prepare for the realities of the classrooms, and where experience not expertise define your career?

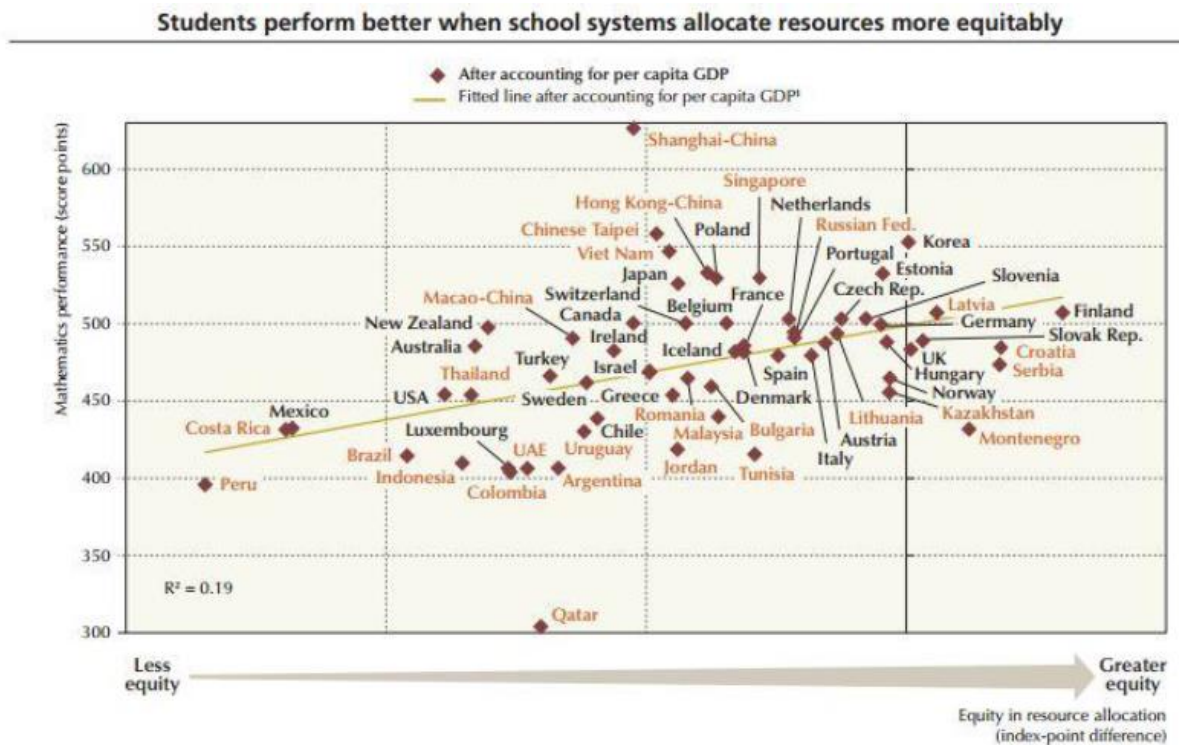
I have asked many of my colleagues to name the institutions (there are 15,000+ in the world) which are famous for teacher education effectiveness research. No one has named more than 7 and most struggle to get to 4. Surely, Australia can aspire to be world famous in this area with some cooperation, some commitment to addressing the wicked problems in this area, and an evidence base of success. We do have successful programs but we are close to losing the plot – as it would take little to take the funding of Universities and give it to schools (as in the UK with disastrous results) or allow non-accredited organisations to come into Australia and sell their wares – and we have seen the devastation of the VET sector from such privatisations (I note in the US the proliferation of companies entering the sector to fix teacher education with no evidence but a stronger profit motive). With greater globalisation and accompanying free trade agreements it is likely that many quality (and otherwise) providers will enter this market.

I also note with concern the moves we seem to be making to allow teaching to be a part time job. The continuing use of short term contracts, the flatness of the current salary scale (and hence why get better is just get older), that the average age entering teacher education is now close to 30, little recognition of expertise over experience, declining numbers of those wanting to step out of classrooms to lead schools, and the influx of non-educators into the top of the administration of education. This is not a profession; it is a job.

We need a reboot of the claims about evidence in teacher education, and a reboot to revitalise the career structure and rewards from teaching.

vi. The growing pains of inequality

Kenway (2013) noted that the “Gonski report provided stark evidence and a nationally humiliating reminder that Australia does not have a high-performing education system as it does not combine quality with equity” (p. 288). She noted the branding of the high status schools (mostly Independent) via the introduction of IB, country “adventure” campuses, benchmarking against other national education “product differentiation” systems, and inclusion of well-being programs – all playing a critical role in their marketing their product. The OECD has long recognised Australia’s dismal showing among highly developed nations – it has a high quality but low equity education system.

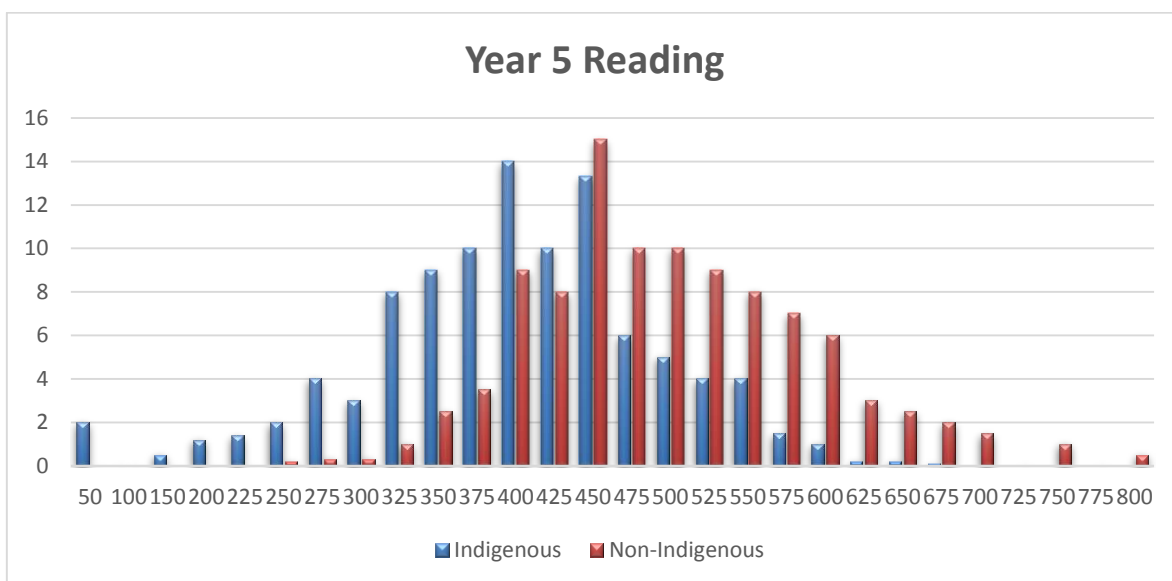


Social stratification is sharper in Australia, and a lower proportion of students go to socially mixed schools than in most countries which we wish to compare. Students from wealthy, privileged backgrounds tend to go to high-fee, independent high schools; whereas students from low-income, disadvantaged backgrounds tend to go to government high schools. Attending a low SES school amounts to more than a year’s difference in academic performance. There are large inequalities in teacher shortages, educational resources, and access to academic curriculum – more so than in only two other OECD countries – Chile and Mexico. Many have traced the increase between school variance to policies of funding, choice and competition. We have created a system where schools compete for students and funds, we privilege autonomy which increases the spread, and we entice principals to steal students from other schools to make them look good!

