

Mr Jonathan Coppel
Presiding Commissioner
Education Evidence Base Public Inquiry
Productivity Commission
Locked Bag 2, Collins St East
MELBOURNE VIC 8003

6 October 2016

Dear Mr Coppel

I write to provide a submission to the Productivity Commission's inquiry into the National Education Evidence Base on behalf of the Executive Committee of the Science of Learning Research Centre.

The Science of Learning Research Centre (SLRC) is a national program, established in 2013 as an Australian Research Council Special Research Initiative with the **vision to improve learning outcomes through scientifically-validated learning tools and strategies**. The SLRC is unique in its integrative approach, harnessing neuroscience, cognitive psychology and education research with a focus on improving learning outcomes at primary, secondary and tertiary levels.

The SLRC's purpose is to undertake high quality, impactful research and to ensure the research findings reach the people and organisations able to implement change. The vision and purpose of the SLRC therefore mirror many of the needs identified in the Productivity Commission's draft report. As an established entity with a strong track-record, the SLRC is well positioned to occupy a central role within the future framework proposed in the draft report, as a generator of evidence and a conduit of commissioned research and research evaluation.

Through this submission the SLRC provides comment on some of the recommendations and findings in the draft report. I would be happy to provide additional information or clarification, as required by the Commission.

With best wishes,

Professor Pankaj Sah
Director
Science of Learning Research Centre

Submission to the Productivity Commission Draft Report on the National Education Evidence Base

Provided by the Science of Learning Research Centre

6 October 2016

About the Science of Learning Research Centre

The Science of Learning Research Centre (SLRC) is a national program, established in 2013 as an Australian Research Council Special Research Initiative with the **vision to improve learning outcomes through scientifically-validated learning tools and strategies**. The SLRC's vision came from recognition of the need for high quality, impactful research that reaches the people able to implement change. The purpose of the SLRC therefore mirrors many of the needs identified in the Productivity Commission's draft report. The SLRC is unique in its integrative approach, harnessing neuroscience, cognitive psychology and education research with a focus on improving learning outcomes at primary, secondary and tertiary levels.

The SLRC has national reach, involving nine research organisations and three state education departments, Queensland, Victoria and South Australia amongst its partners. Headquartered at The University of Queensland, the SLRC has nodes in six states and territories. From the outset the SLRC has had strong international links, with partner organisations and collaborators in North and South America, in Europe and in China, including Hong Kong.

Key Research Leaders

The SLRC involves over 100 members, including 25 chief investigators and more than 30 postgraduate research students. The SLRC's chief investigators are profiled on the SLRC website at: <http://slrc.org.au/who-are-we/>. SLRC's research leaders include:

- Professor Pankaj Sah
The University of Queensland
SLRC Director
- Professor John Hattie
The University of Melbourne
Theme Leader of SLRC's Promoting Learning theme
- Professor Ottmar Lipp
Curtin University
Theme Leader of SLRC's Understanding Learning theme
- Dr Mike Timms
Australian Council for Education Research
Theme Leader of SLRC's Measuring Learning theme
- Professor Ross Cunningham
The University of Queensland
SLRC Deputy Director
- Professor Annemaree Carroll
The University of Queensland
Coordinator, SLRC Research Translation
- Professor Martin Westwell
Flinders University
- Professor Lori Lockyer
Macquarie University

SLRC Advisory Board

The SLRC is guided by an external Advisory Board with the following membership:

- Chair: Professor Barry McGaw AO
Vice-Chancellor's Fellow, The University of Melbourne
- Dr Jim Watterston
Director General, Queensland Department of Education and Training
- Professor Geoff Masters AO
Chief Executive, Australian Council for Education Research
- Ms Katherine Whetton
A/Deputy Secretary, Strategy and Performance Group, Department of Education and Training (Victoria)
- Professor Cindy Shannon
Pro-Vice-Chancellor (Indigenous Engagement), The University of Queensland
- Professor Field Rickards
Dean, Melbourne Graduate School of Education, The University of Melbourne
- Professor Perry Bartlett
Queensland Brain Institute, The University of Queensland
- Dr Hideaki Koizumi
Research Fellow, Hitachi Ltd
- Professor Rita Colwell
Distinguished University Professor, University of Maryland
- Mr Joe McLean
Head of Strategy and Growth, Triple P International Pty Ltd

SLRC member and partner organisations



SLRC comment on the findings and recommendations of the draft report

Notes to assist in reading this submission

The SLRC provides comments in response to many but not all of the Productivity Commission's draft report's findings and recommendations. The content of this submission follows the section order of the draft report. The Science of Learning Research Centre is referred to as the SLRC throughout.

