



Briefings

Thought leadership for the independent schooling sector

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COMMONWEALTH'S ROLE IN SCHOOLS CONTINUES TO STRENGTHEN

From the Executive Director

The passage of the Australian Education Amendment Bill 2017 through Federal Parliament on 22 June 2017 will see the establishment of another national education body – the National Schools Resourcing Board¹, which will potentially play a critical role in future schooling arrangements in Australia.

The creation of another national body continues the long-term trend of increasing involvement of the Australian Government in school education, despite it remaining a constitutional responsibility of the states and territories. The new Board will be in addition to other national bodies such as the Australian Curriculum, Assessment and Reporting Authority, the Australian Institute for Teaching and School Leadership and Education Services Australia. The increasing involvement of the Australian Government in schooling is not surprising given it will contribute nearly \$250 billion to the costs of schooling over the next decade.

The provision to establish the Board was a late amendment through the Senate negotiations to pass the legislation to put into place the Coalition's *Quality Schools* package announced on 2 May 2017 (also commonly known as Gonski 2.0).

The Board will be responsible for "independent reviews" of the operation of the *Australian Education Act 2017* in relation to the arrangements and requirements for the funding of schools.

The Act prescribes a range of matters that the Board may deal with. These include the compliance by states and territories with the requirements of the Act in terms of their financial contribution to schools funding and compliance by school authorities with

the requirements of the Act including whether or not funding is distributed on a needs basis. The Board may also address the measuring of improved education outcomes for students against the rate of school funding.

These tasks will be contentious and contested areas of public policy. The Board will face the danger of being a forum for the airing of the substantial differences between federal and state governments on schools funding.

The Federal Minister may also request the Board to undertake a review of any matter he or she refers to it².

In undertaking reviews, the Board must use its "best efforts" to provide a consensus report. Reports of the Board are to be tabled by the Minister in Parliament.

Given the Board's potentially influential role in the future policies on schooling, its composition will be important. The Act provides that the Board will consist of a least six members, but no more than nine, appointed by the Federal Minister based on their considerable and suitable experience and expertise. The Board is to include members nominated by the Ministerial Council, the Independent Schools Council of Australia (ISCA) and the National Catholic Education Commission (NCEC)³.

A national resourcing body was envisaged by David Gonski's original Review of Funding for Schooling

¹ See Section 128 of the Australian Education Act as amended.

The Minister must consult with the Ministerial Council, ISCA and NCEC in developing terms of reference for a review to be undertaken by the Board.

The Federal Minister has recently determined that the nominees are not to be employees of an approved school authority or any representative school bodies.

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undertaken in 2011. Recommendation 25 of the Gonski report was that "the Australian Government and state and territory governments should establish a National Schools Resourcing Body". The Gonski review recommended a range of tasks for the Body including maintenance and development of the schooling resource standard, determining annual indexation of the standard and determining the resourcing needs of students with disability.

Gonski's Resourcing Body recommendations were not adopted by the then Gillard/Rudd Government.

During the Senate debate on Gonski 2.0, the Education Minister Senator Simon Birmingham stated the Board "will provide a mechanism by which we can ensure, in a way that engages all of the relevant stakeholders, the funding model can continually be enhanced and appropriate reviews can be undertaken, as well as ensuring that we have a standing body that, on a regular basis, can ensure compliance of states and territories and approved authorities with their obligations under the funding arrangements and the Act".

Greens Education Spokeswoman Senator Sarah Hanson-Young described the Resourcing Body as "absolutely essential".

Minister Birmingham has announced the first priority of the Board will be to review the Socio-Economic Status (SES) score methodology and current capacity to contribute arrangements

for non-government schools. This is scheduled to be undertaken by mid-2018 for consideration of any changes from 2019.

SES is a critical component of the Schooling Resource Standard (SRS) funding model for non-government schools. It is used to determine by how much a school's SRS is discounted to account for the capacity of parents to contribute to the costs of the school. The SES measure only applies to nongovernment schools (as government schools are totally publicly funded).

Surprisingly the SES measure became a contentious issue in the lead-up to the Senate's adoption of the Gonski 2.0 funding model. The Catholic education sector was particularly critical of the SES arguing that the SES was not an appropriate measure to determine the capacity to contribute 4.

