Is educational research in Aotearoa in good shape?

An NZCER occasional paper

Cathy Wylie

NZCER
Rangahau Mātauranga o Aotearoa

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1. Introduction

It is timely to take stock of the wellbeing of educational research in Aotearoa New Zealand. The major Education Work Programme 2021 includes a Research, Evaluation and Development Strategy. Te Ara Paerangi—Future Pathways Green Paper[1] has launched a major review of the design of public funding for research institutions and for research taking place in tertiary and other education institutions.

The Ministry of Education (the Ministry), the Education Review Office (ERO), and the New Zealand Council for Educational Research (NZCER) have been directed to develop the Education Sector Research, Evaluation and Development Strategy to support the Government's Education Work Programme which charts fundamental work ahead on curriculum, qualifications, how schools and the Ministry work together, and how Te Tiriti o Waitangi shapes this work. After consultation with stakeholders, a draft Strategy will go to the Associate Minister for Education, Jan Tinetti, in the next few months.

At this stage, it is not clear whether this Research, Evaluation and Development Strategy will address the issues of expertise, infrastructure, and support that we face in educational research.

Educational research does not feature as a specific domain in Te Ara Paerangi. Science and technology are given the main emphasis. There are important emphases on embedding Te Tiriti o Waitangi, and on growing and retaining expertise—and the infrastructural stability and therefore support needed to do that—that have resonance for educational research.

NZCER,[2] Chief Education Scientific Advisor Stuart McNaughton,[3] and the Deans of Education[4] made submissions to Te Ara Paerangi making the case for stronger support for educational research. Other submissions noted the importance of education in developing the intellectual excitement, and scientific and other knowledge and skills needed for our country's research ecosystem to flourish.

The Government's goal is to increase all research and development expenditure to at least 2% of GDP per annum. The NZCER submission noted that Education and Tertiary Education was the third highest area of government investment and expenditure, at approximately $19.5 billion in 2021/2022. Stuart McNaughton's submission estimated that at best $40 million per annum of that was spent on educational research, evaluation, and research and development—so only 0.21% at best of the total government expenditure on education is spent on educational research.

This paper canvasses the recent history and current landscape of educational research funding and support in Aotearoa New Zealand. I draw on extensive experience in this field, and the need to test my growing unease that educational research in this country is, overall, not in good shape.

1 https://www.mbie.govt.nz/science-and-technology/science-and-innovation/research-and-data/te-ara-paerangi-future-pathways/
2 https://www.mbie.govt.nz/dmsdocument/20739-nz-council-for-educational-research-te-ara-paerangi-future-pathways-green-paper-submission-pdf
3 https://www.mbie.govt.nz/dmsdocument/21180-stuart-mcnaughton-te-ara-paerangi-future-pathways-green-paper-submission-pdf
4 https://www.mbie.govt.nz/dmsdocument/20697-new-zealand-council-of-deans-of-education-te-ara-paerangi-future-pathways-green-paper-submission-pdf

2. What do I mean by *good shape*?

Sufficient educational research capacity, capability, and connection to produce robust understanding that progresses educational practice and policy to enrich learning and erode inequities.

Good shape to me means more than a steady or increasing quantity of reports, articles, books, and theses that describe, analyse, and theorise about what is happening in learning and teaching.

Being in good shape also means that research—and evaluation—have appropriate design, sufficient depth, knowledge and appreciation of increasingly diverse contexts, and moral purpose, together with clarity and reach of reporting that allows it to add value to the work of practitioners, policymakers, and funders, to the benefit of this country's learners.

"Findings" can only rarely be picked up from educational research and inserted into practice as if they were manufactured preventions or remedies, like a vaccine or plaster. That is why I use the term "understanding" in my definition of good shape, and emphasise the importance of context and connection with practitioners (teachers, school leaders, policymakers, professional developers, advisers, etc.). Researchers have become much more conscious of this, not least because funding for research has mostly been explicit regarding the importance of identifying its usefulness, such as the emphasis on identifying "end-users" in competitive funding, even in "blue skies" research, or "impact" in the Performance-Based Research Funding (PBRF) for tertiary institutions. But practitioners also need to have ready access, time, and incentive to connect with research, when there is increasing pressure on them.

Having sufficient capacity and capability means that educational research takes place in a viable community; one that can nurture new researchers and give them ongoing careers that enable them to continue to make sound contributions to understanding. It means that there is an actual community, of having sufficient security to share our work, grow from knowledgeable critique, and partner across institutions where collectively we can do more than we can in silos.

To get to be in good shape, we need to tackle some fundamental issues. Some of them have been with us for most of my career as an educational researcher: low levels of government funding for independent research, few alternative sources of funding other than universities' internal funds, and competition between institutions and researchers where collaboration would have achieved more.

Some of these problems have waxed and waned: in recent years, linkages between researchers and practitioners that support useful research to be done and used well have markedly declined.

I start with a 2001 OECD review, then trace some blossoming in the following decade. Next, I describe current funding, and potential indicators of good shape: publications through books and journals, and numbers of educational doctoral theses. I then move on to the question of whether we are in a good position to gain deeper insight through the increasing range of quantitative data. Some of the critical issues around maintaining and developing our educational research capacity follow. I conclude with my aspirations for a flourishing educational research community.

3. Looking back

Some of these fundamental issues were identified in a 2001 OECD review of the state of New Zealand's educational research and development policy.[5] This review estimated that we spent 0.14–0.2% of total educational spending on research and development, compared with an average of 0.3% in the seven OECD countries for which data was available (OECD, 2001, p. 14).[6] Our educational R&D spending also included a large share for student assessments—not necessarily the case in these other countries. The review concluded that New Zealand "both needs to make something of a quantum leap in its educational research policy and is capable of it." (p. 14).

This country's small size constrains both our economic capacity to fund research and our human resources: "there simply cannot be enough researchers to cover even all the high research priorities in depth" (OECD, 2001, p. 7)—a reality that remains. Collaboration to make more of the research capacity available was hampered by competition between universities for students, and the funding that they brought with them for research. It was also hampered by competition for government R&D contracts.