Section 2: A framework for furthering the education evidence base

DRAFT RECOMMENDATION 2.1

In supporting the further development of a national education evidence base, governments should be guided by the following principles.

The national education evidence base should:

- meet the varied needs of decision makers at all levels of the education system
- provide high-quality data and evidence to inform decisions
- drive improved student achievement through four interconnected processes — monitoring of performance, evaluation of what works best, dissemination of evidence and application of that evidence by educators and policy makers
- generate benefits in excess of the costs incurred in collecting and processing data and in creating, sharing and using evidence.

The SLRC supports recommendation 2.1 and provides the following comments:

- The SLRC supports the intent of this recommendation and notes the significant work that would be required to enable each principle to be enacted.
- In relation to the third listed principle the SLRC supports the call for a connected framework linking monitoring of performance, evaluation of what works, dissemination of evidence and application of evidence. In order to determine 'what works', the SLRC welcomes the Commission's draft recommendations in relation to the need for a research strategy to develop evidence-based tools and methodologies. However, the SLRC notes that in setting such a research strategy a clear vision and targets must be set as the strategies and interventions that prove effective for one purpose may not be effective for another. For example, a strategy with the goal of 'lifting performance' could require a different approach to one with the goal of 'supporting excellence' or a goal of 'ensuring no one is left behind'.
- The SLRC acknowledges the importance of effective dissemination and application of learning research. To that end, the education departments of three states have been SLRC partner organisations since the Centre's establishment. The SLRC has found that strong relationships with departmental officials, and with teachers 'at the coal face', are vital in ensuring research findings have a pathway to broad implementation. The SLRC therefore strongly supports the intent of an interconnected framework.

DRAFT FINDING 2.1

National level data play a key role in top-down monitoring, benchmarking and accountability processes, but are insufficient to achieve improved outcomes. They need to be complemented by a bottom-up approach that generates evidence about what works best, for whom and in what circumstances.

The SLRC agrees with finding 2.1 and makes the following comments:

- SLRC supports the finding that a top-down monitoring, benchmarking and assessment process alone will not be sufficient to improve outcomes and that a bottom-up, evidence generating, approach is also needed.
- The need for evidence-based research was a driver behind the establishment of the SLRC and is central to the SLRC vision **to improve learning outcomes through scientifically-validated learning tools and strategies.**
- The SLRC supports the concept laid out on page 62 of a four-step approach to effective evaluation, linking: prioritising research; developing potential interventions, evaluating interventions and reporting research findings. The SLRC makes the following observations in relation to that approach:
 - The SLRC considers that improving any mechanism adopted to prioritise research must take a broad perspective, enabling fresh disciplinary approaches to be considered and to avoid unintentional biases. The mechanism must be rigorous and transparent.
 - The SLRC strongly believes that the development of an evidence base for 'what works' in education, must be informed by an understanding of the neurological basis of learning.
 - Evaluation of potential interventions must consider a range of factors both internal and external of the education setting, in order to develop a full understanding of whether 'successful' interventions can be transferred successfully to other schools/settings.
 - Determining whether interventions lead to long-term successful outcomes requires a broad investment approach that supports longitudinal studies, and enables research that has a longer timeline to impact. Any research strategy developed should avoid funding only short-term research projects, which may limit progress to incremental pedagogical change only, rather than enabling a more complete evidence base to be developed and translated to practice.

Section 3: Gaps in education data and evidence

DRAFT RECOMMENDATION 3.3

Australian, state and territory governments should support greater use of value-added measures of education outcomes.