The SES has been in place since 2001 for independent schools and 2004 for Catholic schools, during which period it has largely been accepted as an integral part of the Commonwealth funding model for schools. It is not well understood, particularly by media commentators who often still refer to the measure as one based on the postcodes of the parents of a school (when in fact it has never been based on postcodes).

The Gonski December 2011 Review of Funding for Schooling, whilst confirming that the Australian Government continue to use the SES measure, also recommended that a new measure for estimating

the quantum of anticipated private contribution for non-government schools be developed, trialled and implemented "as soon as possible"5. The recommendation, in terms of a new measure, was not acted upon by the Gillard/Rudd Government which commissioned the Review.

Minister Birmingham noted in the Senate debate on Gonski 2.0 that the SES review to be undertaken by the National School Resourcing Board will allow "for independent analysis of the suitability of the current arrangements and ensure that the concerns raised by non-government schools, including Catholic education authorities, about the SES measure are fully and properly examined"6. Finding an agreeable alternative measure to SES will be an early challenge for the new Board. Whilst the SES measure has had its critics over the years, little has been put forward as a viable alternative. The Board's work will need to be carried out swiftly as this will be a de-stabilising issue for independent schools. Schools have craved certainty in the Commonwealth funding model. The delivery of that through Gonski 2.0 will now be threatened in the shortterm by the review of SES.

Alongside the important work of the National School Resourcing Board over the next 12 months, a further Commonwealth-initiated review will also be taking place. The Review to Achieve Educational Excellence in Australian Schools was announced by the Prime Minister on 2 May 2017 as part of the Coalition's Quality Schools package. Mr David Gonski AC will chair a panel of eminent educators and policy experts to undertake the Review which has the stated aim "to build the evidence base needed to ensure the additional funding provided by the Australian Government is spent on proven initiatives that make a difference to student outcomes"7.

get media/2f706a07-58a6-4acc-a3c6-b4ce10c5b72f/Capacity-to-contribute-and-school-SES-scores. aspx?ext=.pdf Recommendation 3 of the Review of Funding for Schooling.

Senate Hansard Wednesday 21st June 2017

See https://www.education.gov.au/review-achieve-educational-excellence-australian-schools for the Review's Terms of Reference and details of the Panel members.

It is timely to recognise the Australian Government can play an important part in initiating improvement to our education system, particularly given its increasing financial contribution to schooling.

Minister Birmingham, in announcing the Review Panel, said "I encourage states, territories, non-government school systems and all stakeholders to constructively engage with the Review, to think outside the square and seize the opportunity to shape the best possible educational opportunities for future generations" 8.

Policy makers will clearly be very busy over the next 12 months with these Commonwealth-initiated reviews of school education. It is hoped there will be meaningful and enduring outcomes for schooling. It would be deeply disappointing if they degenerated into a battle between the Commonwealth and states and territories over education funding and policy as has occurred in previous Commonwealth reviews.

In this regard, it is timely to recognise the Australian Government can play an important part in initiating improvement to our education system, particularly given its increasing financial contribution to schooling.



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IT'S TIME TO BE CRITICAL ABOUT TEACHING CRITICAL THINKING



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Most schools would list the ability to think critically as one of the key attributes they want from their graduates, yet perhaps it is time to consider whether it is possible to teach critical thinking or whether the time spent trying to teach and assess it is better spent elsewhere.

The rise of general capabilities

Critical thinking is one of the general capabilities in the Australian Curriculum. The seven general capabilities are:

- 1. literacy
- 2. numeracy
- information and communication technology (ICT) capability
- 4. critical and creative thinking
- 5. personal and social capability
- 6. ethical understanding
- 7. intercultural understanding.

