Two conflicting visions of education and their consilience

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ABSTRACT

Over the past two decades, two heavily funded initiatives of the Federal government of Australia have been founded on two very different and seemingly conflicting (if not antithetical) visions of education. The first, the Australian Values Education Program (AVEP, 2003-2010) enshrines what may be called an 'embedded values' vision of education; the second, the National Assessments Program-Literacy and Numeracy (NAPLAN, 2008-present) enshrines a 'performative' vision. The purpose of this paper is to unpack these two seemingly conflicting visions and to argue instead for their possible consilience, bringing together apparently incompatible phenomena to coalesce into a single, more expansive vision of schooling.

Against the historical context that gave rise to AVEP and NAPLAN in Australia, the paper argues that the visions of education rendered in these abrupt policy shifts are vestiges of a history of dichotomous and dualistic thinking in western educational philosophy. Underpinning this dualism is a fundamental schism between cognition and emotion and a Cartesian separation of mind from body that can no longer be sustained. Our increased understanding of the neural substrates of cognition, the 'intertwined' nature of cognition and emotion, combined with a philosophy of mind that does not dissociate propositional knowledge from the disposition of the learner, points to an alternative vision of education. A vision that is thoroughly values embedded, concerned with the educational wellbeing of each child, while also giving value to and prioritising educational performance and achievement, and the intellectual liberation these can offer each and every child.

Keywords: Values-embedded education, performative education, knowing that/how, declarative/ non declarative memory

INTRODUCTION

There are very many visions of education, many ways of envisaging its aims and purposes and how these might engender a particular ethos of schooling, a particular curriculum and/or preferred style of pedagogy. The purpose of this paper is to try to unpack two very distinct visions of education that have been heavily funded as initiatives of the Federal government of Australia over the past two decades and to argue for their consilience, despite the common perception that they are in conflict. The first initiative was the Australian Values Education Program (AVEP, 2003-2010), which enshrines what we call an 'embedded values' vision of education; the second, the National Assessments Program-Literacy and Numeracy (NAPLAN, 2008-present) enshrines a 'performative' vision.

The AVEP and NAPLAN initiatives really do appear to represent two very distinct and seemingly conflicting visions of education. Prima facie, the aims and purposes of both are very different, as is the language surrounding the ethos of education and their approaches to the curriculum and pedagogical preferences. For example, AVEP may be viewed as consistent with the philosophical notion of education as intrinsically worthwhile, whereas NAPLAN is firmly instrumental in its vision of education. It is strongly influenced by economics and notions of national need, preparing youngsters for the workplace, assessment (testing) as core to a standards-based education and national success in education, as measured by OECD's PISA. AVEP is intentionally child-centred in the sense that it centres on the wellbeing of each child, whereas NAPLAN emphasises the achievement of skills related to the acquisition of propositional knowledge.

We will shortly look at the historical context that gave rise to NAPLAN in Australia and how it eclipsed AVEP, to the point that AVEP and its claims for the centrality of values in education is hardly if ever mentioned in contemporary educational debate. Even so, if one looks at the vision statements produced by schools on their websites, reference to the importance of values remains very strong. The cynic might say that this is simply rhetoric, reassuring words for parents that the school cares about its students. There may be some truth in that, but we suspect the concern for values in education and, indeed, the notion that education is necessarily a values-based endeavour, runs deeper than that. If so, it means despite all the instrumental rhetoric of contemporary government and school practice, there remains recognition, perhaps a longing within schools to somehow reconcile these two conflicting visions; bringing AVEP's rather *soft* and caring vision of education, concerned with student wellbeing, into consilience with NAPLAN's *hard* performance-driven vision.

The word consilience would seem to be appropriate here. The word has its origin in Nineteenth Century philosophy of science, first coined by the distinguished British historian of science William Whewell 1794-1866), who also gave us the words 'scientist' and 'physicist'. It is based on two Latin words, con (together) and siliens (jumping), thus a jumping together of inductions or knowledge. Whewell was pointing out that seemingly incompatible phenomena might yet 'jump together' into a single generalisation or theory. Thus, for example, Newton's insight that the moon remaining in orbit around Earth (and not falling to Earth) obeys the same laws that causes an apple or any other object to fall to Earth. Although there is a broader and more recent use of the notion of consilience, which is related to the unity of knowledge thesis, as explored by E.O. Wilson (1998), this paper follows Whewell in suggesting that two visions

of education that are often viewed as incompatible, if not antithetical, may nevertheless coalesce into a single, more expansive vision. *A vision that is thoroughly values embedded in that it is concerned with the educational wellbeing of each child, while also giving value to education performance and achievement, and the intellectual liberation that these can offer each and every child.*

