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RE-EVALUATIONS:
Climate education, pedagogy, wellbeing and professional autonomy

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Contents

Re-evaluations

John Graham

The articles in this edition of *Professional Voice* cover a diverse range of subjects - climate futures education, pedagogy, staff welfare, school autonomy, autobiographical episodic memory and a re-imagining of schooling reform. The commonalities however are many: each of the authors clarifies the significant issues in their subject area and indicates why and how changes need to take place, and all of the articles are research-based and designed to generate new ideas and understandings of matters which impact on the professional lives of those who work in schools.

Two of the articles in this edition of the journal are about climate change education. Australia was in the spotlight at the world climate summit in November in Glasgow for all the wrong reasons. The threadbare "Australian way" policies which the Prime Minister took to the summit were seen by most delegates and commentators as merely slogans, as bereft of substance as the emperor's new clothes. They came from a government which is locked in to providing direct taxpayer support for fossil fuel companies presently estimated to be over $10 billion per year.

Australia's climate policies were ranked last among 64 countries by the Climate Change Performance Index unveiled at Glasgow and recent data has shown Australia to rank as the highest carbon emitter per capita in the OECD. The federal government refused to join other countries in pledging either to reduce methane or to work to phase out coal-fuelled power generation. Instead of being seen as working constructively to limit global warming to 1.5°C, Australia was placed in the recalcitrant category, a very wealthy country unwilling to pull its weight to help stave off the existential threat to our shared planet.

Climate Education

Australia is a signatory to the United Nations Framework Convention on Climate Change (UNFCCC), and, as a party to this Convention, has responsibility to undertake education and public awareness campaigns on climate change, and to ensure public participation in the matter - including the participation of children and youth.

Hilary Whitehouse sets out the evidence that Australian governments have been a dismal failure in meeting these responsibilities. She describes education for sustainability in Australia as being both under-funded and regarded as "unnecessary to the 'real' purposes of schooling".

Whitehouse believes the "deliberate silence" when it comes to implementing effective climate change education policy in Australia is largely due to poor national political leadership influenced by climate change denialism. The research indicates that "there is a high correlation between lack of action by governments and younger people's increased levels of negative feelings towards their futures". There is an urgent need for education for sustainable development to be integrated into all national and state education policies to increase both the trust of young people and to support their role as active agents of change.

The second article on climate change education, by Natalie Purves, takes this argument further, contending that young people have a "right and responsibility" to participate in decision-making and action on climate change and climate justice. The ongoing worldwide protests on climate change by young people reflect both their capacity to generate enormous grassroots mobilization and their commitment to make political leaders listen to their voices about their future. Purves is critical of the *Alice Springs (Mparntwe) Education Declaration* for removing previous references to climate change and integrating sustainability across the curriculum. She believes that all subjects in the Australian curriculum should have a role in preparing students for the climate crisis. Areas of learning such as environmental politics should be in the school curriculum so that students are more aware of the legitimate role that protest plays in current environmental movements. This approach would be in keeping with educational principles such as 'learning for life', independent learning, the development of creative and problem-solving skills, and the enabling of student voice, agency, and leadership.

Pedagogy

Recently, the curriculum and pedagogy being used in schools have come under fire from partisan warriors with loud media voices. The federal Minister for Education, Alan Tudge, attacked the national history curriculum review for being too critical of past events and claimed that instead of giving students the message that Australia is "the greatest country on Earth" it would lead to "future generations being unwilling to defend the nation". A position described by historians as a complete misunderstanding of what history is for and why it matters.

On the pedagogy front, articles in The Australian and The Age have used a publication from the conservative Centre for Independent studies by John Sweller to condemn inquiry-based learning. Alan Reid's article in *Professional Voice* analyses the flaws in this argument and demonstrates its limited knowledge and misunderstanding of inquiry-based learning and, more broadly, about what happens in contemporary Australian classrooms. Reid describes teachers as practical expert educators exercising their professional judgement in the classroom. This means using a range of teaching approaches including various forms of inquiry-based learning and explicit teaching for the purposes of selecting "the most appropriate approach given the context of her/his students' learning needs at any point in time".

Wellbeing

The mental health and wellbeing of students and school staff have come to the fore during the era of COVID lockdowns and remote learning. Rebecca Collie describes the findings from her research into teacher wellbeing, which included data from before as well as during the pandemic. She defines wellbeing as a "combination of feeling good and functioning effectively" at work. "Feeling good" is about job satisfaction, a sense of vitality at work, and low stress and low burnout at work, while "functioning effectively" covers work engagement and occupational commitment. Collie found that teachers who had received helpful feedback, who felt they had more input in decision-making and whose principals indicated they provided greater student discipline support reported higher levels of occupational commitment. Arising from her research, she recommends that principals could increase teacher wellbeing by: inviting teachers to provide input in relation to decisions and school policies; offer teachers control over when and how they undertake their work when feasible; and offer justifications or rationales for the purpose of tasks or duties that are assigned to teachers.

John Munro writes about the important function of 'autobiographical episodic' memory (AEM) in student wellbeing and achievement. He defines AEM as:

> *This is what you know from your experiences. It tells you what to expect in any situation, how well you handled similar experiences in the past and how you can deal with issues that arise.*

AEM is stimulated or 'triggered' by the situation or context you are in and helps to explain the range of negative emotions and well-being of students during lockdown. Students had AEM experiences to support formal academic learning in the classroom and, separate to these, experiences to support how they lived at home. Learning

at home lacked the routines, support systems and scaffolding that underpinned classroom learning and, crucially, lacked the on-going activity of an in-person professional educator who directs and orchestrates the learning activity in a range of ways. Munro contends that the effect of AEM is broader than simply applying to lockdown. “It allows us more generally to initiate change in our lives, to see how things might be improved” and impacts directly on our emotional state and well-being. Students need to know how to explicitly enhance and use their AEMs to handle change effectively.

Professional Autonomy

Over the past two decades the professional autonomy of teachers has been squeezed between red tape accountability, standardisation and the development of “best practice” semi-mandates delivered by external “experts” and bureaucrats. For example, surveys have shown a majority of teachers believe their authority to evaluate learning and assess growth has been undermined by political interventions favouring narrowly-based standardised population testing programs. The evidence shows that an emphasis on these programs, at the expense of more meaningful forms of classroom-based assessment, not only impacts on the professional agency of teachers but has led to a range of negative educational outcomes.

Two of the articles in this edition of *Professional Voice* address the issue of professional autonomy. Katrina MacDonald, Jill Blackmore and Amanda Keddie provide some early findings from their project about school autonomy and the implications for socially just schooling. One of their findings is that autonomy in the management of schools does not necessarily lead to improved teacher and principal professional autonomy. Rather than school autonomy translating into the improvement of instructional leadership, curriculum, pedagogy and teacher professional development, accompanying Department policies of compliance and accountability can “create performative tensions for both teachers and school leaders and significant administrative workloads”. The authors comment that school autonomy works best for both students and staff where school leaders are able to use their local decision-making to enable teacher autonomy, creativity and professional collaboration.

Glenn Savage believes the many attempts by Australian governments over the past two decades to “revolutionise” schools have ended in evident failure and, as a result, there needs to be a re-imagining of schooling reform. He questions what he calls the “global consultocracy” whose claims to know “what works” have been taken up by governments everywhere to standardise and “align” diverse schooling systems around common practices. The problem with this is that these 'answers' often don’t work or

only work in some limited contexts. And they not only privilege the ideas of remote designers over those of local professionals with deep knowledge of their local context, they "can act as powerful disincentives for the profession to generate and share locally-produced evidence". Savage argues that this imbalance needs to be urgently corrected and the investment of energy and resources for reform should go into the professional experts in schools to "experiment, solve problems and collaborate to create solutions in context".

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Australia needs a climate change education policy

Hilary Whitehouse

An absence of responsibility

Australia is a signatory to the United Nations Framework Convention on Climate Change (UNFCCC), and, as a party to this Convention, has responsibility to undertake education and public awareness campaigns on climate change, and to ensure public participation in the matter - including the participation of children and youth. However, there is little evidence to suggest that the governments of Australia are yet taking this responsibility seriously.

As in many nations, Australian governments, both state and federal, continue to fail to support children, young people and their educators charged with educating for a climate destabilised future. Investment levels to support environmental and sustainability education are woefully inadequate across states and territories. Levels of support at federal level can be considered neglectfully low.

Climate change education and biodiversity education are part of education for sustainability (EfS) as it is known in Australia, and, education for sustainable development (ESD) as it is known internationally. When education for sustainability is underfunded and, curiously regarded as unnecessary to the 'real' purposes of schooling, this also impacts on climate change education (see Reid et. al. 2021).

We know how to educate for sustainability. The research, curriculum and pedagogical work has been extensive across the globe. Indeed, the efforts of Australian educators and scholars have been seen to have led the world over the last four decades. What is missing is not educational knowledge on how to educate. What is missing in Australia are well funded federal and state educational policy frameworks to support EfS and ESD, and climate change education.

To the question, what have we got in terms of climate change education policy? the short answer is not much. What we have (at most) are statements located in various

curriculum and policy documents which, when considered together, give a sense of ad-hockery. Thoughtfully structured and enactable climate change education policy coordinated between state and federal levels would demonstrate that governments actually care about meaningful educating for the present - future.

