



Briefing Note: Professor Stuart McNaughton- Chief Education Scientific Advisor Update

To:	Hon Jan Tinetti, Associate Minister of Education		
Cc:	Hon Chris Hipkins, Minister of Education		
Date:	1 December 2020	Priority:	High
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Messaging seen by Communications team:	No	Round Robin:	No

Purpose of Report


The purpose of this paper is for you to:

- Note** the role and the current areas of advice that Professor Stuart McNaughton provides as the Chief Education Scientific Advisor at the Ministry of Education.
- Note** that Professor McNaughton provides independent advice within the Ministry of Education, and cross agency along with other Chief Science Advisors.
- Agree** to proactively release this Briefing Note.

☒ Agree / ☐ Disagree

Summary

- This briefing note continues a practice established with previous Ministers within the Education Portfolio on informing them about current areas of advice provided by Professor Stuart McNaughton as the Chief Education Scientific Advisor (CSA) at the Ministry of Education.
- This practice enables direct access by the Minister to areas of advice from the CSA and also informs the CSA on areas of advice needed by the Ministers.


Alexander Brunt
Acting Deputy Secretary
Evidence, Data and Knowledge
1/12/2020


Hon Jan Tinetti
Associate Minister of Education

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Background - the Role

1. Professor Stuart McNaughton is seconded (0.6 FTE) to the CSA position from his professorial position at the University of Auckland. Professor McNaughton reports to the Deputy Secretary of the Evidence, Data and Knowledge Group, Alexander Brunt.
2. Professor McNaughton provides independent advice to the Ministry on evidence for policy, on a case by case basis and proactively.
3. Professor Juliet Gerrard (the Prime Minister's Chief Science Advisor) and the CSAs across agencies constitute a forum providing joint advice; including advice on mental health, and risks and benefits of digital developments. We also publish evidence informed reviews, for example, papers on justice reform and cannabis.

Chief Education Scientific Advisor (CSA) Advice and Ongoing Work Programme

Literacy Landscape

4. In August 2020, Professor McNaughton's independent report on literacy in Aotearoa New Zealand was released through the Office of the Prime Minister's Chief Science Advisor (OPMCSA). The report provides evidence to answer two questions. What do we know about literacy and literacy instruction, and, given the evidence, on what should we focus to address our excellence and equity issues?
5. The report identifies how to optimise learning and development from early learning through to secondary schooling during sensitive periods and across transitions (going to school, around Year 4, and Year 8 to Year 9), providing the evidence for how to capitalise on what we know 'works'.
6. The report also makes a series of recommendations using this life course approach. Several are related to the misinformation, digital and early learning topics below. Others identify the need for new system wide interventions (around Year 4 and at Year 9), specialist teaching in Years 1-8, and the development of Māori medium education.

Misinformation in a digital age

7. A discussion paper has been prepared with CSAs from Ministry of Primary Industries, Ministry of Health and Ministry of Defence for the science advisors monthly forum (2nd December 2020) on the threats to an informed citizenry (such as conspiracy theories and digitally enhanced misinformation), and how to build individual and community resilience.
8. The paper proposes that education has a key preventive role to play through the development of critical literacy and collaborative reasoning skills especially from Year 4, and by developing 'communities of practice' for digital citizenship in schools.
9. The paper raises issues about curriculum specification, teacher capability, and the design of digital tools.

Digital tools: assessment, teaching and learning

10. Advice from Professor McNaughton is ongoing in the area of digital tools for teaching and learning and assessment. One area is Artificial Intelligence (AI) and machine

learning which are advancing in many fields. Reduction or elimination of some types of work and changes to the nature of others are taking place as a consequence.

11. AI-enhanced precision teaching should be a priority for research and development in education. What evidence we have shows that well-designed tools 'free up' the teacher to engage more effectively, can alleviate stresses associated with current assessment loads, and provide more time for professional learning and development.
12. With colleagues in the Ministry, a research and development strategy is in the early stage of development. It involves the New Zealand Council for Educational Research (NZCER) (as designers of assessments) as well as possible tech firms such as Amazon and Microsoft, AI researchers and philanthropic groups.