If consilience between these two seemingly conflicting visions of education can be successfully argued, it has considerable implications for both education policy and practice in Australia, and elsewhere. The need is especially great in Australia, where a decade of NAPLAN has shown no improvement in mathematics and reading, and results for disadvantaged students have declined sharply (Ainley, 2018) There is now gathering recognition that something is not right: NAPLAN and its revolutionary aspirations, more broadly, has not delivered on its bold performative promise. This paper will argue that NAPLAN was always a one-sided vision of education and was thus doomed to failure. It was also a product of blind political faith that a tight focus on performance using the 'science' of assessment and the technologies of reporting would deliver the desired academic effects. Underpinning this paper is a firm belief that it is time for teachers and educationists to reclaim the ground from politicians and policy-makers; to reset the agenda and provide a new holistic and comprehensive vision of education. We begin by recalling the bold and ambitious origins of NAPLAN.

THE EDUCATION REVOLUTION

In Australia, in 2007 a new Federal Labor government was elected to office. In what was dubbed the 'education revolution', the new administration set about its legislative program with multiple and ambitious reforms, all arguably aimed at lifting the academic achievement of Australian students and the performance of Australian schools. As the raft of major policy actions below suggest, the term 'revolution' was not rhetorical:

- implementation of the 2008 National Assessments Program-Literacy and Numeracy (NAPLAN), an annual test of the literacy and numeracy skills of every Australian student in Years 3, 5, 7 and 9;
- the establishment of the My School website in 2010, which among other things, enabled the public to compare the NAPLAN performance of schools, leveraging parental choice to drive school performance;
- the implementation of the Australian curriculum in 2014, traditionally a responsibility of the states and territories;

- the formation of the Australian Curriculum, Assessment and Reporting Authority (ACARA) to oversee national curriculum, testing and accountability;
- the formation of the Australian Institute for Teaching and School Leadership (AITSL) responsible for the introduction of national teaching and school leadership standards;
- *Empowering Local Schools Program* aimed to make government schools more autonomous, resembling the governance structures of their independent counterparts;
- the National Partnerships Program funded a range of programs targeting literacy, numeracy and teacher quality in low SES schools;
- the Gonski Review (2012), which recommended a new Schools Resource Standard (SRS) for funding schools more 'transparently, consistently and fairly' across the three school sectors.
- Most of these policy initiatives were underwritten by a prominent discourse of 'quality teaching' (Hattie, 2009) and the agency of the 'great' teacher (Mourshed et. al., 2010, p.5) as the most important in-school factor affecting student achievement.
- In July 2017, the Panel for the *Review to Achieve Educational Excellence in Australian Schools* was established to examine evidence and make recommendations on how school funding should be used to improve school performance and student outcomes.

As one scans this list of major policy initiatives constituting the 'revolution' one is struck not only by the range and vigour of the reforms, but also by the singularity of vision by which they are tethered to one aim: to lift the academic performance of students, schools and the nation as measured by publicly accessible forms of national assessment. The apparent uniformity of this vision, not to mention its bold instrumentality, is strengthened when we recall Prime Minister Gillard's target for Australia to be ranked in the top five countries for its performance in PISA by 2025.

The centrepiece of the so-called revolution was, of course, NAPLAN (2008) followed closely by the much-anticipated launch of the My School website (2010): My School enabled access to the literacy and numeracy performance means of all 9551 Australians schools, in addition to their indices of educational advantage (ICSEA) and income levels per school and per student. For the first time parents were not only able to compare the literacy and numeracy performance of 'like' Australian schools, they, and an aroused media, began to speculate about relationships between school income and school performance. The choice of the name 'My School' also conveyed something new. Rather than settle for the title 'Our School', with its connotations of community and common purpose, 'My School' signified a new consumer relationship - arguably a 'performative act' (Austin, Urmson, & Sbisà, 1975) that re-visions schooling away

from the common good and the notion of school as a community of learning, towards the individual interests of parents as they make choices in an education market energised by data and competition.