The evidence is that such policy care is decidedly absent. The question is why? Why is Australia in the position of irresponsibility with regards to national policy settings to support what is now critical educational work given climate turmoil is disrupting all of our lives?

The 2021 Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report (Working Group 1) states unequivocally that no-one, young or old, will be sheltered from the accelerating effects of global heating caused by atmospheric carbon pollution. The IPCC Headline Statements from the Summary for Policy Makers (IPCC, 2021) states that it is "unequivocal" that humans have warmed the atmosphere, oceans and land, and "widespread and rapid changes in the atmosphere, ocean, cryosphere and biosphere have occurred". The scale of climate change is described as "unprecedented", strengthening, and "affecting weather and climate extremes in every region across the globe". The laws of thermodynamics are physical and immutable and cannot be countered through political, economic or educational fictions.

Unbalanced economic priorities

Given the threats are known and real, the deliberate silence when it comes to climate change education policy in Australia is puzzling. The reasons appear largely political. Australia has suffered for many years from what historian Judith Brett (2020, p. 2) describes as, "poor national leadership on climate change, with our prime ministers lacking either the intellect or courage to develop coherent policy responses to the threat".

In trying to make sense of why an aversion to climate action has manifested itself in Australia at the highest level of political leadership, Brett turned to analysing the economic structures that support how we make a living, focussing on our exports of mined carbon, that, when combusted, drive global heating. About 20 percent of current total exports are fossil fuels, and Australia is the source for at least 3.5 percent of total global carbon emissions. This figure has been projected to rise to 13 percent of total emissions by 2030 (Parra et al. 2019).

Australia is hamstrung in terms of the low diversity and complexity of our national economy. We are currently ranked 83rd on the Harvard Economic Complexity Index, and the nation suffers from a low level of economic diversification. Australia does not invest highly in education. According to Federal budget analysis (Ferguson and Harrington, 2020) slightly less than 2 percent of Gross National Product is spent on education and training across all sectors.

In 2021, national government expenditure on education and training is projected to be 40 billion dollars (this figure includes expenditures by states and territories). This is only four times the amount of tax payer money governments will spend subsidising fossil fuels over the same time frame. An Australia Institute Report states that for the 2020-2021 year, "Australian Federal and state governments provided a total of $10.3 billion worth of spending and tax breaks to assist fossil fuel industries. The $7.8 billion cost of the fuel tax rebate alone is more than the budget of the Australian Army" (see Campbell et al., 2021).

Australia's economic settings are one reason that climate change education is not yet on the policy agenda.

Declared silences

As Brett (2020) analysed, Australian policy leadership is ridden with climate change denialism even as the effects of climate turmoil are experienced more broadly and more acutely. This includes denialism within education policy.

The Mparntwe Education Declaration (which replaced the Melbourne Declaration in December 2019) is completely silent on climate change (see Gough, 2020). Students and teachers are asked only to "engage with complex ethical issues and concepts such as sustainability". The term, 'engage' is a passive exhortation, when what is required in the face of a monumental crisis is material action. The Declaration envisages the role of education as preparing "young people to thrive in a time of rapid social and technological change, and complex environmental, social and economic challenges".

Thriving, however, is an unlikely outcome, feeling distressed is far more likely. Recent research surveyed people aged between 16 and 25 from 10 countries including Australia. Ten thousand respondents fully completed the survey. To quote from the paper:

> *Respondents were worried about climate change (59% very or extremely worried, 84% at least moderately worried). Over 50% felt sad, anxious, angry, powerless, helpless, and guilty. Over 45% said their feelings about climate change negatively affected their daily life and functioning, and many reported a high number of negative thoughts about climate change. Respondents rated the governmental response to climate change negatively and reported greater feelings of betrayal than of reassurance. Correlations indicated that climate anxiety and distress were significantly related to perceived inadequate government response and associated feelings of betrayal.* (Marks et al., 2021, n.p.)

This research indicates there is a high correlation between lack of action by governments and younger people's increased levels of negative feelings towards their futures. The politicised tactic of being silent on climate in national education policy does not make the problem go away. Meaning that if national educational policy makers truly expect thriving in times of rapid environmental and social change, then climate change education policy needs to be developed.

Global heating is real and we know its causes. The writers of education policy are engaging in fiction just at a time when what is required is clear-sighted recognition of how education systems can respond to known dangers. Realistic policy settings define action.

A rational response

The youth climate justice movement is a rational response to inaction. That this movement gained rapid momentum during a pandemic, indicates children and young people are finding out for themselves how and why governments, corporations and education systems have failed to act meaningfully to protect their futures. In following the money, young people are informing themselves of the root causes of climate turmoil. That they feel abandoned and disheartened by historic and contemporary economic, political and educational structures motivates their resistance.

Children and young people have no recourse other than to self-organise to protect their interests and protest governments and industries that receive substantial taxpayer and corporate largesse to accelerate the existential threat. Schools around Australia show varying levels of support for their activists. Some schools are highly supportive allowing teachers to accompany students to online and in person protests. Climate

activism is now embedded within youth culture. In September this year, *Teen Vogue,* asked its readers to hold the megabanks responsible for investing a staggering three trillion dollars in the last five years in fossil fuel industries (see Eder and Carlson, 2021).

Long gone are the gentle climatic certitudes of the Holocene. However, the settings within state and territory and federal education policy assume the Holocene still exists. This is itself a form of climate change denialism.

International policy directions

A stable climate cannot be guaranteed, not now nor into the future without a massive pivot in how we arrange human affairs and how we educate for transformation. The absence of climate education policy among so many nations, not just Australia, is addressed by United Nations policy that education is one key to addressing climate turmoil.

The educational policy vacuum in Australia can be solved by implementing our current international obligations. Though Australia used to be known as a nation proud to be a 'good' international citizen, our international standing is falling. One reason is Australia, as a signatory to the United Nations, is seen to still be dodging its obligations under the UNFCCC.

Credible educational policy is located in the recently launched United Nations Educational, Scientific and Cultural Organization (UNESCO) ESD Roadmap (UNESCO 2020). The roadmap prescribes the responsibilities of all signatory nations across five priority action areas to implement education for sustainable development including climate change education.

Keeping in mind that Australia is a signatory nation, the first priority action area of the ESD Roadmap requires that education for sustainable development (ESD) *must* be integrated into all national and state educational policies.

Education policy makers and practitioners are asked to assume responsibility towards bringing about global transformation, and policy and practice are instrumental to scaling up ESD in all education institutions, communities and informal learning settings. Nations are asked to make ecological and socio-environmental learning take their full place alongside traditional curriculum studies.

Priority action area 2 of the ESD roadmap encourages students to become agents of change, visioning learners as active and agentic (rather than passive) and as people able to take action in their own interests and that of others – Australian young people have well demonstrated they are so capable.

The international vision is that *every* educational institution and organisation will align itself with ESD (and EfS) principles and practices. To quote the roadmap; "this whole-institution approach to ESD calls for learning environments where learners learn what they live and live what they learn" (UNESCO 2020, p. 28). No longer is there a conceptual gap between formal learning and taking positive environmental actions.

Priority action area 3 focuses on building the capacity of educators to better understand *Agenda 2030* and the United Nations Sustainable Development Goals (UNSDGs). Educators are asked to be much better prepared in terms of enacting the knowledge, skills, values and actions possible within robust ESD programs. There is a large body of published evidence on what effective ESD (and EfS) looks like across different nations and priority 3 draws on that evidence.

Priority action area 4 draws on educational research that consistently shows empowering and mobilizing young people is vital to transformation in practice. The roadmap recognises young people "continue to envision the most creative and ingenious solutions to sustainability challenges" (p. 32). The focus on intergenerational justice acknowledges the capabilities of young people and their decision-making capacities.

Priority action area 5 identifies the importance of community-scale actions for enabling learning partnerships for change, promoting partnerships for learning and active cooperation between learning institutions, the community, and business enterprises.

Were Australian federal and state and territory governments to implement all priority actions as directed in the UNESCO ESD Roadmap, we would be well on our way to having robust sustainability education and climate change education policy. And perhaps gain the greater trust of young people as well.

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Climate justice education: The need for climate action in education.

Natalie Purves

> *"This report is a reality check. We now have a much clearer picture of the past, present and future climate, which is essential for understanding where we are headed, what can be done, and how we can prepare."* (IPCC Working Group I Co-Chair Valérie Masson-Delmotte, 2021)

> *"A code red for humanity. The alarm bells are deafening, and the evidence is irrefutable"* (The UN Secretary-General António Guterres, 2021).

Climate change presents a complex socio-cultural, environmental, political, and economic imperative. Human-induced climate change is one of the most important challenges facing the environment and humanity in the 21st century. According to the latest Intergovernmental Panel on Climate Change (IPCC) (2021) report released in August 2021, climate change is widespread, rapid, and intensifying, and some trends are now irreversible, at least during the present timeframe. The report found that human-induced climate change is unequivocally responsible for the unprecedented changes across the climate system. These changes are observable in weather and climate extremes in every region across the globe.

The biggest injustice of climate change is that the hardest hit is the least responsible for contributing to the problem. One of the key findings from the IPCC report states that the impacts of the climate crisis and climate injustices are disproportionately impacting low-income, black, indigenous, and communities of colour. Further, climate change and its associated impacts are leading to the extinction of cultures and biodiversity. Climate justice is therefore based on principles of participation, democratic accountability, social justice, and ecological sustainability.

