

LEADERSHIP THAT TRANSFORMS SCHOOLS AND SCHOOL SYSTEMS

Brian J. Caldwell¹

This paper draws on international research on leadership over the last decade (2007-2017) with particular attention to a 13-country study in 2017. Implications are drawn for Australia and these suggest a profound change in culture and governance if Australia is to achieve a top ten ranking in international tests of student achievement. Current top ten rankings are contained in Table 1. We have a long way to go because 32 countries performed at a higher level than Australia on at least one test in PISA 2015 and TIMSS 2015. These countries are listed in the Attachment.

Table 1: Top ten rankings in PISA 2015 and TIMSS 2015[#] (derived from data in Thomson, De Bortoli & Underwood 2016 and Thomson, Wernert, O'Grady & Rodrigues 2016, respectively)

PISA 2015	TIMSS 2015
1 *Singapore	1 *Singapore
2 *Hong Kong (China)	2 *(South) Korea
3 *Japan	3 *Japan
4 *Estonia	4 Chinese Taipei
5 *Canada	*Hong Kong (China)
Macao (China)	6 Russian Federation
7 *Finland	7 Kazakhstan
8 Chinese Taipei	8 *England
9 *(South) Korea	9 *United States
10 Slovenia	10 Ireland
Australia average rank is 18th	Australia average rank is 27th

Based on average ranking across tests in each scheme for countries that participated in all tests

* These countries included in research reported in this paper

Research foundations

The framework was established in 2007 in the International Project to Frame the Transformation of Schools conducted in Australia, China, England, Finland, United States and Wales. Findings were published in *Why not the Best Schools* (Caldwell & Harris 2008). It was concluded that 'schools that have been transformed or have made good progress to transformation are adept at strengthening and aligning four forms of capital: intellectual capital, social capital, spiritual capital and financial capital, achieving this strength and alignment through outstanding governance' (Caldwell & Harris 2008: 10).

This framework was the starting point for a second series of studies from 2014 to 2017 as part of the International Study on School Autonomy and Learning (ISSAL) that brought together a team of researchers from Australia, Canada, China, England, Finland, Israel and Singapore. The focus was on government/public schools. Findings for 2015 and 2016 in Australia were included in two publications, one a book entitled *The Autonomy Premium* (Caldwell 2016a), the other a report of a national survey of principals entitled *What the Principals Say* (Caldwell 2016b). The distinction between structural autonomy and professional autonomy was an important finding.

Autonomy refers to the decentralisation from the system to the school of significant authority to make decisions, especially in respect to curriculum, pedagogy, personnel and resources,

¹ Brian J. Caldwell is Principal Consultant at Educational Transformations and Professor Emeritus and a former Dean of Education at the University of Melbourne. This paper was addressed in an invited presentation at the Annual Research Conference of the Australian Council for Educational Research (ACER) on the theme Leadership for Improving Learning, Melbourne, August 29, 2017.

within a centrally-determined framework of goals, policies, curriculum, standards and accountabilities.

Structural autonomy refers to policies, regulations and procedures that permit the school to exercise autonomy. Schools may take up such a remit in a variety of ways, or not at all, including ways that are ineffective if the intent is to improve outcomes for students. The granting of autonomy may make no difference to outcomes for students unless the school has the capacity to make decisions that are likely to make a difference, and uses that capacity to achieve this end.

Professional autonomy refers to teachers and principals having the capacity to make decisions that are likely to make a difference to outcomes for students, and this capacity is exercised in a significant, systemic and sustained fashion. Professional autonomy calls for the exercise of judgement, with a high level of discretion in the exercise of that judgement.

Strategic alignment

Two projects were mounted in 2017, one dealing with strategic alignment among different levels of government, and the other with programs for preparation and ongoing development of teachers and principals. This paper gives particular attention to the first, with the key question being: How have high-performing jurisdictions achieved strategic alignment across different levels of government when formulating and implementing policy to improve student performance? A sub-question was: What role is played by a higher level of school autonomy, especially professional autonomy, in achieving this alignment?