The use of 'assessment' as the preferred instrument of policy leverage is further evident when we consider the impact of global assessments such as the OECD's PISA and specifically its 2010 study correlating cognitive growth with increases in GDP (OECD, 2010). Other international organisations and consulting firms such as UNESCO, the World Bank and McKinsey & Co have had similar collaborative impacts (Peters, 2001, p 6., Lingard and Grek, 2009, pp. 13-14). These transnational influences, combined with national policy prescriptions, have led to what Lingard has characterised as 'test-focused schooling' (Lingard, 2010). Moreover, Rizvi and Lingard argue this has had two important effects: first, that the 'evaluation message system' (Bernstein, 1971) - as distinct from the message systems of curriculum and pedagogy - has become the 'major steering mechanism of Australian schooling' (Rizvi & Lingard, 2010): and second, education has been 'reconstituted as a central arm of national economic policy' (ibid, p. 96). If there was any doubt about this second effect, one need look no further than the title of Labor's 2007 election policy paper: *The Australian economy needs an education revolution: New Directions Paper on the critical link between prosperity, productivity growth and human capital investment* (Rudd, 2007).

THE AUSTRALIAN VALUES EDUCATION PROGAM

It may be argued that 'since the advent of the crude human capital theory we have struggled to reconcile the economic and social purposes of education' (Keating, 2008 pp. 3-4). This struggle is illustrated starkly by the national initiative that immediately preceded the 'Education Revolution', which this paper is calling an 'embedded values' vision of education. The Australian Government introduced a values-based approach to schooling with the implementation of a $29m Australian Values Education Program (AVEP 2003-2010). This initiative placed moral values development at the centre of the educational endeavour and privileged the modelling and teaching of values over academic outcomes (Lovat, 2017, p.88). AVEP developed a *Framework* through which all Australian schools could provide values education in a planned and systematic way by:

- articulating, in consultation with their school community, the school's mission/ethos;
- developing student responsibility in local, national and global contexts and building student resilience and social skills;

- ensuring values are incorporated into school policies and teaching programs across the key learning areas; and
- reviewing the outcomes of their values education practices.

Previous initiatives funded by the Australian Government as part of AVEP included:

- the Values Education Good Practice Schools Project (VEGPSP) – Stages 1 and 2
- the Values in Action Schools Project (VASP)
- funding for state and territory education authorities to conduct a Values Education Professional Learning Program for teachers and Values Education Forums
- the Values for Australian Schooling resource series
- national activities, including partnership projects with parents, principals, teachers and teacher educators and a national forum/conference.

(http://www.curriculum.edu.au/values/val_about_values_education,8679.html)

The two stages of VEGPSP selected clusters of schools to design, implement and evaluate quality projects in values education using the 2005 *National Framework.* Conducted between 2008 and 2009 VASP built on the work of VEGPSP to further develop the evidence base for informing practice. Projects focused on student wellbeing, resilience, positive education, social inclusion, service learning, improving academic outcomes, civics and citizenship, and indigenous, interfaith and intercultural approaches. Ten principles of good practice values education were established, and five key impacts were identified: value consciousness; student wellbeing; agency; connectedness and transformation. AVEP gathered broad-spectrum evidence to support the fundamental role that emotion, sociality and moral awareness play in the growth of educational and human development. Supported by insights that are claimed to emanate from neuroscience, AVEP argued that good-practice pedagogy must be directed to the whole person and relies upon the brain being stimulated in a morally ambient learning environment.

We will return to this claim regarding brain stimulation later in this paper. For now the important point to notice is that the central claim of AVEP is that a values embedded education is not simply an end in itself, however worthy that might be thought to be by some educators. Rather, the research undertaken for this project in multiple school settings indicated strongly that in achieving value consciousness; student wellbeing; agency; connectedness and transformation, (the 'five impacts') a values-embedded education also positively improves the whole educational endeavour of a school, including the academic diligence of individual students (Lovat et. al., 2011, p. 179). In the context of this paper, the realisation that one vision

might have a positive bearing on another is clearly important. This is not all that is entailed in arguing for the consilience of two apparently conflicting visions of education, but it is an important first step. However, in Australia, the values embedded vision was replaced by the opposing performative vision, such that the educational insights generated by AVEP were swept aside and made obsolete by the 'revolution' and the new assessment regime which underpinned it. Not for the first time in education, a dichotomous either/or mindset prevailed.