Funding for educational research was highly dependent on the Ministry and individual university support. At the time of the OECD review, the Ministry had a Research Division, with some money for its own operational research programme linked to Ministry priorities. The Research Division also administered the National Education Monitoring Project and other work related to student assessment. NZCER's government grant through the Research Division was $1.43 million a year. Very few educational research projects were funded through other sources, such as the Royal Society's highly competitive Marsden Fund. There was some potential through the Health Research Council if linked to health. Unlike other countries, philanthropic support for ongoing research programmes was scant.

The OECD reviewers identified some important hidden costs for educational research capacity and capability arising from the centrality of the Ministry of Education in the funding of educational research:

> … Naturally, and appropriately, the Ministry's research concerns tend towards the applied end, and to have a relatively short-term focus reflecting political priorities. This is not a problem when there is a wider set of research funders, but in New Zealand this is not the case. There is no autonomous research council, and very few foundations (if any) ready to provide resources for educational research. … While some researchers are clearly successful in putting together a running series of research projects with Ministry funding, the short-term contractual nature of most of the work almost certainly increases fragmentation. It will also inhibit the ability to build capacity within the research community: the development of research expertise and experience, but also the ability to look beyond applied research topics and frame research questions in a longer-term context.
>
> The emergence of a competitive contract culture has a wider significance. Increasingly, policymakers and researchers are interested in the notion of social capital as a complement to human capital. Social capital is to be found in the networks and relationships, which foster trust and reciprocity towards

5 OECD (2001). *OECD Review Educational Research and Development in New Zealand*. https://www.oecd.org/education/innovation-education/2674327.pdf

6 The seven countries were Australia, Canada, Finland, Ireland, the Netherlands, Sweden, and the United Kingdom.

> mutual ends. The general line of argument is that individual skills and competences will only make their full contribution to a knowledge society if they are located within a functional set of social relationships (OECD, 2001).[7] This applies as much to educational research as to other fields; it would be deeply ironic if educational research showed declining social capital in its efforts to build human capital. (OECD, 2001, p. 16).

The reviewers concluded that an educational equivalent to the Health Research Council was not viable in a small country, but did suggest either a wider social sciences research council, or

> a consultative group of researchers (from universities, NZCER and elsewhere) and other stakeholders and other disciplines, which would develop research priorities, advise on their implementation and support, and comment on progress and achievement. (OECD, 2001, p. 19)[8]

Concentration of research expertise was needed, but in terms of networks and centres rather than single institutions. The OECD reviewers thought that some of this should be funded beyond Vote Education. They also emphasised the importance of developing research capacity and infrastructure "as distinct from the commissioning of additional research. This is essential if medium- and longer-term R&D performance is to improve." (p. 21). Among the gaps they saw in capacity was making effective use of existing databases.

What this OECD review brings out clearly is that more funding was needed to enable more educational research. But it also shows that funding needs to be framed so that key considerations in allocation and prioritisation decisions include the development and sustainability of research capacity and capability.

7 Reference is to another OECD report from 2001, "The Well-being of Nations: The Role of Human and Social Capital" https://doi.org/10.1787/9789264189515-en

8 Such a grouping could arise with the current work on the Research, Evaluation and Development Strategy.

4. A productive decade

The Ministry had been working on a research strategy at the time of the OECD review. Educational research related to practice improvement gained some momentum in the decade 2000–2010. This was the time of the Best Evidence Syntheses (BES),[9] and a greater focus on evaluation, in part due to its wider public sector emphasis as a means to gauge the value of public expenditure.

The BES programme is a landmark in New Zealand educational research. The indefatigable Adrienne Alton-Lee undertook the first BES, then commissioned others. This work not only deepened the knowledge and thinking of the lead authors; it provided a rich development for some new researchers involved, who have gone on to make significant research contributions.

The BES project drew attention to the value of educational research in improving teaching and learning by careful analysis of existing research and solid evidence across different sources, including case studies. These eight BES stand out in relation to other educational research syntheses because they combine rigour and texture, quantitative and qualitative evidence. They speak to educators, researchers, and policy analysts. More than a decade after the last BES was completed, they remain significant sources of understanding and reference.

The BES programme was also able to strategically undertake further analysis of research-based professional learning and development, such as the ground-breaking Te Kotahitanga programme, to show the gains for students. More recently, the BES programme has provided some best evidence in action case studies and resources, with a particular focus on strengthening teaching practices for Māori student and Pacific student gain.

However, although the individual BES and the more recent case studies and resources are still freely available online,[10] there is no ongoing BES programme. The programme's intention to back strong research-based programmes with development through ongoing evaluation has been limited to *Reading Together.*

This first decade of the 21st century was a good time for research-based professional development programmes that were developed further through ongoing evaluations, such as Te Kotahitanga,[11] the Literacy Progressions Development Programme (LPDP),[12] and the Numeracy Project.[13] The Woolf Fisher Centre at The University of Auckland used philanthropic and university funding to work as a partner in the innovative Manaiakalani work.[14]

9 https://www.educationcounts.govt.nz/publications/series/2515
10 https://www.educationcounts.govt.nz/topics/BES
11 https://tekotahitanga.tki.org.nz/
12 https://www.educationcounts.govt.nz/__data/assets/pdf_file/0006/16827/869_Eval-LPDP.pdf
13 A full account of the Numeracy Project has yet to be written, though Jenny Young-Loveridge provides important insights about the continuing infrastructure that is needed to ensure gains made in such professional development projects are not lost: Young-Loveridge, J. M. (2010). A decade of reform in mathematics education: Results for 2009 and earlier years. In Findings from the New Zealand Numeracy Development Projects 2009 (pp. 15–35). Ministry of Education. https://nzmaths.co.nz/findings-nz-numeracy-development-projects-2009
14 https://www.manaiakalani.org/

The Teaching, Learning and Research Initiative (TLRI) began in 2003, providing a much needed fillip to researcher–educator partnerships to undertake research intended to strengthen teaching and learning.

We were fortunate at NZCER to be able to keep running the only longitudinal project in Aotearoa New Zealand focused on education, rather than health, behaviour, or psychology. *Competent Learners*[15] followed its Wellington region sample from their final early childhood education months to the age of 26, funded by the Ministry of Education for most of that time, and finally using NZCER's Te Pae Tawhiti government grant. There were some valuable findings from that work that were used in both policy and practice, because the data we collected built on previous research and included questions about learning experiences and relationships in early childhood services and schools, as well as in homes and leisure time.