The SLRC supports recommendation 3.3 and provides the following comments:

- The SLRC supports the intent of this recommendation, acknowledging the importance of what the draft report describes as ‘non-cognitive skills’ in achieving strong educational outcomes
- The adoption of assessments to measure ‘non-cognitive skills’ is welcomed in principle but the SLRC cautions that any measures adopted must be evidence-based and scientifically validated. They must also be targeted at those ‘non-cognitive skills’ that are relevant to enhanced educational outcomes. The appropriateness and capacity of schools to collect data and undertake measurement of broader life-skills must also be considered.
- Section 3 of the draft report (page 87) refers to the importance of student wellbeing as a factor affecting educational outcomes. One of the SLRC’s core research programs is ‘The State of the Learner’, which involves; research to build understanding of learners’ emotional and social states, research to develop methods of measuring emotional and social factors and the development of practical strategies to manage/adjust emotion and to focus learner attention in the classroom.
- The SLRC is supportive of the recommendation to collect data on ‘external influences’ that affect learning and considers that more research is required to build a clearer understanding of what the principal external influences are and how they impact, before a meaningful broad-scale data collection could be considered.
- The SLRC supports the assertion on page 97 that research must be relevant and accessible to policy and decision makers and that research findings must be disseminated to those decision makers. More comment is provided around this issue under recommendations from section 7 of the draft report.

Section 5: Access to education data

DRAFT FINDING 5.1

There is a considerable amount of education and other relevant data already collected, but there are impediments to its access and use.

DRAFT RECOMMENDATION 5.1

Agencies responsible for education data collections should amend their processes for collecting personal information from parents/guardians to incorporate formal consent and notification procedures regarding the use and disclosure of personal information at the initial point of collection.

DRAFT RECOMMENDATION 5.2

The Australian Government should amend the *Privacy Act 1998* (Cwlth) to extend the arrangements relating to the collection, use or disclosure of personal information without consent in the area of health and medical research to cover public interest research more generally.

The SLRC supports finding 5.1 and both recommendation 5.1 and 5.2, making the following comments:

- The SLRC agrees that education-related information should be made accessible for research purposes under arrangements similar to those currently in place for health and medical information. Education is a major determinant of future health and well-being at an individual and population level and education related data should therefore be accessible for public-interest research in the same way that health and medical data currently are.

DRAFT RECOMMENDATION 5.4

The Australian, state and territory governments should pursue legislative consistency in education and related Acts regulating the use and disclosure of education information, and amend legislation so that it is aligned with the intent of general privacy laws.

The SLRC supports the principle of legislative consistency and makes the following comments:

- The SLRC is a national research centre, with nodes in six states and territories and with three state education departments as partner organisations. The SLRC therefore understands the challenges presented by working across multiple jurisdictions and supports the concepts of legislative consistency and an agreed national approach to information access and use.

DRAFT RECOMMENDATION 5.5

The Australian, state and territory governments should introduce policy guidelines which place the onus on data custodians to share data unless a privacy (or other) exception can be justified.

The SLRC supports the principle of data accessibility and makes the following comments:

- Data collected through publically-funded processes, including by state and Commonwealth governments and by research entities contracted by governments, should be available for research purposes within an appropriate accessibility regime.

Section 7: Creating and using evidence

DRAFT RECOMMENDATION 7.2

The Australian, state and territory governments should pursue a national policy effort to develop a high-quality and relevant Australian evidence base about what works best to improve school and early childhood education outcomes. In particular, five activities need to be supported:

- development of research priorities
- commissioning of high-quality education research
- adoption of rigorous research quality control processes
- dissemination of high-quality evidence
- development of researcher capacity.

The SLRC strongly supports recommendation 7.2 and makes the following additional comments:

- Page 164 asserts that a 'different type of research is needed – research about what works best'. The SLRC counters the implication in this assertion that rigorous, controlled research is not currently being undertaken. It should be acknowledged that the need for a science-driven evidence base for learning has been identified previously, and that this recognition of need was a driver for the establishment of the SLRC.
- The SLRC supports the conclusion on page 168 that "investment [is needed] in high-quality research, particularly randomised controlled trials, to build the Australian evidence base on what works best to improve education outcomes". This speaks to the overarching purpose of the SLRC.
- The draft report recommends the formation of a national research strategy with declared research priorities. The SLRC supports this approach in principle. We agree that priorities must be broad based, transparent and open to new research directions in order to avoid biases and avoid a short-term view that could limit progress to only incremental changes to familiar approaches, which have not worked to date.
- The SLRC strongly supports the Commission's statements that investment is required into high quality research and that such research may come at a higher cost than is typical for education research. While the SLRC strongly supports investment in learning research, caution is urged in making simple comparisons between the level of funding for medical research versus education research (see box 7.3 on page 169) due to factors including the contrastingly high cost of medical research.

