

**Thank you for the opportunity to make a submission on Te Ara Paerangi  
/Future Pathways Green Paper (2021)**

**Individual Submission by:**

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**Purpose of consultation:**

“To create a modern, future-focussed research system for New Zealand. It needs to be adaptable for a rapidly changing future, resilient to changes, and connected; to itself, to industry, to public sector users of research, and internationally. Such a system should reflect New Zealand’s unique opportunities and challenges. It would embed Te Tiriti across the design and delivery attributes of the system, and enable opportunities for mātauranga Māori. It will also recognise that research is a global undertaking and seek to stand alongside the best systems in the world.”

**A. Whole-of-system priorities.**

**Questions:**

**1. What principles could be used to determine the scope and focus of research priorities?**

A compelling overarching principle is that research broadly conceived should contribute to individual, collective and national well-being. A priority which can be directly derived from this principle is:

*the design and implementation of public systems notably education, that positively impact personal, collective and national well-being, thereby optimising social cohesion.*

We have long-standing equity and excellence challenges in education, which have proven difficult to shift. These can be seen in patterns of differential success in valued outcomes for ākonga and declining performance in some international benchmarks; in indices ranging from engagement, through

educational progress and achievement to those for well-being.<sup>1</sup> Educational success contributes to personal, collective and national well-being outcomes (including in the latter national productivity).<sup>2</sup> However, like the situation in the United Kingdom<sup>3</sup>, the field of educational sciences in Aotearoa New Zealand has limited status and impact, it lacks coordination and shared strategic objectives, is fragmented and is underfunded (see Tables One and Two below). Some high level objectives for the system as a whole exist, as mandated in the National Educational Learning Priorities (NELPs), but these are not directly linked to the wider RSI ecosystem.

## **2. What principles should guide a national research priority-setting process and how can the process best give effect to Te Tiriti?**

The process should be 'significant' as defined by Te Arawhiti<sup>4</sup> and follow the vision set out for Tiriti-led science in Te Putahitanga<sup>5</sup>.

## **3. How should the strategy for each research priority be set and how do we operationalise them?**

Given a research priority which addressed educational priorities as outlined above, we need an agency that provides the capability to operationalise the strategy. Specific education examples of agencies set up to set priorities and funding include the Institute of Educational Sciences (USA). There are also more encompassing models such as the National Research Foundation (Singapore) within which priorities in educational research have been set (eg a 'science of learning' stream), but in Singapore there is also a separate linked agency at Nanyang Technological University dedicated to educational sciences (Office of Education Research, directly funded from MOE Singapore). In terms of the overall RSI system in Aotearoa New Zealand, the question is whether we should have a number of bodies such as the Health Research Council and therefore an educational equivalent, or educational research being a part of an overarching research agency, commission or foundation.

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<sup>1</sup> See evidence from national and international reports here: [Education Counts Home | Education Counts](#)

<sup>2</sup> See: Cotterell G, von Randow M, Wheldon M. An examination of the links between parental educational qualifications, family structure and family well being 1981-2006. Centre of Methods and Policy Application in the Social Sciences, Technical Report. Auckland: The University of Auckland; 2008; Levin H. The economic payoff to investing in educational justice. *Educational Researcher*. 2009; 38: 5-20; NZIER. 2021. Under-served learners: The economic and wellbeing benefits of improving education outcomes. A report to UP Education; OECD (2010). The High Cost of Low Educational Performance The long-run economic impact of improving PISA outcomes.

<sup>3</sup> royalsociety.org/education Harnessing educational research Issued: October 2018 DES4900 ISBN: 978-1-78252-365-9

<sup>4</sup> [Engagement Summary 110619 \(tearawhiti.govt.nz\)](#)

<sup>5</sup> [Te Pūtahitanga: A Tiriti-led Science-Policy Approach for Aotearoa New Zealand | Ngā Pae o te Māramatanga \(maramatanga.co.nz\)](#)

A more general social science operational agency, perhaps a return to what was previously a social science CRI, is not likely to deliver what is needed. The problems and opportunities in education require transdisciplinary and cross infrastructure research and development, representing multiple disciplines and methods. Operationalising a priority for education requires a dedicated infrastructure, focused on the complex open and dynamic nature of the system, rather than a possible (and competing) focus for some research carried out by social scientists. Currently, the access to competitive funding for educational research is limited, estimated to be between 1%-3% of the funding available from possible science funding sources (see Table One below). Being able to optimise well-being, through solving our equity challenges requires that focus to drive the research, science and innovation for education, rather than the disciplines(s) drive the research. For this reason, a dedicated body is preferable to enable research focused on the requisite national priority. As noted already, this recommendation is consistent with the Office for Educational Research (UK) proposed by the Royal Society (UK), to address the need to create a coordinated, robust and coherent research focus.