The development of the New Zealand Curriculum also included funding for research to understand how schools understood the new framing, such as key competencies, and what support they needed.

Pathways to the Future—Ngā Huarahi Arataki: A 10-Year Strategic Plan for Early Childhood Education markedly increased the resourcing for early childhood education, was accompanied by a substantial evaluation, and sparked more concerted research relating to early childhood education.

Research and evaluation flourished in this time when researchers and evaluators were positioned as partners with educators and policy analysts, all working for the improvement of practice and more equitable outcomes for students.[16]

Alongside these more productive times for educational research, there were also increasingly obvious gaps, particularly relating to kaupapa Māori research in education. It was Ngā Pae o te Māramatanga, one of the country's seven centres of research excellence, funded outside Vote Education, that progressed some kaupapa Māori research in education.

Sharing and networking then and now

In the early 2000s, conferences or meetings that brought researchers, policymakers, and practitioners together to focus on particular issues featured regularly. NZCER ran annual conferences, and national conferences and meetings were held around the Best Evidence Synthesis work, Schooling Improvement and the Extending High Standards work funded by the Ministry of Education, and the Positive Behaviour for Learning (PB4L) suite of professional development that was funded after the 2009 Taumata Whanonga Behaviour Summit. Cognition Education ran some conferences that drew on and highlighted research. ULearn began in 2004. Of these, only ULearn and the PB4L conferences continue.

The teacher unions have held conferences that aim to bring practitioners and researchers together, most notably a 2014 conference focused on curriculum held by NZEI, and seminars on collaboration (during the early days of Kāhui Ako). More recently, the Post-Primary Teachers' Association (PPTA) has used new Ministry funding for professional development for several national conferences that have encouraged practitioners to present as well as researchers.

15 https://www.nzcer.org.nz/research/competent-learners

16 I've highlighted a few projects here; this is by no means a full picture of the educational research undertaken in this period.

Even before the COVID-19 pandemic, conferences drawing on research, or including it as an essential player, were diminishing. There have been some gains for online seminars—the NZ Association for Research in Education's (NZARE's) 2021 conference ran this way. There are more online webinars and seminars, such as the new thought leadership series *Te Puna Mātauranga,* arising from a collaboration between NZCER, the Faculty of Education, Te Herenga Waka - Victoria University of Wellington, the Teaching Council, and ERO.

The philanthropic and donation-funded Education Hub[17] is providing practitioners with syntheses of research related to practice, and hosting webinars with researchers on key topics, and some live online sessions.

Some Kāhui Ako and professional learning groups have invited researchers to present in seminars and professional development days, which are good opportunities for researchers to share knowledge, address specific practitioner questions, and also grow their understanding of what is to the fore for practitioners.

NZARE's 12 SIGs (special interest groups) have fostered some better linkages between researchers through 1–2-day meetings to focus on, for example, assessment, early childhood education, or leadership. NZARE has also brought educational research more into the online eye through its blog, *Ipu Kererū*.

However, invitations for researchers to present at seminars in the Ministry have become rare—partly because of COVID-19, restructuring, high and intense workloads, and its own lesser role in research and evaluation commission.

NZARE had 270 individual members at the start of 2022. This is a much smaller number than the 430 individual and 65 institutional members it had at the start of 2002, and speaks to a decline in the overall number of people involved in educational research in or about this country, as well as greater attention to international affiliations by academics, and more competing calls on people's attention generally.

The grounds on which researchers can connect across their institutions or with practitioners—whether in schools, supporting schools, or in government departments—are currently too limited.

17 https://theeducationhub.org.nz/

5. Current funding of educational research

Ministry of Education

The Ministry remains the prime source of funding for educational research and development but is no longer playing the sentinel role in educational research it once did. It continues to fund the increasingly important National Monitoring Study of Student Achievement (NMSSA), currently undertaken by a partnership between NZCER and the University of Otago. However, it has ceased to commission significant research. Requests for proposals for evaluation do not appear to come from a Research section, but from the part of the Ministry responsible for a particular policy or programme. There are more requests for formative evaluation in the early stages of "rolling out" a change than requests to follow substantial changes through to see how they work over time, and whether they bring the benefits expected.

The Research division morphed first into Evidence, Data and Knowledge, and in the most recent restructuring has been folded into Te Pae Aranui, the Operations and Integration Group providing a "vital interface for information and insights with the sector to feedback particularly to Te Puna Kaupapahere | Policy".[18]

For some time the Ministry's own research has primarily focused on analysis of quantitative data, dependent on administrative data such as school and student characteristics, student attendance, NZQA data on standards and qualifications, and the international student and adult assessments we participate in. Some good longitudinal analysis of student trajectories and achievements has been done, linking different datasets, particularly by what was the Tertiary Sector Performance Analysis section. The He Whakaaro Education Insights series is something to keep your eyes on.[19] Its analysis of student attendance trends pointed to significant issues that have been picked up in recent policy emphasis, and recently it branched out to include a succinct review of international research on streaming.

In the absence of funding for substantial projects that collect new data, giving primacy to quantitative data analysis has meant dependency on the data readily available. The Ministry has spent considerable effort over some years to try to get a trusted, secure data-sharing system off the ground. While there is general support for a secure way for individual student records to travel with them through their educational journey, the technical difficulties and the diversity of the data between institutions may be insurmountable. Without sound data on teaching practices too, the knowledge that may be gained could be limited.

18 https://assets.education.govt.nz/public/Future-education-/Summary-Establishing-Te-Mahau-within-Te-Tahuhu-o-te-Matauranga-16-06-21.pdf, p. 22
19 https://www.educationcounts.govt.nz/publications/series/he-whakaaro

Education Review Office

In 2014–15 the Education Review Office (ERO) commissioned experienced researchers to write briefs and discuss them as a group and with experienced ERO reviewers, to underpin its School Evaluation Indicators.

The has used some of its funding to provide national reports relating to curriculum provision and government priorities, largely based on material drawn from its evaluations, but also some in-depth case studies of effective teaching and learning, and the early experiences of Kāhui Ako. Recently it undertook surveys of school leaders, teachers, and whānau to document the impact of COVID-19, coupled with recommendations drawn from these findings and relevant literature. It plans to draw together quantitative indicators that can be used to track national progress on educational provision—a more complex project than might appear on the surface—raising questions about the nature of evidence and the data available.