In particular, we are not very good at teaching Aboriginal students. First, let us not think of Aboriginal education as a remote and rural issue. As the recent Productivity Commission paper showed, though Indigenous students make up just 5% of all primary school students across Australia, 77% of all schools with primary school students have at least one Indigenous student. Forty per cent of Indigenous students attend schools where Indigenous students account for a small share of total enrolments (less than 15 per cent) and have relatively few Indigenous students (less than 50). But a considerable minority (16 per cent) attend schools where Indigenous students account for a large share of total enrolments (50 per cent or greater) and have a large number of Indigenous students (100 or more). Critically, the gaps in Indigenous educational achievement are present across all regions and across all states and territories.

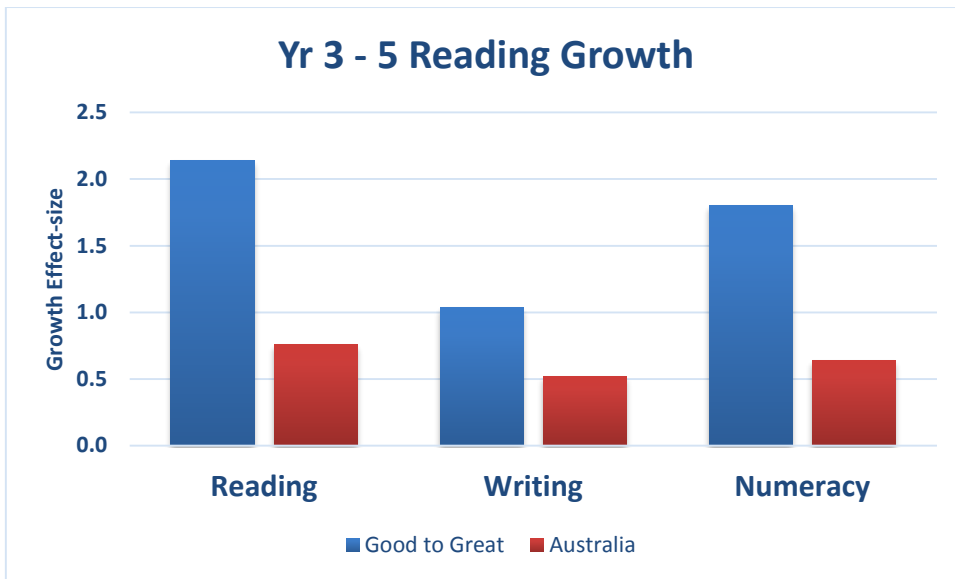
Second, the majority of Indigenous students go to schools in the metropolitan and provincial regions of New South Wales and Queensland where the gap in achievement is smaller but still material and therefore meaningful. Even in metropolitan areas, 20 per cent of Year 5 Indigenous students did not meet the national minimum standard for reading (compared with 4 per cent of non-Indigenous students in metropolitan areas).

Third, the talk of the gap and the tail are misleading. It is a movement in the whole distribution of Aboriginal students that is needed – it is alignment not tails. Note that the gap above the average is as great as that below the average. Where is the entreaties for those above-average Aboriginal students who are as behind their non-Aboriginal peers – and who are more likely to become leading business people, doctors, lawyers, politicians, and teachers.

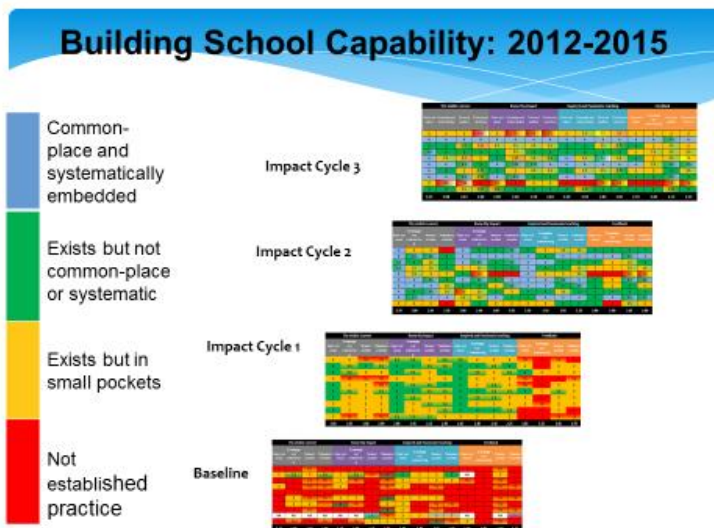


Fourth, if I’ve learnt anything from my NZ experience, it’s that the best ways to teach Indigenous students work for all students, but the converse is not necessarily true. Russell Bishop has developed a well-researched, widely implemented program in three countries (NZ, Australia, Canada) based on this premise. Highlighting the relations and that Culture Counts, it aimed at improving teaching methods – it is the teachers that need changing.

Fifth, similarly related programs in Australia are noted by their pockets of success. For example, Noel Pearson’s “Good to Great” schools have made appreciable differences to the learning lives of Aboriginal students. This year, Coen and Hope Vale have recorded the highest attendance of remote-based indigenous Queensland schools. I analysed the data from 122 of his students. Learning growth effect-sizes were calculated for all students where they completed a NAPLAN test over two occasions (Year 3 and 5, or Year 5 and 7). The average effect-sizes are all substantial. For Years 3-5, there has been greater than the Australian average growth: 181% greater in Reading, 98% greater in Writing, and 181% greater in Numeracy. This is the good news; the program is truly making a difference; but the sobering news is that the students have to make 3+ years growth in a year to catch up. There is more to do, but the nay-sayers want to destroy an evidence based program because it has not performed magic. The performance is a function of the dedication, the hard work, the evidence based cycle of evaluation by the school leaders and teachers in these schools.



Sixth, this attendance to evidence based impact analysis can occur at a systems level. The Northern Territory embarked on a system wide reform four years ago to reliably diagnose the status of schooling, then to implement reform specific to the diagnosis, and then to continually and reliably monitor implementation and progress. It used the Visible Learning Diagnosis system, which asks schools to provide evidence across many dimensions of the school relating to four major foci: the visible learner, know thy impact, inspired and passionate teachers, and feedback from students to teachers and teachers to students. Each school used a traffic light system for each part of the

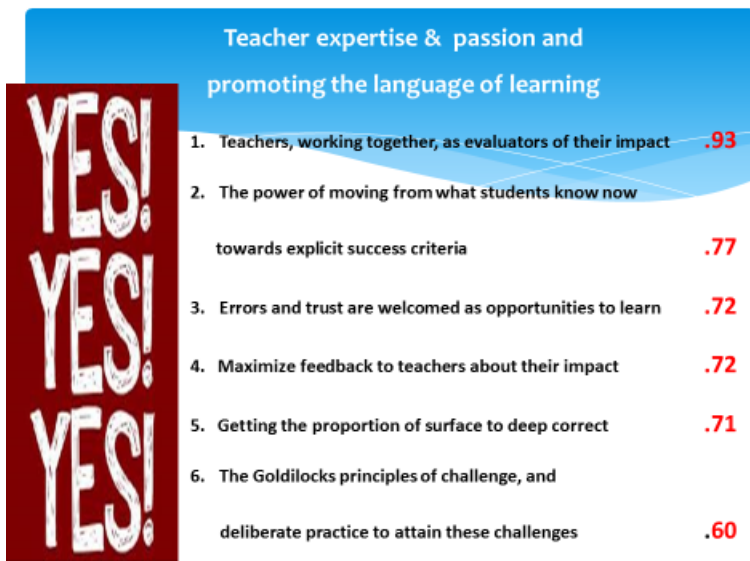


diagnostic matrix: The results on schools and students has been remarkable – by adopting a common narrative about schooling (based on Visible Learning) there is now large collective empowerment across educators, and there is continuing evidence collection on the quality of learning across these schools. It can be done provided there is excellent diagnosis, collective efficacy that all students can learn and all teachers can have high impact, and continual evaluation of high quality of the degree of implementation of quality programs that impact the learning lives of students.