The enduring loss of the relevance and value of AVEP is reflected in a number of recent research reports to and from the Australian government. The Gratton Institute's *Towards an adaptive education system in Australia* (2017), the Centre for Independent Studies' *Getting the most out of Gonski 2.0: The evidence base for school investments* (2017) and the *Through Growth to Achievement: Review to Achieve Educational Excellence in Australian Schools* (2018) make no reference at all to the efficacy of values-embedded schooling, nor even hint at the importance of the relationship between the moral ambience of the school and its effect on academic motivation: further evidence of the 'moral dearth' of so much modern educational effectiveness research (Lovat et.al., 2011, p. 186). But with one exception, the Centre for Independent Studies' submission cites research that school discipline explains significantly more of the variation in PISA scores (88%) than the level of school funding (12%) (Joseph, 2017, p.11): a quantitative acknowledgement, at least, of the implicit role that 'values' play in the behavioural and disciplinary climate of the school.

A HISTORY OF DICHOTOMOUS THINKING

The sharply contrasting visions of performative and values-embedded schooling expressed by the 'revolution' and AVEP may be viewed as yet another example of the dichotomous thinking that steers policy and pedagogy in wildly different directions. The abandonment of AVEP in 2010 in favour of assessment mechanisms such as NAPLAN, My School and PISA indicate that over the last two decades policy thinking in Australia has been dogged by two highly divergent, and one must conclude, dualistic paradigms of schooling. The visions of education rendered in these abrupt policy shifts suggest that Australian schools have been orbiting in a parallel universe, where the performative vision is overwhelmingly attached to the development of applied cognitive skills in a knowledge economy, and the 'Values-embedded' vision, as witnessed in AVEP, attends to the ambience of the school learning environment to promote value consciousness, wellbeing and moral development. Arguably, underpinning this dualism is a fundamental schism between cognition and emotion, a separation

based on what Reid eloquently referred to as the 'commonest idea that feeling is opposed to thinking' (Reid, 1986, p. 201).

To foreground the challenges schools face in managing these polarising demands upon their pedagogies, we should be ever-mindful of the many dualisms that have exercised an enduring impact upon education policy discourse; many of them (including the separation of thinking and feeling) related one way or another to Descartes's fundamental separation of mind and body, mind and brain. The tendency to think in this dualistic way about schooling is rooted in normative binaries such as cognition and emotion, knowing and doing, didacticism and constructivism, education and training (the Australian Department of 'Education and Training'), teaching and learning, teacher-centred and child-centred, reason and compassion, character and conduct, and the old chestnut, academic and vocational.

In varying degrees all of these dualisms share a certain disembodied concept of mind, a decoupling of the mind from the body, which has long antecedents in the philosophy of mind, and which Gilbert Ryle (1945) rather impudently dubbed as belief in a *ghost in the machine*, 'deus ex machina'. Although not all supporters of mind/body dualism could be accused of believing in ghosts in machines (e.g. Popper & Eccles, 1977), in the case of Descartes it might be considered appropriate, as he was the preeminent advocate of the 'Mechanical Philosophy' in the Seventeenth Century, who viewed the body as a machine and thus needed a way of salvaging the spiritual self. The important contribution of Ryle's anti-dualist argument to this paper was his seminal distinction between 'knowing how' and 'knowing that'. Notwithstanding what some have referred to as Ryle's 'anti-intellectualist' argument (Fantl, 2008, p. 453), which aimed to collapse the distinction between 'knowing how' and 'knowing that', the analytic distinction between 'that' and 'how' has been highly influential in educational theory (Lum, 2011, p .82), notably for the way in which R S Peters formulated the dichotomy in his influential text, *Ethics and Education* (1966).