- Page 175 of the draft report refers to the average Australian Research Council (ARC) grant size in education research. The SLRC draws the Commission's attention to the ARC's investment of \$16M over four years (2013-16 inclusive) into the Special Research Initiative for a Science of Learning Centre (the SLRC). The SLRC suggests that a grant search for 'education' only may exclude relevant grants relevant to learning research but categorised under other fields of research codes. For example, the original SLRC funding proposal to the ARC listed three six-digit field of research codes: 130309 – Learning Sciences, 110903 – Central Nervous System and 170103 – Educational Psychology. It is likely therefore that the SLRC grant was not evident in a search for 'education' grants only, despite being highly relevant to this inquiry.
- In relation to researcher capacity (page 174), the SLRC supports the call for investment to build research capacity in education and related research fields but counters the implication in the draft report that such capacity is currently absent. As described further in relation to research dissemination and the use of evidence, the SLRC suggests that a significant current limitation in Australia is capacity at the translation interface between research and policy makers, not just researcher capacity.
- Page 172 refers to the need for research quality to be verified. The SLRC agrees with this assertion and draws the Commission's attention to the academic journal founded by SLRC researchers at The University of Queensland in partnership with Nature Publishing. The Nature Partner Journal *npj Science of Learning* (<http://www.nature.com/npjscilearn/>) is an online, open access, peer reviewed journal for publication of academic papers and reviews related to the Science of Learning. The journal has high editorial standards and has created an authoritative knowledge source in the emerging academic field of Science of Learning.
- The SLRC also agrees strongly with the need for research findings to be disseminated and to be accessible by end users including education professionals, policy makers, parents and the wider community. On this issue, the SLRC makes the following points:
 - There exists a large amount of information and advice related to learning but it is difficult for end users and policy makers to 1) find, 2) determine the veracity of, 3) interpret and 4) know whether, or how, to apply it to their own setting.
 - There is a language gap between researchers and the education sector (including teachers, principals and policy-makers) that makes research translation/uptake difficult.
 - Research funding is often short term and its success is often measured in terms of traditional research outputs such as academic publications. Short term project funding seldom includes time for effective research translation and traditional academic outputs can be inaccessible to end users.
 - The SLRC was established with research translation as a core aim from the outset. The SLRC has a research translation team which works to disseminate research findings through, for example,
 - teacher professional development sessions and teacher resources, and
 - working with policy-makers in three states to develop a shared language and ensure that research findings can flow into decision making.
 - Directly engaging the teacher community to participate in developing and implementing research directions.
 - The importance of research findings reaching end users in a useful format is also shown through the Community Pages web site run in conjunction with the *npj*

Science of Learning but with material summarised for a non-academic audience and including blogs and discussion forums. The *npj Science of Learning* Community can be found at: <https://npjscilearncommunity.nature.com/>.

- The SLRC agrees that efforts to improve the use of evidence by education system decision makers are warranted. The SLRC considers that its model, of a strong research translation focus and close links to education departments has merit and should be examined more closely as and when implementation of the Commission's report is considered.

Section 8: Governance and institutional arrangements

DRAFT RECOMMENDATION 8.1

The Australian, state and territory governments should task the COAG Education Council to provide explicit policy direction through a new Education Agreement, which would build on prior agreements and define the:

- objectives
- nature of the research to be undertaken in the bottom-up evaluation of what works
- evidentiary standards or frameworks to be applied, including assessment of cost effectiveness
- requirement for translation of evidence into guidelines accessible by schools, early childhood education and care services and teachers.

They should also request the Education Council to:

- assign an institution to be responsible and accountable for implementation of the functions set out above and in Draft Recommendation 7.2
- specify the assigned institution's governance arrangements, functions and operations
 - including a responsibility for promoting a culture of using the evidence base by policy makers and educators.

The SLRC supports recommendation 8.1 and makes the following additional comments:

- The SLRC considers that a national approach is vital to 1) ensure maximum benefit from the education evidence base for all Australians and 2) ensure unnecessary barriers to sharing knowledge are removed.
- The SLRC is a research centre with a broad reach, including research partner organisations in six states and territories and involving three state education departments as partners. The establishment of a Centre with such broad reach demonstrated foresight at the time of establishment. The national-level focus of the Centre would be further enhanced by formal involvement of the Australian Government Department of Education and Training.
- The SLRC supports the recommendation that evidentiary standards or frameworks be applied and supports the recommendation for translation of evidence into guidelines.
- The establishment of a national Education Council with similar powers as the TGA in health could oversee the implementation of such policies.