From Tinkering to Intelligent Action

Designing an R&D system to support innovation and improvement in New Zealand schools

NINA HOOD

the education hub

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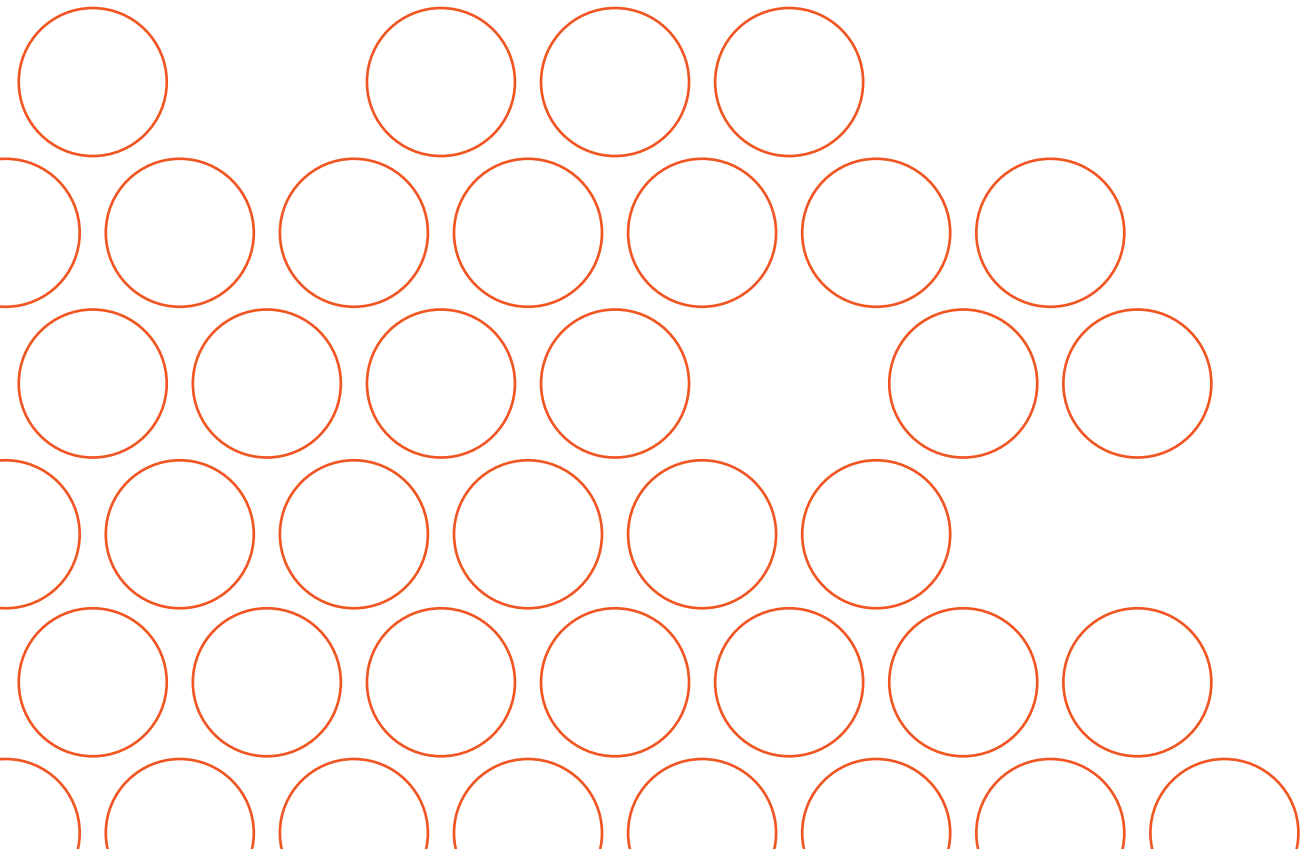

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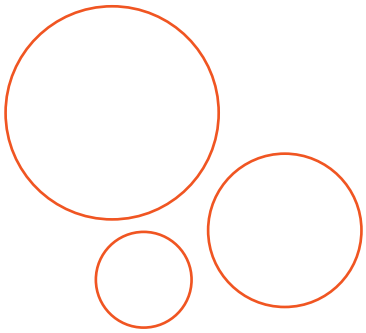

IN MANY WAYS THIS REPORT IS A VERY PERSONAL UNDERTAKING. It is a number of years in the making, its core themes influenced by my experiences in the education world, first as a teacher and then as a researcher.

As a first year teacher I lacked a consistent supply of usable knowledge to inform and support my teaching. When facing a challenge or question in my practice I occasionally would turn to the research literature for an answer. While research introduced me to new ideas and interesting perspectives, the volume and form of the research literature and the often conflicting findings did little to help me in knowing what to do at 9am on a Monday morning to support the learning of the 30 Year 10 students sitting in front of me. Similarly, when developing units of work or trying to find resources to help me teach a particular concept or skill I invariably would turn to Google for help, where I was confronted by a multitude of ideas. However, I struggled to effectively or efficiently sort through and identify those that would be most useful or appropriate for my practice.

I often thought about the hundreds of teachers around New Zealand (and the world) who were teaching the same topics and skills as I was. While I was lucky enough to have some support from other teachers in my department, for the most part I was on my own, independently preparing lessons, creating materials, and responsible for ensuring my students were learning. I was experiencing the situation that Dan Lortie described more than forty years ago in his seminal book School Teacher:

> *[T]o an astonishing degree the beginner in teaching must start afresh, uninformed about prior solutions and alternative approaches to recurring practical problems … Teachers are largely "self-made"; the internalisation of common knowledge plays only a limited part in their movement to work responsibility.*[1]

In 2011 I left the classroom and began the next part of my journey as an education researcher, first as a Masters student, then undertaking a PhD, and finally becoming a university-based academic. As a researcher, I engaged daily with the rich and varied ideas presented in the academic literature. I realised the wealth of knowledge that exists on learning theory, child development, school improvement, education policy, effective pedagogy, and often thought about how valuable it could have been to my teaching practice. However, like many before me, I also grew frustrated with how little of this knowledge seemed routinely to be informing

1 Lortie, D. (1975). *School Teacher: A Sociological Study.* Chicago: University of Chicago Press.

practice in schools and the disjunction that exists between the worlds of research and practice in education.

My story speaks to the knowledge problem that exists in education. There is an apparent abundance of knowledge, developed by both researchers and practitioners. However, we lack the capacity to utilise it effectively. While changing social, political and economic conditions, together with technological advancements are placing new demands on our education system, and schools are being asked to do more and better, we lack a coherent, built-for-purpose system that supports the generation, dissemination and application of usable knowledge to foster system-wide innovation and improvement in our schools.

A note on the title

My story speaks to the knowledge problem that exists in education. There is an apparent abundance of knowledge, developed by both researchers and practitioners. However, we lack the capacity to utilise it effectively.

Deciding what to call a report is a tricky undertaking. One wants a title that is memorable, contains an element of provocation, and also bears some relation to the content of the report. The degree to which the title of this report fulfils these criteria is open to debate. It has, none-the-less, been purposively chosen to pay homage to some of the scholarship and ideas that have influenced me and underpin this report.

In 1995, David Tyack and Larry Cuban wrote the book Tinkering Towards Utopia, whose title describes the often piecemeal process of school reform in the USA over the preceding 100 years. Tinkering has been used frequently in education to describe the actions, processes and development of teachers in their professional contexts, referencing the often unsystematic, individual, and ad hoc approach to new knowledge creation and learning in schools.

Intelligent action was used by the education philosopher and reformer John Dewey to describe to the utilisation of theory in conjunction with expertise to inform observation and inquiry and to guide continued learning and activity in one's context of action. The construction of knowledge within and through contexts of activity and action, and the development of a more systematic approach to knowledge generation, dissemination and application in education are core aspirations of the Education Hub.

DR NINA HOOD
The Education Hub

Acknowledgements

I would like to thank the following people who read a draft of the white paper. Their insights and feedback have been invaluable, prompting me to question and rethink the claims that I am making, the rationale behind the ideas I raise, and ensuring that I am representing the current landscape as accurately and fairly as possible. I thank them for sharing their deep knowledge and expertise so freely, and for keeping me on my toes.*

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*These people do not necessarily agree with or endorse all of the ideas presented in the white paper.