Peters employed the dichotomy to valorise 'knowing that' as the basis for differentiating education from training, believing that being educated is incompatible with being narrowly specialised (Ozolins, 2013). Technical know-how, he believed, was not an essential or important component of knowledge: knowing-how was more concerned with the instrumental realisation of means, and had nothing to do with knowing-that, which was closely associated with reason, truth and knowing what is 'good'. He argued: "There is very little to know about riding bicycles, swimming or golf. It is largely a matter of "knowing how" rather than "knowing that", of knack rather than understanding" (Peters, 1966, p. 159). Thus, in Peters'

'intellectualist' (Penco, 2014, p. 365) use of the dichotomy 'knowing how' is a skill or a 'knack' that has little to do with how the rational mind represents the structure of knowledge and comes to 'know' what is true, or just or right - a construct which emphatically separates knowing from doing, minds from bodies, as if bodies were merely the conveyance for one's rational mind. In giving priority to the state of knowing-that, Peters overturned Ryle's anti-intellectualist position that knowing-that depends on, and is probably reducible to the practical state of knowing-how. As Ryle argued: "I have, I hope, proved that 'knowing-how is not reducible to any sandwich of knowings-that, and that our intelligence predicates are definable in terms of knowing-how. I now want to prove that knowing-that presupposes knowing how" (Ryle, 1945, p. 15).

The vestiges of this 1960's dichotomous debate in western educational philosophy are still evident in current epistemology where the debate between intellectualists and anti-intellectualists about the priority, reducibility or autonomy of 'knowing that' and 'knowing how' is far from settled (Stanley & Williamson, 2001. 2005: Fantl, 2008: Penco 2014). For the purposes of this paper the dichotomy underscores the influence and contested dominance of one way of knowing, and how one form gains policy leverage and currency over the other, rather than seeking consilience, a phenomenon Pring cautions as "the imperialism of any one form of discourse, together with its distinctive notion of evidence" (Pring, 2005, p. 207). Arguably, the eclipse of the values embedded vision of education (AVEP) by the performative vision ('education revolution', NAPLAN, My School) provides an Australian example of the imperialism of one form of discourse over another, just as it was also hostage to the history of dichotomous thinking in western education, particularly the duality of 'knowing that' and 'knowing how'. But, was any of this conflict really necessary, and is there any way to achieve consilience between these two rather different and seemingly conflicting visions?

DECLARATIVE AND NON-DECLARATIVE MEMORY

Ryle's distinction between 'knowing that' and 'knowing how' does not need to be viewed dichotomously or dualistically, but rather as two distinct ways of knowing that arise from two fundamentally different forms of memory and learning, memory for facts and memory for skills, each with distinctive neurobiological processes though operating holistically within a healthy, unitary brain. In the literature, these two memory systems are given a number of different names, but consensus seems to prefer the terms 'declarative' and 'non-declarative' memory. As with much of what we know about the workings of the human brain, the first evidence for this distinction came from a brain that was not functioning 'normally'. In 1953, Canadian neurosurgeon William Scoville performed an operation on a patient referred to as

H.M., as a last-ditch attempt to treat his devastating epilepsy. He removed the inner surface of the temporal lobe (above the ears) on each side of the brain, thought to be the locus of the multiple seizures that H.M. suffered each day. It worked in addressing the seizures, but it left H.M. with a different devastating condition, severe amnesia. Brenda Milner, a colleague of Scoville tirelessly studied H.M.'s condition and discovered three fundamental insights into the biological nature of memory that remain valid to this day. One of these is that there are at least two distinct memory systems in the brain – one for facts (declarative memory) and one for skills (non-declarative). Lesions (damage) to the medial temporal lobe impact declarative memory, while unusually leaving non-declarative memory intact.

More specifically, declarative memory is what we normally mean by memory in everyday parlance, the ability to remember facts, ideas, images, and events. It embraces those things that can be brought to explicit conscious memory, whereas non-declarative memory, the ability to perform skills is implicit, usually operating outside of conscious awareness and without the need for the content of conscious memory. In the case of H.M., for example, he was able to learn to perform new tasks by repetition, as normal, but his loss of declarative memory meant he had no recollection of doing the task before and no recollection of who Brenda Milner was, or of having seen her before. Both forms of memory are based on experience, but whereas declarative memory is expressed as 'knowing that', non-declarative memory is expressed in performance, as 'knowing how' – how to do something. One might therefore say that whereas declarative memory is reflective, non-declarative memory is reflexive.