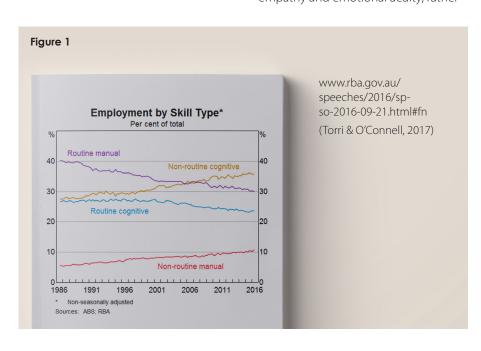
It is accepted wisdom that the general capabilities play a significant role in equipping young Australians to live and work successfully in the 21st century. Leadbeater (as cited in Torii & O'Connell, 2017) argues that to enable young people to adapt and thrive, "learning should promote skills of collaboration and problem solving, making and designing, empathy and emotional acuity, rather

than dutiful diligence in following a routine to deliver the expected answer at the appropriate moment." The Organisation for Economic Co-operation and Development (OECD) also advocates for the need to rebuild school curricula and education systems more broadly to prioritise these competencies, to ensure individuals develop creative, critical thinking and collaborative skills, and build the character attributes such as mindfulness, curiosity, courage and resilience (Schleicher, as cited in Torii & O'Connell, 2017).

One of the reasons given for the explicit teaching of these skills is the increase in non-routine cognitive and advanced occupations and the decline in the need for routine manual skills (Autor, as cited in Torii & O'Connell, 2017). Figure 1 shows that in Australia the demand for employees with non-routine skills, such as the ability to problem solve, collaborate and experiment, has increased steadily over the past 30 years.

In the Australian Curriculum, teachers are expected to teach and assess general capabilities to the extent that they are incorporated within each learning area. State and territory education authorities determine if, and how, student learning of the general capabilities is to be further assessed or reported. In Victoria, schools are required to assess progress in the development of students' capabilities, and there will be a specific focus on improving critical and creative thinking.

Further, the Australian Government proposes a national framework for assessing the general capabilities in the Australian Curriculum to



allow measurement and tracking of student progress.

With the momentum behind this push for the general capabilities to be increasingly focused on, it is an opportune time to look at the assumptions underpinning teaching of the general capabilities and consider whether this is a reasonable use of teachers' time. As with everything, there is an opportunity cost for every decision a teacher makes. Time spent on teaching the general capabilities could be time not spent on developing insights and engagement with rich content. While this paper focuses on critical thinking, the discussion is perhaps also applicable to other general capabilities.

Can critical and creative thinking be taught?

Critical and creative thinking is one of the seven general capabilities that the Victorian Government is explicitly attempting to teach and assess at a time when there is still discussion and debate as to how best to teach and assess critical and creative thinking.

One argument is that the general capabilities are a toolkit of skills that students can dip into when appropriate and can be applied across subject and learning area domains. In a paper for the Queensland College of Teachers, McCurry (2013) argues that the research has moved past the arguments that the general capabilities, including critical thinking, are generic skills that only have meaning within specific domains of knowledge. He also argues that the evidence of the lack of transfer of skills taught in one context or domain to another is not strong.

Others argue that the capabilities, if they can be taught, are only of use within specific domains. Professor Sweller (2014) in his response to the Review of the Australian Curriculum argues:

Figure 2: How Transfer Works



Ability to work in teams

Engagement with learning

Understanding of cause and effect

Problem-solving skills



To other subjects in school

To other courses in the same discipline

To sports or other extracurricular activities

To future workplace settings



Reflexively (i.e., "low road" trasfer)

After deliberate thought and analysis (i.e., "high road" trasfer)

Adapted from Saavedra and Opfer (2012)

It is a waste of students' time placing these skills in a curriculum because we have evolved to acquire them without tuition. While they are too important for us not to have evolved to acquire them, insufficient domainspecific knowledge will prevent us from using them. We cannot plan a solution to a mathematics problem if we are unfamiliar with the relevant mathematics. Once we know enough mathematics, then we can plan problem solutions. Attempting to teach us how to plan or how to solve generic problems will not teach us mathematics. It will waste our time.

While the argument as to whether to embed the general capabilities in the Australian Curriculum has been decided, some arguments are still ongoing and teachers' responses to them will affect how they approach the teaching and assessment of the general capabilities and perhaps their effectiveness.

Schlueter (2016), has outlined the different arguments and while they were in the context of the higher education field, the arguments are relevant for schools. He characterises the generalists as those "who believe 'critical thinking can be distilled down to a finite set of constitutive skills, ones

that can be learned in a systematic way and have applicability across all academic disciplines'... On the opposing side are specificists, or those who argue that 'critical thinking... is always contextual and intimately tied to the particular subject matter with which one is concerned" (para. 11).

The issue of transfer

The generalist position is one that many people assume to be true and provides the rationale for thinking skills programs in which students learn skills that they can then transfer to new conditions.