Executive summary

Education is fundamental to the advancement of New Zealand as a nation.

ENSURING THAT EVERYONE RECEIVES A HIGH QUALITY EDUCATION is critical to the continued prosperity of our country and our people. Currently, the education system is failing too many of our young people and is not keeping pace with the evolving demands being placed on it from changing social, political, and economic conditions, and technological advancements.

Addressing these challenges, and supporting schools and educators to improve opportunities and outcomes for their learners and to innovate, requires a transformation in the ways in which we develop and support educators, including their access to knowledge, ideas, tools and resources. Currently, education lacks a coherent, built-for-purpose system that supports the generation, dissemination and application of usable knowledge to foster system-wide innovation and improvement in our schools.

The current [non]system

We have identified eight challenges, which contribute to the absence of a systems approach for producing practical and usable knowledge in education.

1. Research is not structured to enable systematic impact on practice. Researchers typically write for other researchers and consequently much of the research is produced and communicated in a form that is not usable by teachers or immediately relevant to their daily needs or the challenges they are facing in their practice.
2. A lack of funding limits R&D activity in education. There has been an underinvestment both in high quality research exploring what works best in education as well as in development efforts that look to scale proven strategies and approaches.
3. R&D is complicated by the context-dependent nature of knowledge in education. What works best in one school, or in one classroom, or with one student will not always work in another school, or with a different class or student.
4. Furthermore, there is considerable debate as to the purpose and value of education. There is little agreement about how we should structure teaching and learning in our schools, the outcomes we want for our students, or what quality and success mean in education.

5. There is considerable innovation occurring in schools, driven by school leaders and teachers. However, currently educators have few incentives or opportunities to share this knowledge with other educators. There is no system for identifying our most effective and innovative educators or for capturing their knowledge and practice.
6. Even if a system existed, there are few mechanisms for effectively evaluating the quality or usefulness of the knowledge and resources that teachers produce.
7. Education lacks intermediary organisations that coordinate the dissemination of knowledge from research and practice in user-friendly and accessible forms. Currently, no one is responsible for presenting research in forms that are relevant to or usable by educators, or for working with educators to capture, validate, and share their knowledge and resources.
8. Getting usable knowledge into action requires not only access to the right information, in the right forms, at the right time but also the skills and capability to use it effectively.

A way forward

Creating a system for getting usable knowledge into action requires a coordinated and integrated approach to the generation and dissemination of knowledge as well as efforts to build the capacity of stakeholders to engage with and utilise knowledge to support and inform ongoing improvement and innovation. We propose ten principles that should guide the creation of such a system.

1. Establish a research agenda that is informed and shaped by the user communities, including educators, researchers, and policymakers. The agenda must include multiple perspectives and approaches, combining both theoretical and applied research.
2. Ensure a child-centred approach, which seeks and values children's perspectives and advocates for their needs, underpins all work.
3. Support and incentivise researchers to work in partnerships. This includes multi-disciplinary partnerships as well as partnerships with educators in schools.
4. Identify and learn from our bright spots, the schools, teachers and programmes that are providing innovative and enriching opportunities and achieving outstanding outcomes for learners.
5. Create and resource local hubs, based in schools or across clusters of schools, which drive the scaling of educational ideas and practices as well as promoting bottom-up innovation and knowledge generation.
6. Establish new intermediaries that work across research, practice and policy, and leverage technology to transform knowledge into usable forms and disseminate it across the system.

7. Build capacity and capability in the sector through strategic resourcing. This should include appropriate funding, new incentive structures, and time for educators to engage in professional learning and to collaborate with one another.
8. Reduce current isolation in education by improving opportunities for intra- and inter- school cooperation and collaboration. Provide opportunities for educators to learn from and with one another and other stakeholders.
9. Establish new roles for educators, which enable them to participate in and lead knowledge generation work.
10. Explore ideas and opportunities beyond education and New Zealand to ensure an innovative and relevant education system.

The potential for change

There is considerable potential to effect change in New Zealand. We have a strong educational history and a current education sector that is vibrant, committed and engaged. There is outstanding work being done across research, policy and practice. We now need to get better at learning from and leveraging the bright spots, and to sharing new learning about what works, for whom and in what contexts across the system. As a small country, with a tradition of innovation we are well positioned to build a system-wide approach to educational R&D that will drive better opportunities for students.

The Case for Change

New Zealand's education system performs well but faces some systemic challenges

THE ISSUES FACING NEW ZEALAND'S EDUCATION SYSTEM ARE WELL KNOWN but worth briefly repeating. New Zealand has what is often referred to as a high quality / low equity education system. While for many students, particulary high achievers, the school system appears to be working well, there are too many students for whom the system is not having adequate impact. Data suggest New Zealand has one of the highest impacts of socio economic status (SES) on learning outcomes in the OECD, with children from low SES families over-represented in the tail end of the achievement distribution.[2] New Zealand also has wide variability both between and within schools, amounting to an approximately 3 year learning gap between the top and lowest performing schools.[3] The most recent statistics from the Ministry of Education show improvements in outcomes and the narrowing of disparity. However, we still have considerable work to do if we are to be an excellent and equitable education system that serves all students.

The devolved school system in New Zealand, introduced under the *Tomorrow's Schools* reform of 1989, has provided individual schools with the flexibility and freedom to innovate and personalise their offerings. However, it also has led to limited cooperation and collaboration among schools, and the need for each school to develop universal capabilities, and individually to solve systemic issues. The absence of a middle layer[4] has restricted the diffusion and scaling of new knowledge, innovative practices and successful programmes across the school system.

2 Data from OECD (PISA) and McKinsey and Company

3 Data analysis undertaken by McKinsey and Company

4 New Zealand has a two layer education system: the Ministry of Education at the centre and devolved, autonomous schools. It does not have a middle layer (e.g. districts or local authorities), which in many education systems play a critical role in delivering and sustaining improvement through compliance, communication, collaboration, and insulation.

These systemic challenges are amplified by new demands being placed on the education system

The nature of jobs and employment is changing. The NZIER estimates that 46% of jobs in New Zealand are at risk of automation in next two decades.[5] However, the McKinsey Global Institute estimates that by 2020 there will be a global shortfall of 85 million high- and middle- skilled workers.[6] While the role of education and schooling must extend beyond simply preparing young people for employment it also is critical that young people are equipped with the knowledge and skills they require to enter the workforce and that the education system is structured to support the journey from education to employment.

Changing social structures and evolving social issues are placing new demands on our school system. There are a growing number of learners with unique learning needs, and an increasing demand for personalised learning opportunities. Changing family structures and the increasing diversity and multiplicity of worldviews in New Zealand are prompting a rethinking of current models of learning and the design of our school system.

Around the world, changing educational paradigms are redefining the design of schools and the learning opportunities they offer. The development of new pedagogical approaches are challenging the organisational structures of schools, including the division of roles, what it means to be a teacher and a learner, and how schools partner with and engage their communities. New findings emerging from educational and social science research, as well as the human sciences, are providing a deeper understanding of how we learn and how best to facilitate and structure educational opportunities. Underpinning these changing paradigms are technological advances, which have significant potential to disrupt education.

5 NZIER & CAANZ, (2015). *Future[inc]; A plan for Australia and New Zealand's prosperity*. Chartered Accountants Australia and New Zealand.

6 Mourshed, M., Patel, J., & Suder, K. (20130. *Education to employment; Getting Europe's youth into work*. McKinsey and Company.

Addressing these challenges, and supporting schools and educators to improve opportunities and outcomes for their learners and to innovate, requires a transformation in the ways in which we develop and support educators, including their access to knowledge, ideas, tools and resources

Currently, there is too little active cooperation among the people and organisations involved in education. Researchers, policy-makers and practitioners tend to operate in isolation, with no common agenda to guide their activity and limited infrastructure to support collaboration, the sharing of knowledge and expertise, or to scale effective solutions. Consequently, while there exist pockets of innovation and educational success around the country, these tend to remain trapped within individual programmes, schools or classrooms.