Narratives were prepared on strategic alignment in 13 countries: Australia, Canada (Alberta, British Columbia, Ontario), China (Hong Kong), England, Estonia, Finland, Germany, Israel, Japan, (South) Korea, New Zealand, Singapore and the United States. Nine are high-performing, the exceptions being Australia, which provides the base for comparisons; Germany is one of four federations in the study; Israel is a participant in ISSAL but not high-performing; New Zealand is an often-compared neighbour. The narratives reveal that different levels of government make provision and provide support for professional autonomy in different ways. Based on principals' self-reports of school autonomy in PISA 2015 it was evident that some of the 13 countries were above and some were below the OECD average for school autonomy (OECD 2016a).

Fifteen benchmarks were identified in the analysis of findings. Rather than the traditional view that benchmarks specify structures and processes to which all jurisdictions should aspire or learn from, benchmarks refer to domains, structures, processes and outcomes on which nations can be compared in a descriptive rather than normative sense. There is a high level of commonality and interconnectivity across and within the benchmarks.

1. Trust
2. Educational history
3. Societal valuing of education
4. Priority attached to the human resource
5. Innovation in education
6. Alignment of education, economy and society
7. Constitutional arrangements
8. Number of levels of government
9. Establishment of current roles
10. Local government
11. Number of schools administered
12. Disruptive change in education

13. School autonomy
14. Professional capacity
15. Preparing for the future

The following is a summary of Australia's performance on each of the 15 benchmarks.

What value does Australia place on its schools?

Where does Australia stand on how it values its schools? I have selected the first six benchmarks to form a response: trust; educational history; societal valuing of education; priority attached to the human resource; innovation in education; and alignment of education, economy and society. It is important to note that the benchmarks are not values in themselves but there are values at play in the way we deal with them in policy and practice. A more detailed exposition is contained in a paper in the Occasional Paper series of the Centre for Strategic Education (Caldwell 2017a) based on an Invited Address hosted by Emmanuel College at the University of Queensland in May 2017 (Caldwell 2017b).

Trust (Benchmark 1) among stakeholders is invariably listed as a characteristic of outstanding performance. Narratives on policy in school education in several countries referred to a high level of trust. It is particularly evident in some of the world's top-performing school systems, including Estonia, Finland, Japan and Singapore. There is evidence that principals in Finland do not engage in detailed oversight of teaching and learning to the extent they do or should do in many other countries, including Australia, because they trust their teachers to know what to do and when to do it, and this is related to outstanding programs in initial teacher education and the high level of professional autonomy of teachers.

Public discourse and media headlines often suggest a lower than desirable level of trust in schools and school systems in Australia. Frankly, I have seen no counterpart to the continuous battles between different levels of government that characterise the scene in Australia, and this does little to enhance public trust. I include here the debates and conflicts about funding for schools and approaches to initial teacher education that have raged for more than 50 years.

Most of the high-performing countries have a long educational history extending over many centuries (Benchmark 2). Australia, in contrast, has had systems of public education for less than 150 years. Australia does not value or have confidence in its public schools to anywhere near the same extent, as evident among the top performers where the importance of public education was established or resolved long ago. Settlement about the roles of public and private education has not been reached in Australia.

This does not mean that Australia will or should end up with close to 100 percent of schools in the public sector should it become a high-performing nation. After all, in another international comparison, less than 10 percent of students in high-performing Hong Kong attend a state-owned school. The large majority attend schools owned and operated by a private or not-for-profit entity, including churches.

Associated with the first two benchmarks (trust and educational history) is societal valuing of education (Benchmark 3). While there is acceptance of its importance in Australia, we fall short of societal valuing that is evident in the top performers.

There is realisation in some high-performing countries that the human resource is the most important resource in securing their future (Benchmark 4). Singapore is the stand-out example because the country has no resources other than its people. Education has been a driving factor in the journey from independence in 1965 to it being one of the region's economic powerhouses. A carefully designed and integrated approach to initial teacher education and leader development in Singapore is among the world's best (Darling-Hammond & Associates 2017).