Two features of the current educational research landscape provide an opportunity to realise this operational capability.

1. We have a nascent operational agency, but it is limited in reach. The New Zealand Council for Educational Research / Rangahau Mātauranga o Aotearoa (NZCER) was established in 1934, as an independent research and development organisation, operating under its own legislation since 1945. The NZCER Act 1972 provides a mandate to carry out and disseminate education research, and provide independent information, advice, and assistance. Governance is provided by a Council (Board). It's base funding comes through two lines in VOTE Education. An appropriation grant of \$1,452,000 per year, and a dedicated fund for hosting a competitive research fund (The Teaching and Learning Research Initiative - TLRI) of \$1,556,000 per year. The last increase on this appropriation for NZCER was in 2005. Even just with a CPI increase on an annual basis the NZCER should be receiving around \$2m per year. This represents 15% of total income, with the balance needed to maintain operations achieved through contestable research contracts and sales of products. The TLRI funding is not the only source of research funding specifically for educational research (see Table Two below). But even when added to the evaluation and research expenditure by the MOE and ERO, and with estimates of educational research successfully funded through the existing MBIE and Te Apārangi / Royal Society funds, the total per annum for educational research, evaluation, and research and development is at best estimated to be just below \$40M (See Table One and Two below).
2. The educational agencies have embarked on a process of coordination and greater coherence by setting national research priorities. Agency Ministers have been briefed on developments, and there is direction from the

Minister of Education for the three agencies, the Ministry of Education, the Education Review Office and NZCER to develop closer coordination and complementarity. These three agencies are leading a consultation process to set high level goals. It is following a process similar to that which led to the Health Research Prioritisation Framework<sup>6</sup>.

## **B. TE TIRITI, MĀTAURANGA MĀORI AND MĀORI ASPIRATIONS**

### **Questions**

4. How would you like to be engaged throughout the Future Pathways programme?
5. What are your thoughts on how to enable and protect mātauranga Māori in the research system?
6. What are your thoughts on regionally based Māori knowledge hubs

NZCER hosts a research fund (TLRI) which is a good model for mātauranga Māori aspirations. It has two pathways for application. One, the Whatua tū aka pathway, reflects commitments to improving equity for ākonga Māori, and supports kaupapa Māori educational research and building kaupapa Māori research capability. Funding assessments follow a process, which first considers projects applying through the Whatua tū aka pathway, then further funding decisions are made for those applications made through the Open Pathway (to which Māori led research and Māori focused research projects can also apply). A parallel pathway for Pasifika led research employing Pasifika methodologies such as Talanoa, is also under development. As noted above these development are associated with a fund that is only \$1.5M per annum.

## **C. FUNDING**

### **Questions**

7. How should we determine what constitutes a core function and how do we fund them?

Educational research activities carried through agencies (the Ministry of Education, ERO, NZCER) and through tertiary research institutions represent each of the three functions identified in Te Ara Paerangi and should be considered core to a priority such as the one proposed above. They are illustrated here, largely with examples from the Ministry of Education to support the claim that educational research fulfils core functions, albeit currently in less than optimal ways.