Education lacks a research and development (R&D) system, like those in other sectors, for example medicine or engineering. Practice does not coherently inform the research agenda while research insights are not applied effectively, if at all, by practitioners. There are few opportunities for convening researchers and practitioners in long-term partnerships to address core problems in education in ways that are collaborative, innovative and drive continual improvement. There also are few mechanisms and no bespoke organisation responsible for disseminating the findings of high quality research for practice, or for sharing knowledge and innovative practice among practitioners. Consequently, schools, and often individual educators within schools, must independently, and without access to readily available tools, materials or resources, work to improve opportunities and outcomes for learners.

The infrastructure and distributed capacity to support ongoing and systemic change and development are largely absent in education. Jane Gilbert, a Professor at AUT specialising in futures thinking in education suggests that:

> *Change will not come from adding more "inputs" - new structures and new vocabulary (collaboration, clusters, networks and so on) - into the existing system. These new inputs will just be "colonised" to "old" ways of thinking … System-wide change has to come from within the system, not from "top down" initiatives designed to produce specific kinds of change, thought to be knowable in advance. We need within-system initiatives designed to produce more – and deeper - interactions between the system's elements – people (teachers, students, school leaders, parents, policymakers, researchers, and so on) and their physical and intellectual environment/s. Increasing interaction (via appropriate structures) will shift the way the system "works" and how it "knows". Past "inputs" will be re-worked, and the system as a whole will be re-energised, with more resilience and more capacity for innovation.*[7]

7 Gilbert, J. (2015). Leading in collaborative, complex education systems. Commissioned paper for New Zealand Education Council.

Achieving this vision of bottom up innovation and improvement will require addressing some of the core institutional arrangements of school-level education in New Zealand and the reconceptualisation of how R&D operates in education.

The current [non]system

Education, at the school level, currently is not structured to support the continuous improvement and innovation that is required to meet the ever-changing demands and requirements being placed upon it. This report identifies eight knowledge challenges affecting the research, policy and practice in education.

EIGHT KNOWLEDGE CHALLENGES IN EDUCATION

- Research is not structured to enable systematic impact on practice
- Limited funding restricts R&D activity
- Evidence is not absolute; it is not just what works best but for whom and in what contexts
- The role and purpose of education as well as desired educational outcomes are contentious
- Educators' knowledge and expertise is not routinely leveraged or shared
- Limited ways to validate and vet educators' knowledge and practices
- Absence of intermediaries to facilitate the flow of information and knowledge
- Capacity to utilise and apply knowledge

Research is not structured to enable systematic impact on practice

Research knowledge primarily is designed to conform to the traditional conventions of high-status university research and journal publication standards rather than to cater to the specific and practical knowledge required by educators. There are few opportunities for educators to inform the research agenda, and consequently too little research focuses on the problems of practice that educators experience in their daily lives. This, coupled with the small-scale, non-cumulative nature of much of the research being produced, and the lack of long-term collaborations between groups of researchers, or between researchers and practitioners, results in too little usable research for practice. David Hargreaves, Emeritus Professor at the University of Cambridge, argues that the academic structure and the research it produces too often is *'devised not to be applicable to, or have serious bearing on, any policy or practice: it has become academic self-indulgence'*.[8] The Education Review Office in a 2011 investigation of teaching and learning in schools found that:

> *Few schools used research findings as the basis of their decision-making about provision for students. Teachers typically selected future teaching strategies from an existing repertoire of their own and colleagues' practice.*[9]

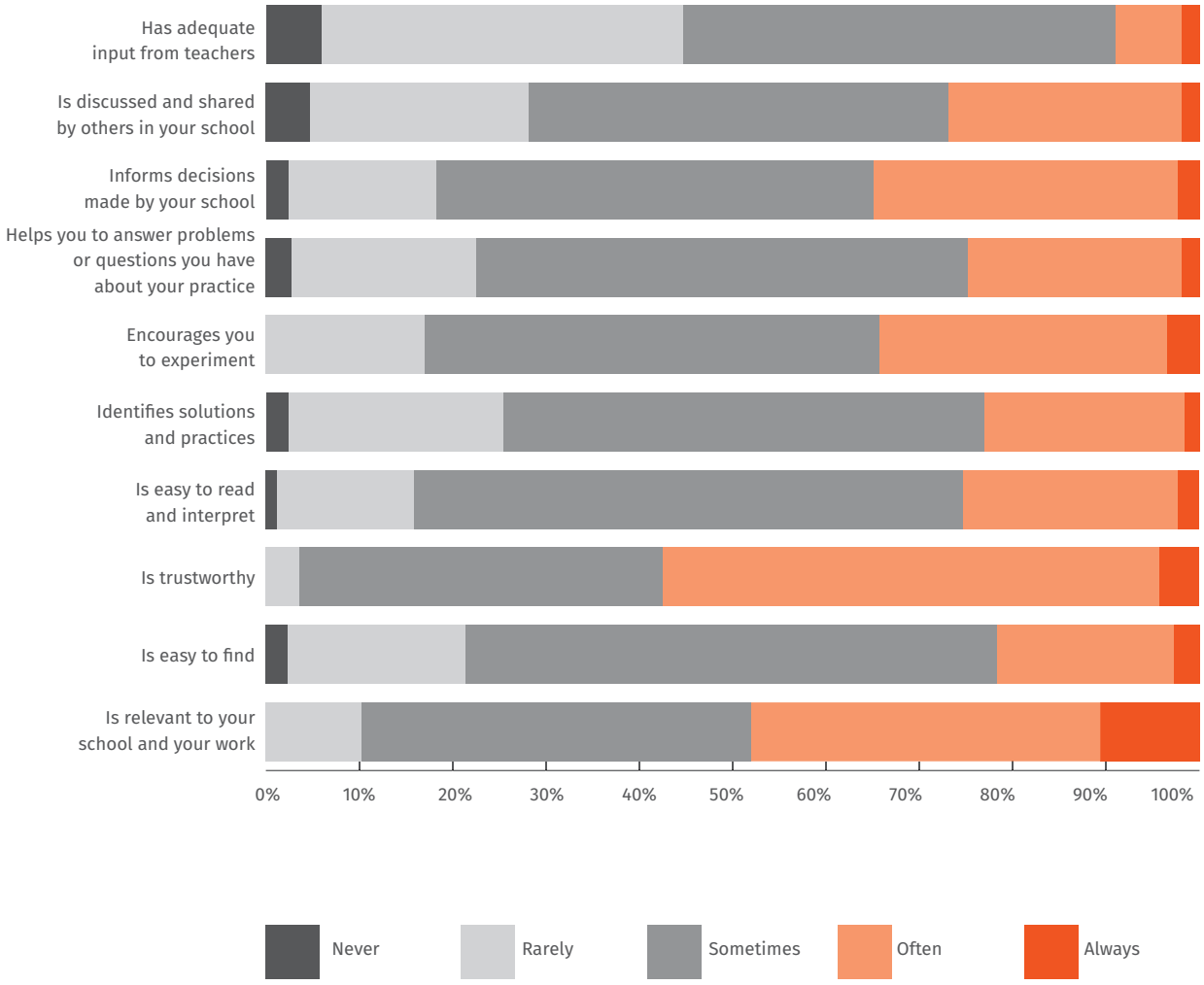
A 2017 survey of over 330 teachers and school leaders from across New Zealand conducted by The Education Hub identified similar trends in educators' use of research to inform their professional practice (see Exhibit 1). The data indicate a continued disconnect between teachers' needs and the types of research being produced and the modes through which the research findings are disseminated. The survey data further suggest that while a majority of educators consider research to be trustworthy and some educators are utilising research to inform their decision-making and practice, this is not yet occurring regularly across the profession. Only 21.7% of educators think research is often or always easy to find and 24.5% of educators consider research to often or always help them to answer problems or questions they have about their practice.

To address some of these challenges, there have been moves towards more applied, design-based research in education, and the development of long-term research-practice partnerships (RPPs), which seek to connect the rigorous approaches of researchers with the experiences and contexts of educators. RPPs draw on the expertise and specialist knowledge of both researchers and practitioners, and promote shared ownership of research, innovation and knowledge building. Research and improvement activity focuses on problems relevant to practice, established in response to educators' needs, rather than to address gaps in existing theory or research. Researchers work alongside practitioners to test, refine and iteratively improve education practices and programmes, embedding high quality data collection and evidence use in ongoing school improvement efforts (see Case Study 1 for a brief introduction to three RPP models).