The OECD reports that innovation in schools is generally more extensive than is often understood and this is the case in Australia (Benchmark 5). An important issue is the extent to which innovation in schools contributes to innovation in a general sense. It is noteworthy that all high-performing nations in PISA and TIMSS are in the top 25 of countries on the Global Innovation Index (Australia is 19th of 126 countries/economies).

An interesting variation on the language of innovation was provided by Canadian Prime Minister Justin Trudeau, who noted in a speech at the World Economic Forum in 2016 that Canada, like Australia, had been known up to that point for the economic strength derived from mining and other commodities. Rather than call for innovation to generate other sources of economic strength he referred to resourcefulness: ‘Canada was mostly known for its resources. I want you to know Canadians for our resourcefulness . . . We have a diverse and creative population, outstanding education and healthcare systems, and advanced infrastructure’ (Trudeau 2017: 343). Resourcefulness may be a helpful concept for Australians who often balk at the idea of innovation.

In most of the top-performing nations there is a strong alignment of education, economy and society (Benchmark 6). Where that alignment is not strong there is a high priority in policymaking to make it so. It is most striking in countries where the human resource is pre-eminent. In Australia we currently place a higher value on university education than on vocational education. Many of the top-performing countries have a system of basic education for nine years after which students make a choice between upper secondary education and polytechnic education. They may move from one stream to another if they change their minds, as is possible between continuing in universities or polytechnic colleges. Finland exemplifies this approach.

Did Australian states make the wrong decision to abandon technical schools in favour of a single secondary stream? A modern polytechnic at the upper levels of schooling could be state-of-the-art in terms of curriculum, pedagogy, facilities and equipment and may make a major contribution in addressing concerns about performance in STEM or alleviating the need for overseas recruitment.

Similar questions may be raised in relation to Early Childhood Education and Care (ECEC) and special education, with several of the high performers doing significantly better than Australia.

The comparative analysis on matters related to the valuing of education on the six benchmarks is summarised in Table 2. While the various descriptors may be debated the contrasts between Australia and the high performers stand up to critical scrutiny on the available evidence.

Table 2: Summary of contrasts on six benchmarks as they relate to the valuing of schools

Benchmarks	High performers	Australia
1. Trust	High	Moderate
2. Educational history	Long	Short
3. Societal valuing of education	High	Moderate
4. Priority attached to the human resource	High	Moderate
5. Innovation in education	Moderate	Moderate
6. Alignment of education, economy and society	High	Moderate
Overall	High	Moderate

The agenda for enhancing the value Australia places on its schools can be described in straightforward terms:

- bi-partisan effort everywhere, starting at least symbolically, with joint appearances by leaders of government and opposition in visits to schools, as they do in the bipartisan effort in defence and foreign affairs
- serious reform of initial teacher education
- empowering schools through higher levels of professional autonomy
- declaring and acting on recognition that our most important resource is the human resource, and not waiting around for another boom, mining or otherwise
- invigorating an innovative culture in our schools by encouraging and rewarding resourcefulness
- securing a better alignment of education, society and economy, especially in re-balancing upper secondary and polytechnic education as well as university and vocational education; similarly for Early Childhood Education and Care (ECEC) and special education

Governance

International comparisons on another six benchmarks point to Australia's inertia on a number of issues and the need for new approaches to leadership.

Benchmark 7: Constitutional arrangements

Four federations were considered in the 2017 study. The federal government in Canada may play no part in education; in Germany it plays a limited role. Federal governments in Australia and the United States play an important role by making funds available to which strict conditions are attached. Local government has a role in most of the high performers, with this being a constitutional requirement in Finland. Local government is not mentioned in the Constitution of Australia and plays a minimal role.

A reform agenda that re-balances the roles of federal and state governments has stalled in Australia. There is a role for both levels of government but current arrangements for school education that lead to seemingly endless conflict on key issues such as funding and initial teacher education must change.

Benchmark 8: Number of levels of government

The number of levels of government is not associated with the level of performance in school education. High-performing countries like Japan and Korea have three levels but most have two; others like Hong Kong and Singapore have one. England has two but only one where academies and free schools have been removed from local authority control. Australia has two levels of government involved in schools.

Apart from the re-balancing described in Benchmark 7, new arrangements within states are warranted in Australia, as described in Benchmark 11.