Climate justice education is one possible solution to limiting climate change and its associated injustices. There is high agreement within the IPCC Working Group that education and learning are a specific solution for which actors such as Australia, can choose and make decisions to reduce climate vulnerability and build resilience (IPCC, 2021). Furthermore, education on climate change and climate justice within multilateral organisations, international frameworks, and non-governmental

organisations have identified young people as having a right and responsibility to participate in decision making and action on climate change and climate justice (International Climate Justice Network, 2021; UN, 2017; UNESCO, 2016; UNESCO, 2020a; UNESCO, 2020b; UNMGCY, 2021).

Youth led climate justice movements

> *"Listen to our voices"*
> *"System change not climate change"*
> *"Feminists demand climate justice"*
> *"Resist colonialism and imperialism"*
> *"Climate change affects us the most"*
> (Placards around the world at youth-led climate justice movement rallies)

In response to the climate crisis and climate injustices, climate strikes have been organised around the premise of 'climate justice' by youth-centred participation for climate justice movements. Led by Swedish climate activist Greta Thunberg and others, they have called for a change to the system not the climate. These young people are made up of varying positionalities of injustices: as voices for indigenous peoples, justice claims on behalf of youth, environmental justice, ecofeminism, and more.

Youth activism on climate change is now the largest climate protest in world history, a persistent global demonstration of young people and enormous grassroots mobilisation (Bowman, 2020). In 2019, these climate justice movements (variously know as Global Climate Strikes, #FridayforFuture, Youth for Climate, StudentsStrike4Climate, Youth Strike4Climate and Skolstrejk för klimatet) involved 2,500 events in 163 countries, between four and six million people including 330,000 in Australia (Laville & Watts, 2019). Marris (2019) has highlighted how young people are organised, co-ordinated, and social media savvy to engage in the different types of activism, which then creates a feedback loop to draw more young people into the climate justice movement and strikes.

The Australian climate justice movement is a broad social movement whose activists adopt a wide range of strategies relating to climate change, climate justice, participation and procedural decision-making and activism. Notable among these movements are the Climate Council First Nations Climate Justice Panel, which explores First Nations fights for climate justice including their perspectives and solutions. The Australian Youth Climate Coalition (AYCC) focusing on social and

environmental injustices and offering training and campaign information, and SEED, an Indigenous youth led Climate Network focusing on a just and sustainable future, with strong culture and community powered by renewable energy. Within these youth led organisations of experienced campaigners are school volunteer programs for non-Indigenous (Student Climate Leadership Program) and Indigenous (SEED Schools Program) young people to learn about climate change, climate justice and how to be active in the Schools Strike 4 Climate (SS4C) community campaigns.

There are also notable examples of alternatives to striking in youth led activism in Australia that involve current court cases: Waratah Coal Pty Ltd v Youth Verdict Ltd & Ors the 2020 objection by the Youth Verdict group to a coal project, and Sister Marie Brigid Arthur v Minister for the Environment the 2021 class action win spearheaded by a group of teenagers claiming a duty of care owed by the Australian Environment Minister for personal injury from climate change.

Transformative climate justice education

> *Transformative learning involves "a deep, structural shift in the basic premises of thought, feelings, and actions. It is a shift in consciousness that predominantly alters our way of being in the world"* (O'Sullivan et al. 2002, p. 11).

As the youth led movement organises around the premise of 'climate justice' and radical calls for systematic change, a transformative climate justice education is required. The teaching and learning of climate change and climate justice, which includes climate action, needs to refocus from individual behavioural change as forms of direct action, to collective action or indirect action as forms of systematic and social changes (Kwauk, 2020). This kind of action is transformative as it includes social, ecological, political, and economic change, that targets the radical transformation of individual competencies, social values, interpersonal relations and energy systems, by developing students' ecological/social/self-awareness (Kwauk, 2020).

Educating young people to participate in a transformative climate justice education, requires efforts to transform the structures, institutions, and dynamics which reinforce and perpetuate inequality (UNICEF, 2020). This type of education needs to be inclusive of the total environment, justice, and non-human life and use an approach that involves experiential learning, critical pedagogy, empowerment, and values education.

Curriculum on climate change and climate justice

> *Ever wondered what our curriculum teaches kids about climate change? The answer is 'not much'* (The Conversation, 2019)

In response to international frameworks such as UNESCO's (2005) Education for Sustainable Development, climate change has been embedded into the Australian curriculum. In the F-10 Australian Curriculum (ACARA, 2021), climate change is mentioned predominantly in the secondary Geography, Science and Humanities. There are 14 curriculum links including in the 'rationale' and 'introduction' statements and fragments of text in the descriptions of the Sustainability Cross-Curriculum Priority. In the Year 9-10 curriculum (a common age group represented in the climate justice movement), climate change is explicit only twice in the content descriptors for Geography and History and is an optional in four elaborations for Science and History (ACARA, 2021). While specific mention of climate change is limited to these learning areas, there are avenues to teach climate change and climate justice through a teacher's interpretation of the content descriptors in the other learning areas.

Unsurprisingly, but questionable considering Goal 2 of the *Alice Springs (Mparntwe) Education Declaration* is for students to be active and informed members of the community, protest and activism are absent from both curricula. Dunlop et al. (2021) argue that whilst young people learn about the role of protests (e.g., responses to environmental and climate change movements in optional Year 9-10 History and the Ethical capability), environmental politics in education is needed so that young people are more aware of the role that protest plays in current environmental movements. Dunlop et al. (2021) emphasise that this should include the legality and legitimacy of protesting in relation to national and international legal and political frameworks, exploration of political system failures, and encouragement of disagreement in the classroom space to examine their own and others' opinions.

In a review of Australian education policies' capacity regarding education and learning on climate change to contribute to changing societal behaviours, UNESCO (2015, p. 35) found that while "climate change is considered a key component of education for sustainability...the role of formal education is largely absent from national policies on sustainability and climate change issues". More recently, the new *Alice Springs (Mparntwe) Education Declaration* has removed references to climate change and integrating sustainability across the curriculum, resulting in halting discussions of the complexities of climate change in schools (Gough, 2020).

Australia has recognised the need for climate change education in signing international frameworks such as the Paris Agreement Work Program, which states that education programs on climate change and the promotion of participation in decision-making on climate change need to be developed (UNFCC, 2021). However, as previously noted climate change in the Australian curriculum is taught sporadically. Considering the scale of the climate crisis, explicit mention of climate change as a topic for learning is inadequate, often being left to school leaders and teachers to develop and enact climate change education programs (Colliver, 2017; Gough, 2020; Whitehouse & Larri, 2019).

An interdisciplinary response to climate justice education

> *Interdisciplinary studies are a process of answering a question, solving a problem, or addressing a topic that is too broad or complex to be dealt with adequately by a single discipline, and it draws on the disciplines with the goal of integrating their insights to construct a more comprehensive understanding* (Klein & Newell, 1998)

Addressing the complex topic and problem of climate change and climate justice to construct a more comprehensive understanding, requires an interdisciplinary approach to teaching and learning. Selby and Kagwa (2010) argue that there can be no ethical and adequately responsive climate change education without global climate justice education. Climate justice education as an interdisciplinary sequence of teaching and learning, would need to incorporate a combination of learning areas/capabilities/priorities. Additionally, it should include learning about climate change, energy, social and environmental injustices and incorporate Aboriginal and Torres Strait Islander peoples' knowledge and perspectives. Finally, taking into consideration that participation and democratic accountability are principles of climate justice, then student involvement in the development of a unit and decisions in how to participate in climate action is also an important consideration.

This interdisciplinary approach is supported by the learning objectives for UNESCO's (2017) sustainable development goals for climate action: learning which is framed by the cognitive, socio-emotional, and behavioural domains. Additionally, this approach aims to make sense of the complex environmental, social, political, and economic issues of climate change and climate justice and knowing how to intervene in decision making. There is a need to think at different scales, from local, national, and global.

As discussed, an interdisciplinary approach to climate justice education requires integrating disciplinary knowledge and skills across the learning areas in the curriculum. Further, it requires students to develop behaviours and attitudes across a range of capabilities and priorities. It therefore cuts across and integrates different learning areas, and capabilities of critical and creative thinking, ethical, intercultural, and personal and social, and cross-curriculum priorities of Sustainability and Aboriginal and Torres Strait Islander Histories and Cultures. However, research shows that the priorities and capabilities are pushed to the margin in favour of mandated discipline-specific subject material (Brennan et al., 2021).

Challenges for teachers and schools in enacting a climate justice education

> *New South Wales Education Minister Rob Stokes has warned students and teachers will be punished if they follow through on a climate rally during class time* (Sky News Australia)
>
> *Greta Thunberg has declared that any punishment for attending rallies is a "statement (which) belongs in a museum".*
>
> *"Each day I send my kids to school...we do not support our schools being turned into parliaments. What we want is more learning in schools and less activism in schools."* (Prime Minister Scott Morrison, 2018)

As millions of school students strike around the world for climate justice, teachers are faced with a dilemma of whether to declare solidarity or condemn the strikes. Young people involved in the climate justice movement are undoubtedly learning a multifaceted range of skills and applied knowledge in the climate justice movement, without any formal curriculum. Additionally, Wood (2020) argues that although the SS4C are youth-led, the young people involved are not isolated individuals and nor does their knowledge, skills and actions stem from a world removed from adults. This poses a challenge to the education system, schools, and teachers as they grapple with ways to support young adults who strike from schools in the face of inaction (Brennan et al., 2021; Mayes & Holdsworth, 2020).