2. The steps to reboot our education system

i. Changing the narrative: Identifying and valuing expertise

We need to start with what's worth retaining as we reboot. I wish to argue it is the expertise of the teachers and school leaders who can show that their students are making at least a year's progress for a year's input that we need to keep. This expertise relates to the moment by moment decisions that are made in the heat of learning, in the context of the classroom; and the size of the effects of teacher expertise towers above the structural influences (class size, ability grouping, private vs public school et al.). It is teachers working together as evaluators of their impact ($d=.93$), their skill in knowing what students now know and providing them with explicit success criteria near the beginning of a series of lessons ($d=.77$), ensuring high trust in the classroom so errors and



misunderstanding are welcomed as opportunities to learn ($d=.72$), maximizing feedback to teachers about their impact (especially from assessments ($d=.72$); ensuring a balance of surface and deep learning ($d=.71$), and focusing on the Goldilocks principles of challenge for students (not too hard not too easy) while providing maximum opportunities for students to deliberately practice and attain these challenges ($d=.60$). The mantra of Visible Learning relates to teachers seeing learning through the eyes of students, and students seeing themselves as their own teachers.

Expertise is critical, but dependably recognising this expertise is also critical. Attestations, test scores alone, portfolios of exemplar lessons do not cut it for dependability. There needs to be rigorous emphasis on teachers demonstrating their conceptions of challenge and impact through exemplars of students' progress (in their work, their test scores, their commitment to wanting to reinvest in learning, as well as student voice about learning in this class). This is what the AITSL process involves based on the Australian Professional Standards for Teachers -- to move into Graduate, then to Proficient, Highly Accomplished, and Lead teachers. The states make these decisions, moderated by AITSL at a national level. The solution is already with us.

Last November, as chair of AITSL, I invited all Highly Accomplished and Lead teachers (HALTS) to a workshop in Adelaide. Most came, and it was an intense, exhilarating and powerful two days. The



best of the best among teachers in Australia were in one room – welcomed by the Federal Minister of Education who wanted to esteem and legitimise expertise. They set themselves various tasks and vowed to meet again to further the agenda of embracing expertise as the essence of teacher careers. When I asked them what was the most important action we could

take to assist them, their continual claim was that it would be wonderful if their own principals and communities would recognise that their expertise existed, and that they had impact skills to assist in working with others to move them to become HALTS.

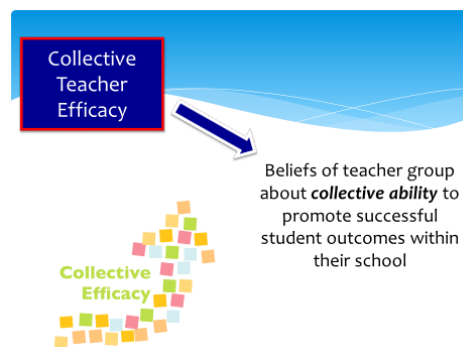
And how many HALTS were there from Tasmania, Victoria, or Queensland? ZERO. These states, despite some being involved in the development of the certification process and having trained assessors, withdrew just before implementation in 2013. It is hard for these states to claim expertise when you decide that you want to be exempt from the national process of dependably identifying excellence. Perhaps it is no surprise that 99%+ of teachers in these states are considered successful and gain annual increments – and this brings disrepute to the notion of expertise. It is exciting to hear the tide turning on dependable recognition of expertise across all states and here is where we can really make a difference.

As we move forward to recast the narrative around the Highly Accomplished and Lead teachers we change the debate. There should be a HALT in every school, we should consider HALTS as a career pathway with top salaries to remain in the classroom, we should consider a similar process for principals – but all the time ensuring that those who are not HALTS are valued, professionally developed, and invited to learn to become a HALT. The dependable recognition of, and then striving towards expertise is the hallmark of a profession. This is what we need to retain in a reboot.

ii. Changing the narrative: What do we mean by impact?

There needs to be a robust discussion about what “impact” means in teaching within and across schools; the sufficiency of the magnitude of this impact; and the equity question about how many students are attaining this impact. This is a role AITSL is taking up in this coming year. As I found in my New Zealand experience, the greatest issue is that teachers do not have a common conception of progress. It should not be random that every time a student meets a new teacher they go up or down in their learning depending on that teacher’s particular notion of challenge and progress. It is necessary to work collectively to understand what sufficient progress means, what it means to be good at x, and what it means to gain a year’s growth for a year’s input.

The number one influence in Visible Learning is teachers’ collective efficacy – that is, the beliefs of teachers about their **collective ability** to promote successful student outcomes within their school. This belief needs to be reinforced by evidence that they actually have a collectively impact. So, school leaders have a major role within and across schools to ensure that there is evidence of appropriately challenging standards of progress shared by all who work in the school.



xxThe current hot way to engender this collective efficacy is to create networks of schools. But too often these networks are created from the top down – that is, Superintendents, Regional directors and the like decide on the membership, purpose, interventions and mission, and where schools geographically located sit together whilst still competing (at least once a year at enrollment time). Developing collective efficacy across schools, however, means that a) principals need to share how they are building this efficacy within their teachers, b) search for ways to feed this efficacy within their schools through partnering with others, c) provide evidence that there is impact within their school, and d) share their data and diagnoses of these data to then find others to work with and benchmark against as they introduce interventions to enhance their impact on the collective efficacy of their teachers. As one example where this is happening, there are now 85 schools in the four UoM



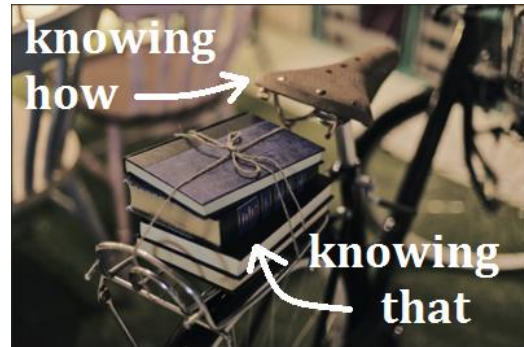
Network of Schools that share their data, find success wherever it may be, seek and share the sources where impact is highest, and collectively work to maximize the growth mindset in their school and its impact on their students.

I want to change the essence of our profession from “I have the right to teach as I wish” to “I have the right to collaborate with others to enhance my impact”.

We need this reboot.

iii. Changing the narrative: Focus on Knowing How and Knowing what

We have all heard about 21st century skills – even though we are almost 1/5th through this century; we seem to be tacking it onto a 19th century factory model of schooling. My fear is that these skills will become extras in an already overcrowded curriculum of “stuff.” Instead, we need to refocus on the “knowing how” as well as the “knowing what”; and this knowing how will increasingly be supported by evidence from the neurology, cognitive science, and learning research. Our Science of Learning Research Centre is very focused on this translation (acknowledging that right now there is a bridge too far between them), and our recent meta-synthesis of learning strategies aims to help build this bridge.



We have shown, for example, the dramatic changes our brains make between the ages of 0-20, especially in executive function (control, attention, reducing the effects of disruption), we now know a lot about the optimal timing to focus on surface, deep, and transfer of knowing, but there is little evidence within classrooms that we teach the “knowing how” along with the “knowing that”, and we certainly do not create assessments that privilege both the knowing how and the knowing that (Bolton & Scott, 2016).

iv. Changing the narrative: Appease the students and Stop appeasing the parents (or at least re-educate the parents).