Benchmark 9: Establishment of current roles

While current roles of government have been relatively stable in most countries, including Australia, several of the high-performing countries have established new roles for government only recently, notably Estonia, Finland, Japan, Korea and Singapore. New configurations of networks, federations, chains and trusts are emerging in England, representing a currently conflicting narrative in that country in relation to the role of local authorities. While state governments have established networks of schools, there has been negligible progress in Australia in establishing federations and chains of schools, as in England, as a means of sharing resources.

New configurations are needed in Australia to ensure schools work together to make more effective use of resources.

Benchmark 10: Local government

A role for local government is a feature in the governance of schools in most countries, with Australia a notable exception. It is surprising that a country like top-performing Estonia has more than 200 municipalities administering about 600 schools. School districts are considered a level of government in Canada and the United States and these play an important role even though their powers may be changed under provincial or state legislation. There is no level of government between states and schools in public education in Australia. Local government is not recognised in Australia's constitution and this approach is effectively 'blocked', even if was desirable.

New approaches to governance of public education are required in Australia to fill the space between state and school to ensure a better alignment of education, economy and society (see Benchmark 6) and support for schools. This is taken up in the discussion of Benchmark 11.

Benchmark 11: Number of schools administered

Associated with Benchmark 10 is the number of schools administered by a democratically-elected government. This is strikingly small in countries like Estonia and Finland (municipal government), and to some extent England (local authority) and Canada and the United States (school district). It is very large in some *länder* in Germany and states in Australia, notably in New South Wales and Victoria where the state government controls thousands of schools (about 2150 and 1530 government schools in 2016, respectively). Geographic distances are especially large in states like Queensland (about 1230 government schools) and Western Australia (about 800 government schools). Regional levels of administration in state bureaucracies are not considered levels of government.

Consider the distances involved. In Western Australia the distance from Perth to Halls Creek is 2854 km by air, more than the distance from London to Moscow (2500 km). In Queensland, the distance from Brisbane to Aurukun is 1979 km by air via Cairns, more than a flight from London to Helsinki (1822 km). In New South Wales, the distance from Sydney to Broken Hill is 940 km by air, virtually the same as a flight from London to Berlin (932 km). The numbers of schools and the distances involved would make no sense to the top-performers.

New arrangements are needed in Australia to achieve manageability of schools so that each level of governance has responsibility for a much smaller number. New stakeholders from a range of public and private endeavours in sectors other than education should be involved rather than almost exclusive reliance on professional educators at all levels, no matter how skilled and well-intentioned they may be. It is not helpful to claim that arrangements for governance in Australia made sense in the 19th century and that there is no need for change given the way distance is irrelevant in this age of technology. Besides, most states have tried virtually every permutation and combination of organisational arrangements and there is little evidence that one is more effective than another.

It is tempting to go for an option for most states to engage in serious devolution to establish elected autonomous authorities with governing bodies representing diverse stakeholders. Their directors of education would be employed by and accountable to them rather than the current line of authority to a distant CEO located as far away as London is from Moscow or Berlin or Helsinki. Under these arrangements, the 'centre' is engaged mainly in strategic matters. Apart from the disruptively negative features of such profound change, this option may result in a multitude of bureaucracies with minimal effect, creating the same circumstances that led to a diminution of the powers of local authorities in England.

Another option, following the lead of England (that outperformed Australia on all TIMSS tests in 2015) is to create free-standing academies each with its own elected governing body, or to create federations, chains and trusts (Multi-Academy Trusts – MATs) of publicly-funded networks of schools, each with a common governing authority. The jury is still out, so to

speak, on the effectiveness of such arrangements, with Professor Toby Greany, who is giving the Karmel Oration at this conference a leader in research on MATs from his base at the University College London Institute of Education (Greany & Waterhouse 2016) (see also Department for Education 2016, Greany 2016, National College for Teaching and Leadership 2015 for further information about MATs).