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<sup>6</sup> [The New Zealand Health Research Prioritisation Framework | Health Research Council of New Zealand \(hrc.govt.nz\)](https://www.hrc.govt.nz/)

**Critical research:** 'is capability that is essential to New Zealand's functioning as a country.'

Educational research is essential to national functioning as noted above, whether the unit of analysis is the individual, collective or national impact. Within an encompassing principle focused on equitable and excellent education there are critical issues; just two examples are the promotion of positive mental health across the early childhood and school years as part of a life span approach<sup>7</sup>, and the development of digital citizenships skills including critical thinking and resilience in the face of mis-dis and mal information, and other digital threats.<sup>8</sup>

However, some of the distinctions usually made when identifying critical research do not adequately describe contemporary educational research and some areas of social science more broadly. For example, knowledge generation and applied research do not need to be mutually exclusive. The new experimental designs and methods of what has been called Design-Based Research<sup>9</sup> focus on solving pressing problems of practice in context, as well as generating new knowledge. In addition, the four big problems for educational science to solve in our equity and excellence objectives are best solved using this complementary focus. These are: the variability in effective practices across the system; the implementation of effective practices at scale (scalability); building the capability at all levels of the system to engage with and apply known-to-be effective practices (capability building); and fourthly the sustainability of each in a dynamic open system. These are pressing problems because some solutions for the challenges and effective innovation are present in the system, but not consistently applied at scale. Such big problems require coordination of different methodologies and R&D sequences between many layers of the system and are not easily placed into categorisations of 'critical research', yet they are critical. Such research and development is more appropriately seen as a fourth category captured with terms such as 'transformational', 'improvement' or 'implementation' science.

These observations can be applied specifically to the Māori medium sector, where the concerns for the role of critical research are compounded further. The role of RSI is especially significant in the light of the overall policy direction to substantially grow Māori medium education.<sup>10</sup>

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<sup>7</sup> Office of the Prime Minister's Chief Science Advisor <https://cpb-ap-se2.wpmucdn.com/blogs.auckland.ac.nz/dist/f/688/files/2020/02/17-08-14-Mental-health-long.pdf>

<sup>8</sup> McNaughton, S. (2022). Digital Literacy: a review. Unpublished briefing for curriculum refresh. Ministry of Education; Office of the Prime Minister's Chief Science Advisor <https://cpb-ap-se2.wpmucdn.com/blogs.auckland.ac.nz/dist/f/688/files/2020/02/18-04-06-Digital-Futures-and-Education.pdf>

<sup>9</sup> Lai, M.K., McNaughton, S., Jesson, R., & Wilson, A. (2020). *Research-practice partnerships for school improvement: The Learning Schools Model*. UK: Emerald Publishing Ltd. <https://books.emeraldinsight.com/page/detail/Researchpractice-Partnerships-for-School-Improvement/?K=9781789735727>

<sup>10</sup> [A new dawn for Māori education | Beehive.govt.nz](https://www.beehive.govt.nz/news/a-new-dawn-for-maori-education)

Access to general science funding is very limited despite the critical research functions. An analysis (which is now 10 years old) of the Marsden fund awards over 14 years, from 1998 to 2011 is illustrative. Within the half billion dollars of research grants awarded (\$584,947,456) just \$7,038,656 were awarded to 16 projects with some relevance to early child education or schooling (representing 1.2% of the total Marsden funding - see Table Two below). A similar paucity of critical science funding exists in Australia where in the most recent round of Australian Research Council Discovery project grants (2022), education received less than 1% of approved funds – some \$2.5 million of the \$258 million allocated.<sup>11</sup> Currently, direct public educational funding for this research function, including the transformational science or design-based approaches noted above, is estimated to be between 1% and 3% of available science funding between \$4.8M and \$14.5M, including funding via PBRF (Table One below). A limited number of educational research projects access additional funding provided from the philanthropic sector. For example, one of the major philanthropic funders in education, NEXT Foundation, commits between \$5M and \$15M per year, to between 1-3 projects split between education and environmental projects.<sup>12</sup>

**High-priority services:** ‘provide data input into research or require scientific expertise to function.’

Examples in education include digital learning and assessment tools. These latter are critical for achievement monitoring, and the summative and formative (feedforward and continuous improvement) functions which contribute to valued educational outcomes. The tools need updating as curricula change and as new knowledge is generated about instruction and learning. This is the current state in our system, with a wide ranging and fundamental refresh of the curriculum occurring and the digital platforms for current assessments not being fit for purpose. Of significance here is the opportunity to develop AI and ML supported tools, which the Ministry of Education, together with the NZCER is currently exploring. Expertise exists in the university and private sectors but there is limited R&D funding. The national goal of R&D spend is 2% of GDP, but if the estimate of at best \$40M in educational research, evaluation and R&D is considered as a percentage of the overall vote education budget (above \$17 billion), it is clear that R&D for educational system performance and innovation is minimal.