Social and emotional development

13. Concerns for promoting well-being, as well as reducing bullying (cyberbullying), disengagement and anxiety and depression with children and youth have meant a policy focus over several years on social and emotional development.
14. There is a need for appropriate measures of development through early learning and the school years and evidence informed pedagogical approaches for the skills associated with the key competencies (such as self-regulation/managing self).
15. We do have school wide approaches to reducing problems such as Positive Behaviour for Learning (PB4L). But this is an example of where our evidence is quite limited because we haven't had robust evaluations of the programme's effectiveness.
16. To add to our evidence base for policy work on progress measures in early learning, school entry assessment and progressions through schooling, an Evidence, Data and Knowledge (EDK) seminar will be held on 10th December 2020. Researchers from the Growing Up in New Zealand study have been invited to present evidence on socio-emotional trajectories across the preschool and early school periods, what promotes development, and relationships between preschool socio-emotional competence and later development at eight year, including what reduces bullying.

Early Learning: self-regulation and language

17. The current evidence suggests early learning provisions are very variable in terms of promoting valued development and for reducing disparities associated with ethnicity and with families with limited physical, financial and living resources.
18. Two target areas in recent budget bids have been oral language development and self-regulation. Professor Richie Poulton (CSA for the Social Well Being Agency and for the Minister responsible for poverty reduction) and Professor McNaughton have been providing advice in this area.
19. A recent development is a study with philanthropic funding which is testing most effective interventions for oral language and self-regulation through the early years. The self-regulation intervention involves everyday games that can promote aspects of self-regulation, and the oral language intervention incorporates reading books to children and extended language interactions.
20. Professor McNaughton is chairing a session at a conference at Otago University from 1-2 February 2021, which brings together two research groups working on the question of best approaches for the development of oral language and self-regulation.

Research, evaluation, and research and development strategy

21. Professor McNaughton noted in the Literacy Landscape how we are hampered in providing evidence informed advice by the limited funding for research and development in educational sciences. This is part of a bigger issue to do with the status and the impact of educational research.
22. Professor McNaughton is contributing with the Ministry, NZCER and Education Review Office (ERO) to developing an overall strategy for research, evaluation, and research and development, designed to solve issues of coherence, coordination and reach. Professor McNaughton is keen that we position this work in the broader context of the status and impact of educational science and the Research Science and Innovation strategy across agencies led by MBIE.

Advice during the pandemic period

23. Over the pandemic period, Professor McNaughton provided advice on a range of topics including:
 - effects of screen time on development and learning;
 - the transition back to school;
 - learning loss;
 - distance learning;
 - the focus of recovery for learning loss; and
 - well-being.

International collaboration

24. Before the pandemic period, it was intended that Aotearoa New Zealand would host Asia-Pacific Economic Cooperation (APEC) in person in 2021.
25. As a build up to APEC, a conference in Shanghai on 'well-being in the digital age' supported by the Ministry, the University of Auckland and East China Normal University was to be held, supported by funding from EducationNZ with APEC's involvement. A smaller virtual conference took place on 11-12 September 2020. A follow up meeting in Auckland is planned in 2021.
26. An education policy dialogue on mental health and cyber wellness with Ministry officials in Singapore took place virtually on 25th November with agreements to share data collection protocols and evidence for effective responding; and
27. Professor McNaughton was a discussant for the 16th APEC education forum on Innovative Responses to the Global Pandemic hosted by the Ministry of Education, Republic of Korea on 26th November.

Other areas

28. Professor McNaughton is providing advice to two Ministry and Union Accord sub groups. One is overseeing research on the incidence and nature of learning needs in schools, and the other on the development of a well-being hub for teachers.
29. Professor McNaughton also acts as a strategic and relationship advisor on Te Hurihanganui.

30. The Child and Youth Well Being strategy has also required advice in a number of areas including: measures for reporting on the strategy (DPMC) and the development of a new well-being survey (SWB agency).

Next Steps

31. This briefing note will provide the contents for discussion at the meeting with the Minister on Thursday 3rd December 2020.

Proactive Release

32. We recommend that this Briefing is proactively released as per your expectation that information be released as soon as possible. Any information which may need to be withheld will be done so in line with the provisions of the Official Information Act 1982.

Proactively Released