NZCER

NZCER continues its national role as the country's independent educational research and development organisation, with its purpose described in its own Act of Parliament. It receives a government grant, Te Pae Tawhiti, from Vote Education, reporting quarterly to the Ministry on the research, advice, and publications that are funded by this grant. It continues to exercise independence in the work it undertakes—with the expectation that this work will contribute to the broad government goals in education.

This grant is still the $1.452 million it was in 2005—17 years ago. Inflation has increased 47% since then, and the decline in purchasing power is 32%.[20] In real terms, this means that a third less research can be done.

Competitive funding solely for educational research

Educational research currently has only one major dedicated source of competitive funding for research projects, the TLRI.

TLRI

The Ministry's main funding of research projects is done at arms' length through the Teaching and Learning Research Initiative (TLRI), a competitive fund for research–practitioner partnerships spanning early childhood to tertiary that began in 2003. It aims to both build research capability and have an impact on teaching and learning.

By 2021 TLRI had funded 167 projects, some substantial, with funding for up to 3 years. Since 2020 it has had two pathways: the open pathway; and Whatua tū aka, the kaupapa Māori pathway to ensure decisions are made by Māori on Māori-initiated research. Applications should address "themes of strategic importance in Aotearoa New Zealand", and in 2021, priority areas also included research to support success for Māori as Māori, and success for Pacific learners.

20 Reserve Bank Inflation Calculator, comparing Q1 2005 and Q1 2022.

The TLRI is administered by NZCER. Two independent selection panels of experienced researchers, one for each pathway, make recommendations for funding to an advisory group chaired by a representative of the Ministry of Education. In 2021 the chair was the Group Manager of Analysis, Research and Evaluation in the Ministry. The rest of the eight-strong advisory group in 2021 consisted of university-based researchers with strong research track records, the Chief Education Scientific Advisor to the Ministry of Education, and an ERO leader with strong research expertise. In 2021, there were two Māori members and one Pacific member.

Annual funding since 2007 for the TLRI has remained at $1,555,556 (ex GST). Inflation has increased 39% since then, and purchasing power reduced by 28%.[21]

The table below shows that, at most , a third of the applications have been funded each year over the past 7 years, and in total, only 21% of applicants were funded.

FIGURE 1 **TLRI applications' funding success rate 2015–21**[22]

Year	Number of applications	Number of applications funded
2015	36	6
2016	21	6
2017	22	8
2018	19	6
2019	38	8
2020	53 (introduction of Whatua tū aka pathway)	8
2021	35	5
Total	224	47

21 Reserve Bank Inflation Calculator, comparing Q1 2007 and Q1 2022.
22 Information given by Dr Esther Smaill, the current TLRI Project Leader at NZCER.

6. Funding sources beyond Vote Education

Universities' research-specific funding, derived from their own internal funds from students, philanthropists, donations, and their share of the PBRF, is an important source for academics' research.

The **Marsden Fund,** overseen by The Royal Society Te Apārangi, provides around $80 million a year for investigator-led research. It is highly competitive—education is not the only under-funded research field in Aotearoa New Zealand. Success rates are around 10% a year. It cannot even fund all the projects that receive excellent or outstanding scores.[23] The Marsden Fund has also had to set caps on its funding for individual projects, but this amount covers increasingly less as costs rise.

In the 2021 Marsden funding round, three educational projects received funding, a total of $2,015,000. This was somewhat better than the average of just one project with educational relevance funded each year over the period 1998 to 2011.

Education was included in the **Better Start** national science challenge, which is receiving $34.7 million over 10 years, most going to health-related research.

Stuart McNaughton's estimate of other funding available for educational research also includes Rutherford fellowships, the Ministry of Business, Innovation and Employment's (MBIE's) Endeavour Fund, and Ngā Pae o te Māramatanga.[24]

His estimate of the amount of money available for educational research is of necessity wide: anything from $4.8 million to $14.5 million a year, around 1–3% of the funding for research available from these general sources.

Cognition Education Trust has used profits from Cognition Education since 2009 to fund innovation benefiting learners and improving equity, that has a research basis and a research strand, to add to others' knowledge. Many of the projects are small-scale, involving a single school; some are larger, such as Christine Rubie-Davies' work showing the importance of teacher expectations for student achievement, and the effectiveness of interventions that move teachers to more positive and ambitious expectations of what students can achieve.[25]

Ako Aotearoa did co-fund a range of research projects, largely qualitative, usually with organisations that would use the results in their work in post-school learning. This funding was suspended, and a review commissioned in 2021. The results were not public at the time of writing this article.

23 Marsden Fund Council Response to Te Ara Paerangi Future Pathways Green Paper (2022), p. 6. https://www.mbie.govt.nz/dmsdocument/20631-marsden-fund-council-te-ara-paerangi-future-pathways-green-paper-submission-pdf,

24 McNaughton, S. (2022). Submission on Te Ara Paerangi/Future Pathways Green Paper, p. 6. https://www.mbie.govt.nz/dmsdocument/21180-stuart-mcnaughton-te-ara-paerangi-future-pathways-green-paper-submission-pdf

25 Rubie-Davies, C. (2014). *Becoming a High Expectation Teacher: Raising the bar*. Routledge. The Teacher Expectation Project had funding from a Marsden Fast Start Grant, as well as Cognition.

The **teacher unions** have periodically commissioned research. This can be a mixed blessing for the researcher if the source of the funding is misread as colouring the work. Martin Thrupp's revealing case studies of the early days of the National Standards,[26] for example, may not have had the attention they deserved because of the funding source. Most recently both PPTA and NZEI have commissioned surveys of school leader wellbeing from Deakin University, making key, but not all, findings publicly available.[27]

26 Thrupp, M. (2017). *The Search for Better Educational Standards: a Cautionary Tale.* Springer International.
27 https://principalhealth.org/nz/

7. Publications

Educational researchers appear to have become more productive—if we measure by the number of publications.

A recent analysis showed a 2.3-fold increase in educational research publications from 284 publications in 2010 to 646 publications in 2020.[28] This metric includes journal articles, preprints, books, book chapters, and conference proceedings. The increase in volume likely reflects the PBRF incentives to publish.