8 Hargreaves, D. (1998). *Creative professionalism: The role of teachers in the knowledge society.* London: Demos.

9 Education Review Office (2011). D*irections for learning: The New Zealand Curriculum principles, and teaching as inquiry*. Retrieved from: http://www.ero.govt.nz/publications/directions-for-learning-the-new-zealand-curriculum-principles-and-teaching-as-inquiry/.

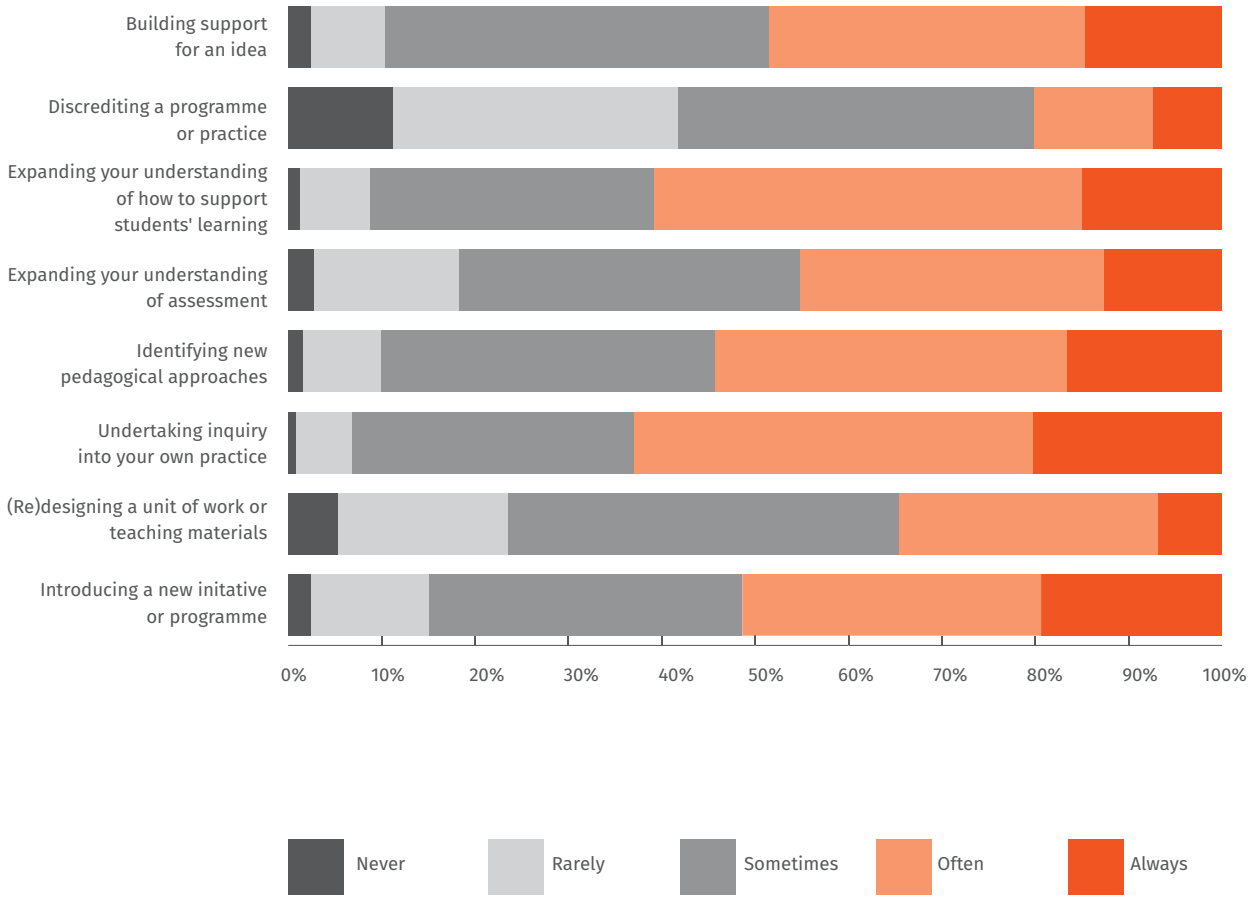
EXHIBIT 1: Educators' engagement with and use of research in their professional practice



Source: The Education Hub, Educator Survey 2017

See Appendix A for a discussion of methodology

Frequency with which educators use research for the following activities



Source: The Education Hub, Educator Survey 2017

See Appendix A for a discussion of methodology

CASE STUDY 1: Research Practice Partnerships

TEACHING AND LEARNING RESEARCH INITIATIVE

The Teaching and Learning Research Initiative (TLRI) was established by the Ministry of Education in 2002 to enhance the links between educational research and teaching practice, by funding projects undertaken as a partnership between researchers and practitioners to improve outcomes for learners. The project aims are to: (1) build a cumulative body of knowledge linking teaching and learning; (2) enhance the links between educational research and teaching practices—and researchers and teachers—across early childhood, school, and tertiary sectors; and (3) grow research capability and capacity in the areas of teaching and learning.

TLRI has had considerable impact in the education sector, and in particular in the development of research projects that are focused on problems of practice and integrated in school and early childhood education settings. There is evidence to suggest that TLRI is contributing to the building of cumulative knowledge in several curriculum areas and building research capacity in the education sector. However, questions have been raised regarding the extent to which the projects represent genuine partnerships and the inclusion of teachers as true research partners. Concerns also have been raised about the lack of wider dissemination of the findings and the ability of the sector to learn from the research being conducted. Following a 2012 review of TLRI, several commentators queried the ability of research focusing on what already exists to drive change and advancement in our knowledge of and for practice.[1]

WOOLF FISHER RESEARCH CENTRE

The Woolf Fisher Research Centre, based at the University of Auckland, has developed the Learning Schools Model, which employs design-based research to run intervention studies in schools or clusters of schools. The researchers work with school leaders to collectively analyse and make sense of student achievement data and to collaboratively design an intervention. The researchers utilise their theoretical knowledge and their relationship with educators to design interventions that position teachers, and increasing their pedagogical content knowledge, as the lever of change. The Centre has developed long-term partnerships with clusters of schools, including the Tamaki-based Manaiakalani cluster where they have designed a series of interventions to support literacy instruction. The Centre currently is working on Manaiakalani Outreach, which involves the dissemination of the Manaiakalani philosophy to five clusters of schools around New Zealand.[2]

1 See: Hill, M. & Cowie, B. (2012). The contribution of the Teaching and Learning Research Initiative to building knowledge about teaching and learning: A review of school sector projects, 2003–2012. Wellington: TLRI; Hipkins, R. (2012). Taking a future-focus: A personal response to review of TLRI school-sector projects, 2003–2012. Wellington: NZCER; Huntington, N. (2012). Reflections on 'The Contribution of the Teaching and Learning Research Initiative'. Wellington: Ako Aotearoa.

2 Information collected through interviews and discussions with members of the Woolf Fisher Research Unit: Prof. Stuart McNaughton, Dr Rebecca Jesson and Dr Aaron Wilson

CASE STUDY 1: (continued) Research Practice Partnerships

CONSORTIUM ON CHICAGO SCHOOL RESEARCH

The Consortium on Chicago School Research (CCSR) at the University of Chicago was founded in 1990 to build capacity for school reform through conducting and disseminating research findings and improving the ability of educators to use data, to design and implement effective strategies and programmes, and to evaluate their progress. Interestingly for New Zealand, the CCSR emerged at a time of the decentralisation of schools, which positioned principals and frontline educators rather than district offices as the primary audiences for research and the key drivers of school improvement efforts. The CCSR responded to the changing education context by:

> *Redefining [the] research structure: effectively supporting the search for solutions—what we term a new model for educational research that informs policy and practice—requires researchers to ask questions that address the core problems facing practitioners and decision makers and to see themselves less as "outside evaluators" and more as a resource that engages interactively with educators and reformers to build capacity for reform. Discerning the most crucial questions to investigate, building a cumulative knowledge base, and bringing findings to bear on local policy and practice all require focus on a single school district or geographic location.*[3]

The CCSR has redefined what success looks like for its researchers and research, moving away from a focus on individual researchers producing a good piece of research, to considering whether particular research findings translate into policy and practice and contribute to a wider conversation around school improvement.