Notwithstanding the many differences between these two forms of memory, the key point we wish to make is that to be anything like a normal person, one has to have both systems fully operational and, moreover, working together seamlessly within the brain. Indeed, in learning a skill one may first employ declarative memory reflectively, but as a result of continual practice one can perform them subconsciously, automatically, reflexively. Peters belittled the skill of riding a bicycle, which he believed required little or no 'knowledge that'. In fact, in so dismissing what Polanyi referred to as 'tacit knowledge' (Polanyi, 1983), Peters undermined his own position. When starting to learn to ride a bicycle, or play a piano, or perform a sequence of ballet steps, one first has to concentrate very hard *reflectively*, employing declarative memory, knowing that. In time, after continual practice, one learns to perform the actions *reflexively*, becoming part of non-declarative memory, knowing how. Moreover, if, after transferring such performative skills to non-declarative memory, one tried to perform that skill reflectively, concentrating on working the pedals, playing the correct piano notes or ballet steps, one would likely fall of the bicycle, or ruin a piano or dance performance.

TOWARDS THE CONSILIENCE OF TWO VISIONS OF EDUCATION

While our empirical understanding of declarative and non-declarative memory has unveiled some suggestive parallels with the analytic categories of knowing 'that' and 'how', developmental studies of cognition and action point to one difference that is highly significant: declarative and non-declarative memory are mutually dependent, internally related systems that operate in dynamic tension in a normally functioning human person (Thelen and Smith, 1996). Reid, in a more philosophical vein, prefiguring the insights from studies of emergent development, observes that 'coming to know has a developmental history, again some of it propositional, some not, which feeds into the dispositional. …it is better to think of knowledge growing and developing from roots rather than as additive from discrete layers' (Reid, 1986, pp.44-45). Reid's metaphorical 'roots' later found more literal expression in Damasio's (1994) 'somatic marker hypothesis' which provides a biological explanation of how positive and negative emotions, many of them subconscious, are involved in decision making. Indeed, there is compelling evidence that emotion and cognition are always and inevitably 'intertwined' and, moreover, that emotion plays a critical role in high-level cognition.

The reinstatement of emotion into rational thought undermines the Enlightenment belief that rational thought must be devoid of emotion, 'dissolves traditional boundaries' (Damasio, 1994, Immordino-Yang, 2011, p. 99), and thus challenges dominant 20th century schools of behavioural and cognitive psychology which held fast to their 'entangled philosophical dualisms' (Dewey, 1957, p. 358) and their 'analytic habit of divisiveness' (Reid, 1986, p. 44). As noted above, this 'habit' of divorcing minds from bodies, thinking from feeling, and cognition from action has sustained a history of dichotomous thinking which, we have argued, lingers in the highly divergent policy paradigms we have witnessed in Australian education over the last two decades; a period first marked by the AVEP, and then its 'revolutionary' successor, NAPLAN and its performative accompaniments. If there is to be consilience between the two conflicting visions of education underpinning these different initiatives, it will necessarily have to avoid the dichotomous and dualistic thinking of the past generations and, instead, embrace a unitary conceptualisation of mind/body that holds thought, emotion and action together in dynamic tension and, above all, grasps that within the brain wellbeing and learning are intimately related.

Earlier in this paper we expressed hope that the two apparently conflicting visions of education underpinning AVEP and NAPLAN may nevertheless coalesce into a single, more expansive vision. We characterised that putative singular vision as thoroughly values

embedded, incorporating the impacts of values education as identified in AVEP while also stressing the importance of educational growth and achievement as emphasised in NAPLAN. In fairness to those involved in developing AVEP, it should be noted they were clear that values-based learning environments, be they classrooms or whole schools, positively impact student performance and achievement. We agree, but go further in prioritising performance and achievement in education, though unlike NAPLAN we found it on intrinsic rather than instrumental values, emphasising the intellectual liberation that academic growth and achievement can offer each and every child, not simply what job it leads to or how it aids the national economy. Moreover, the vision we have in mind is entirely consistent with the parameters set above, in embracing a holistic, unitary concept of mind/body, in eschewing dualism and dichotomy, emphasising the importance of emotion in all human thought and embracing the notion that wellbeing and learning are intimately related.