Again, these observations can be applied specifically to the Māori medium sector, where the underspend and limited infrastructure for RSI is especially telling.

**Databases, collections and monitoring:** ‘to understand the status and health of resources.’

Educational examples include international assessment data (PISA, TIMMS, PIRLS) as well as national monitoring (NMSSA). There are also data bases

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<sup>11</sup> Reported in *The Age* February 25, 2022 (Jenny Gore)

<sup>12</sup> [corporate-profile-Emi\\_edits.indd \(nextfoundation.org.nz\)](https://www.nextfoundation.org.nz/corporate-profile-Emi_edits.indd)

from schools' achievement assessments and from regular surveys such as the wellbeing@school survey (NZCER).

**Further comment: Evaluation and R&D in the Ministry of Education.** A core agency function which is not well represented in Te Ara Paerangi is evaluation and research and development (R&D). These activities are part of the culture of research practices within the Ministry of Education, in relationship to both business as usual, as well as for new initiatives through new budget allocation or other mechanisms. However the culture needs to grow, and the current budget allocation to carry out evaluation and R&D is limited (see Table Two below) and is in turn limiting the building of a robust research culture where the default is ongoing system evaluation as well as pre-planned evaluation for new initiatives and programmes. It is hard to determine the exact amount of funding within the Ministry of Education itself but a current estimate is up to \$15M (see Table Two below).

8. Do you think a base grant funding model will improve stability and resilience for organisations? How should we go about designing and implementing such a funding model?

If NZCER is considered a type of CRI, then the questions about the funding are critical to current functioning for the one dedicated and publically funded research agency in education. As noted above, NZCER has two lines in VOTE Education NZCER @ \$1,452,000 per year TLRI @ \$1,556 per year, with no established cycle of negotiation and no increase since 2005. A base grant funding model might help ensure staffing levels and reduce reliance on winning contract research funding to make up the difference between established funding allocation and operating costs with current capacity.

## **D. INSTITUTIONS**

### **Questions**

9. How do we design collaborative, adaptive and agile research institutions that will serve our current and future needs?

The disestablishment of the social research CRI has meant a lack of a clear 'home' in the research system for social science, let alone educational research (which is based on multi disciplinary social science research and kaupapa Māori and Pasifika methodologies such as Talanoa). As noted above operationalising a priority for education requires a dedicated infrastructure, focused on the complex open nature of the system, rather than a possible (and competing) focus for some research carried out by social scientists. Educational research requires a dedicated overarching organisation which has the requisite functions of being collaborative, adaptive and agile. As stated above, NZCER has the potential. However, it requires an enlarged functional capability to achieve strategic effectiveness with national priorities. The same issues arise as with the CRIs and

Callaghan in that greater linkages and coordination are needed with tertiary research institutions, somewhat like a hub and spokes model.

10. How can institutions be designed to better support capability, skills and workforce development?

If NZCER was to function more like a CRI, coordinated pathways within and between NZCER, MOE and tertiary research institutions are needed. This means mechanisms that link doctoral students with other institutions and agencies. For example: joint Graduate Schools (partnerships between universities and CRIs), public sector Internships/postdoctoral programmes, etc.

11. How should we make decisions on large property and capital investments under a more coordinated approach?

12. How do we design Te Tiriti enabled institutions?

13. How do we better support knowledge exchange and impact generation? What should be the role of research institutions in transferring knowledge into operational environments and technologies?

Having the funding for the impact and transformational functions decoupled from core critical research functions has limited the capability of educational research to impact at a system level and to solve the big problems noted above. Research incentives, funding, capability building (eg curricula and training for doctoral students) and other components of the educational RSI system must be geared around developing the research expertise for designing interventions and solve problems at scale with school communities. The methodologies for this were noted above.<sup>13</sup> They are partnership based and contextualised, and demonstrably able to solve equity issues in educational success, change practices at scale and generate new knowledge. The capability is nascent in NZCER and in some tertiary research institutions. Building this capability requires funding and infrastructure which recognises that partnership based co designing within the educational system is a long term, resource-rich exercise.