3 Roderick, M., Easton, J., & Sebring Bender, P. (2009). The consortium on Chicago schools; A new model for the role of research in supporting urban school reform. Chicago: The University of Chicago Urban Education Institute.

A lack of funding limits R&D activity in education

Sir Peter Gluckman, Chief Science Advisor to the Prime Minister, argues that social policy has not benefited from the kinds of investment in public research capabilities as areas such as conservation or primary production.[10] While the annual education budget is over $11 billion, government funded educational research from the New Zealand Council for Educational Research, the Teaching and Learning Research Initiative fund, Ako Aotearoa, and evaluation and research from the Ministry of Education is estimated to amount to only around $15 million per annum.[11] University-based researchers also have access to funding through the Performance Based Research Funding paid to their institutions. Given the importance of education to New Zealand and New Zealanders, and the critical role of R&D in supporting improvement and driving innovation, the current funding levels seem inadequate.

The contentious role of evidence in education when x + y does not always equal z

Researchers and policymakers often lament the limited role research evidence plays in practice and policy in education, and there have been movements around the world that seek to establish teaching as an evidence-informed profession. However, teaching and education do not conform to the scientific model of cause and effect. While it is tempting to try to reduce teaching to a set of proven strategies, that can be rolled out across all classrooms in all schools, the reality is much more complex. As Vivian Tseng of the W.T. Grant Foundation and Sandra Nutley, a Professor and the Director of the Research Unit for Research Utilisation at the University of St Andrews, explain:

> *It is relatively rare for research findings to provide clear-cut solutions that can simply be adopted and implemented across a range of contexts. More often, research findings suggest a direction of travel, but specific actions are negotiated locally.* [12]

Knowledge in education is context-rich and embedded within complex social systems. Teaching is an interactive and dynamic enterprise, shaped by a myriad of within school and out-of-school factors. Educators create knowledge and teaching strategies that are relevant to the unique settings of their individual schools, and cater to the backgrounds, interests, needs, and prior knowledge of their students. What works in one school, or with

10 Gluckman, P. (2013). *The role of evidence in policy formation and implementation.* A report from the Prime Minister's Chief Science Advisor. Auckland: Office of the Prime Minister's Science Advisory Committee.

11 McNaughton, S. (2016). Tales of achievement at school. Presentation to The New Zealand Initiative Members' Retreat, 18 March 2016.

12 Tseng, V., & Nutley, S. (2014). Building the Infrastructure to Improve the Use and Usefulness of Research in Education. In: K.S. Finnigan and A.J. Daly (eds.), U*sing Research Evidence in Education: From the Schoolhouse Door to Capitol Hill, Policy Implications of Research in Education* (163-175). New York: Springer.

CASE STUDY 2: A brief introduction to improvement science

THE CARNEGIE FOUNDATION FOR THE ADVANCEMENT OF TEACHING, under the presidency of Tony Bryk, has established improvement science at the heart of their research programme. Improvement science brings researchers and practitioners together in Networked Improvement Communities (NICs) to address the big issues and challenges facing education by developing field-based experiments and sustained investigations. Improvement science is centred on the idea that people learn best by doing. Researchers work alongside practitioners to undertake Plan, Do, Study, Act (PDSA) cycles, which see them test new ideas, and collect evidence to evaluate their impact and to facilitate iterative improvement.

Structuring the research within Networked Improvement Communities is designed to coordinate and accelerate the development, testing, and refinement of interventions across multiple network members and sites. It draws on the principle of network theory, which suggests that developing strong social connections can enhance and accelerate learning. Not all members within a networked community must address the problem in the same way. Instead, there is a focus on multiplicity and developing an evidence-base for what works, with whom, and in what contexts.

one class, or even with a single student, will not transfer automatically to another school, class or student.

The localness of knowledge in education complicates the ability to scale successful practice. While improvement efforts in individual schools, or in relation to particular practices or programmes have been successful, it has proved nearly impossible to achieve improvement on a large scale. Stuart McNaughton, a Professor at the University of Auckland and Chief Science Advisor in Education to the Prime Minister, suggests that while research has been quite good at describing the problems facing education it has struggled with the scaling of successful practice. McNaughton advises that scaling in education should be less concerned with treatment fidelity and more focused on process fidelity. That is, the process of knowing how to improve and the conditions, including the learning required, to enable improvement to occur across contexts. McNaughton advocates a focus on understanding and reducing variability in outcomes, and building local capability within the sector to support improvement efforts.[13]

There has been a move in recent years away from focusing on 'what works' in education, to exploring 'what works, for whom and in what contexts'. Tony Bryk, President of the Carnegie Foundation for the Advancement of Teaching, advocates the employment of improvement science to build the education sector's capacity to improve.[14] Improvement science provides a means for rethinking the purpose and position of research in education, as well as developing a model for integrating research into the work of educators (see Case Study 2 for a brief introduction to improvement science).

Negotiating what matters in education and for what we are educating

There is fierce debate as to the purpose and value of education. For some, education primarily is preparation of and for the workforce, designed to equip young people with the skills they need to contribute to the economy. For others, it serves a social, moral and civic function, creating thoughtful and aware citizens, committed to engaging in and contributing actively to a strong, just and equitable society. For others still, it is about fostering growth and creativity. The perspective that one holds about the purpose of education has important implications for the outcomes they value for students and schools more broadly.

There has been a growing movement in education, both in New Zealand and overseas, towards a focus on measuring improvement and outcomes in education. The development of usable knowledge for education is reliant, at least in part, on the ability to assess the success of a particular practice or approach in relation to a particular outcome. However, there is much contention surrounding what outcomes should be measured, the extent to which these outcomes can be measured accurately and reliably, and just what these outcomes tell us about education, student

13 These ideas were discussed during conversations between the author and Prof. McNaughton

14 Bryk, A., Gomez, L., Grunow, A., & LeMahiu, G. (2015). *Learning to improve: How America's schools can get better at getting better*. Cambridge, MA: Harvard Education Publishing Group.

learning, and schools. Gert Biesta, a Professor of Education at Brunel University in London cautions this emphasis on measurable outcomes:

> *[T]he abundance of information about educational outcomes has given the impression that decisions about the direction of educational policy and the shape and form of educational practice can be based solely upon factual information … when we are engaged in decision making about the direction of education we are always and necessarily engaged in value judgements – judgements about what is educationally desirable … In order to bring issues of value and purpose back into our discussions about education, particularly in situations in which measurement figures prominently, we need to re-engage with the question as to what constitutes good education.*[15]

The knowledge and expertise of educators is not routinely leveraged or shared to support system-wide learning

Much of the innovation occurring in education is taking place in schools, driven by school leaders and teachers who are creating new approaches, constructing new learning environments, and providing novel opportunities for their learners. Around New Zealand there are numerous examples of schools and teachers who are successfully addressing many of the challenges and new demands facing our school system, and are achieving outstanding outcomes with their students. The adage, 'solutions to the problem are embedded in the knowledge and practices of frontline workers' has significant bearing in education.

However, to date, capturing and sharing the knowledge created and accumulated by educators across their careers has been limited. Linda Darling-Hammond, President of the Learning Policy Institute and a Professor of Education at Stanford University, describes the 'egg-crate' model of teaching, where teachers work primarily in isolated classrooms with limited opportunities to discuss their practice or to collaborate on teaching strategies.[16] Findings from the New Zealand Council for Educational Research's (NZCER) 2015 survey of secondary schools found that only 57% of teachers believed they had good opportunities to see and discuss the work of teachers in their school when they wanted to do something different, and only 33% of teachers agreed or strongly agreed that they had good opportunities to see and discuss the work of teachers in other schools whose work interests them. The survey further found that while 65% of teachers considered the sharing of teaching ideas and resources between teachers at their school to be good or very good, this dropped to only 55% of teachers in decile 1 and 2 schools.[17]

15 Biesta, G. (2009). Good education in an age of measurement: on the need to reconnect with the question of purpose in education. *Educational Assessment, Evaluation and Accountability,* 21, 33-46.