A third option [and there are many more] is an Australian response to the question ‘Are cities the new countries?’ being one of five trends shaping education around the world as identified by the OECD (OECD 2016b) (the others are ‘globalisation’, ‘the future of the nation-state’, ‘family matters’ and ‘a brave new world’). ‘Some have argued that cities are now the most relevant level of governance, small enough to react swiftly and responsively to issues and large enough to hold economic and political power’ (OECD 2016b: 10). We have several big cities in Australia that could be one level of governance in this country. This is an interesting counterpoint to some high-performing countries that are very small, with populations that would make them small cities or suburbs of cities in countries with larger populations. Other levels of governance should bring services closer to schools in regional, remote and very remote settings.

It may be that a hybrid will emerge from efforts to transform the governance of schools in a way that delivers better support and an arrangement that ensures those employed at a system level have realistic and satisfying roles. We have had one-way-suits-all for well over a century and it is time to seriously seek an alternative.

Benchmark 12: Disruptive change in education

Schools in most high performers have experienced disruptive change in recent decades. Dramatic changes in technology are common to all. For some this disruption is associated with political or constitutional change, including recent formation of the nation in the case of Singapore (1965), independence in the case of Estonia (1991) or re-unification in Germany (1990). Apart from a rapid take-up of the possibilities of technology, there has been little disruptive but positive change in Australian schools.

It may take a further and dramatic fall in Australia’s performance in PISA and TIMSS to trigger action in the directions that are suggested in the findings of this research. An economic crisis may have the same effect. More positively, broad recognition that the human resource is Australia’s most important resource may overcome inertia.

Table 3 contains a summary of the comparative analysis for the six benchmarks concerned with governance.

Table 3: Summary of contrasts on six benchmarks as they relate to governance

Benchmarks	Top performers	Australia
7. Constitutional arrangements	Settled	Stalled
8. Number of levels of government	One to three	Two
9. Establishment of current roles	Stable with organic features	Frozen
10. Local government	Strong	Weak
11. Number of schools administered	Small to moderate in most	Large in number and distance in some states
12. Disruptive change in education	Noteworthy and positive in some	Inertia
Overall	Settled, stable but organic in most	Inertia

Professional matters

Three benchmarks provide a sharper focus on professional matters.

Benchmark 13: School autonomy

While OECD (2016a) reported an association of school autonomy and levels of student performance, it is apparent from a deeper analysis that this autonomy is more professional than structural (Caldwell 2016a, Caldwell 2016b). For most countries there is a relatively high level of school autonomy in responsibility for the curriculum, even within national and sub-national frameworks, as is the case in Australia.

Good progress has been made in delivering a higher level of autonomy to Australia's schools, balanced by accountability, with system support. There have been some late starters among the jurisdictions, and all can pick up the pace in the light of international research.

Benchmark 14: Professional capacity

Associated with Benchmark 13 is the sharper focus on professional autonomy in building the professional capacity of teachers and school leaders, including principals. In general, it is apparent that structural and professional autonomy will have little positive impact unless professional capacity is developed at a high level. New frameworks for building capacity have emerged in the networks, federations, chains and trusts in England, as noted in Benchmark 11.

Good progress has been made in Australia in building capacity but much more can be done, for more personnel and more quickly. This issue is addressed in the next section where an interesting finding in the international research is discussed.

Benchmark 15: Preparing for the future

Efforts to anticipate or plan for the future of schools have been underway for nearly two decades and OECD has a project entitled Education 2030. Several high-performing countries have related projects. These are noteworthy in countries that acknowledge the importance of education and the human resource to their future.

There are many schools in Australia that offer a futures perspective in the design and delivery of their programs. There is currently no national or state initiative that does this. There is merit in a national initiative in matters addressed in the research summarised in this paper, pulling together the various needs and possibilities.

Table 4 contains a summary of the comparative analysis for three benchmarks concerned with professional matters.