Workforce planning is crucial to this, as is a coordinated research-policy interface. Possibilities include: providing ministries/agencies with greater ability to fund strategic research to support policy; greater opportunities for academics to connect and contribute to and learn from the policy agenda; direct partnerships via secondments, internships, advisory groups, and panels.

## **E. WORKFORCE**

### **Questions:**

14. How should we include workforce considerations in the design of research Priorities?

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<sup>13</sup> Lai, M.K., et. al. (2020). op. cit.



15. What impact would a base grant have on the research workforce?  
16. How do we design new funding mechanisms that strongly focus on workforce outcomes?

Work force considerations for capability building and for achieving equity objectives across the RSI landscape require a 'life course' approach. This means a focus on promoting expertise in science through educational pathways and capability building, not just at entrance to tertiary study and through postgraduate training but through early childhood education, and primary and second education. This is especially important for building pathways for Māori and Pasifika students and those from low SES communities.

We know some of the conditions and sensitive periods where differences are likely to be most effective. For example, teacher capability for teaching science is low in the middle and upper primary areas.<sup>14</sup> A shift to more specialist teaching in science (as well as in mathematics and social sciences) may be required. Contingent changes would be needed such as postgraduate level entry into initial (primary) teacher education with pathways for science (and maths) majors through first degrees. But this in turn requires preparing and mentoring teachers who are able to operationalise what is termed the 'local curriculum' in ways that engage and sustain interest in science over multiple years. Another example is developing specific national resources and expectations for appropriate investigative play and teacher scaffolded inquiry in early childhood education through activities that reliably build knowledge and skills.

The issue is not only about incentivising institutions to attract students; the various incentive levers that have been available to use to date have had limited effect, in that marked changes have not occurred in distributions of permanent and leading science positions by gender, ethnicity and SES background.<sup>15</sup> To be influential, major structural changes such as those proposed for PBRF and for research and development funding mechanisms are needed. But these 'pull' mechanisms are too late at tertiary level. The low achievement patterns and differential success rates for Māori and Pasifika students are well established by entrance to tertiary research institutions, and the evidence is that engagement and achievement through schooling (eg in NCEA) are in part determined by how well schools and communities support

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<sup>14</sup>eg [NMSSA Report 17 Science 2017 - Key Findings \(educationcounts.govt.nz\)](https://educationcounts.govt.nz/whakaaro-what-can-nmssa-tell-us-about-student-progress-and-achievement.pdf); [He Whakaaro-What-can-NMSSA-tell-us-about-student-progress-and-achievement.pdf \(educationcounts.govt.nz\)](https://educationcounts.govt.nz/whakaaro-what-can-nmssa-tell-us-about-student-progress-and-achievement.pdf)

<sup>15</sup> eg Te Whakatutukinga o te Pūnaha Rangahau Pūtaiao me te Auahatanga o Aotearoa Performance of the New Zealand RSI system THE RESEARCH, SCIENCE AND INNOVATION REPORT — 2021 <https://mbienz.shinyapps.io/research-science-innovation-report/pdf/research-science-and-innovation-system-performance-report-2021>.

language, identity and culture.<sup>16</sup> A collective and coherent response through such mechanisms as specialist teaching in primary school, the 'curriculum refresh' process; as well as scholarships, studentships and internships in and from secondary school are needed.

## F. RESEARCH INFRASTRUCTURE

### Questions:

17. How do we support sustainable, efficient and enabling investment in research infrastructure?

The comments above point to the need in education to have a more robust, coordinated and sustainable eco system of educational research. A start has been made with an education evaluation, research and research and development strategy in development. But funding and capacity limit the degree to which educational sciences and research can make substantial contributions educational outcomes. The case for markedly increased support has been repeatedly made, most recently in the NZIER (2021) report entitled '*Under-served learners: The economic and wellbeing benefits of improving education outcomes*'.<sup>17</sup> The Report concludes: *There is a large body of literature showing the positive and multifaceted benefits of improving education outcomes. The links between education, the economy, health and social settings indicate that education is one of the more influential policy levers for improving the welfare of New Zealanders now and in the future.*' (p.ii).