New Zealand education publications (identified as those with a New Zealand-affiliated author) had a higher proportion than the global average for education, a "revealed comparative advantage" of 1.9.[29]

Opportunities to publish and read Aotearoa New Zealand educational research

NZCER Press is now the only specialist publisher of educational research books, with both local and international reach. Between 2016 and 2021, it published 38 research-based books, mainly intended to improve practice and policy in Aotearoa New Zealand, with a growing number focused on Māori learners.[30]

All of NZCER's research undertaken using Te Pae Tawhiti funding is freely available online[31] as are reports from TLRI grants.[32] The Ministry's Education Counts website also holds a trove of reports from research and evaluations over the years.[33]

Educational academics' work particularly is also published overseas by publishers such as Springer, Peter Lang, and Brill, sometimes as sole authors, sometimes as editors, more often as chapter contributors to international collections. Māori-led and kaupapa Māori research has a strong international reputation. The work around the Best Evidence Syntheses also led to international publications.

For a small country, we are not short of journals that focus on or include educational research articles, some of it undertaken in other countries. There were 20 such journals in late 2021,[34] some general, others focused on a particular aspect.[35] NZCER and education departments or research centres at the universities are the main journal publishers. Some are published by organisations based on membership. A list is given in Appendix B.

28 https://mbienz.shinyapps.io/research-science-innovation-report/fields-and-types-of-research/index.html#offset-trends-in-research-fields, Figure 16.
29 https://mbienz.shinyapps.io/research-science-innovation-report/fields-and-types-of-research/index.html#offset-trends-in-research-fields, Figure 17.
30 It's worth looking at the list of these publications (see Appendix A) to get some sense of the breadth of educational research now, and the interest in contributing to equity.
31 https://www.nzcer.org.nz/
32 http://www.tlri.org.nz/
33 https://www.educationcounts.govt.nz/publications
34 My thanks to Rebecca Lythe for her search to identify a list of likely journals.
35 I have included some journals that publish both peer-reviewed research and practitioner accounts; I haven't included a journal such as *He Kupu*, publishing mainly practitioner research (*He Kupu* is published by the NZ Tertiary College, for early learning teachers).

Pleasingly, more than half of these journals are open access, where costs can be covered by the host organisation or article processing charges. Most of NZCER's journals need to be subscription-based, with some articles freely available. Three that are published by membership organisations are also not open access: the core Aotearoa New Zealand journal for educational research, the *New Zealand Journal of Educational Studies* (*NZJES*), has only some open-access articles, with 48,577 downloads in 2020.

The PBRF has favoured publication by academics in international journals and by international publishers. However, this has the unfortunate effect of limiting free access to some key educational research publications to those with university affiliation, and sometimes delaying access for months or years. The advent of websites where researchers can upload articles has improved access, if academic researchers share their articles in a timely fashion.

Research publications from the government departments are fewer now. There continue to be issues with timely access to government departments' own research and analysis, as well as reports from government-funded projects and evaluations undertaken by others.

The knowledge that can be gained through graduate theses may lie untapped without some kind of searchable database. Thesis work contributes to a private good of a qualification, but not a social good if it cannot be easily accessed.

Timely access matters if we want to build on the research, analysis, and data available rather than traverse the same ground, to identify challenges that need deeper understanding, and to identify promising approaches to improving teaching and learning in this country.

8. Growing numbers of doctorates

Another potential measure of the health of educational research is the number of doctoral degrees completed, indicating levels of interest and commitment to contribute to our knowledge and understanding. Ministry of Education statistics show a substantial increase in education doctoral degrees completed, from 45 in 2008, to 125 in 2020.[36] This includes EdDs (Doctors of Education). There have been more international students completing doctorates than domestic students up until 2020, the first year of COVID-19, though the gap has narrowed considerably since 2008, when international students accounted for 40 of the 45 completed doctoral degrees, to 2019, when they accounted for 70 of the 120 completed doctoral degrees. International students completing doctorates may not remain in this country to add to the potential pool of educational researchers.

Finding or accessing educational theses is no longer straightforward. From 2006 to 2014 BES also funded NZCER to maintain an online searchable database of theses produced in New Zealand universities: an important means to enable research knowledge to continue to build on what had been done, and to use good research.

In late 2021, NZCER's Kaiwhakahaere Wharepukapuka mete Pūranga Mōhiohio / Manager—Library and Records, Rebecca Lythe, could readily find on university and wananga websites only 123 PhD theses completed for the years 2016 to 2020. That raises troubling questions for individual students and the wider research community alike about how well their hard work can be used.

Looking through the abstracts of the PhD theses that are publicly available on university websites shows that most are qualitative and small-scale, partially because time is an increasingly expensive resource for all involved.

I suspect that doctoral thesis work can no longer provide the close fieldwork in classes and schools over months that have given us rich and important new understanding, such as Adrienne Alton-Lee's work with Graeme Nuthall, Alison Jones, and Martin Thrupp's work. We would really benefit from similar theses or studies now, particularly with the current curriculum and NCEA reforms, and to understand deeply what is happening with the greater use of digital technology.[37]

The small numbers of educational theses analysing quantitative data likely reflects the fact that there are few large-scale projects or datasets in Aotearoa New Zealand that would give graduate students the opportunities to provide fresh and deep analysis seen in larger countries.

36 Research-performance-final.xlsx (live.com), Tertiary Information also gave me a break-down of the same time series by domestic and international students, and noted that 2020 data should be treated as indicative.

37 See https://www.newsroom.co.nz/news/are-devices-in-school-doing-more-harm-than-good The article describes one student's experiences, raising some compelling questions that need research.

Only a few projects have been wide and deep enough to provide such opportunities: in recent years, these include the work on teacher expectations led by Christine Rubie-Davies, the Starpath project,[38] Melinda Webber's Rutherford Discovery project,[39] the Youth 2000 project,[40] and the Better Start work on oral language led by Gail Gillon.[41] The current longitudinal *Growing Up in New Zealand* study offers some scope for educational research, but this is limited by data framed largely around psychology and health. Access also takes time.