The school strikes challenge the very notion of education and schools, as places for learning the knowledge, skills, behaviours, and attitudes that will facilitate active and informed citizens (ACARA, 2021). Moreover, education policies state the need for

"learning for life" when faced with the unpredictability of climate change, and the need for students to become independent learners, with critical and creative and problem-solving skills, empowered through voice, agency, and leadership (DET, 2019, p. 7).

There are several challenges and barriers facing teachers and schools in enacting a climate justice education:

- School leaders and teachers who do recognise the magnitude of the climate crisis often do not advocate for student participation in climate strikes, because this would likely be in opposition to existing policies or risk assessment outcomes.
- The hidden curriculum in secondary schools creates system and structural blockages that impede student voice and participation and the agency of the teacher.
- Teachers may need to explore their own affective responses to the climate crisis and their own ideological assumptions about what climate justice is.
- Teachers may also need to gain an understanding of youth led climate justice movements and their own analysis of the movement.
- Climate justice education may need to be framed by the teacher through a domestic social (in)justice lens, to open up critical dialogue on relationships between structure and collective agency, and engagement with untapped activist curriculum for a critical understanding of its tensions and conflicts.

Final thoughts

As discussed above, the IPCC (2021) report has unequivocally stated that the impacts of human-induced climate change are devastating and widespread. Further, climate injustices are disproportionately impacting low-income, black, indigenous, and communities of colour. Youth led climate justice movements are organised, co-ordinated, and social media savvy to engage in the different types of activism. These young people are engaged in an informal curriculum that is teaching them a multifaceted range of skills and knowledge. Consequently, it is crucial that as educators we facilitate opportunities for developing and enacting an interdisciplinary and transformative climate justice education that includes the voice of young people. This means a climate justice education that interrogates our own ideological assumptions about climate justice and critically engages with an untapped activist curriculum.

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Explicit instruction v Inquiry-based teaching: A case study in narrowing the education debate

Alan Reid

The binary of explicit instruction and inquiry-based teaching

For some time now the education debate in Australia has been marred by the presence of a simple binary: explicit teaching or direct instruction versus inquiry-based teaching.

Simply put, explicit teaching is a structured sequence of learning led by the teacher, who demonstrates and explains a new concept or technique to students who then practise it. It is sometimes described as a process that moves from 'I do' through to 'we do' and 'you do'.

Inquiry-based teaching is used as a catch-all term for models of teaching that are student-centred and involve the students, guided by the teacher, creating essential questions, exploring and investigating these, and sharing ideas to arrive at new understandings.

A recent article in the Weekend Australian by Noel Pearson (August 14-15, 2021)[1] has breathed new life into the explicit teaching/inquiry-based teaching dichotomy.

It lays the blame for Australia's declining Program for International Student Assessment (PISA) scores on the fact that the vast majority of teachers are using inquiry-based approaches, although the evidence for this is not presented. And it says that explicit teaching is the answer.

Noel Pearson's argument leans on a recent Centre for Independent Studies paper by Emeritus Professor John Sweller[2]. In that paper, Sweller recites his research on 'cognitive load' theory to demonstrate that explicit teaching produces better learning outcomes than inquiry-based teaching.

So convinced is Noel Pearson by the argument that he maintains that debates about teaching approaches are over! Explicit teaching has won the day, and he urges teachers, politicians, and policy-makers to adopt John Sweller's model as their educational guiding star. In my view they should be very wary of doing so because the case is based on a number of serious flaws.

Good teaching involves more than one teaching approach

The argument assumes, without producing evidence, that teachers use only one approach to teaching – either explicit or inquiry-based - and that most teachers in Australia use the latter. This assertion could be confirmed on empirical grounds but I don't think such research has been conducted across Australia, and certainly Pearson has no evidence to support his claim. From my experience of teaching and working with teachers in schools, most educators do not stay with one approach but use a range of teaching approaches.

However, that is not the crucial issue. Pearson and the explicit teaching lobby argue that teachers **should** use only one approach, and that of course is explicit teaching. They draw on research such as 'cognitive load theory' to prove their case. Such a rigid stance ignores the huge body of research that focuses on how people learn, and that has been used by educators to devise models of teaching that are located at different places on a teacher-centred/student-centred continuum. A famous book that proposes models of teaching using research on learning is that of Joyce and Weill[3], but there are many other examples.

The idea is that teachers select, from a toolkit of teaching approaches and models, one that best suits the purposes of the topic or program, the context of the study, and their students' interest, readiness and needs. Sometimes teachers will use a student-centred teaching model; at other times they may be more teacher-directed and use explicit teaching. And sometimes they might draw on explicit teaching at a specific moment during a guided inquiry. To make their selections, teachers use their pedagogical expertise and knowledge of their students and their contexts.

Pearson opposes such a view of teaching. He claims that the superiority of explicit teaching is demonstrated by research showing that inquiry-based teaching is detrimental to student learning. The flaws in this claim are laid bare when closely analysed. First, it distorts what constitutes inquiry learning; and second it compares explicit teaching and inquiry learning using highly dubious research. I will take each in turn.

There is no homogenous model of inquiry-based learning

The argument that explicit teaching produces better learning outcomes than inquiry teaching is based on a misguided view about what constitutes inquiry-based teaching. John Sweller and Noel Pearson maintain that inquiry learning began six decades ago with the work of the famous American cognitive psychologist Jerome Bruner and his concept of 'discovery learning'[4].

In broad terms, with discovery learning, instead of students being given the information to learn, they are given (or choose themselves) questions or problems, and use their prior knowledge and experiences to test new understandings. Bruner argued that, as well as gaining new knowledge, students would develop crucial skills such as questioning and critical thinking, along with curiosity and a love for learning.

Apart from omitting to mention that Bruner's approach was also based on teaching the structure of the disciplines – I mention this only because it is ironic that many who expound the virtues of explicit teaching also decry the decline of the disciplines and lack of intellectual rigour in Australian schools - Noel Pearson suggests that the development of inquiry-based teaching stopped in the 1960s. It didn't.

When Bruner's work first gained prominence it was adapted to the teaching of science, and then slowly spread to other areas of the curriculum. Over the next fifty years through practice and research, a number of different models of inquiry learning have developed – each with different emphases - such as inductive and deductive inquiry, and problem-based and project-based inquiry.

More than this, inquiry-based approaches vary in such matters as purpose, method and sequence of steps; and in terms of the extent to which teachers are in control of topic choice and process (eg structured inquiry; controlled inquiry), or students have greater agency (eg., guided inquiry, free inquiry).

Take the matter of purpose. Well-known books on teaching and learning (eg Joyce et al., 2017[5]) describe many different models of teaching that are student-centred but each has a very different purpose. For example, the *concept attainment* model is specifically structured so that students learn the process of understanding and applying key concepts, while the *controversial issues* model is designed to assist students to learn how to understand and develop a stance on an important social or political issue.

In other words, there is no homogenous model of inquiry-based learning. If people like Pearson and Sweller want to criticise inquiry-based approaches they need to be explicit about which model they are critiquing.

The use of suspect research to support claims

The other flaw is that much of the 'research' used to show that explicit teaching produces better learning outcomes is based on data that is contaminated by the confusion about what constitutes inquiry-based teaching.

Let's take a prominent example that is frequently used by the explicit teaching lobby to make their case. Accompanying the 2015 PISA tests, the Organisation for Economic Co-operation and Development (OECD) conducted student interviews to find out about the extent to which some students experienced inquiry teaching in their science classes. The questions were based on a very limited, even distorted, view about inquiry-based teaching. Thus, the researchers supposed that involving students in practical experiments and class debates, and giving them the time to explain ideas and use the scientific method, covered all the possibilities for inquiry-based teaching. They appeared not to notice the irony that in fact the teacher-led examples provided could just as easily have been used to describe explicit teaching!

Notwithstanding these limitations, and the inherent difficulties involved in comparing the responses of students from 72 countries - not to mention the serious questions being asked about the validity of the PISA scores - the OECD aggregated the answers and correlated them with the PISA scores in Science to arrive at an 'index of inquiry-based instruction'[6]. This purported to show that, for many countries, there is a negative correlation between inquiry-based teaching and success in the science tests.

Despite the warped view of inquiry and the inadequate methodology upon which the OECD report was based, once the report hit the public domain its findings were further distorted. Indeed, the next part of the story is a case study in how inaccurate and unreliable information gets passed on by commentators and consultants.

For example, government consultancy firm McKinsey and Co. simply accepted the 'research' findings at face value and then turned the results – remember they were based on interviews about science teaching with fifteen-year olds – into generalisations about teaching in *all* subjects across *all* year levels! Thus:

> *There are two dominant types of teaching practices. The first is 'teacher-directed instruction'...* (the) *second is 'inquiry-based teaching'. We analysed the PISA results to understand the relative impact of each of these practices. In all five regions, when teachers took the lead, scores were generally higher and the more inquiry-based learning, the lower the scores*[7].