When the various influences are considered it becomes obvious that so many of the most debated issues in schools across Australia concern those nearer the bottom of the list of impact. These include autonomy (d=.00), teacher aides (d=.00), money (d=.23), class size (.20), and the list goes on. We love to debate the things that matter least. I wrote a paper about this issue called “The politics of distraction” wherein I tried to understand why we focus so much on the structural conditions of schools and ignore the influences that truly matter.

As part of the *Revolution School*, the ABC authorised a survey of 1004 Australian adults about what they considered to be the major influences on student achievement and well-being in our schools. These adults considered the highest rated influence on student achievement to be smaller class sizes

(91%), providing extra curricula activities aimed at improving academic results (76%), enforcing homework (71%, which has a negative effect based on the research), whether the school is religious or non-religious (70%, but there are no demonstrable differences), and wearing school uniforms (66%, a zero effect from the research). In the middle, and thus about half and half saying yes or no are retention (repeating a year; 59%, one of the most systematically negative influences), private or government school (56%, when prior achievement BEFORE they enter a school is considered, the differences between government and non-government schools is very small), poorer or richer social zones (50%), single sex or co-ed (49%, no differences), lengthening time in schooling (38%, no differences), and distance vs face to face teaching (38%, no differences). Wow, if we listen to the voters we will invest in the very things that have the least effect on the learning lives of students!

In the UK a similar survey was undertaken with 4,300 teachers – over half (56%) argued that reducing class sizes was the best way for improving learning, nearly three times as many as the second most popular option, better teacher pay (at 19%). Cranston, Mulford, Keating, & Reid (2010) surveyed Australia principals, and 80% of the responses saw barriers “external” to the school as the problems (inadequate resourcing, unsympathetic politicians and bureaucracies, broader societal problems laid at the school door, and negative media). As Andreas Schleicher commented: “Successful countries such as Finland, Japan, and Korea emphasize more classroom time and higher teacher salaries, whereas the United States invests more heavily in reducing class size and limiting salaries”. High-performing systems tend to prioritize the quality of teaching over the size of classes. If they have to make a choice over a better teacher and a smaller class, they go for the better teacher. ... Reductions in class size is “a very expensive move and you can’t reverse it. Once you’ve gone down that road, nobody is going to accept going back.” “It’s very expensive and it drives out other possibilities. You can spend your money only once. If you spend it on a smaller class, you can no longer spend it on more professional development, on better working conditions, or on more pay and so on.”

The **Revolution school** illustrates the daily life of teachers and school leaders. You can see and hear the passion, the dedication, the commitment, the expertise, the never-give-up, the transformations, and the joy of being a teacher. You see the raging hormones developing into wonderful young adults and you can see that teachers have much to be credited with during this transformation.



I noted above that often adults have beliefs about how to improve schools and most are structural changes; but it is worth noting that when you ask them about their best teachers they recognize the power of high impact teaching. The best teachers inspired the parents (when they were students) into sharing their passion for their discipline and/or saw something in them they did not see in themselves (Clinton, Hattie, & Al-Nawab, 2016) This is what you see in the *Revolution School*. This is what we should esteem in our teachers. It is turning students onto learning; it is teaching them what to do when they do not know what to do; it is not structural solutions but expertise that matters.

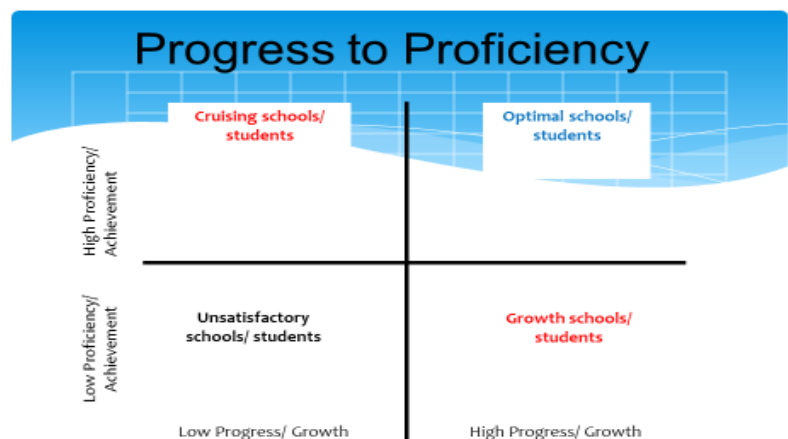
If we appease the parents and the voters, we destroy the optimal education for their children. We need a reboot in the narrative of schooling.

v. Changing the narrative: Moving from achievement to Progress.

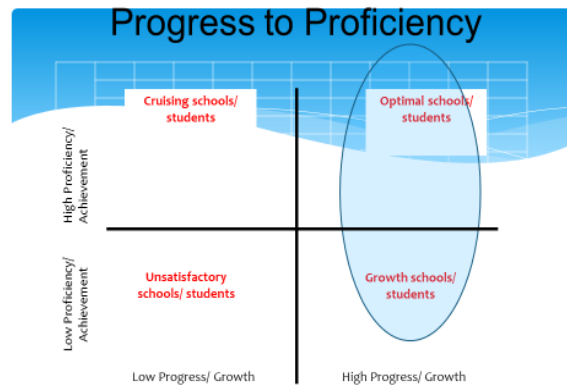
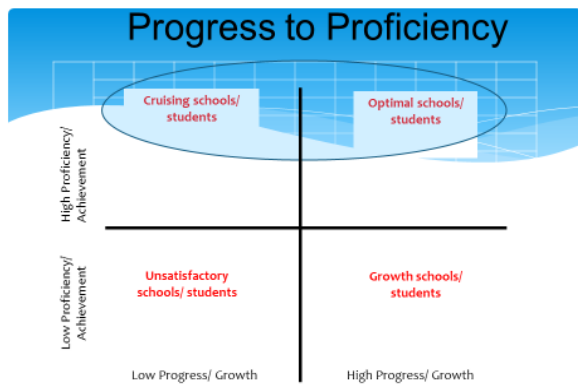
We have a current perverse notion of what success looks like in our system. We prize high achievement, we prize schools that led to high ATARs, and we consider that successful students are the brightest. This is corrupting our system, leading parents to seek the wrong schools, and too many students are not esteemed for being the best learners because they do not start as the brightest! We continually demand students meet high achievement standards, we regale (particularly each year when NAPLAN results are released) about the woeful performance of schools who have below average scores in Reading, Writing, and Numeracy. We point to the private sector as beacons because they are more likely to have above average students, and we critique parents for not investing more in their children to gain above average results.

Instead, consider the following chart. Imagine achievement up on the left axis and progress along the bottom axis. (The data are from NAPLAN.) Surely the fundamental purpose of schooling is to ensure that every student gains at least a year’s achievement growth for a year’s input. This applies no matter where they start, and even those who start above average deserve a year’s growth.