38 https://www.auckland.ac.nz/en/education/research/research-networks-and-groups/starpath-project.html
39 Used in the COMPASS project at NZCER. https://doi.org/10.18296/rep.0019
40 https://www.fmhs.auckland.ac.nz/en/faculty/adolescent-health-research-group/youth2000-national-youth-health-survey-series.html
41 Gillon, G., McNeill, B., Scott, A., Denston, A., Wilson, L., Carson, K., & Macfarlane, A.H. (2019). A better start to literacy learning: findings from a teacher-implemented intervention in children's first year at school. *Reading and Writing* 32: 1989-2012. https://doi.org/10.1007/s11145-018-9933-7

9. Growing data analysis

We live in the era of much faster data analysis and modelling, with increased expectations of statistical analysis—but we are dependent on the data available. Educational datasets in this country are limited by our small size, the structure of our self-managing schools system—which complicates data sharing—and partly because of a more flexible approach to curriculum and assessment than found in many other countries. This means achievement data has been less standardised, other than for secondary qualifications.

International assessments loom large in the data collection and analysis work of the Ministry of Education. PISA, PIRLS, TIMSS, and TALIS take (more than) a fair slice of the Ministry of Education research funding. Data from our participation in these international assessments is also only available to Ministry analysts or contractors, though PISA 2009 and 2018 data has recently been added to the Stats NZ IDI (Integrated Data Infrastructure).

Recent years have seen some deeper Ministry analysis of the associations between student performance and student resources and experiences, as well as use of the data to describe class and school practices. However, the items in the international surveys do not always correspond well with practice in Aotearoa New Zealand classrooms and schools.

Stats NZ IDI has become a major source for policy and social science-related statistical analysis. It contains some information on a student's schooling and tertiary history—such as the number of schools, and key characteristics of those schools such as decile—allowing a sketch to be made of different passages through schooling, in relation to information on student attendance, disciplinary processes, and NCEA and other qualifications.

There were 72 projects tagged in the IDI topic area "Education and Training" in early 2022, the first starting in 2001, with 16 undertaken by Ministry of Education staff. Other IDI users are universities (23), other government departments, and The New Zealand Initiative, Business and Economic Research Ltd (BERL), and Motu. Looking at the project titles, most are linked to answering or raising policy-related questions. There is a strong focus on the associations between qualifications (or lack of them), and later pathways relating to further qualifications, employment, health, or earnings, and comparisons between ethnic or other social groups.[42] One recent study provides some clear evidence of higher suspension rates for autistic students without additional support.[43]

42 Search Results - Stats NZ Store House (oclc.org) Accessed April 2022

43 Bowden, N., Gibb, S., & Audas, R. (2022). Association Between High-Need Education-Based Funding and School Suspension Rates for Autistic Students in New Zealand. *JAMA Pediatrics*. https://jamanetwork.com/journals/jamapediatrics/article-abstract/2792410

We need to make the most of the data collected by educational institutions, collected or shared with government agencies, and NZCER through its assessments and tools such as the Wellbeing Survey (W@S), the Teaching, School, and Leadership Practices Survey (TSP), and other research studies, which can provide the context for understanding "headline" data such as student attendance and achievement. Ideally, we would have the educational equivalent of the IDI, providing safeguards for privacy while supporting deeper analysis of educational data by researchers and graduate students. NZCER has made the case for such a national platform in its submission to Te Ara Paerangi.[44]

44 https://www.mbie.govt.nz/dmsdocument/20739-nz-council-for-educational-research-te-ara-paerangi-future-pathways-green-paper-submission-pdf

10. Who is in a good position to undertake research?

A quick scan of the books, reports, and articles published in recent years, arising from Aotearoa New Zealand educational research in its broadest sense, shows that most educational research is undertaken by those with a university, wānanga, or other tertiary base. Full-time educational researchers are in the minority; we are mostly to be found at NZCER, along with some roles in the Ministry of Education. Some private contractors are also able to work full-time on particular projects that they have won.

In universities, one of the drivers of international rather than local publication for academics has been international publication's greater weight in their PBRF ranking, and ability to "buy" more concentrated time for research, rather than teaching.

This is not a new picture.

But for academics, there is a mounting issue around increasing teaching and administrative workloads, coupled with rising student expectations. COVID-19 has amplified academic workloads with the intensification arising from more online teaching and associated administration, coupled with some reductions in staff numbers. It has become increasingly difficult for many academic staff to actually be able to use even the research time they have on paper, that is theoretically not dependent on landing external project funding.

There are fewer sustained and sufficiently large projects that can provide ongoing work for emerging researchers alongside more experienced colleagues. We need such projects to grow our understanding and evaluate promising approaches to teaching and learning. But we also need to grow and sustain the next generation. Around 40% of education academics are aged 60 years or more.[45] Māori and Pasfika are still under-represented in academic roles.

Māori researcher-led research focusing on what matters for Māori is now taken for granted—but its funding is not. There continues to be a shortage of Māori researchers, indicating some mismatch between the need and where research is "housed". As the public sector understands more about the substantive meaning of Te Tiriti o Waitangi for what is done and how it is done with public money, this becomes an increasingly critical point that has to be addressed.

Pacific researcher-led research is coming to the fore also, raising similar questions about its funding and ongoing support for researchers.

Carrie Vander Zwaag raised two important questions in her 2021 NZARE presentation[46] that speak to how we (re)generate educational research.

45 Te Pūnaha Matatini response to Te Ara Paerangi (2022) Building an ethical, agile, collaborative research system. Data in Figure 7. https://www.mbie.govt.nz/dmsdocument/20883-te-punaha-matatini-te-ara-paerangi-future-pathways-green-paper-submission-pdf

46 Vander Zwaag, C. (2021). *Aotearoa Educational Research: Practitioner-Academic Bridge or Divide?* NZARE Conference, virtual presentation.

She emphasised the value of "knowledge for practice … generated by teachers through intentional inquiry, locally contextualised and relevant to the unique community's needs". The Teacher-Led Innovation Fund (TLIF) was intended to support collaborative teacher inquiry that would produce innovations that others could use, working with external expertise that they chose. TLIF ran from 2015–2019, with five funding rounds. While teachers and the external experts that teachers chose to work with them welcomed the opportunity, there was considerable variability in the quality of inquiry, nature of evidence, and use of relevant external expertise.[47] The guidance for the final funding round provides useful framing for teacher inquiry that would contribute to innovative practice and research evidence around such practices.[48] Could the lessons learnt from TLIF be used in a new framework for teacher inquiry that contributes to well-founded understanding that others can use?