16 Darling-Hammond, L., Wei, R., Andree, A., Richardson, N., & Orphenos, S. (2009). *Professional Learning in the Learning Profession: A Status Report on Teacher Development in the United States and Abroad.* Stanford University: National Staff Development Council.

17 Wylie, C., & Bonne, L. (2016). *Secondary schools in 2015; Findings from the NZCER national survey.* Wellington: NZCER.

In a devolved school system, like New Zealand, the sharing of teacher-created knowledge among schools is more complex than in systems that have a middle layer, which is responsible for disseminating ideas and resources across schools. Various government initiatives have been implemented over the past two decades to support the convening of teachings, including Extending High Standards Across Schools and Learning Change Networks. However, to date, these initiatives have not received long term funding.

The results from the NZCER survey of secondary schools identified a greater demand for access to external curriculum advice and the sharing of knowledge and ideas with teachers from other schools among teachers based in small schools and decile 1 and 2 schools. The lack of incentives or existing systems for teachers to share their knowledge beyond their immediate colleagues and school environment is in part to blame. As Professors David Hargreaves and Dominique Foray explain:

> *Teachers have had few natural incentives to attempt to diffuse their findings either to colleagues in their own school or subject specialism, or to schools elsewhere or to different subject specialists ... there is little consensus on the methods that are most appropriate to investigating 'what works', and no system for disseminating outcomes in the form of professional knowledge transfer.*[18]

The Government's *Investing in Educational Success (IES)* initiative, which incorporates the Teacher-Led Innovation Fund (TLIF) and Communities of Learning (CoLs) aims to lift student achievement through utilising and developing educators' knowledge and expertise. The TLIF supports teams of teachers to develop innovative practices that improve learning outcomes for students, while CoLs are designed to support collaboration and the sharing of expertise among clusters of schools, with educators working together to identify and address common achievement challenges. It is too early to assess the success of these two approaches, and like most initiatives there is likely to be considerable variation in the operation and outcomes of individual TLIF projects and CoLs. However, it appears that there has been a lack of attention given to the infrastructure required to enable CoLs to function effectively. There have been few provisions to build capacity among CoL members to work together, or to share information and learnings among schools. Further are few structures in place to support the sharing of knowledge and ideas among CoLs. Similarly, little attention has been given to how to leverage knowledge and expertise across TLIF projects and to share this knowledge across the sector.

Vetting and validating the knowledge educators produce in their practice remains problematic

Technology increasingly is being used to enable educators to share their knowledge and resources. There are a growing number of websites and online platforms both overseas and in New Zealand, as well as social media sites such as Facebook, Twitter and Pinterest, which allow teachers

18 Foray, D., & Hargreaves, D. (2003). The production of knowledge in different sectors: a model and some hypotheses. *London Review of Education 1*(1), 7-19.

to share resources and ideas with other teachers.[19] However, there remains an issue of how to vet and validate the knowledge teachers produce. Harvard Graduate School of Education Professor Catherine Snow describes this problem:

> *Teacher practices get developed but there is no mechanism to distinguish and vet them. There is no way to elevate and replicate. Even if there is some evidence that something works, the chaos and lack of respect for teacher professionalism almost inevitably undercut this knowledge.*[20]

The absence of vetting and validation mechanisms has been found to limit the efficacy with which educators can search for and identify relevant, reliable and high quality resources, ideas and advice online. Furthermore, the absence of these mechanisms has contributed to the enduring perception that teachers' knowledge lacks the validity and legitimacy of research knowledge.

The development of schools as research or knowledge development hubs, and the embedding of research within the daily operation of schools, has emerged as one way to break down the divide between research knowledge and educator or practice-based knowledge (see Case Study 3 for more information on the development of schools as research hubs).

19 Internationally, some of the most widely known and used teacher-sharing platforms include TES, BetterLesson, Teaching Channel, TeachersPayTeachers, Learn Zillion. In New Zealand TKI shares exemplars for teachers, while the N4L's Pond is designed to be an online community to connect and empower educators to discover and share resources, knowledge and experiences.

20 Interview excerpt reported in Mehta, J., Theisen-Homer, V., Braslow, D., & Lopatin, A. (2015). *From quicksand to solid ground; Building a foundation to support quality teaching.* Whitepaper for Transforming Teaching.

CASE STUDY 3: Schools as Research Hubs

THE CONCEPT OF SCHOOLS AS RESEARCH HUBS BUILDS ON THE NOTION that many of the innovations and new practices emerging in education are being developed in schools. However, schools often lack the capacity and capability to measure or evaluate the effectiveness or outcomes of these new advancements. Embedding research within the school setting facilitates fast learning from the experiments taking place in schools. Below are three models for establishing schools as research hubs. While there has been no research to date to investigate their impact, they represent examples of innovative approaches to bridging the research-practice divide.

TANG INSTITUTE AT ANDOVER, USA

Tang Institute's mission is to 'cultivate innovative approaches to connected learning on campus and beyond'. In the Ideas Lab, teachers, known as faculty fellows, are given a time allowance to design an innovative project, which they test and grow over the course of one semester with support from Institute staff and other collaborators. These teacher-created ideas and projects are shared with teachers at the school and increasingly are being disseminated more widely. One particularly successful project has seen an Andover teacher collaborating with Khan Academy to develop the curriculum for AP Calculus. A parallel work stream, Hybrid@Andover encompasses an array of courses and pilot programmes that explore the possibilities of hybrid and online learning experiences and materials for students at Andover and beyond.[1]

For more information, go to: **http://tanginstitute.andover.edu**

TONY LITTLE CENTRE AT ETON COLLEGE, UK

The Tony Little Center is a collaborative research space where staff from Eton can work alongside researchers at universities on specially designed projects, which aim to put theory into practice. The Centre's work is focused on three broad areas: neuroscience, new apps and changing technologies, and improving teaching skills. Teachers trial new teaching techniques, conduct pilot projects to investigate different approaches and utilise specially designed classrooms, which allow lessons to be observed and recorded. Embedded in the Centre's mission is the dissemination of the knowledge it builds throughout the sector, through publishing the findings of its research, partnering with an edtech accelerator, and working alongside other schools in the UK.

For more information, go to: **http://www.etoncollege.com/CIRL.aspx**

1 This case study is partially informed by a conversation between the author and Carol Nolan, Director of the Tang Institute and Eric Roland, Director of Parnterships.

CASE STUDY 3: (continued) Schools as Research Hubs

ALTSCHOOL, USA

R&D activity lies at the heart of AltSchool, a private school designed as a partnership between educators, entrepreneurs, and engineers. AltSchool was founded in 2013 by former Google head of personalisation Max Ventilla and now has grown to seven schools. AltSchool have built an online platform, My.AltSchool, which is designed to personalise the learning journey of each student. A dedicated team of engineers, who work in collaboration with the teachers, constantly refine and redesign the technology infrastructure in order to better support student learning. Alongside data captured from the online platform, they are utilising AltVideo, which captures video and audio footage of classes, to inform both the design of the technology and the structure and organisation of teaching and learning. AltSchool described their approach to R&D work:

> *Our engineers visit AltSchool classrooms on a regular basis to observe and see how the tools they build are working. Our User Research team regularly spends time with teachers to get feedback on designs, prototypes, and live products. Educators submit hundreds of tickets each month to share direct feedback on our products. Many engineers and educators participate in monthly "buddies" program, where they are paired cross-organizationally and meet to exchange ideas. Special events like Hackathons happen throughout the year, where educators and engineers form small groups to design and hack on an idea, to improve some aspect of the AltSchool experience.*[2]

Alongside their seven (from 2018 eight) schools, AltSchools also are developing a partner network, which enables schools to leverage their technology and services platform.[3]

For more information, go to: **https://www.altschool.com**

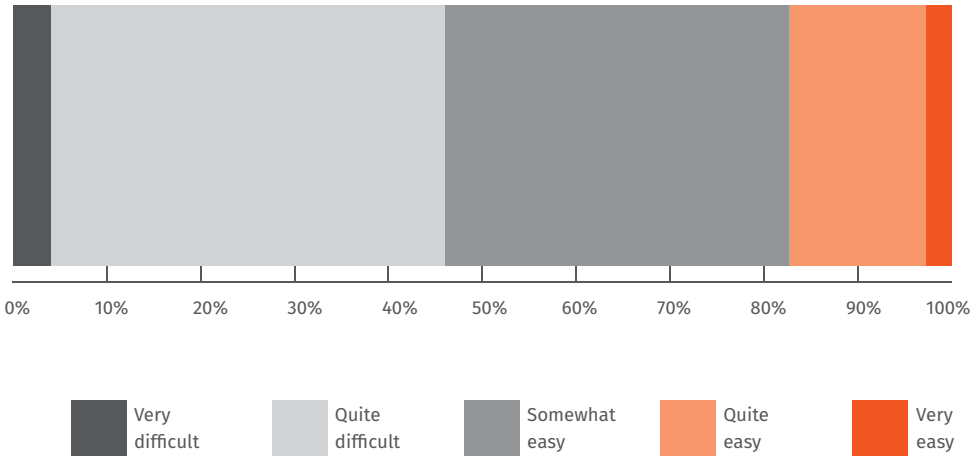
2 AltSchool (2016). 2016 Benefit Corporation Report.
Retrieved from: https://s3.amazonaws.com/altschool-cdn/info/AltSchool+2016+Benefit+Corporation+Report.pdf.