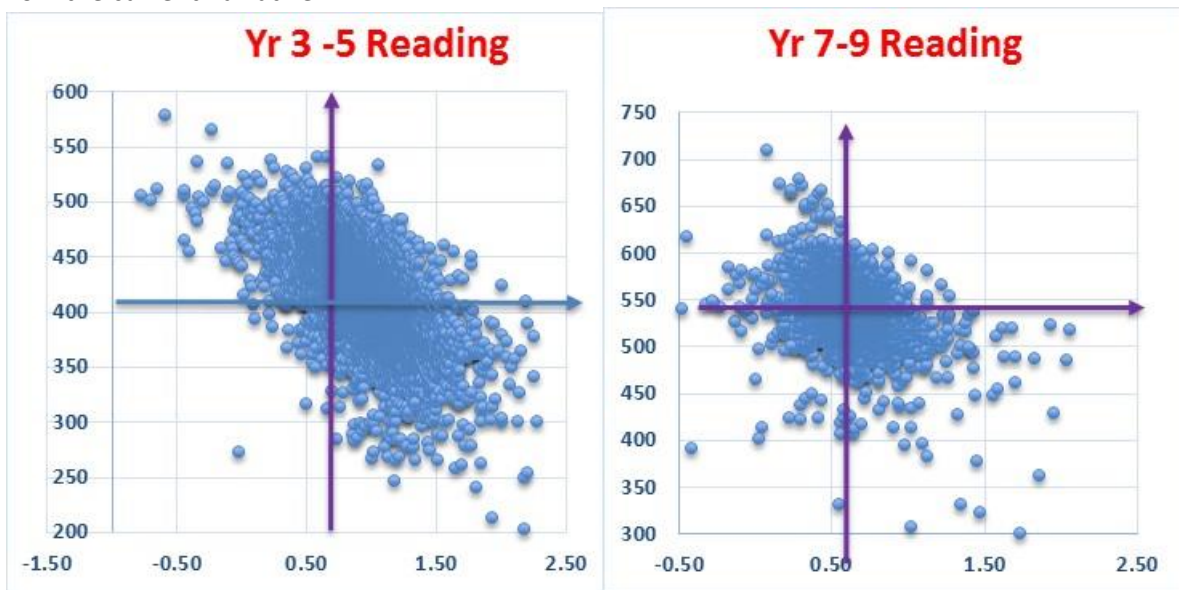
Now we have four quadrants—
 Cruising schools and students are those who start above average but do not gain a year’s growth;
 Unsatisfactory schools start below average and do not gain a year’s growth;
 Growth schools start below average but gain more than a year’s progress;
 and Optimal schools start above average and gain a year’s growth. A major claim is that Australia needs to change its concept of excellent schools from high (or above average) achievement to high progress



(regardless of where they start). My estimate, based on NAPLAN, is that about 60% of Australian schools are in the excellent school’s quadrants (high progress). Too often we disparage those in the Growth zone where teachers and school leaders are making stunning growth; and we esteem those in the Cruising zone where little is added. Indeed, a close analyses of the PISA decline shows that the major issue for Australia is that it has more cruising schools and students than expected – the major source of variance in the decline is among our top 40% of students (Ainley & Gebhardt, 2015). Too many private schools compared to state schools are in the Cruising quadrant and we falsely esteem them. We must change our narrative about successful schools.

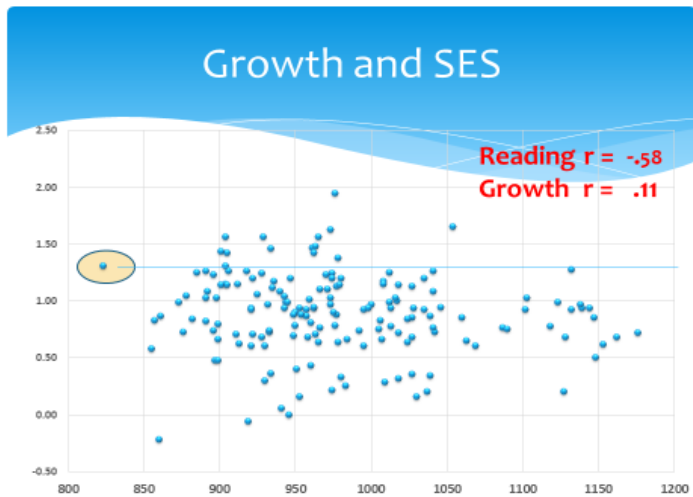


With this new concept of excellence, let us consider Australian schools – in NAPLAN Reading at Years 3-5 and Years 7-9. I have taken the mean score for each school in Australia from Years 3 and 5 in Reading and calculated the growth over Years 3-5 and over Years 7-9. [A better estimate, but not available to me, would be the HLM growth figures that NAPLAN use in their reporting to schools and using the same cohort of students at both times. In my experience, the results are not too dissimilar.] It is clear that Australian schools are enacting more progress with students below average, and that there are too many cruising schools for those above average! Our schools perform better with adding value to below than above average students; though you would never know this from the current narrative.



This cruising school phenomena (also found in Australia’s PISA results) is a function of esteeming only high achievement. Note, we have few failing primary schools but many more failing secondary schools across the nation; and most concerning is that the correlation between Years 3-5 is a high .76, and .84 between years 7-9. The bright stay bright and the struggling continue to struggle. Surely the role of schools is to reduce this correlation by providing opportunities for the late bloomers, the recently invested students, and those with potential to blossom. Nay, Australian schools are great at maintaining the status quo from Year 3 to Year 9.

Of course, the perennial claim is that lower achievement is a function of low socio-economic resources in the home, rurality, and parents not seeing the value of schooling. Let me use one state



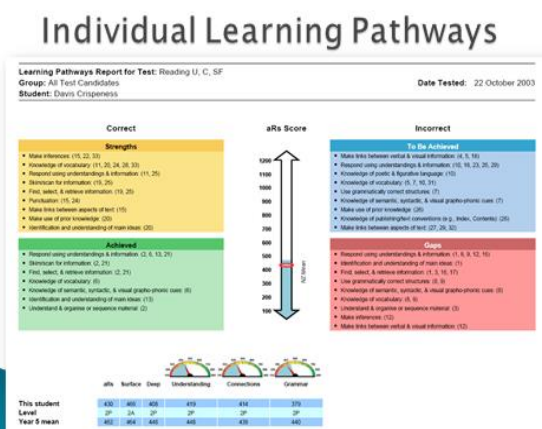
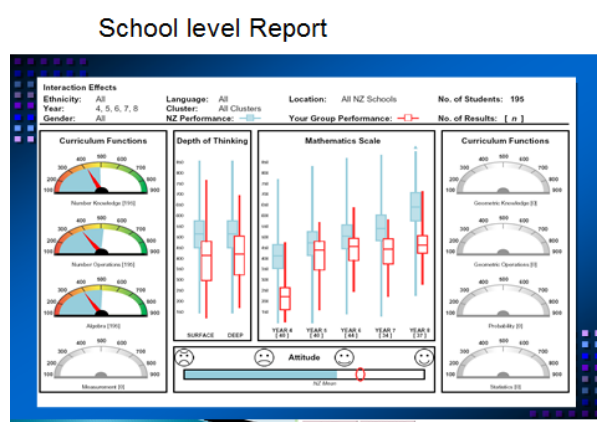
to show the reality. In Tasmania the correlation between Reading schools and socioeconomic stats (ICSEA within NAPLAN) is very high ($r = -.58$). But when the growth (the value added by schools) is correlated with socio-economic status the correlation is close to zero ($r = .11$). The graph plots the growth values with the ICSEA socio-economic score – and it is hard to see growth centred on any level of SES. Indeed, the lowest SES school in the state (circled) is in the top 15th growth schools across the state. The traditional claim would be

this school is a disaster (as its reading average is low), but the claim here is that it is among the best schools because the value these teachers are adding is among the very best. A totally different narrative.

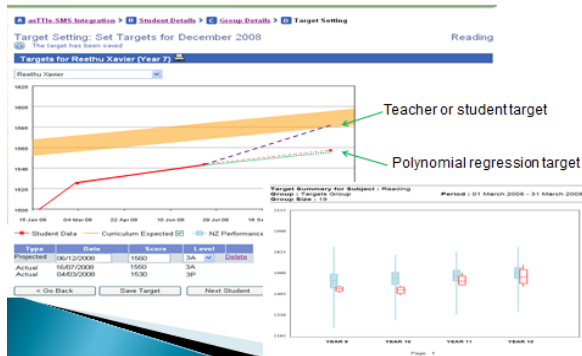
vi. Resourcing teachers to do their progress work.