Thinking about the sustainability of educational research, can we afford to lose the skills and knowledge of the teachers and school leaders who have undertaken research for a doctorate, or a master's degree? Carrie Van der Zwaag spoke of "pracademics", people who could be of value in both worlds, if there was a good bridge (or bridges) between the worlds. It would be very useful for pracademics to have free access to research-using journals and books, as well as networks that could spur and support good knowledge and understanding to travel both ways, allowing the identification too of joint research of value to both. Currently, there is no national platform of support and mutual learning: it is left to individuals.

NZCER's submission to Te Ara Paerangi makes the case for a national educational research platform, *Equitable education for the future*. If that was achieved, then we would be better placed to provide strategic research development opportunities, and support a wider research-inquiry community.

47 Sinnema, C., Alansari, M., and Turner, H. (2018). *Evaluation of the Teacher-Led innovation Fund: Final Report.*

48 https://assets.education.govt.nz/public/Documents/Ministry/Investing-in-Educational-Success/Teacher-led-Innovation-Fund/TLIF-Guide-2019.pdf

11. My aspirations for a flourishing educational research community

Educational research is in many ways a much more sophisticated enterprise than when I joined it 35 years ago. On the whole, it is less defensive about the complexity of its field—the lack of guaranteed cause and effect, for example. I think it has enriched educational practice in Aotearoa New Zealand. We have some strong evidence about effective teaching and learning and the conditions that support it.

We pay far more attention now to how research can be best used, and are more conscious of how we communicate. Getting research well-used is not straightforward, particularly in an educational system that is insufficiently joined-up and focused to ensure the most productive use of research-gained understanding.[49]

We do need more funding, well deployed, in ways that enable us to make the most of our human resources and that allow redress in relation to Te Tiriti o Waitangi. We need more funding of ongoing partnerships with schools and communities to work together to develop and trial innovative practices that are sustainable within school and community resources.

Now, as in 2001, we need to spend more time on productive work across institutions, and less on competition between institutions. We face the added pressures from the intensification of academic work in tertiary institutions, not to mention in schools, early childhood settings, and policy spheres. For me, that signals the importance of some shared spheres where we can cross-fertilise, supporting research that has a common focus.

What would I do if I could in the near future?

- Create the Equitable Education for the Future platform as a national research priority. That means:
  - an increase in government funding from outside Vote Education as well as from within it
  - consolidation of the current government funding for educational research
  - the educational equivalent of the IDI, spurring more statistical expertise and deeper analysis, and
  - ongoing work with practitioners to enable them to make the most of the research-based and assessment tools that are government-funded, and identify other research-based tools they see a need for.

  This platform could also "house" some support for practitioner–researcher partnerships for innovation: building on the lessons learnt from the TLRI.

  Such a platform needs to have governance that is Tiriti-based, drawing together research, practice, and policy expertise, take a partnership approach to working with educational practitioners and policymakers, and communication that helps research be put to good use.

49 Wylie, C. (2012). *Vital connections: Why we need more than self-managing schools*. NZCER Press.
Tomorrow's Schools Independent Taskforce. (2019). Our schooling futures: stronger together Whiria Ngā Kura Tūātinitini Final report. Wellington: Ministry of Education. https://conversation.education.govt.nz/assets/TSR/Tomorrows-Schools-Review-Report-Dec2018.PDF

- Fund more research in English-medium and Māori-medium classrooms to provide in-depth understanding of the actuality of student experiences in relation to teaching and the role of digital devices and access.
- We also need ongoing research of the significant changes in curriculum and NCEA: more than periodic surveys or tests of online material.

  Framing a connected suite of ongoing and more in-depth work on key areas could provide a set of livable scholarships for PhD students, ongoing support for newer researchers and pracademics, and could form the equivalent of "citizen scientist" communities with teachers, as well as support for the more established researchers: a means of strengthening research practice at the same time as gaining important understanding.

  Researchers, including pracademics, need to be partners with policy and implementation roles, with trusting relationships, so that such research provides the information and understanding needed to refine or alter course—creating a real "learning system".
- Create an easily searchable database of current and past theses, reports, and papers, encouraging researchers to build on what has been done, and connect with others working on similar topics.
- Employ "research–policy" translators, adept in both worlds, and connected to key policy and implementation work in the Ministry of Education and other government education agencies. Along with this, rebuild the links and occasions that allow open discussion (Chatham House rules may be appropriate) between policy and research.
- Researchers also need to talk and share more with politicians (in and out of Government) as they frame their educational and social policies, and be prepared to use their knowledge in media and other channels to challenge ill-conceived policy or practice.

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Cathy Wylie recently retired from her role as a Kaihatū Rangahau Chief Researcher with NZCER.

She is well-known for her research on educational and social policy and its impacts for teaching and learning. She is particularly interested in how we can better support teaching and learning to tackle longstanding inequities in our system, and the newer challenges we face.

She received the NZARE McKenzie Award in 2010, and was made a Member of the Order of New Zealand for services to education in 2014.

Appendices

APPENDIX A Aotearoa New Zealand education journals

University publications are housed and supported by faculties of Education

New Zealand Journal of Educational Studies - Te Hautaka Mātai Mātauranga o Aotearoa	NZ Association of Researchers in Education
Assessment Matters	NZCER Press
Curriculum Matters	NZCER Press
Early Childhood Folio	NZCER Press
Set: Research Information for Teachers	NZCER Press
Early Education	Wilf Malcolm Institute of Educational Research, University of Waikato
Teachers and Curriculum	Wilf Malcolm Institute of Educational Research, University of Waikato
Waikato Journal of Education	Wilf Malcolm Institute of Educational Research, University of Waikato
The First Years Ngā Tau Tuatahi	University of Auckland
Journal of Educational Leadership, Policy and Practice	NZ Educational Administration and Leadership Society (NZEALS)
New Zealand Annual Review of Education Te Arotake a Tau o Te Ao o te Matauranga i Aotearoa	Wellington Faculty of Education Te Whānau O Ako Pai, Victoria University of Wellington - Te Herenga Waka
New Zealand Journal of Teachers' Work	AUT
NZ International Research in Early Childhood Education	Office of Early Childhood Education
Pacific-Asian Education	Pacific Circle Consortium for Education
Prismatic (Practice and research in statistics and mathematics)	University of Auckland
Scope: Contemporary Research Topics (Learning and Teaching)	Otago Polytechnic
Scope: Contemporary Research Topics (Work-based Learning)	Otago Polytechnic
Pacific Dynamics Journal of Interdisciplinary Research	MacMillan Brown Centre for Pacific Studies, University of Canterbury Te Whare Wānanga o Waitaha
The TESOLANZ Journal	TESOLANZ (Teachers of English to speakers of other languages association of New Zealand)
Journal of Open, Flexible and Distance Learning	Flexible Learning Association of NZ