In this case study example, the McKinsey report was then picked up by Noel Pearson and used to extol the virtues of one teaching approach over another. He asserts that:

> *...the student achievement data (shows) the positive effects of explicit instruction, and the detrimental effects of inquiry learning... showing the superior effect of explicit teaching. (The McKinsey and Company analysis) is a crucial report which... parents, teachers and politicians concerned with schools should read*[8].

The point is that reporting the results of research into 'cognitive load theory' and explicit teaching is one thing. But using flawed research to compare explicit teaching with inquiry-based teaching in order to claim the superiority of the former over the latter is quite another matter. If there are problems with the research used to make comparisons, then at the very least there are some serious questions about the efficacy and value of the claims about explicit teaching that spring from it.

Conclusion

There are many models of teaching that have been designed for different purposes, all of which are based on research and have been adapted for practice in various educational settings.

It is the educator's task to select the most appropriate approach given the context of her/his students' learning needs at any point in time.

John Sweller's 'cognitive load theory' could be an important addition to our knowledge about when, where and how to use explicit teaching. But to use his research to elevate explicit teaching to being the best and only approach to teaching and learning, as Noel Pearson has done, can only diminish its possibilities. Creating simplistic binaries in a field as complex and nuanced as teaching and learning impoverishes the educational debate.

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8 Noel Pearson, op.cit.

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What can schools do to support teacher wellbeing?

Rebecca J. Collie

Teacher wellbeing is receiving growing attention from teachers, education systems, and researchers. This increasing interest is being driven by awareness that it is essential that teachers are faring well at work for their own health and wellbeing. Interest in teacher wellbeing is also growing because there is expanding evidence connecting it with beneficial outcomes for both students and schools.

Making efforts and necessary changes to support teacher wellbeing is an imperative many schools and educational systems now recognise. In this article, I will discuss recent research that I have conducted on teacher wellbeing, including some specific factors that schools and education systems can focus on in their efforts to support the wellbeing of teachers and other school staff.

What is teacher wellbeing?

Before discussing the research, it is important to define wellbeing. In my research, I define teacher wellbeing as a "combination of feeling good and functioning effectively" at work (Huppert & So, 2013, p.838). The "feeling good" part of the definition is captured by factors like job satisfaction, a sense of vitality at work, and low stress and low burnout at work. In contrast, the "functioning effectively" part of the definition is captured by factors like work engagement and occupational commitment.

The role of the school context in teacher wellbeing

Over the past few years, researchers have begun to look more closely at factors that support teacher wellbeing. Many of these studies use a framework called Job Demands-Resources (JD-R) theory (Bakker & Demerouti, 2017).

JD-R theory highlights the role of contextual factors in either supporting or hindering employee wellbeing. Job resources are factors within the school environment that support teacher wellbeing, such as strong teacher-student relationships and school leadership support for teachers. In contrast, job demands are factors within the school environment that can hinder teacher wellbeing, such as high workloads and disruptive student behaviour.

JD-R theory also establishes that job resources become even more important for wellbeing when job demands are high—this is because employees rely on job resources more when they are under pressure. For example, strong collegial relationships play a stronger role in boosting job satisfaction when teachers are facing high levels of challenging student behaviour. This is because strong collegial relationships can provide teachers with social support, different strategies for classroom management, or new ideas for engaging students in learning.

What does the research say?

As noted above, there is growing research looking at job resources and demands in relation to teacher wellbeing. Below, I summarise a couple of recent studies. These studies provide examples of modifiable job resources that can potentially be used by schools to better support teacher wellbeing.

The role of job resources in teachers' occupational commitment

The first study (Collie, 2021a) involved a multi-nation examination of teachers' occupational commitment using data from the OECD's Teaching and Learning International Survey (TALIS) 2013. Occupational commitment refers to teachers' sense of attachment to the profession and can be considered a form of teacher wellbeing by way of "functioning effectively." Notably, occupational commitment is also relevant to teacher retention, which is a growing concern for many educational systems worldwide.

In total, 12,955 teachers from 827 schools across Australia, Canada, England, and the United States were involved in the study.

Three job resources were examined to investigate how they are associated with teachers' occupational commitment.

- *Helpful feedback* was rated by teachers and refers to their perceptions that the feedback that have received in their job has been useful for improving their teaching practice.
- *Input in decision-making* was also rated by teachers and refers to their perceptions that they have opportunities to provide input in the decisions made at their workplace.
- *Principal support for discipline* was rated by principals and refers to the level of support they provide to teachers for help with classroom management or discipline issues.

Alongside these three job resources, a job demand commonly experienced by teachers was also examined.

- *Disruptive student behaviour* was rated by teachers and refers to student behaviour that creates challenges for effective learning and teaching to occur (e.g., calling out, being noisy, distracting other students).

The study investigated how the job resources and job demand were associated with teachers' occupational commitment across the four countries. In addition, by examining the job resources and the job demand together, the study was able to test whether any of the job resources played a stronger role in supporting occupational commitment among teachers who faced high levels of disruptive student behaviour.

What did the study find? The results of the study showed, as expected, that teachers who had received helpful feedback reported higher levels of occupational commitment. That is, when teachers felt supported in terms of feedback, they were more likely to be committed to the profession. Similarly, teachers who felt they had more input in decision-making and whose principals indicated they provided greater discipline support also reported higher levels of occupational commitment.

As anticipated, the opposite was found for disruptive student behaviour. Teachers who experienced greater disruptive behaviour reported lower commitment to the profession.

An interesting finding was that while helpful feedback was important at all times, it appeared to be even more crucial when teachers faced high levels of disruptive student behaviour. Helpful feedback, then, may be one way to support teachers to navigate disruptive student behaviour and reduce any detrimental impact it may have on occupational commitment.

Another notable finding was that the results were comparable across the four nations involved in the study: Australia, Canada, England, and the US. It appears, then, that these job resources have a similar role to play for teachers in many different educational systems.

Research example looking at impaired wellbeing during COVID

The second study (Collie, 2021b) focused on Australian teachers' experiences during the first wave of COVID-19 in May 2020.

This second study examined one job resource that has been shown in numerous studies to be critical for teachers' wellbeing at work.

- *Autonomy-supportive leadership practices* were reported by teachers and refer to teachers' perceptions that their school leaders support their initiative and empowerment at work.

Alongside the job resource, the study assessed a personal capacity called workplace buoyancy.

- *Workplace buoyancy* was rated by teachers and refers to their sense that they can effectively navigate the common challenges that occur as part of teaching (e.g., the time crunch of report writing time, overlapping task priorities; Martin & Marsh, 2008).

The study also looked at three impaired wellbeing factors—that is, factors that indicate an individual is not faring well. The three factors were all rated by teachers:

- *Physical symptoms*, which refer to common health complaints such as headaches, joint pain, and fatigue.
- *Stress related to change*, which refers to teachers' sense that recent changes at work have left them feeling stressed, worried, and pressured.
- *Emotional exhaustion*, which occurs when teachers feel emotionally drained from work and is considered a core dimension of burnout.

The first aim of the study was to see whether autonomy-supportive leadership practices were associated with greater workplace buoyancy. In turn, the study investigated whether workplace buoyancy was associated with lower levels of impaired wellbeing.

In total, 325 teachers from across Australia participated in the study. About one third of the teachers were teaching in-person as usual (and so experiencing no COVID-19 restrictions at the time), one third were teaching fully remotely due to COVID-19, and the others were hybrid teaching (in-person to essential workers' children and remotely to other students due to COVID-19).

What did the study find? The results showed that teachers who felt their school leaders used autonomy-supportive leadership practices reported greater workplace buoyancy. That is, the teachers felt better able to cope with the challenges at work.

In turn, teachers who reported higher levels of workplace buoyancy reported fewer physical symptoms (e.g., headaches, joint pain, and fatigue), lower levels of stress related to change, and lower levels of emotional exhaustion.

Together, these findings suggest that autonomy-supportive leadership practices may be one way to support workplace buoyancy and, in turn, reduce impaired wellbeing among teachers during COVID-19—and beyond (e.g., Collie et al., 2018).

Another interesting finding was that participants who were hybrid teaching due to COVID-19 reported higher stress than teachers who were teaching fully in-person (i.e., business as usual; no COVID-19 restrictions). Although the finding is understandable, the same was not true for teachers working fully remotely due to COVID-19. That is, teachers working fully remotely did not report elevated levels of stress compared to those working in-person as usual. These findings provide evidence to support many teachers' anecdotal experiences of the difficulties of hybrid teaching during COVID-19. Future research that examines these findings is important to see if it bears out with other samples of teachers, but it does suggest that we should pay attention to the impacts on teachers of different working configurations during educational disruptions in future—either for COVID-19 or other events (e.g., bushfires).

What can schools do to support teacher wellbeing—during COVID and beyond?

The two studies described above provide knowledge about several job resources that schools can focus on in their efforts to sustain and support teacher wellbeing:

- Helpful feedback
- Input in decision-making
- Autonomy-supportive leadership practices
- Principal discipline support

Prior research provides several ideas about how these job resources can be supported within schools.

Starting with helpful feedback, it is important that this advice is based on evidence, targeted and specific, and focused on actions that can be implemented by teachers (Brinko, 1993).