It seems remarkable that teachers have tens of thousands of assessments of achievement, but nary any measures of progress or impact over time. We need to ask, how we can resource schools with measures of growth – that allow them to evaluate their impact? Such measures need to be tied to the Australian National Curriculum, built on other initiatives around the country, and be powerful in their reporting and also in their psychometric qualities. Second best is not good enough when it comes to addressing the all-important questions of student diagnosis, progress, and where they need to move next. Critically we need to help teachers do their work – to add value to students; to maximise their impact on this progress, and to know when to stop and when to continue with their methods of teaching.

The aim is to build a reporting engine, into which many assessments could be placed; with the common denominator of a series of valid and interpretable reports. The key is to start with the reports as we did in the New Zealand asTTle program.



Target Setting/ Expectations



What Next Report



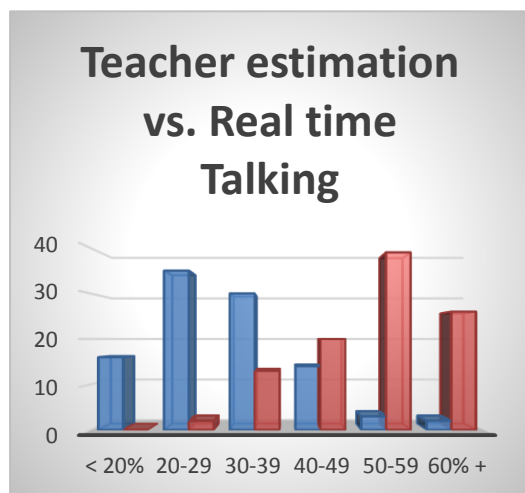
We created a resource where teachers could create a tests based on what they are actually teaching, choose the difficulty of the items for their students, administer the test on paper, on-line or adaptive to how students answered each item, and include a mix of open and closed items (from a data base of 20,000 items). This takes a minute or so to create. The students complete the items and instantly the teacher and students gets the (above) reports about the impact of their teaching and learning. It is a voluntary system and I am proud to say that the majority of NZ teachers and schools are still using this asTTle engine 16 years later. Teachers are hungry for feedback information, they see progress and impact as core to their profession, and it is time for a quiet revolution in Australia to help teachers with their work.

vii. Changing the narrative: Opening classrooms to collaboration.

Our classrooms are too often kingdoms, with the moats drawn on these private empires, they are infused with the doctrine of “my way is defended by my evidence of working this way for many years”. For those who have high impact maybe this is defensible, but then they are denying this expertise to others. For those who have low impact this is just indefensible. The question then arises as to how to share evidence of excellent classroom practice without the usual doom of accountability.

I have a vision – imagine if we could document what is happening in your classroom and return this script to the student almost instantly on their portable device or on a whiteboard. What a wonderful opportunity to rehearse, to check back, to remind oneself about what the teacher said. What a wonderful opportunity to hear what the teacher is saying to other groups as she/he moves around the room. At the same time, the teacher’s lesson can be coded for many of the typical characteristics in observation schedules (teacher talk time, number of teacher and student questions, etc.) and this is available and with very high levels of reliability – immediately. And it can ask students to rate each lesson in terms of their perceived beliefs about their learning and feed this back to teachers immediately. And there is no intrusive camera, expensive principal or expert recording in the back of the room, and it can be done almost anywhere in the world.

This is what Janet Clinton, AI-media and their teams are developing here at MGSE and called Visible Classrooms. The procedure uses the teachers iPhone to relay the lesson to a professional captioner – who not only re-speaks the classroom talk into their software solutions, but also simultaneously codes the lesson, combines this with the student ratings, and automatically sends back the teaching and learning analytics plus the transcript to the teacher at the end of the lesson.



VISIBLE CLASSROOM Transcripts

Teachers received a transcript at the end of their lesson.

Students

- delivered on tablets within 5 seconds
- 99%+ accurate
- interaction with transcript
- utilize at later date

alive Visible Classroom - Ms Butler

TEACHER:
That is brilliant. The fact that you picked up on the language that tells us that it probably is fiction, isn't it.

What about the Duke of Disaster? [Q_Teacher] On the net there is a story about the Duke of Disaster and I am going

In the olden days, especially in Wales, there were lots of c underground to the coal mines. A colliery is a mine where and it is based on a true story.

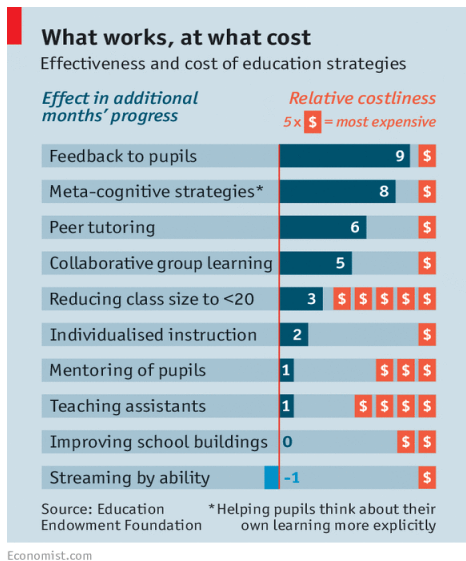


Take a simple notion of the amount of time a teacher talks in a classroom. When we ask teachers to reflect on the percentage of time they talk - they grossly underestimate this time (see one example below). Indeed, in our recent UK study the average talking time was 89%. Surely if teachers are going to understand their impact they need to shut up and listen to their impact via classroom discussions, through listening to students working with each other, through constructive dialogue. It is time to stop reflecting about what we think happened particularly when up to 80% of what occurs in the class the teacher neither sees nor hears (Nuthall, 2006). Moreover, it is time to get a more accurate mirror as to how we perform, how students see their learning, and how we can capture evidence of impact – and then relate it back to the lesson.

viii. Scaling evidence.

Evidence should be the most contested word in our business. Unfortunately evidence in teaching often means either my past experience as a teacher, or articles from learned journals. We have few translations, we have few debates about the quality of implementing new ideas, we have no literature on scaling up excellence, and we default to letting teachers and school leaders choose that which they like to implement. Where is the evidence of evidence?

This is despite there being libraries of evidence – it is the use of evidence that is the issue. *Social Ventures Australia* have recently introduced the *Australia Learning and Teaching Toolkit* (<http://australia.teachingandlearningtoolkit.net.au/>) and I would like to see them now add another

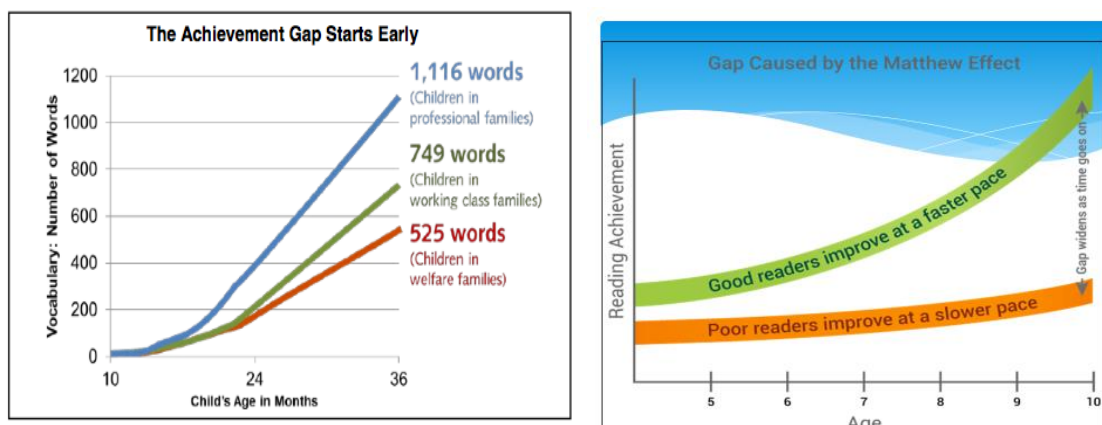


tool for schools which allows principals to comment on their implementation of this evidence: the barriers and enablers, the evidence of transformation, examples from Visible Classroom of the intervention in action; samples from student voice, artefacts of student's work, and exemplars of lesson plans tied to this evidence of student learning. We do not need to spend so much time reinventing lesson plans given that there is probably 10,000 web hits for every subject in our curriculum; there are websites devoted to lesson plans; but these are rarely used because a) teachers believe that their students are unique, and b) most lesson plan sites do not tie the lesson plan to specific attributes of students, good diagnoses of the students current knowledge, nor provide evidence of impact (other than we all liked it, kids were engaged, and I think I saw learning). We need to reboot.