3 This case study is partially informed by a conversation between the author and Daniel Barber, Head of Educator Experience at AltSchool.

Education lacks the intermediaries to facilitate the flow of information and knowledge among researchers, policymakers and educators

Currently, there are few mechanisms and no bespoke organisation responsible for identifying, verifying, collating and disseminating the findings of high quality research for practice, or for sharing knowledge and innovative practice among educators. The Education Hub's survey of educators found that only 17% of educators found it quite or very easy to stay up to date with new information and practices in education (Exhibit 2). Intermediary organisations could play a critical role in sorting and vetting the information and knowledge being produced in research and practice, thereby reducing the plethora of research findings and teaching materials to a volume that is manageably searchable by educators. Intermediaries also could play a crucial role in transforming research and practice based knowledge into a form that is accessible and actionable for educators in the contexts of their professional practice.

EXHIBIT 2: How easy do educators find it to stay up-to-date with new information and practices in education?



Technology has the potential to play a pivotal role in facilitating improved knowledge dissemination in education. Social technologies can improve communication and collaboration within and across organisations by providing platforms for content creation, knowledge distribution, and consumption.

The Ministry of Education attempted to drive R&D activity and to disseminate research into practice in education through the Best Evidence Synthesis (BES) programme, which aimed to:

> *Build the capability of the national research community to transform relevant but fragmented research knowledge into a more useful tool for both policy makers and practitioners. BES is also seeking to steer the research community towards a greater focus on informing educational development through R&D.*[21]

The distilled research evidence on what works in key areas, including school leadership, teacher learning and professional development, effective pedagogy in the social sciences, and effective pedagogy in mathematics, has earned the BES project international recognition and praise. However, its insufficient impact to-date on policy and practice in New Zealand (to be discussed in the following section) provides an important lesson for education knowledge dissemination: the need to consider the form of the knowledge and how it will be utilised in practice.

It is not only the ability to access the right knowledge but having the skills and capacity to utilise it

Knowledge is not applied in a linear way but rather is shaped and mediated by its users and their contexts of action. How an educator (or policy maker) engages with, and what they construct from, information is shaped by their needs and current context as well as their past experiences, beliefs, values and existing knowledge.

Emeritus Professor Michael Fullan explains in the foreword to the 2015 edition of the *School Leaders and Student Outcomes* BES that it is necessary to move beyond the presentation of knowledge to consider the necessary conditions for facilitating its application and use in practice:

> *As valuable as this document is the next phase of putting the ideas into practice is going to be very difficult. It is one thing to uncover what works in existing successful schools; it is entirely another level of the problem to even understand how the schools in question got this good, let alone how schools that are not this effective can become so. … Few practitioners and policy makers will read the whole study; those who do will find it difficult to identify specific actions; and even those who are clear about what actions should be taken will be hard pressed to mobilise others in a concerted effort for new implementation.*[22]

Any efforts to bridge the gap between research and practice, and to facilitate the more effective dissemination of knowledge around the education system must focus not only on the nature of the information and knowledge being shared but also the forms this knowledge takes, the

21 Alton-Lee, A. (2007) *The Iterative Best Evidence Synthesis Programme, New Zealand. Evidence in Education: Linking research and policy,* (71-79). Paris: OECD.

22 Fullan, M. (2015). *The international foreword. School Leadership and Student Outcomes; Identifying What Works.* Wellington: Best Evidence Synthesis Programme.

channels through which it is transmitted, and the capacity and capability of the end users to engage with and utilise the knowledge.

The application of research and practice-based knowledge has particular peculiarities in a decentralised school system like New Zealand. The absence of a middle layer means that the primary audience for knowledge and the central actors in any improvement or innovation efforts are the educators, and in particular school leaders. The ability of school principals to readily access, interpret and easily apply knowledge from research, policy and practice to inform change and development in their schools, and to communicate and share this knowledge with their staff, is critical to improving opportunities and outcomes for learners in New Zealand.

A way forward

Creating a system for getting usable knowledge into action requires a coordinated and integrated approach to the generation and dissemination of knowledge as well as efforts to build the capacity and capability of stakeholders to engage with and utilise knowledge to support and inform ongoing improvement and innovation in practice. Below are a series of ten principles that should guide the creation of such a system.

PRINCIPLES TO GUIDE A ROUTE FORWARD

1	Establish a coherent, collaboratively determined and pluralistic research agenda
2	Ensure a child-centred approach underpins all work
3	Support and incentivise researchers to work in partnerships with other researchers and educators
4	Identify and learn from our bright spots
5	Build local hubs to facilitate educator-led and research supported knowledge generation
6	Establish new intermediaries, that leverage technology, for knowledge dissemination
7	Build capacity and capability in the sector
8	Build structures to support intra- and inter- school cooperation
9	Establish new roles for educators to drive knowledge generation
10	Explore ideas and opportunities beyond education and New Zealand

Establish a coherent, collaboratively determined and pluralistic research agenda

Any research agenda must be informed and shaped by the user communities, including educators, researchers, and policy makers. These stakeholders must be encouraged to participate at all stages of the research process, from the establishment and prioritisation of areas of focus, to the design and funding of projects, and the dissemination and application of new knowledge in practice. Included in such an agenda should be the core challenges facing education in New Zealand, the new opportunities and ideas that have the potential to enrich learning and schools, and the problems of practice experienced and identified by educators.

Research must embrace diverse perspectives and approaches, and avoid seeking a single 'right' answer. Creating a system in which 'applied' research is considered of equal value and receives equal attention and funding as the 'pure' or theoretical research that dominates education research currently is critical to the development of usable knowledge. Embedded within any research agenda must also be the questioning of the purpose and value of education in New Zealand, and research that extends beyond the status quo to challenge existing models, approaches, frameworks, and perspectives. A pluralistic approach also requires that not all research activity is limited to a single agenda. Knowledge is central to the mission and success of education. Ensuring that research and researchers retain the autonomy to pursue diverse approaches and to explore new ideas, which may not appear to have immediate impact on education, is essential.

Ensure a child-centred approach underpins all work

This paper has focused extensively on the structures and systems operating in education, and the roles and responsibilities of researchers, policy makers and educators within these.

There has been little focus on the young people these systems, structures and people serve. Children must be at the centre of our route forward. This involves seeking and valuing their perspectives, advocating for their needs, and designing a system that places children at its centre.

Support and incentivise researchers to work in partnerships

Bringing together researchers, including those from different institutions, to pursue common research interests and to learn from and develop with each other, could help to accelerate knowledge generation in education. Education could benefit from the establishment of an entity, similar to the seven existing Crown Research Institutes, which would bring together researchers from across the country to undertake research that supports the education sector to innovate and grow. Establishing

interdisciplinary partnerships, which would see educationalists working in collaboration with researchers from other disciplines, including neuroscience, psychology, computer science, engineering, the Arts, and the Sciences, would further enrich and diversify the knowledge being generated to support improvement and innovation in our schools.