Saavedra and Opfer, (2012) argue that while transfer can be challenging for students, explicit attention to the challenges of transfer can cultivate it. They argue that transfer involves three variable components:

- What skills, concepts, knowledge, attitudes, and strategies might transfer?
- 2. To which context, situation, or application?
- 3. How can the transfer take place?

As shown in Figure 2, examples of "what" might include the ability to work in teams, engagement with learning, understanding of cause and

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effect, and problem solving through trial and error. Many of these are key ideas in various general capabilities. Examples of contexts include to other subjects, to other courses within the same general discipline, to sports, and to future workplace settings.

Saavedra and Opfer, (2012) argue that transfer can take place in one of two ways. Low-road transfer functions reflexively. Students might apply what they know about using an equation or the teacher might design learning experiences that are similar to situations in which the students might need to apply the knowledge and skills. High-road transfer requires deliberate abstraction and generalisation about a particular concept. Teachers might ask students to make conceptual connections between scientific laws and situations they may encounter in their lives or by asking students to generalize broad principles from specific information or make analogies between a topic and something different.

Generalists believe that the importance of transfer is fundamental to the reason for learning 21st century skills in the first place – so that students can transfer the skills to the economic, civic, and global 21st century contexts that demand them (Saavedra and Opfer, 2012).

Indeed, the Australian Curriculum, Assessment and Reporting Authority (ACARA) explicitly states that these skills allow students to transfer knowledge into new contexts (refer to Figure 3).

ACARA also asks students to *take* account of a range of perspectives under the heading "Consider Alternatives".

According to Willingham (2007), this is a problem because "Critical thinking (as well as scientific thinking and other domain-based thinking) is not a skill. There is not a set of critical thinking skills that can be acquired and deployed regardless of context. Thus, if you remind a student to 'look at an issue from multiple perspectives' often enough, he will learn that he ought to do so, but if he doesn't know much about an issue, he can't think about it from multiple perspectives."

The American National Research Council (2012) also found that "teaching for transfer within each discipline aims to increase transfer within that discipline. Research to date provides little guidance about how to help learners aggregate transferable competencies across disciplines. Over a century of research on transfer has yielded little evidence that teaching can develop general cognitive competencies that are transferable to any new discipline, problem or context, in or out of school."

E. D. Hirsch highlights that "there are many reasons for the difficulty of transferring critical thinking and other 21st-century skills from one domain to another, but here's a decisive reason. A central feature of such skills is the drawing of inferences, a skill that has been mastered by all who speak a language. Every time we understand what someone says we are making inferences. But inference-making is not a purely formal process. When the skill fails it's usually because information is lacking. Inferencemaking can be described as supplying missing premises from one's own prior knowledge in order to complete a kind of syllogism. The purely transferable elements of thinking skills turn out

to be minor elements that are easily acquired. What really counts is relevant knowledge about the problem at hand" (p. 1).

In a review of the research literature, Lai and Viering (2012) found that there is another group of researchers who argue that "critical thinking encompasses both general and domain-specific aspects... In other words, some critical thinking skills apply to multiple domains (e.g. formal rules of logic), whereas others are unique to specific subject areas (e.g. the use of proofs in mathematics or the scientific method in science)" (Ennis; Paul; Smith, as cited in Lai & Viering, 2012, p. 14).

Therefore, it seems reasonable to proffer a middle ground, where it can be argued that there are some aspects of thinking that can be taught. Some of these aspects might include logic, deductive reasoning, etc. and at the same time accept that deeply knowing the content of what is being thought about makes if far likelier that these

Figure 3: Reflecting on thinking and processes

This element involves students reflecting on, adjusting and explaining their thinking and identifying the thinking behind choices, strategies and actions taken.

Students think about thinking (metacognition), reflect on actions and processes, and transfer knowledge into new contexts to create alternatives or open up possibilities. They apply knowledge gained in one context to clarify another. In developing and acting with critical and creative thinking, students:

- think about thinking (metacognition)
- · reflect on processes
- transfer knowledge into new contexts.

aspects of thinking processes will be used appropriately and effectively, initially within the discipline being taught and perhaps then when approaching problems unfamiliar to them. (Schlueter, 2016)

Indeed, while believing in the ability for general capabilities to be able to be transferred across domains, Saavedra and Opfer, (2012) nevertheless argue that learning should initially take place through the disciplines. "Continued learning in any discipline requires that the student – or expert – become deeply familiar with a knowledge base, know how to use that knowledge base, articulate a problem, creatively address the problem, and communicate findings in sophisticated ways."