Input in decision-making and autonomy-supportive leadership have a lot in common. To boost both of these job resources, school leaders may want to increase opportunities where they:

- invite teachers to provide input in relation to decisions and school policies that are created;
- offer teachers control over when and how they undertake their work when feasible; and,
- offer justifications or rationales for the purpose of tasks or duties that are assigned to teachers (Collie et al., 2018).

Turning to principal discipline support, an interesting feature of this job resource in the study above (Collie, 2021a) is that it was reported by principals—that is, principals' perceptions of the support they provide to teachers. To boost this job resource, principals (and other leaders within a school) may want to ensure there are open lines of communication so that teachers can obtain support for ongoing disruptive behaviour in the classroom and, as part of this, seek advice from teachers about what support they need.

For schools that are interested in implementing or updating their policy on teacher wellbeing, please see the freely available chapter here: **https://doi.org/10.4324/9781003025955-23**. For more information about the studies discussed above (including open-access versions), please visit: **https://www.researchgate.net/profile/Rebecca-Collie**.

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Autobiographical episodic memory: A missing link in remote teaching

John Munro

As educators we know about knowledge. It is what we want our students to learn as a result of our teaching. Our students know facts and general knowledge, the meanings of words and a range of skills. This knowledge is stored in their semantic and procedural memories.

We also have a second type of knowledge that we use automatically. This is what you know from your experiences. It tells you what to expect in any situation, how well you handled similar experiences in the past and how you can deal with issues that arise.

This knowledge is stored in your 'autobiographical episodic' memory or AEM. You use it in every situation or context. It is stimulated or 'triggered' by the situation. It helps explain the range of negative emotions and well-being of students during lockdown.

Well-being during lockdown

A student's well-being during lockdown comprises several aspects: emotional well-being, well-being as a student and well-being as an individual. During the period of remote learning, many students experienced heightened anxiety, stress, depression, and other emotional reactions such as extreme negative self-confidence and self-efficacy, low resilience, and behavioural problems.

In parallel with this they reported difficulty coping both with study and learning from remote teaching. They found it hard to concentrate, maintain focus, stay motivated or get things done. Many had difficulty organizing and directing their learning activity. They reported missing interactions with peers, the classroom routines and systems that supported learning.

Some had difficulty coping with life more generally. Their well-being as an individual also suffered. They perceived less certainty in their lives and believed they had less control over life events both now and in the future. They were less resilient or adaptable and more dependent on others.

These reactions are not a response to the teaching itself. Generally, schools and teachers took great care to prepare relevant, appropriate learning and teaching materials.

Instead, they are a result of needing to learn in an alternative setting or context. They are consistent with students lacking the autobiographical episodic knowledge needed to guide successful learning in the remote context.

What is autobiographical episodic memory?

All of us have a bank of experiences that record the events in which we've engaged, when and where they occurred and what we and others in the experience did. They also record how we felt in the experience; whether it was enjoyable, interesting, boring, soothing, or irritating and how motivated we were. We store them in our brain in a form of time and place imagery. These comprise our episodic knowledge or memory (Marsh, & Roediger, 2013).

As well as recording these separate experiences, we also evaluate them and record what the experiences say about us and what we might do. We form an impression of what did or didn't work for us in the experience. This tells us what we might do to respond to similar challenges now and in the future. They also tell how we might feel in similar situations now and in the future, how motivated or successful we might be (Miller, Odegard, & Reyna, 2018).

This is your autobiographical episodic memory or knowledge (Prebble, Addis, & Tippett, 2013). It is how you 'see' or judge yourself through your past experiences. We use this memory continually in our lives. Suppose you go into a new bar or coffee shop for the first time. Your episodic knowledge tells you what you expect to see, hear, and smell and the actions you and others are likely to do in that context.

Your autobiographical episodic memory tells you whether you are likely to enjoy yourself in the coffee shop and how successful you might be in it. It provides the motivation for you to enter the present context and also tells you what to expect and how to respond to possible challenges or issues that might arise.

Our autobiographical episodic memory or knowledge underpins how we cope in every aspect of our lives. We use it automatically when an appliance at home breaks down and when we need to organise ourselves in a social interaction. It also underpinned students' learning success during lockdown.

Students' autobiographical episodic memory

Students have an autobiographical episodic memory of what happens in a classroom. Their experiences include how to learn in that context and how to behave in particular ways and interact with peers, and how to use the routines and schedules that support learning. These include how to deal with challenges, for example, when something doesn't make sense or is difficult to learn and how to use feedback. The experiences also include a range of signals, supports and interactions such as the body language, eye contact, and speaking tones used by teachers and peers.

Students recall these experiences whenever they are in the classroom context. The experiences direct and focus the learning activity. They operate in addition to, and in parallel with, the actual teaching and the content.

Students also have stored, in their episodic memory, their experiences at home. This is their record of how they live with their family, what to do and how to behave acceptably at home, what to expect and how to be organised in the home context. They also include how to get around obstacles and solve problems in the home situation and how to learn practical skills and knowledge in everyday contexts.

Each type of context has its own set of experiences and autobiographical knowledge. Being in a classroom triggers automatically your memory for classroom contexts, just as being in an unfamiliar coffee shop triggers your experiential memory for past coffee shops. Being in the home context causes you to remember past experiences from home.

Learning remotely during lockdown and AEM.

During the period of remote learning, students had teaching materials prepared for them. Some students found this a valuable experience. They valued being able to self-organise and manage their learning schedules. They enjoyed having the opportunity to plan their day and work at their own pace.

Many who experienced a reduced sense of well-being during remote teaching and debilitating negative emotions and loss of self-efficacy reported that this began with the perception that they could not learn as well at home as they could in the classroom. They intuitively felt they needed the systems, scaffolds, and supports provided in the classroom context. They did not have these in their AEMs for their home contexts. They felt intuitively that 'something was missing' but were unable to compensate for it by spontaneously adapting their classroom AEMS to the changed context.

In other words, students had AEM experiences to support formal academic learning in the classroom and, separate to these, experiences to support how they lived at home. Their home experiences probably included learning but not in the formal classroom sense. Their school-based AEM experiences usually include the crucial on-going activity of a professional educator who directs and orchestrates the learning activity in a range of ways. The home-based AEMs didn't include the routines, support systems and scaffolding that underpinned classroom learning. Home-based learning uses different support systems, routines, and scaffolding.

Both the successful and less successful remote learners had access to the same teaching and learning materials. Some additionally had AEMs that could respond to the remote learning challenge effectively. These students, interestingly, were the more independent students who often found classroom routines and structures restricting.

Others lacked the appropriate AEMs for using the materials successfully. Not knowing what to do to respond to their lack of learning success led to their negative emotions and well-being. As time went on, their sense of a lack of control and emotional stress increased.

Teachers and schools put a lot of work into designing teaching that students could use remotely. Students' reports suggest these materials weren't adequate for all students to adapt their classroom experiences to fit the home environment.

What we can learn from AEM and Lockdown

Remote teaching provides valuable information about educational provision. Until the lockdown, the role of AEM in education had largely been taken for granted. Students in the early years of schooling were taught how to learn in the classroom context. This was sometimes referred to as socialization. They learnt how to learn vicariously in groups, how to have their learning and thinking activity directed and how to interact socially in this context. As they progressed through education their AEM knowledge gradually developed and modified.

Lockdown required students to learn academically in a different context. Many students did not have the AEM routines to support this and had difficulty adjusting to this in positive, functional ways. To deal with this more effectively, they needed to problem solve, reflect on what had supported them in the classroom and implement matching routines and support procedures in the home situation. This comparatively sophisticated response draws in turn on the types of competencies described in the General Capabilities in the Australian Curriculum (**https://www.australiancurriculum**.

edu.au/f-10-curriculum/general-capabilities/) and in particular the Personal and Social capability.

Teaching to enhance students' use of their AEM

Teaching that can assist students to improve and broaden their use of their AEM in a range of contexts includes the following:

1. Guide students to become aware explicitly of their AEM, how they use it and how they can modify it to fit changed contexts. We noted that we usually use our AEM implicitly, without being aware of using it. When students are explicitly aware of it, they are more able to modify it and fit it to changing contexts. They benefit by understanding how they can use it more effectively to optimize their learning and interactions with the world more generally.
2. Help students recognise the contents of a classroom episode, that is, the supports that help them learn in the classroom. Guide them to become aware of supports such as the routines (for example, doing particular activities at regular designated times), having a learning task broken into smaller steps, avoiding distractors or working on a task to completion.
3. When they need to learn in an alternative context, such as learning remotely, guide them to identify supports in the second context that match those in the classroom. They can be taught to ask themselves: How did I do similar tasks in the past? What will the outcome 'look like'? What will I do first /second..? This helps them transfer their classroom experiences to the home context.

When they begin a learning task in a different context, they can be taught to visualise what the outcome might 'look like' and what they will do to complete it. This gives them a 'virtual experience' of the learning activity that includes a pathway to task completion. The virtual experience can become an actual experience as they work through it. These experiences add to their episodic memory.

4. Help students learn how to manage negative emotions such as stress and anxiety more functionally. Students need to learn that anxiety is a part of their lives. Being able to keep it manageable is a key aspect of learning. Many students felt threatened by remote learning. They believed they would lose access to learning and knowledge, to friendships, or to future aspirations.