Table 4: Summary of contrasts on three benchmarks as they relate to professional matters

Benchmarks	Top performers	Australia
13. School autonomy	Various with focus on professional autonomy in curriculum	Various with focus on professional autonomy in curriculum
14. Professional capacity	Strong with focus on initial teacher education	Strong except for slow progress in changes to initial teacher education
15. Preparing for the future	Moderate especially at the system level	Moderate but high in some schools
Overall	Moderate to high	Moderate to high

An intriguing finding in the Teaching and Learning International Survey (TALIS)

In late 2016 OECD published an analysis of data gathered in its 2013 Teaching and Learning International Survey (TALIS), in this instance focusing on school leadership (OECD 2016c). The particular interest in 2016 was the impact of school leaders on the nurturing of professional learning communities and the environment for learning; it was not a broad-based study of school leadership or of the impact of school leaders. However, to the extent that professional learning communities are important for high-performing schools – and the evidence suggests they are – the report is of value.

The report defined certain terms that are helpful in describing what school leaders do when they adopt particular styles or orientations to their work. The starting point was to describe instructional leadership and distributed leadership, each of which is considered important in creating a professional learning community and nurturing a favourable climate in support of student learning. *Instructional leadership* 'comprises leadership practices that involve the planning, evaluation, co-ordination and improvement of teaching and learning'. *Distributed leadership* is 'a reflection of leadership being shown by the principal, but also of others acting as leaders in school' (OECD 2016c: 15). Four types (styles, orientations) were described:

- *Integrated leaders* are attentive to both instructional and distributed leadership in their schools and spend considerable time on curriculum- and teaching-related tasks
- *Inclusive leaders* engage staff, students and their parents or guardians in decisions at the school, but relatively less often take up a role as instructional leaders and spend less time on curriculum- and teaching-related tasks
- *Educational leaders* are strongly engaged in instructional leadership, but much less in involving stakeholders in decisions
- *Administrative leaders* spend a large portion of their time on school management and administrative issues and are, as a result, less engaged in distributed and instructional leadership activities than integrated leaders (adapted from OECD 2016c: 15)

Table 5, adapted from OECD (2016c: 40), contains the distribution of leadership types as reported by principals in TALIS 2013 for 10 of the 13 countries in the study reported in this paper (Germany and Hong Kong did not participate; there were insufficient responses from the United States). Two sub-national jurisdictions are included: Alberta (Canada) and England (UK). There are important differences among patterns of response illustrated for top-performers in PISA 2015. The dominant patterns are Singapore (62.6 percent reported integrated leadership), Estonia (76.4 percent reported inclusive leadership), Japan (76.9 percent reported educational leadership), Korea (91.1 percent reported integrated leadership) and Finland (73.8 percent reported administrative leadership). However, taking into account all 10 countries or jurisdictions listed in Table 5, all but two have a dominant pattern of either integrated leadership (4) or educational leadership (4).

While the OECD drew attention to these and other differences in various analyses, it is important to go beyond these observations to explain exceptions, for there are implications for professional preparation and development. Consider, for example, the case of high-performing Finland where Table 5 indicates that the dominant style of leadership is administrative (73.8 percent of respondents), indicating that principals see themselves mainly as engaged in management and administrative matters. An explanation may lie in the capacities of teachers themselves to engage in the listed activities due to the universally recognised strength of initial teacher education and the high level of trust that principals have in their teachers. It may not be necessary or it may not be a high priority for principals or would-be principals to engage in professional development that focused on related aspects of instructional leadership. The other exception to the general pattern is Estonia where inclusive leadership was the dominant type, that is, the focus is more on engagement of stakeholders in decision-making. This may be explained by the structure of schooling in Estonia where more than 200 municipalities control its approximately 600 schools and each

school has a board of trustees and a staff council of teachers. Also, like Finland, every teacher completes a master's degree in initial preparation.

Table 5: Principals' engagement in instructional leadership activities in lower secondary education (percentage of principals reporting 'very often' or 'often' as reported in TALIS 2013) (adapted from OECD 2016c: 40)

Country / Jurisdiction (10 of 35)	Integrated (%)	Educational (%)	Inclusive (%)	Administrative (%)
Australia	61.5	26.8	11.3	0.5
Estonia	11.3	1.0	76.4	11.3
Finland	2.3	9.2	14.7	73.8
Israel	9.7	82.6	3.3	4.4
Japan	15.1	76.9	None reported in this category	8.1
Korea	91.1	8.1	0.8	None reported in this category
New Zealand	25.1	69.5	0.7	4.7
Singapore	62.6	36.1	0.7	0.7
Alberta (Canada)	73.6	22.2	3.8	0.4
England (UK)	32.5	63.4	None reported in this category	4.1
OECD Average	45.9	23.8	19.4	10.9