In dealing with the issue of transfer Schlueter (2016), posits that we need to adjust the metaphor of "transfer" that drives how we view thinking skills in general and critical thinking skills in particular. He argues that the transfer metaphor leads us to look for a packaged set of thinking skills that apply with equal relevancy to virtually any situation or domain, when, while still debatable, it seems increasingly clear that no such skills exist.

When it comes to thinking skills, Schlueter advocates that it would be much more productive if we stop thinking "transfer" and start thinking "overlap." That is, once thinking skills become more explicitly taught, both teachers and students will notice how thinking in the context of one domain (e.g. economics) overlaps with the kind of thinking processes at work in another (e.g. biology). So, as thinking skills become explicitly taught in different subjects, the student will, over time, gather overlapping experiences based on their efforts to employ thinking skills in various subjects. The student can then manage those overlapping experiences as a kind of portfolio that shows them how content is processed and problems are solved. Schlueter believes that if a core set of thinking skills can be distilled from this portfolio, then that

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is positive. If not, the student still has a rich picture of how different ways of thinking overlap, even if they are always tethered to a specific domain or problem.

Can critical and creative thinking be assessed?

While it is clear there remains vigorous disagreement amongst the experts about whether critical thinking can be taught and under what conditions it might be able to be taught and to what end, it is also important to consider how it might be assessed.

It is generally accepted that assessment of the general capabilities is an area that is still under-developed. Masters (2015), argues that we lack valid and reliable measures of "new metrics" of the kinds of general skills and attributes now being sought by employers – for example, students' abilities to work in teams, use technology, communicate, solve problems and learn on the job.

Fraillon (2015), believes that the challenges in assessing general capabilities include:

- teachers' lack of familiarity with and confidence in identifying general capabilities
- students' lack of awareness of general capabilities as domains of learning
- lack of available resources to support assessment

- lack of time and the pressure of a crowded curriculum, and
- the influence of context on expressions of performance.

According to Lucas (2016), who is working with trial schools in Victoria to teach and assess critical and creative thinking, assessing capabilities is harder than assessing subjects – and the evidence base is much less wellformed. He points out that work on assessing capabilities is occurring in Asia and North America and that a major study by the OECD into the assessment of creative and critical thinking is taking place in 14 countries.

Some of the initiatives Lucas believes will demonstrate that capabilities can be both developed and assessed include Building Learning Power, the Partnership for 21st Century Learning, AC21S, and New Pedagogies for Deep Learning which is now being tried in more than 70 Victorian schools.

Lucas argues that some of the issues that arise from this work include a need "to think about teaching methods (how useful assessment is for learners); practicalities (how doable it is for teachers in busy classrooms); and various technical issues of assessments (being sure results are reliable, valid and fair)."

To support schools interested in this work, Independent Schools Queensland has engaged Professor Claire Wyatt-Smith to facilitate a project on innovative curriculum assessment with 12 member schools. The purpose of this project is to explore innovative

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curriculum that enhances skills such as collaboration, risk-taking, entrepreneurial skills and creativity and then to develop valid, authentic, rigorous and reliable assessment of those skills.

Conclusion

With complaints of an over-crowded curriculum, instead of insisting on the teaching of vague, difficult to define generic critical thinking skills that might or more likely might not manage to be transferred into any context, perhaps our time would be better spent by focusing on subject-specific critical thinking skills that seek to broaden a student's individual subject knowledge. If the general capabilities need to be taught within the subjects and learning areas, teachers of those subjects, particularly teachers teaching outside their teaching areas, need continued support to ensure there that their pedagogical content knowledge is as deep as possible.

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Leading Curriculum Innovation

This Independent Schools Queensland discussion paper challenges policy makers, curriculum experts, educators and schools to look with fresh eyes at how to more strategically and intentionally incorporate these contemporary capabilities into the design and delivery of the P–10 Australian Curriculum in a way that not just engages students, but ignites their curiosity and inspires them to new heights of learning.

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