They believed they couldn't control what was happening to them and felt helpless and dis-empowered. Our education systems are focusing increasingly on students learning to manage and regulate their learning activity. Some target teaching for metacognition. The lockdown experience has shown that many students were not able to apply this; for them the teaching missed the mark.

The teaching needs to help them see all that they can control at any time and all that they can do. From a learning perspective, this includes them seeing what they know now that they didn't know earlier and recognise that it was their brain that did the learning.

These types of teaching activities can be fine-tuned to match the age and developmental level of students.

AEM an essential Twenty-first Century capacity

The effect of AEM is broader than simply applying to lockdown. It allows us more generally to initiate change in our lives, to see how things might be improved. Imagery is an essential aspect of creativity and innovation. Our AEM allows us to imagine how things might be different. It also allows us to manage change effectively.

It is generally acknowledged that success in the Twenty-first Century will require individuals to respond functionally to change. COVID has shown how our world can change rapidly.

To be successful Twenty-first Century citizens, our students need to know how to explicitly enhance and use their AEMs to handle change, effectively. When they are less able to do this, they perceive they can't cope. This impacts directly on their emotional state and their well-being.

Education providers, both within Australia and internationally, have decided to take steps to improve students' well-being as a consequence of COVID. Many are approaching this from the perspective of the 'silo' model. They are assuming that well-being can be developed independently of what and how students know. These education policy makers are ignoring the fact that the various memories in our brains are networked and that you improve well-being best by enriching individuals' autobiographical memories.

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Public Education and school autonomy reform: Implications for social justice

Katrina MacDonald, Jill Blackmore, Amanda Keddie

In Australia, autonomy reform policies are entangled with policies of market competition, school choice and accountability creating a complex public education landscape. There has been a strong political consensus across political divides in Australia and internationally that greater school autonomy and localised decision making will drive up academic standards and improve public education. There is, however, little empirical evidence for this consensus. Instead, evidence indicates we are seeing increasing inequalities at system and school levels. Our project, School Autonomy Reform and Social Justice in Australian Public Education (an Australian Research Council Discovery Project), examines how school autonomy is understood by key education stakeholders in Australia, how it is enacted in Australian public schools, and the implications for socially just schooling. We aim to identify barriers and enablers to enacting social justice within this policy context.

In the first phase of our research we conducted a policy review from the 1970s that explored how the social justice intentions of school autonomy reform have shifted across the last 50 years. We have also interviewed public education stakeholders across Australia, including representatives from educational bureaucracies, government, parent organisations, principal associations, principals, professional organisations, academia and teacher unions.

These interviews sought to explore understandings of school autonomy including the origins and development of this idea in Australia and more specifically the differences between state jurisdictions; the continued focus nationally and internationally on school autonomy reform; the impacts of this reform at the school and system level in terms of social justice (e.g., in relation to decision making, the allocation of resources and differential benefits regarding student outcomes, leadership practices and teachers' work); important factors for mobilising school autonomy in productive ways; and the role of regional and other support in autonomous systems. We are currently undertaking case study research in schools

across different state jurisdictions to understand the ways in which social justice practices in schools are constrained or enabled.

In the following discussions we outline some of our early findings organised around the ideas of student outcomes, parent and community involvement in schools, principal and teacher working conditions, and the impacts on public education systems more generally.

Student outcomes

Our research supports previous findings that school autonomy does not necessarily lead to better student outcomes. Greater freedom for principals to decide about resources and staffing does not automatically lead to better educational outcomes or more socially just outcomes for students from disadvantaged backgrounds. The Organisation for Economic Cooperation and Development (2011) argues that school autonomy over financial and material resources (i.e. managerial autonomy) does not result in improved outcomes as measured by test results, however autonomy over teaching, curriculum etc. (i.e. professional autonomy) accompanied by appropriate system oversight and support can make a difference.

Parental and community involvement

Since the 1970s, there has been a shift in parent participation in school governance from democratic participation to corporate governance. In different state jurisdictions, school autonomy reform has prioritised corporate forms of parental involvement in school governance rather than democratic forms of parent participation. This has the effect of limiting the diversity of perspectives allowed to enter into school decision-making. As one of our participants commented, "There has been the empowerment of *some* parents; but that doesn't empower parents. That empowers *a* parent and their judgment". Teachers on school councils do not have parity with parents in terms of numbers and therefore in decision-making, and there is an emerging trend for school councils to select external members who have professional expertise.

Principal and teacher work

School autonomy reform has narrowed leadership to forms of managerialism and compliance, simultaneously increasing work intensity and reducing instructional leadership opportunities. It is well recognised that school autonomy reform within a context of economic rationalism and marketisation has forced schools to run themselves like businesses. In this context, school leaders find themselves spending increasing time on managerial and compliance tasks rather than leading teaching and

learning in their schools. Increasing school autonomy has coincided with rising levels of stress, anxiety, poor health outcomes and increased workload for school principals as large scale surveys have indicated (Riley, See, Marsh, & Dicke, 2021). The change in the principal role, and the time demands, has placed undue pressure on school principals without the necessary supports.

We have also found that school principals experience school autonomy differently depending on their levels of experience. Career stage and levels of experience have an impact on the ways in which principals are able to leverage the autonomy granted to them in whichever system they work to benefit their students and communities. Experienced school principals are often better able to manage and navigate systemic constraints that early career principals feel they cannot avoid. In addition, more experienced principals have established networks to call upon. We have found that school principals experience school autonomy differently depending on the context and profile of their schools. The context of the school is critical in how school autonomy is taken up as different schools generate different demands with regard to student needs and staffing. For instance, urban schools face vastly different pressures to small, low SES, hard-to-staff, regional and remote schools. Principals in these schools typically do not have the human and material resources to exercise autonomy in ways their urban colleagues can.

Critically, we are finding that school autonomy does not necessarily lead to teacher professional autonomy. Autonomy in the management of schools does not necessarily translate into the improvement of curriculum and pedagogy, nor, importantly teacher professional development, the most important in-school factors to impact on students. The entangled policies of compliance and accountability, through for example high stakes testing, create performative tensions for both teachers and school leaders and significant administrative workloads. Crucially, we see that school leaders who can use their local decision making to enable teacher autonomy, creativity and professional collaboration are more able to harness school autonomy to improve student and staff experience.

The impact on public education systems

The complexity of Australia's education governance (state and federal responsibilities, and the three sectors - Catholic, independent and public) has led to different articulations of autonomy across different states over different time frames. School autonomy reform has developed localised versions shaped by state political ideologies and institutional histories, along with federal interventions.

Different stakeholders (politicians, education bureaucrats, union leaders, principal organisations, principals) view autonomy in different ways.

Politicians and education bureaucrats tend to view school autonomy in managerial ways with a prioritising of resource administration, performance indicators and outputs, while union leaders and principals tend to view autonomy in relation to professionalism in school leadership and teaching with a prioritising of capacity building and the shared autonomy for teachers to improve student learning. Our research shows that teachers feel they have less professional autonomy not only because of the ongoing cascade of policies that schools are expected to implement, but that there is little time to embed practices least of all evaluate their effect systemically or at the school level. Lack of time together with the seeming acceleration of time, are key factors impacting on teachers' sense of professional autonomy.

Our research adds to the multiple voices concerned with growing inequalities within our public education systems exposed by the pandemic (Eacott et al., 2020). We have found that the earlier intentions of school autonomy reform have shifted from a socially democratic view of autonomy in the past, to market and competition driven forms in which all the risk and responsibility in devolved systems of education are shifted onto principals and then teachers. Earlier policies were based on socially democratic aims to redistribute resources on needs-based formulae to support disadvantaged students, to support a greater diversity of schooling options, and for schooling to be responsive to the diverse social and cultural needs of students. The notion of autonomy has been re-articulated from these rationales to reflect a market-driven system that supports the marketisation of public schools, competition between schools and external accountability requirements.

Degrees of autonomy and measures of accountability imposed upon schools fluctuate with the political ideology of the governing parties within state and federal jurisdictions (MacDonald et al., 2021). School reform has been subject to the ebbs and flows of education policy instated by governing political parties, both in granting greater autonomy to schools and principals, and reining in such autonomy through accountability measures. This can have dire consequences for localised support mechanisms for principals and schools, as policies granting greater autonomy tend to be coupled, as with the Independent Public Schools policy, with shifting responsibility to schools and principals while also cutting structural (regional) support services within state education departments.

Schools have to seek such supports at their own costs through paying, for example, for professional and leadership development programs, which diverts funds away from the core work of teaching and learning. These supports are critical to the equitable redistribution of economic, material and structural human resources to schools and students who need them the most, such as school-based disadvantage (contextual such as rural, remote or in areas of low SES), or student-based disadvantage, for example Indigeneity, disability and English language proficiency and background. To remedy inequalities between schools and students there needs to be significant political will and commitment, as well as a shift back to needs-based funding.