That emotion plays a critical role in problem solving, academic motivation and intellectual confidence, or diffidence, comes as no surprise to teachers or anyone who has worked in a school: the affective and academic dimensions of school 'life' involve a complex web of conscious and subconscious evaluations of the social dynamics that are woven into the fabric of formal learning and academic achievement (Immordino-Yang, 2011 p. 100). These 'evaluations' involve questions of emotional meaning or 'salience', from the Latin, salire, 'to leap out': what qualities of learning experience 'x' 'leap out' to be felt as distinctive, an experience to which a student may be attracted, or to which she may turn away? 'Salience' may be understood as a prior condition for learning; prior to 'knowing that', or 'knowing how', we suggest that salience involves 'knowing, so what'? The importance of salience in learning has long been recognised by practitioners but the past decade has seen advances in neuroscience capable of describing the neural processes that underpin social cognition: of necessity, social cognition requires a child to assess how others think and feel, and this assessment, in turn, moderates the way that child thinks and feels, with concomitant changes occurring in brain structure. These feedback loops are dynamic, non-linear and unpredictable (Thelen and Smith, 1996), but in the context of the school, inseparable from the planned, linear logic of the curriculum from which we expect, and want, all children to 'emerge' with valued skills, knowledge and understanding.

That not all, or enough, Australian children emerge in this condition is the central moral and practical challenge, but as we have seen, the dichotomous thinking and one-sided solutions proposed both by AVEP and the education revolution tend to exclude what the other proposes. AVEP placed moral development at the centre of the educational endeavour and privileged the

modelling and teaching of values, leaving academic outcomes more to be hoped for than intended. By contrast, NAPLAN and the associated 'revolution' harnessed assessment in an unprecedented regime of testing and reporting to drive the growth of applied cognitive skills in a knowledge economy. By its own measures NAPLAN has not succeeded, arguably because the 'horses of instruction' (Blake, 1975) have not been adequately tended in the pastures of values embedded schooling. A recent research report found that Australian students reported a poorer sense of belonging at school compared to the OECD average, with students from the lowest socioeconomic quartile reporting the highest levels of 'not belonging' (De Bortoli, 2018).

If consilience between the two visions of education can successfully be carried forward, some reflection backwards may well be instructive, back to December 2008, to the *Melbourne Declaration on the Educational Goals for Young Australians.* That document, or more importantly that settlement, set forth coherent - we might say consilient - goals for Australian schooling: to promote 'equity and excellence,' and to create 'successful learners, confident and creative individuals and active and informed citizens'. It is not without irony that the Declaration was made in the year NAPLAN was introduced, and AVEP was nearing its demise, a pivotal moment stradling two highly divergent paradigms of schooling. These goals are in urgent need of rearticulation: to restore to Australian schooling a 'coherent civic purpose…..an inherent value of things studied and of the children studying them…. a deeper grammar of value' (Hastie, 2018, p.33). The dichtonmous thinking and sharply alternating visions posed by AVEP and the NAPLAN revolution have placed unwarranted demands on Australian schools as they juggle the polarising values of policy, and the imperatives of their implementation. These demands at the school level, and the lack of a consilient vision about the intrinsic goals of schooling at the national level, may well be contributing to the decline in the core academic skills of Australian children that national and international assessments continue to record.

Conclusion

The abandonment of AVEP in 2010 in favour of assessment mechanisms such as NAPLAN, My School and PISA indicate that over the last two decades policy thinking in Australia has been dogged by a history of dichotomous thinking and a dualistic paradigm of schooling. Underpining this dualism, we have argued, is a fundamental schism between cognition and emotion, a Cartesian separation of mind from body that can no longer be sustained. Our increased understanding of the neural substrates of cognition, the 'intertwined' nature of cognition and emotion, and a theory of mind that does not dissociate propositional knowledge

from the disposition of the learner, points to a vision of education more expansive, better informed by a range of discourses, and one clearly less tendentious that those we have witnessed in Australia over the last two decades. It is the argument of this paper that, stripped of the dichotomous and dualistic thinking that has pervaded education, it may well be possible to bring together the apparently incompatible visions of education that underpinned AVEP and NAPLAN such that they coalesce into a single, more expansive vision of schooling.

The new vsion of education that we see arising from that consilience of the two apparently conflicting visions will first and foremost be educationally informed and consistent with best practices in schools and classrooms; it is time for educators to reclaim the ground. This vision must also be thoroughly values embedded, as a necessary condition for the academic growth of Australian students. It must encompass the five values' 'impacts' identified by AVEP that were based on grounded research conducted in schools, but it must also give value to and prioritise education growth and achievement as the core aim of education. Not simply for the undoubted instrumental benefits of workplace and national economic need, but more fundamentally because of the intrinsic intellectual liberation that performance and achievement can offer each and every child.

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