Table 6 summarises responses of principals in their reports of engagement in aspects of instructional leadership for 10 of the 13 countries. Percentages reporting 'very often' or 'often' are listed for actions to support cooperation among teachers to develop new teaching practices, ensure teachers take responsibility for improving their teaching skills, and ensure teachers feel responsible for their students' learning outcomes.

There is a noteworthy dichotomy among the patterns of responses. Except for Estonia, Finland and Japan, percentages are generally above the OECD averages for all participating countries. Expressed another way, barely one-half or fewer principals in the three exceptional cases of high-performing countries reported that they engaged in the three actions. One explanation is that they may not need to. The reasons for Estonia and Finland may be the same as described above for Table 5: they have teachers whose initial preparation and teaching culture does not require a high priority on the part of principals. For the third of the actions included in Table 6, Finland has a deeply embedded culture in its schools in which a cadre of teachers and others are on hand to provide special assistance to ensure no child falls behind (this is what is meant by the term 'special education' in Finland). Up to one-third of all students require some form of 'special education' during the years of their basic education. In the case of Japan, 'lesson study' is deeply embedded in the culture of teaching and pioneered in Japan, defined as follows:

It involves small groups of teachers meeting regularly to engage in a collaborative process of lesson planning, implementation, evaluation and refinement. Key to their work is the hypothesising of anticipated student responses, the testing of these hypotheses, and the refinement of the lesson design . . . Skills gained through the detailed process of observation and analysis in lesson study transfer to teachers' work on other lessons. (Hollingsworth & Oliver 2005: 1)

It is noteworthy in Table 6 that Singapore, the highest-performing nation in both PISA 2015 and TIMSS 2015, has the highest percentage of principals reporting their engagement in ensuring teachers take responsibility for improving their teaching skills and ensuring that teachers feel responsible for their students' learning outcomes.

Table 6: Distribution of types of leadership in lower secondary schools (percentage of principals as reported in TALIS 2013) (adapted from OECD 2016c: 38)

Country / Jurisdiction (10 of 37)	Take action to support cooperation among teachers to develop new teaching practices Very often/often (%)	Take action to ensure that teachers take responsibility for improving their teaching skills Very often/often (%)	Take action to ensure that teachers feel responsible for their students' learning outcomes Very often/often (%)
Singapore	65.4	84.4	91.1
Alberta (Canada)	71.1	79.1	84.8
Korea	73.6	77.8	80.5
Israel	67.6	76.0	81.8
Australia	64.0	76.1	82.5
England (UK)	61.4	75.3	82.9
New Zealand	60.2	74.8	81.6
Estonia	41.3	52.0	53.0
Finland	56.6	40.0	44.0
Japan	33.9	38.9	32.6
OECD Average for 36 countries	64.1	70.2	76.6

The OECD report drew implications for policy and practice, especially in respect to the professional development of principals, hence establishing the relevance of the report to the research reported in this paper:

Integrated leadership, combining instructional and distributed leadership and using student outcomes to develop the school's goals, program and professional development plan, appears to be the most favourable approach to establishing such a [professional] learning community at schools. Countries and economies may adopt this view of leadership for their schools and can stimulate this through training programs for principals and by encouraging principals to keep up to date with developments in their field through in-service training, attendance of leadership courses or other professional development activities. (OECD 2016c: 17)

It is likely that principals would be bored or frustrated in Estonia, Finland and Japan if there was a priority on building capacities among teachers to practise what is already deeply embedded in the cultures of teaching and for which they were well-prepared in initial teacher education.

Conclusion

It is fair to conclude that the misalignments reported in this paper constitute a 'tax' on efforts to lift Australia's performance, in a financial sense and for the detrimental impact of current

arrangements on engagement and motivation. There are economic, social and individual costs if there is misalignment of education, economy and society. Those employed at the centre in school systems are surely disheartened by the endless re-structuring of roles and responsibilities that have little or no effect as far as impact on students is concerned.