Other Aotearoa New Zealand journals that educational researchers also publish in include:

MAI Journal: A New Zealand Journal of Indigenous Scholarship (Ngā Pae o Te Māramatanga)

Kōtuitui: New Zealand Journal of Social Sciences Online (Royal Society Te Apārangi)

APPENDIX B NZCER Press publications 2016–21

2021

Teaching for complex systems thinking
Rose Hipkins

Te Kura Tapa Whā: Embedding an Indigenous model of wellbeing into the learning environment
Angus Hikairo Macfarlane, Hayley Tewai Welch, Jennifer Pearl Smith, Matiu Tai Rātima, Sandra Lee Skipwith

Literacy across the divide: Information literacy as the key to student transition
Heather Lamond, Ken Kilpin, Lisa Emerson

The Hikairo Schema for Secondary: Culturally responsive teaching and learning
Te Hurinui Karaka-Clarke, Jennifer Smith, Matiu Tai Rātima, Angus Hikairo Macfarlane, Sonja Macfarlane, Rachel Maitland, Lisa Davies, Kari Moana Kururangi, Susannah Stevens

Using the arts across the curriculum: Integrated lesson plans
Barbara Snook

Real in all the ways that matter: Weaving learning across the curriculum with Mantle of the Expert
Viv Aitken

2020

The Hikairo Schema for Primary: Culturally responsive teaching and learning
Jennifer Smith, Matiu Rātima, Angus Macfarlane, Sonja Macfarlane

Te aotūroa tātaki: Inclusive early childhood education (2nd ed.)
Edited by Alexandra C. Gunn. Nicola Surtees. Diane Gordon-Burns and Kerry Purdue

2019

The Hikairo Schema: Culturally responsive teaching and learning in early childhood education settings
Angus Macfarlane, Sonja Macfarlane, Sharlene Teirney, JR Kuntz. Benita Rarere-Briggs, Marika Currie, Roimata Macfarlane

Education studies in Aotearoa New Zealand: Key disciplines and emerging directions
Edited by Annelies Kamp

Teaching to the North-East: Relationship-based learning in practice
Russell Bishop

Weaving te Whāriki: Aotearoa New Zealand's early childhood curriculum document in theory and practice (3rd ed.)
Edited by Alexandra C. Gunn and Joce Nuttall

For women and children: A Tribute to Geraldine McDonald
Edited by Sue Middleton and Helen May

Enhancing equity through inquiry
Lexie Grudnoff, Fiona Ell, Mavis Haigh, Mary Hill, and Kīmai Tocker

Monitoring progress in developmental spelling: Splrs at wrk (2nd ed.)
Cedric Croft

Rich tasks planning cards
Rose Hipkins

2018

Mental health education and hauora: Teaching interpersonal skills, resilience, and wellbeing
Katie Fitzpatrick, Kat Wells, Melinda Webber, Gillian Tasker, Rachel Riedel

Writing for impact: Teaching students how to write with a plan and spell well
Tom Nicholson and Susan Dymock

Science capabilities planning deck
Rosemary Hipkins, Lorraine Spiller, and Sandy Robbins

Using process drama to expand the literacy programme: An exemplar
Trish Wells and Susan Sandretto

2017

He Kete Whakawaitara: He Whakatara ā-Rangahau
Agnes McFarland rāua ko Nathan Matthews (Te reo Maori)

Understanding enduring ideas in education: A response to those who 'just want to be a teacher'
Edited by Jennifer Tatebe and Carol Mutch

Teachers leading inquiry for school problem solving
Edited by Rebecca Jesson, Aaron Wilson, Stuart McNaughton, and Mei Lai

Growing a kindergarten movement in Aotearoa New Zealand: Its people, purposes, and politics
Helen May and Kerry Bethell

Educational leadership in Aotearoa New Zealand: Issues of context and social justice
Edited by Rachel McNae, Michele Morrison, and Ross Notman

What every primary school teacher should know about vocabulary
Jannie van Hees and Paul Nation

Optimising your academic career: Advice for early career scholars
Carol Mutch

Remixing the Key Competencies: A curriculum design deck
Rose Hipkins and Rachel Bolstad

Peer tutoring: A training and facilitation guide
Jesse Pirini

2016

Te Mauri o Te Whare
Agnes McFarland rāua ko Taiarahia Black (Te reo Māori)

Diversity in community: Indigenous scholars writing
Edited by Mere Kēpa and Cheryl Stephens

Decolonisation in Aotearoa: Education, research and practice
Edited by Jessica Hutchings and Jenny Lee-Morgan

Te Kotahitanga: Towards effective education reform for indigenous and other minoritised students
Russell Bishop, Mere Berryman, and Janice Wearmouth

Teaching social studies for critical, active citizenship in Aotearoa New Zealand
Edited by Michael Harcourt, Bronwyn Wood, and Andrea Milligan

Research, policy, and advocacy in the early years
Edited by Carmen Dalli and Anne Meade

NCEA in context
Rose Hipkins, Michael Johnston, and Mark Sheehan

Teachers voyaging in plurilingual seas: Young children learning through more than one language
Edited by Valerie N Podmore, Helen Hedges, Peter J Keegan, and Nola Harvey

Locked out: Understanding and tackling school exclusion in Australia and Aotearoa New Zealand
Patty Towl and Sheryl Hemphill (eds)

Better classroom relationships
Maria Kecskemeti and John Winslade

Autism spectrum disorder in Aotearoa New Zealand: Promising practices and interesting issues
Jill Bevan-Brown and Vijaya Dharan

Elwyn Richardson and the early world of creative education in New Zealand
Margaret MacDonald

Coaching leadership: Building educational leadership capacity through partnership (2nd ed)
Jan Robertson

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