Concluding comments

Our research suggests that the effect of school autonomy reform on social justice can be considered through the following paradoxes (Keddie et al., 2020):

- The discourses and practices of economic efficiency and differential funding (between the public and private sectors) constitute school 'autonomy' in ways that create economic injustice, decimating the public education sector, exacerbating stratification and residualisation within this sector and exacerbating economic disparity between public and private sectors.
- The discourses and practices of competition and individualism shaping education systems constitute school autonomy in ways that undermine equity at the system level. For example, competition constitutes school autonomy in ways that can create greater equity for students at some schools (through forcing individual schools to prioritise themselves) but invariably undermines equity for other students and schools. These practices threaten a collective approach to education as a public good. Unless countered by systemic responsibility taken in the form of regional supports and access to resources, school autonomy reform can devolve all risk and responsibility for outcomes onto individual schools, principals and teachers inequitably.
- The discourses and practices of devolution and economic rationalism shaping the public education system constitute school autonomy in ways that disadvantage (already disadvantaged) schools.
- The discourses and practices of needs-based funding reflect a lack of transparency and nuance in their distribution. When coupled with a lack of support for administration of funding, school autonomy can create economic injustice for specific groups of students denied access to resources. Economic injustice also includes, in some cases, the misappropriation and misuse of funds by school leaders or system administrators.

Our project is a multi-institution project funded by the Australian Research Council. The lead Chief Investigator is Professor Amanda Keddie (Deakin University), together with Professors Jill Blackmore (Deakin University) and Jane Wilkinson (Monash University), Associate Professors Scott Eacott and Richard Niesche (University of New South Wales), Drs Brad Gobby (Curtin University) and Katrina MacDonald (Deakin University). We invite you to visit our website **schoolautonomyandsocialjustice.org** and to follow us on twitter @SchoolSasj for further information about these findings and the project more broadly.

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Australia's failed quest to revolutionise schools

Glenn C. Savage

Over the past two decades, Australian governments have committed exorbitant energy and resources to transform our nation's schools.

From the education revolution reforms of the late 2000s to the current National School Reform Agreement, successive governments have sought to create a new order in Australian schools by introducing a vast array of national policies in areas such as curriculum, assessment, funding and teacher education[1].

The driving force behind many reforms has been a narrative of panic and failure, often centred on the steady decline of Australian students on the OECD's Programme for International Student Assessment (PISA)[2].

As the story goes, our students are framed as failing relative to global competitors, which is seen as a risk to national productivity. To tackle this, we are told we must aspire to be the world's best and will only rise up the ladder if we pursue consistent national reforms based on evidence about "what works"

This predictable reform script was exactly what federal education minister Alan Tudge offered when he announced yet another review of Australian teacher education in May. Australian students, he said, have "dropped behind" on global PISA rankings, are "being significantly outcompeted", and this will have grave consequences for the nation's "long-term productivity and competitiveness"[3].

Tudge set a target to return Australia to the top education nations globally by 2030[4], and argued more national reforms are needed to make this happen, mirroring a long line of similar goals and proclamations from federal ministers. In 2012, for example, then federal education minister Julia Gillard set the lofty goal of raising Australia to the "top five" in global PISA rankings by 2025[5], using the goal to justify major national reforms and spending increases via the Gonski school funding reforms.

The problem is, these grand attempts to revolutionise schools are not working.

Not only has Australia gone into a rapid free fall[6] on PISA but multiple other measures of performance have stagnated or gone backwards[7]. Roughly one in five young people in Australia do not complete year 12[8], intolerable gaps in outcomes persist between Indigenous and non-Indigenous students[9], and the race for high ATARs (and entry to elite universities) is dominated by young people from the wealthiest backgrounds[10].

Australia is replicating[11] a deeply inequitable and underperforming system.

This begs a crucial question: if "what works" doesn't actually work, then what should we be doing differently? In my new book, *The Quest for Revolution in Australian Schooling Policy*[12], I outline multiple ways we could re-imagine schooling reform.

What's the problem with doing "what works"?

All over the world, governments and policy makers are seeking to align schooling policies to evidence that tells us "what works" to improve outcomes[13].

Underpinning this reform movement is a seductive allure of order[14], which assumes positive outcomes will flow from standardising diverse schooling systems around common practices that are apparently "proven to work".

This logic has informed every major schooling reform since the late 2000s, from the introduction of standardised literacy and numeracy testing (NAPLAN) to the creation of an Australian Curriculum based on common achievement standards.

To a casual observer it might seem logical we should aspire to be the world's best and develop standards based on "the evidence" to achieve that. Yet there are multiple reasons why doing "what works" often doesn't work at all.

The primary issue with this approach is that while there might be some evidence to tell us a reform works "somewhere", proponents often take this to mean it will work everywhere.

This can produce a range of adverse impacts. For one, privileging evidence and standards that can apparently be applied across the board can devalue local and context-specific knowledge and evidence[15].

As anthropologist James C. Scott argues, standards-based reforms privilege *episteme* (scientific and so-called 'universal knowledge') and *techne* (technical knowledge) at the expense of *phronesis* or *métis* (practical and local knowledge)[16].

At best, where practical and local knowledge is encouraged, it is for its ability to work effectively with authorised scientific and technical knowledge (i.e., to demonstrate one's *alignment with* the standards).

This represents a contemporary crisis for professional knowledge broadly similar to what philosopher Donald Schön argued, back in 1983, when he wrote that forms of technical rationality were beginning to dominate contextualised forms of 'reflection in action' within professions[17].

While it might be broadly useful to consider what "high impact teaching strategies" look like[18], we should never assume such evidence can be equally applied in all schools.

After all, what works best in a remote public school in Broome is highly unlikely to be the same as what works best in an elite private school in Darlinghurst.

Without critical and nuanced engagement with evidence claims, such lists and toolkits can act as powerful disincentives for the profession to generate and share locally-produced evidence. This, in turn, can lead to an erasure of evidence that does not align with dominant knowledge.

At its worst, when evidence is determined through top-down government intervention and based on global knowledge curated by leading think tanks, education businesses and organisations like the OECD, educators are relegated to being mere "implementers" of ideas from elsewhere.

At work here is an arrogance of design[19] and a privileging of the perspectives of remote designers over that of professionals with deep knowledge of the local spaces in which they work.

What is a better way forward?

Australian schooling policy is being put together backwards.

In my book, I consider some ways we might start to reverse the reform script. Let me briefly mention three.

First, Australia needs to stop privileging the loud voices of education gurus and members of the global "consultocracy"[20] who claim to have "the answer". Frankly, I think teachers and school leaders are becoming fatigued by the perpetual flood of toolkits, strategies and best-practice checklists promising to transform teaching and learning as we know it.

Instead, we should be investing energy and resources to inspire local networks of evidence creation and knowledge sharing. This organic and bottom-up approach puts faith in the profession to experiment, solve problems and collaborate to create solutions in context.

This is not an argument against experts and expertise but is a call for re-framing how we understand these terms. We need to remember that educators can also be experts, working actively in a profession that can generate its own internal forms of valid evidence.

Australia has fallen into a pattern where the experts and expertise that shape reforms are no longer in schools. This needs to be urgently re-balanced.

Second, we need to move beyond industrial modes of thinking that liken the work of educators to those of factory workers on a production line.

Rather than investing millions in reforms that tie educators to lockstep standards and lists of strategies, we need to recognise that schools are complex and diverse social ecologies and the work of educators is non-routine based and always evolving.

As researcher Roberts Wears has argued, while there are good arguments for the introduction of standards-based reforms in settings where work is routine-based and there is a high level of 'reproducibility' of tasks across settings, standards are generally not well suited to professions that exhibit 'the characteristics of complex, self-organizing systems': that is, settings in which practitioners are regularly engaged in 'making sense of an uncertain and ambiguous jumble of unfolding phenomena', requiring 'contextual judgments, explanations and situated actions'[21].

So, while it can be useful to have some external evidence and standards to inform practices, its relevance to practical and local knowledge is only partial at best.

We only really *know* evidence works when we see it work in specific classrooms, and what works in one class won't work in all classes.

Educators have both a right and responsibility, therefore, to critically question and test the evidence claims and standards presented to them from external sources.

Third, we need to move beyond the damaging assumption that sameness and commonality across systems and schools is the path to improvement.

Grand designs to revolutionise and homogenise practices are not the panacea. If they were, then the wide-reaching efforts of policymakers to align Australian schools to shared data, evidence and standards would have seen a radical turnaround in outcomes. But that clearly hasn't happened.

Rather than approaching education reform as technicians seeking to make "the machine" work better, perhaps we should think and act more like gardeners, seeking to build the ecosystems needed for diverse things to grow and flourish.

Indeed, there is a great deal of research into the management of both natural and social systems arguing that the maintenance of diversity, adaptability and decentralisation very often delivers better outcomes when compared to systems that are standardised, monocultural or subject to rigid and centralised control.

In making these arguments, it is not my intention to leave readers with the impression that all attempts to achieve alignment are problematic, in all cases, or that unfettered diversity is an unproblematic and preferable alternative.

What I *am* suggesting is that we should remain highly sceptical of claims by proponents of alignment that suggest the way forward is to overcome differences in perspectives, smooth out anomalous practices, uncritically expand the existing suite of standardised policies, and re-orient all practices in line with national evidence repositories. We should be doubtful, therefore, of claims that the end game of reform should be *a state of alignment*.

After all, as complexity theorist Keith Morrison argues, 'a butterfly that flies only in a straight line is soon eaten'[22], and the same holds true for our nation's schools.

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Re-evaluations: Climate education, pedagogy, wellbeing and professional autonomy