Is there something more fundamental that explains Australia's dismal performance on international tests and the virtual flat-lining of achievement in NAPLAN? This paper is concerned mainly with values, governance, leadership and professional capacity. Curriculum and pedagogy are critical but not considered in detail in this paper.

Here is what a leading Australian writer had to say about Australia's approach to its schools.

There is little planning to train a new kind of person as part of the process of economic development. There is mainly belated scrambling around the mounting slope of crisis.

The people who control education are largely dedicated to diluting it, while the material demands of society suggest that it should be made, if not harder, at least more effective, so that pupils learn more.

These views would be readily endorsed by some current commentators. Interestingly, they were written by Donald Horne in *The Lucky Country* (Horne, 1964, p 216–217) more than 50 years ago. I draw from Horne for two reasons. The first relates to the currency of some of his views, although many of the shortcomings he identified in schools and school systems have been addressed in the intervening years. The second is that the theme of *The Lucky Country* may lie at the heart of the inertia in Australia to value its schools at the same level as some of the world's top performers. Horne believed that 'Australia has not deserved its good fortune' and that 'Australia will not be able to maintain its prosperity in the new technological age without profoundly changing its life patterns' (Chapter 10).

Leaders at the highest levels must now give thought to arrangements that suit the 21st century. This in no way diminishes what has been achieved for nearly 150 years, but serious questions must now be asked and answered to ensure that Australia can indeed rise to the top ten of high-performing nations.

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ATTACHMENT

Countries performing significantly higher than Australia in PISA 2015 and TIMSS 2015 (Rank) (derived from data in Thomson, De Bortoli & Underwood 2016 and Thomson, Wernert, O'Grady & Rodrigues 2016, respectively)

Country	PISA SL	PISA RL	PISA ML	TIMSS M4	TIMSS M8	TIMSS S4	TIMSS S8	Population (million)
Singapore	1	1	1	1	1	1	1	5.8
Japan	2	8	5	5	5	3	2	126.0
Estonia	3	6	9	-	-	-	-	1.3
Chinese Taipei	4	*	4	4	3	6	3	23.4
Finland	5	4	12	16	-	7	-	5.5
Macao (China)	6	10	3	-	-	-	-	0.6
Canada	7	2	10	*	8	*	12	36.6
Vietnam	8		*	-	-	-	-	95.4
Hong Kong (China)	9	2	2	2	4	5	5	7.4
Ireland		5	18	9	9	*	9	4.8
Korea	*	7	7	3	2	2	4	50.7
Norway		9	19	8	*	14	*	5.3
New Zealand	*	10	*				*	4.6
B-S-J-G (China)	*		6	-	-	-	-	232.6 (2014)
Switzerland	*		8	-	-	-	-	8.5
Netherlands	*	*	11	19	-	*	-	17.0
Denmark		*	12	14	-	*	-	5.7
Slovenia	*	*	14	*	12	11	5	2.1
Belgium	*	*	15	10	-		-	11.4
Germany	*	*	16	*	-	*	-	80.6
Poland		*	17	16	-	9	-	38.6
Northern Ireland	-	-	-	6	-	*	-	1.7 (est.)
Russian Federation			*	7	6	4	6	143.7
England	*	*	*	10	10	15	7	65.5
Kazakhstan	-	-	-	12	7	8	8	18.1
Portugal		*	*	13	-		-	10.3
United States		*		14	10	10	9	326.5
Lithuania				16	*	*	*	2.8
Hungary				20	*	12	11	9.8
Czech Republic			*	21	-	17	-	10.6
Sweden		*	*	*	*	13	13	9.9
Croatia					-	18	-	4.2
Australia	14	16	25	28	17	25	16	24.6

SL Scientific Literacy
 RL Reading Literacy
 ML Mathematics Literacy

*Performance not significantly different to Australia
 -Did not participate in test
 Selected for study

M4 Mathematics Year 4
 M8 Mathematics Year 8
 S4 Science Year 4
 S8 Science Year 8