I can see, in this Gig-generation, creative entrepreneurs filling this space. Why can there not be apps to teach ideas, with Like and Not Like button to push, collective evidence of impact, shared debates about the quality of implementation, students using the apps to learn to teach other students, a do anywhere, go anytime UBER schooling? One thing is for sure – students will vote with their thumbs to locate teaching that makes the difference efficiently, effectively, and learn with like others.

ix. Starting early and the scandal of early childhood

We need success EARLY in the lives of students for them to gain sufficient reading and numeracy skills to succeed in this place called school. There is a widely known phenomenon called the Matthew effect. This is based on the rich becoming richer and the poor becoming poorer; and translated into Reading the claim is that if students do not attain at least Level 2 in NAPLAN by age 8 then they are unlikely to ever catch up (Pfof, et al., 2012). The OECD estimates that if all 15-year old students attained Level 1 in PISA then this would add an average additional \$27.5 billion in economic benefits each year until 2095; a future economic benefit of AUD \$2.2 trillion (discounted for inflation until 2095). Pretty impressive. This Matthew effect begins early as these two graphs demonstrate.

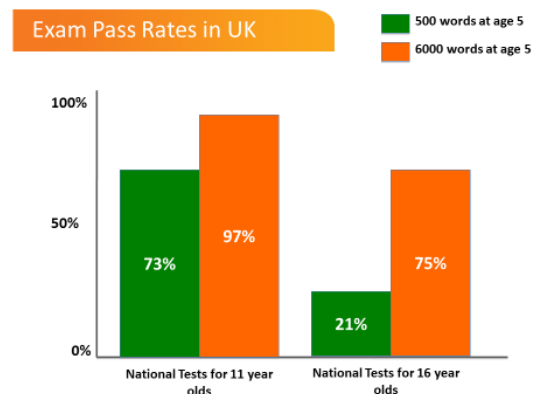


The starting point is language and at the start of school, an average child in a professional family (to use their designations) would have accumulated experience with almost 45 million words, in a working class family 26 m, and in a lower class family 13m – a 30-million-word gap exposure (Hart & Risley, 2003). Moreover, the nature of the language is different – by age 4, the average child in a lower class family has 144,000 fewer encouragements and 84,000 more discouragements of his or

her behaviour than the average child in a working class family. The huge gap is there by the start of school – and we ask teachers to remedy this in three years (by the critical age 8).

Look at the effects of students who start with few words at age 5 compared to those who start with 6000 words in their vocabulary at age 5. By the end of primary school, you can see the differences emerging, but it is traumatic by the time they are close to ending high school.

I calculated the number of students who do not attain Level 2 in NAPLAN (which is defined by the NAPLAN team as the minimum standard for Year 3; and some have argued it should be Band 3, especially compared to the PISA levels of achievement). There is about 10% for Band 2 or 20% for Band 3 who do not attain the benchmark in Reading, and 10% and 30% in Numeracy. Herein lies a major problem; as life opportunities for these students are being extinguished at such an early age. This, to me, means that Australia must mount a major campaign to improve the teaching of learning skills from Year 0 to 8, if the life opportunities of its students are to improve. I am NOT talking about teaching 0-5 children reading and writing, but teaching concepts about print, seriation, language, language, and language. I am talking about early childhood educators being more skills about evaluating and promoting learning from infancy through to school. There is much evidence that such teaching too rarely occurs in preschool settings (of any type) on a regular basis (Taylor et al., 2016). It is unreasonable to expect school teachers to remediate the gap within 3 years (5-8) when they first sit NAPLAN and when they reach a critical life time age in their learning.



And this is despite Australia tripling its investment in early childhood education and care services over the last decade to \$7.7 billion in 2015-16 and despite the good work of many to develop policy to improve service-quality. This help has assured parents that sending young children to ECEC services is safe, and it does help resolve workplace engagement problems, but it does not assure them that teaching and learning strategies to support child development are in place. The National Quality Standard monitoring system may generally underscore child development, however it is not pitched toward identifying children’s learning status or needs (OECD, 2015), nor impelling them to have high impact on the learning lives of very young children. Further, for around 20% of children who most need early learning support to change their education pathway there are limited or no quality services ECEC programs available, even if they can get in.

Concluding comments

The imperative is to change the narrative of schooling away from the structural concerns to the concerns about expertise. We have so much expertise in our schools but we are at risk of losing this while we (the public, parents, politicians and teachers) deny it – preferring structural solutions.

We need excellent diagnoses identifying strengths and opportunities to improve, then a focus on understanding what has led us to the situation, and being clear on where we therefore need to move. We need gentle pressure, relentlessly pursued towards transparent and defensible targets, esteeming the expertise of educators to make these differences, while building a profession based on this expertise. We can have, in Australia, the world’s best laboratory of What Works Best, the most scalable story of success, an education implementation model that is shared across schools and

not resident in only a few, dependable recognition of excellence, and a celebration of success of teachers and school leaders. Our enemy is complacency, blaming the post-codes, deploring the parents, fixing the students not the system, and arguing for more resources to continue what is not working.



Of course all this reboot is **resource** hungry - and it will almost certainly cost all if not more than the Gonski tranche of gold we seem to be seeking. I am not opposed to Gonski funding; I just want to ensure that it is well spent. We have, as I have shown previously, a long history of getting major increases in funding but with little to show for it – and ultimately the voters (particular as more are not parents) will say “Hey, enough is enough” as they have done in many other parts of the Western world. We then invent ways of divesting this increase through spreading it to private ventures (note the disaster of Sweden, the move to this in England, and the private-public-partnerships emerging in our South Seas). We then invent mimics of private schools to lull the parents that government schools are like them (such as Independent Public Schools in WA, charter in US, Academies and Trusts in UK) which again led to little change within the “new schools” – a name change, a sense of freedom, a pride in the “independence” all costing much (in school leaders time and divestment from the centre without an increase in resources or salary).

In our Federal system I know how tough it is for the Federal to give “tied” funds to the states, and we have seen the ways states have spent their funding – sometimes on great solutions and sometimes fritted away on buildings, curricula changes, favourite projects, pleas to autonomy, and technology (and flag poles). Without tying funding to specific reboots in schooling, Gonski funding could well do the same and miss the greatest opportunity to make a difference to the learning lives of students (see also Keating & Klatt, 2013).

The current Gonski solution is fundamentally flawed given the assumption that they were compelled to adopt – no current school would be worse off. This favours mainly the non-Government sector and we need to redo the estimates with all special deals **OFF** the table. The Gonski series of loadings and reference schools makes a lot of sense and can bring more transparency to schooling (while the

report did not resolve the loadings for disability, therein lies a potential flaw in increasing rather than decreasing the effects of disabilities. The number of students labelled with a “disability” has increased. Gonski notes a 64% increase in the past ten years; my estimates take it from 4% to 18% in 10 years – and if funding is tied to labelling this will exponentially increase – probably with little benefit to these students).