The possible mechanisms have been outlined above. They include a nationally agreed strategy for educational research, an expanded agency such as the NZCER to act as a coordinating body with substantially increased funding capacity; systematic changes in the curriculum and pedagogical provisions through early childhood education and the compulsory sector to guarantee equitable pathways into research employment (and specifically given the priority outlined above, in educational sciences).

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<sup>16</sup>eg [He-Whakaaro-Importance-of-Maori-identity-language-and-culture-for-akonga-Maori.pdf \(educationcounts.govt.nz\)](#)

<sup>17</sup> NZIER. 2021. Under-served learners: The economic and wellbeing benefits of improving education outcomes. A report to UP Education.

<b>Table One:</b>			
<b>Estimates of educational research access to science funding (percentages)</b>			
<b>Science Funding<sup>i</sup></b>	<b>Allocated Funding (\$M)</b>	<b>Estimated Percentage \$M educational research funding<sup>ii</sup></b>	<b>Comments</b>
<b>Marsden</b>	85 per annum <sup>iii</sup>	15% of proposals to 'society' <b>estimate education 1.2%</b> <sup>iv</sup>	<b>Royal Society</b> investigator-led research generating new knowledge
<b>Rutherford (n=10 per year)</b>	1.6 per annum	no allocated social science <b>estimate education 2.7%</b> <sup>v</sup>	<b>Royal Society</b> early - mid career support
<b>Centres of Research Excellence (n=10)</b>	50 per annum	no direct social science CoRE  Ngā Pae o te Māramatanga (\$5M per annum) funds some education related projects <sup>vi</sup>	<b>MBIE</b> strategically focused, significant knowledge transfer
<b>Endeavour</b>	216 per annum	5% dedicated to 'society research outcomes' <b>estimate education &lt;1.0%</b> <sup>vii</sup>	<b>MBIE</b> - impact across economic, environmental, and societal objectives.
<b>National Science Challenges (n=11)</b>	680 over 10 years	<i>Better Start</i> \$34.7M (5.1% of total funding) One of 4 themes is 'successful learning' <b>estimate education 1.3%</b> <sup>viii</sup>	<b>MBIE</b> mission-led science based challenges
<b>PBRF</b>	315 per 5 year cycle	<b>estimate for education 3%</b> <sup>ix</sup>	<b>TEC</b> tertiary sector research funding
<b>Total</b>	Estimate annualised  <b>483.6</b>	<b>Estimate education focused 1-3%</b>  <b>Estimated (\$4.8-\$14.5)</b>	

<sup>i</sup> Potential science funding sources for education are taken from MBIE allocation statements. For example, [The Endeavour Fund Investment Plan 2019 to 2021 \(mbie.govt.nz\)](https://www.mbie.govt.nz/endeavour-fund-investment-plan-2019-to-2021). A number of more targeted funding sources such as the Health Research Fund have been excluded.

<sup>ii</sup> Education research: research with an explicit focus on the education sector and their communities (early learning through to tertiary).

<sup>iii</sup> In 2020 \$84.75M to 134 projects [2020 Marsden Fund highlights \(royalsociety.org.nz\)](https://royalsociety.org.nz/2020-marsden-fund-highlights)

<sup>iv</sup> A review of grants made in recent years shows relatively few education related projects received grants. For instance, in 2019 there appeared to be four grants for education research with a total funding of \$1.441M. Alton- Lee (2012) estimated over 10 years 1.2% of the total Marsden funding.

<sup>v</sup> 3 awarded over 11 years (\$800,000 over 5 years).

<sup>vi</sup> education related projects are identified in the annual report [2020-2021 NPM Annual Report.pdf \(maramatanga.ac.nz\)](#)

<sup>vii</sup> In 2021, 69 new scientific research projects were awarded over \$244 million, one with an explicit education focus (early childhood education \$1M).