The modelling needs to favour those schools with the greatest need. There is no doubt that there are more students considered with special needs in Government (56% of lower SES, 85% Aboriginal, 78% with disabilities, 68% LBOTE) compared to Catholic (despite their mission; 42% SES, 9% Aboriginal, 16% disabilities, 20% LBOTS) and independent (28% SES, 6% Aboriginal, 6% disabilities, 12% LBOTE). But there are many others (the top 40%) who also have a major need – but it may require investing in the teaching, changing the narrative from high achievement to high progress towards achievement, and other changes previously noted. It may not be money for these students, but a move to explicit instruction based on maximising at least a year’s growth for a year’s input no matter where the students start. Given most independent schools are resourced at already much greater levels than government schools it is less the funding than the quality of teaching that makes the difference to students learning lives.

Our current funding looks good with respect to net recurrent income: 65% to government with 66% of enrolments; but not for capital expenditure - 49% for government compared to 25% for independent with 14% of enrolments! No surprise that Independents are using the Government funding for schooling and pocketing the rest for asset capital improvements! Let them spend it on improving the impact of the teaching.

We need an **accountability** model based on Trust but verify (as Ronald Reagan proclaimed). Systems already have more than sufficient evidence to classify schools into the four quadrants (high and low progress and achievement). There are many reputational benefits for teachers in the high progress schools. There are many changes needed for those in the low progress schools and it is most likely that the answers do not come from within those schools (otherwise they would not be low progress schools). Deeper diagnosis, greater collaboration with success schools, finer moderation of progress, and more focus on explicit teaching is the success recipe for these schools. We are most likely going to move to more use of international tests (like the new Pisa for Schools), but unless we base accountability on BOTH progress and achievement we risk moving towards distorted outcomes (as we do now). Maybe education needs a concept like “quality of life years” rather than “Number of life years” as in Health, of GDP as in economics to help ensure we maximise the right outcomes. My notion is “at least a years’ growth for a year’s input” although much deeper analyses of what this year’s growth means is critical as is ensuring it is based on much more than the usual literacy and numeracy.

We need to be smarter in our accountability systems of having fewer high level goals, and not providing so many objectives that schools can pick and choose the one’s they are already OK at achieving and leaving the rest. I would suggest the following Big Five:

1. Building confidence in the public school system
2. The percentage of students at L2 Math and Reading by Age 8
3. Schools demonstrating that they are inviting places to come and learn as reflected in the retention rates to the end of high school
4. Having multiple ways to be excellent in upper high school
5. Every school having at least one Highly Accomplished or Lead Teacher

My message is that there is an imperative to reboot our Australian education system by changing the narrative of schooling away from the structural concerns to the concerns about expertise. We have so much expertise in our schools but we are at risk of losing this while we (the public, parents, politicians and teachers) deny it – preferring structural solutions.

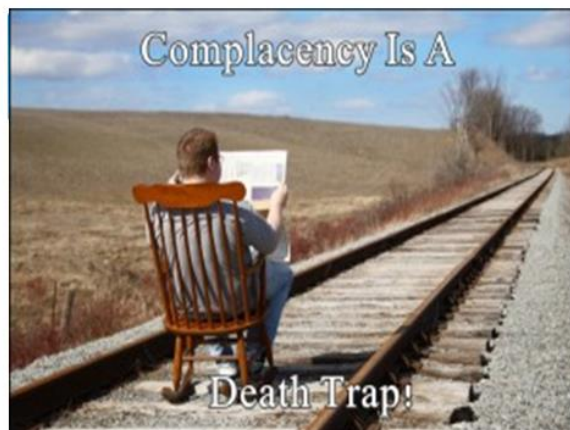
We need excellent diagnoses identifying strengths and opportunities to improve, then a focus on understanding what has led us to the situation, and being clear on where we therefore need to go. We need gentle pressure, relentlessly pursued towards transparent and defensible targets, esteeming the expertise of educators to make these differences, while building a profession based on this expertise.

Australia can have one of the world's best school systems, the most scalable success story of success, an education implementation model that is shared across schools and not resident in only a few, dependable recognition of excellence, and a celebration of success of our teachers and school leaders. Our enemy is complacency, blaming the post-codes, deploring the parents, fixing the students not the system, and arguing for more resources to continue what is not working. Other countries have rebooted their systems. It is fascinating that in a recent survey of countries' reactions of PISA, only Australia and France of all countries surveyed said the PISA results led to no change – unlike the PISA shock for Germany, the major changes in abolishing selective high schools in Poland, increased benchmarking in Korea, greater higher-order thinking in Singapore, changing reading curriculum in Chile, moving from surface to deeper curricula in Japan, but we remain blind to this evidence (Breakspear, 2016).

Shape the narrative.

Complacency is our enemy

Time for a reboot.



References

- Ainley, J., & Gebhardt, E. (2013). *Measure for measure: A review of outcomes of school education in Australia*. Melbourne, ACER.
- Breakspear, S. (2016). *How does PISA shape education policy making? Why how we measure learning determines what counts in education*. Melbourne, Australia: Centre for Strategic Education.
- Clinton, J.C., Hattie, J.A.C., & Al-Nawab, H. (2016). *Our best teachers are Inspired, Impactful and Passionate*. In review.
- Cranston, N., Mulford, B., Keating, J., & Reid, A. (2010). Primary school principals and the purposes of education in Australia. *Journal of Educational Administration*, 48(4), 517-539.
- Fisher, D., Frey, N. & Hattie, J.A.C. (2016). *Visible Learning for Literacy, Grades K-12: Implementing the practices that work best to accelerate student learning*. Thousand Oaks, CA: Corwin.
- Hart, B., & Risley, T. R. (2003). The early catastrophe: The 30 million word gap by age 3. *American Educator*, 27(1), 4-9.
- Hattie, J.A.C. & Yates, G. (2014). *Visible Learning and the Science of how we Learn*. Routledge, UK.
- Hattie, J.A.C. (2009). *Visible learning: A synthesis of 800+ meta-analyses on achievement*. Oxford, UK: Routledge.
- Hattie, J.A.C. (2012). *Visible learning for teachers. Maximizing impact on achievement*. Oxford, UK: Routledge.
- Hattie, J.A.C., & Anderman, E. (2013). *Handbook on Student Achievement*. Routledge, New York.
- Hattie, J.A.C., Masters, D., & Birch, K. (2016). *Visible Learning in Action*. Routledge, UK.
- Keating, J., & Klatt, M. (2013). Australian concurrent federalism and its implication for the Gonski review. *Journal of Educational Policy*, 28(4), 411-426.
- Keating, J., Savage, G.C., & Polesel, J. (2013). Letting schools off the hook? Exploring the role of Australian secondary schools in the COAG Year 12 attainment agenda. *Journal of Education Policy*, 28(2), 268-286.
- Kenway, J. (2013) Challenging inequality in Australian schools: Gonski and beyond, *Discourse: Studies in the Cultural Politics of Education*, 34:2, 286-308, DOI: 10.1080/01596306.2013.770254
- Lamb S, Jackson, J., Walsatb, A., & Huo, S. (2015). *Educational opportunity in Australia*. Mitchell Institute, Melbourne, Australia.
- Nuthall, G. (2007). *The hidden lives of learners*. Wellington, NZ: NZCER.
- Pfost, M., Hattie, J.A.C., Dorfler, T., & Artelt, C. (2014). Individual Differences in Reading Development: A Review of 25 Years of Empirical Research on Matthew Effects in Reading, *Review of Educational Research*, 84(2), 203-244.
- Schleicher, Andreas. "Real Numbers: The New Global Landscape of Educational Achievement." *Issues in Science and Technology* 26, no. 3 (Spring 2010).