<sup>viii</sup> 2017 funding round for successful learning \$2.8M awarded to 10 projects, 2 were education focused projects [Successful Learning | A Better Start - National Science Challenge](#)

<sup>ix</sup> The Performance Based Research Fund (PBRF) awards funding on the basis of a quality assessment of the research staff in each eligible institution (55% weighting), the level of external research income from international and domestic government and non-government sources (20% weighting) and the number of PBRF-eligible postgraduate research-based degrees completed (25% weighting). If PBRF funding was allocated to education research on a per capita basis of education researchers participating in the quality assessment as a proportion of the total number of researchers participating the estimate would be \$20M. Allocation 2019 to education (excluding possible sources from Māori knowledge and Pacific research and psychology) was \$5,304,844 (3% of total). [PBRF 2019 Annual report performance allocations \(tec.govt.nz\)](#)

<b>Table Two:</b>	<b>\$M</b>
<b>Agency and Direct Educational R, E &amp; D programme/Activity<sup>i</sup></b>	
<b><i>International and National Assessments</i></b>	
International Assessment Studies in Schooling Sector (PISA, PIRLS, TIMSS, TALIS)	3.5
National Monitoring of School Student Achievement	2.5
Programme for International Assessment of Adult Competencies (PIAAC)	0.9 – 1.5
<b><i>Strategic Research</i></b>	
Part of the Education, Data and Knowledge (EDK) Branch (Ministry of Education) work programme (Chief Economist and Analysis and Insight group)	2.0 <sup>ii</sup>
Mix of small to medium scale evidence related investigations by policy teams in the Ministry of Education (from own staff resources)	Up to 1.0 <sup>iii</sup>
Teaching Council	0.1
<b><i>System level and Programme/Policy Evaluations</i></b>	
Education Review Office	3.0-4.5 <sup>iv</sup>
Ministry of Education School and ECE (includes approximately \$1.2m of evaluation in the learning support area in 2019/20)	2.0 <sup>v</sup>
Ministry of Education Tertiary Sector Performance and Review Unit R & E work programme	1.3 (approx.) <sup>vi</sup>

NZQA (partly in the nature of Research and Development)	0.1 <sup>vii</sup>
<b>Teaching and Learning</b> <sup>viii</sup>	
Teaching and Learning Research Initiative (NZCER)	1.56
Ako Aotearoa	0.74 <sup>ix</sup>
The Best Evidence Synthesis programme (primarily Research and Development) MOE	0.57 <sup>x</sup>
Operating expenditure associated with school entry assessment development MOE	1.0 <sup>xi</sup>
NZCER Government grant (covers a mix of strategic research and research to inform professional practice)	1.50 <sup>xii</sup>
Tertiary Education Commission (TEC)	0.5 (approx.) <sup>xiii</sup>
<b>Indicative range for total E, R, E &amp; D investment</b>	<b>\$22.27 to \$24.37</b>

<sup>i</sup> Estimates taken from working paper R. McIntosh, R. Baker and M. Hohepa (2019). Stage 2 Working Paper: Summary assessment of current education research, evaluation and development activity. Estimates from MOE are currently being revised.

<sup>ii</sup> Verbal estimate provided by EDK interviewees

<sup>iii</sup> This is not a firm figure but a provision drawing on feedback from a range of business units.

<sup>iv</sup> Indicative figure provided by ERO interviewees

<sup>v</sup> Indicative figure provided by Ministry interviewees

<sup>vi</sup> Total budget for the unit is \$2m but some of this provides for core data collation and analysis which is excluded from the definition of R, E & D. Some of the work of this team could be classified as strategic research

<sup>vii</sup> Figure provided by NZQA interviewee

<sup>viii</sup> The table does not include the Teacher and Learning Innovation Fund) which comprised around \$18m to be spent over 5 years) as this Fund ends this year and currently there are no proposals to replace it.

<sup>ix</sup> The figure for research funding in the 2019 financial statements included in Ako Aotearoa's 2019 Annual report. Ako Aotearoa's website states that it is "pausing and reassessing the project funding part of our activities for 2020. We expect to resume this work from late 2021 for funding of projects in 2022,"

<sup>x</sup> Budget figure provided by Chief Adviser Evidence Synthesis, Best Evidence Synthesis Programme.

<sup>xi</sup> Verbal estimate provided by Barclay Anstiss, EDK, Ministry

<sup>xii</sup> This figure is the government grant to the Council. NZCER will also receive government funding through contractual work secured on a contestable basis.

<sup>xiii</sup> This figure primarily comprises market research surveys. TEC advise that they are in the process of enhancing their in-house capacity to do evaluations and have engaged an insights team to "doing significant work understanding our learners, employers and communities and the journeys people take". As a result the figure provided in the table may understate the level of expenditure by TEC in this area in the future.