Researchers also should be supported and incentivised to form research practice partnerships (RPPS). RPPs, in their various forms, offer a means for generating knowledge and new practices that are relevant to and embedded within schools. These long-term partnerships would focus on problems of practice, as negotiated by both researchers and practitioners, and the co-designing of solutions for improving educational opportunities and outcomes, embedding the R&D process into schools, or clusters of schools. Their flexible structure allows the rapid testing and iteration of ideas and approaches, facilitating quick, on-the-ground learning as well as contributing to the broader knowledge base informing education.

Identify and learn from our bright spots

Bright spots – the schools, teachers and programmes that are providing innovative and enriching opportunities and achieving outstanding outcomes for learners – exist across the education system. While much research focuses on diagnosing what is wrong, there is considerable potential to learn from our bright spots and to celebrate their successes. Bright spots offer the opportunity to identify and examine not only what is working but also to explore the factors and conditions that appear to be underpinning their success.

Build local hubs to support educator-led knowledge generation

Local hubs, based in schools or across clusters of schools, could facilitate the scaling of educational ideas and practices as well as promoting bottom-up innovation and knowledge generation. Hubs would provide support and the infrastructure to enable educators to design, test, review and iteratively develop approaches and practices in the contexts of practice. These hubs have the potential to play a critical role in the R&D infrastructure by formalising and supporting the design and experimentation processes that occur in schools and the dissemination of successful ideas and practices. In doing so they would celebrate and validate the knowledge and expertise of educators, positioning them as key drivers of change and development in education.

Establish new intermediaries, that leverage technology, for knowledge dissemination

Researchers and educators largely lack the time, incentives, resources, and perhaps in some cases the expertise, to disseminate their knowledge effectively and efficiently across the sector. The establishment of new intermediary organisations are critical to supporting the effective

mobilisation of research and practice-based knowledge. Intermediaries would work with educators, researchers and policymakers to identify knowledge needs. They would then sort through, validate and consolidate existing and emerging research knowledge and transform it into forms that relevant and actionable for various stakeholders. The intermediaries also would work with educators to capture, validate and disseminate examples of successful practice.

Technology has the potential to greatly support knowledge dissemination in education. It can break down the temporal and geographical barriers that traditionally have impeded knowledge dissemination, connecting stakeholders with learning opportunities and knowledge sources that are not available in their local contexts. Social technologies, which enable users to create, add, modify and disseminate content, as well as to create networks of individuals (and in some cases organisations) with shared interests and agendas, can foster communication, collaboration and shared problem solving among members. Technology also offers new modes of knowledge production and dissemination, potentially enhancing knowledge application and facilitating greater opportunities for learning.

Build capacity and capability in the sector

Educators must be empowered to strengthen and improve their practice through engagement with and in research, and innovative practice development. Championing and validating the knowledge that educators create through their work, and providing a means for this to inform the knowledge base of education is critical to creating a strong and vibrant education sector. For capacity building work to be successful it must be underpinned by strategic resourcing, including appropriate funding and new incentive structures and time for educators to engage in professional learning and to collaborate with one another. Educators further should be supported to see their roles and responsibilities as extending beyond their individual schools, to include contributing to the educational success of students across New Zealand.

Build structures to support intra- and inter- school cooperation

Improved opportunities for cooperation among educators could help to reduce the constant reinvention of the wheel in schools, and provide opportunities for educators to learn from and with one another and other stakeholders. This will require a culture shift in education, away from the traditional notion of teachers working as individual units towards a more distributed and collaborative structure. New policy initiatives that restructure the school day to allow more time for teachers to plan, watch other teachers, and engage with other teachers would be instrumental in driving greater cooperation. The Communities of Learning initiative provides one (but not the only) means for building inter-school cooperation. Central to the success of CoLs will be the creation of structures and support systems for building educators' ability to work together and to share knowledge and ideas effectively among the CoL members. CoLs also must be supported to share learning and successful practice across the sector.

Establish new roles for educators to drive knowledge generation

New roles should be created for teachers to allow them to participate in and lead knowledge generation work. These could include the development of teacher-researcher roles, which would enable teachers, who have undertaken research training, to work part time as a teacher and part time as a researcher in their school, or across a cluster of schools. Our most effective teachers should be supported and incentivised to share their resources and practice across the sector. Intermediaries could work with these teachers to capture, validate and disseminate core elements of their teaching practice.

Explore ideas and opportunities beyond education and New Zealand

It is imperative that education does not become too insular or inward looking. As David Hargreaves explains *'the dissemination of existing good practice is an inadequate basis for making a success of schools in the knowledge economy: we need to generate better knowledge and practices'*.[23] Engaging regularly with people and ideas from other sectors, as well as with people and ideas from outside of New Zealand is pivotal to creating an innovative, vital and relevant education system that is constantly learning.

23 Hargreaves, D. (1996) Teaching as a research-based profession: possibilities and prospects. The Teacher training agency annual lecture, 1996.

Conclusion: The potential for change

THERE IS CONSIDERABLE POTENTIAL TO EFFECT CHANGE IN NEW ZEALAND. We have a strong educational history and a current education sector that is vibrant, committed and engaged. There is outstanding work being done across research, policy and practice. We now need to get better at learning from and leveraging the bright spots, and to sharing new learning about what works best, for whom, and in what contexts across the system. As a small country, with a tradition of innovation we are well positioned to build a system-wide approach to educational R&D that will drive better opportunities for students.

About Us:
The Education Hub

A new education not-for-profit

Our aspiration

TO FOSTER INNOVATION AND IMPROVEMENT IN EDUCATION and to drive better opportunities for students by bringing together people, resources and ideas, and translating and transforming research and innovation into future-focused practice and policy.

Our values

EDUCATOR DRIVEN

WE CONNECT educators with the opportunities, people, support and resources to use their knowledge and expertise to co-design and drive change and improvement in education

ACTIVE AND COLLABORATIVE PARTNERSHIP

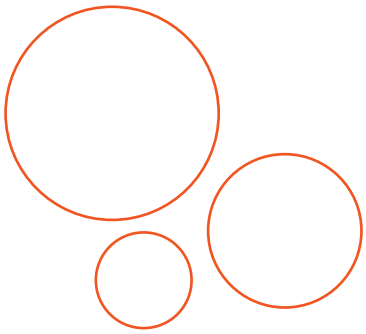
WE BRING TOGETHER stakeholders in active and mutually reinforcing partnerships to collaboratively build knowledge and expertise

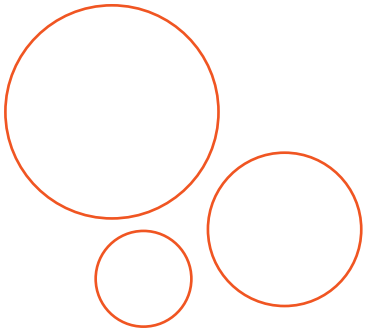
CHILD-CENTRED

WE PLACE improving the lives and broadening the opportunities for children at the heart of our work

DIVERSE APPROACHES AND OUTCOMES

WE ENCOURAGE a pluralistic approach that embraces diverse perspectives and avoids seeking a single ‘right’ answer





What we believe

Improve opportunities and outcomes for students

by

Learning from our bright spots and sharing success across the system

empowering

Teachers and school leaders as the lever of change in schools

and ensuring

Educators have the right information, in the right form, at the right time

What we are building: scope of activities

RESEARCH AND THOUGHT LEADERSHIP

Rigorous scholarship to advance and deepen understanding of how changing contexts, new research, and evolving technologies are shaping education and to identify new approaches to policy and practice

KNOWLEDGE MOBILISATION

Developing the online and offline infrastructure to capture and disseminate educators' practical knowledge and innovative practice, and to disseminate research findings in diverse and usable forms to educators, policy makers and researchers

NETWORKING & CONVENING

Building a movement for change in education by bringing together people in powerful learning opportunities, to share ideas, build new knowledge and expertise, and develop networks

Nina Hood

NINA IS THE FOUNDER OF THE EDUCATION HUB. She is a trained secondary school teacher, who has taught at Epsom Girls Grammar and Mt Roskill Grammar in Auckland. Nina undertook an MSc in learning and technology, and a DPhil in Education at the University of Oxford. While in England, Nina was engaged in a number of education consultancy projects, including working with Pearson and the Said Business School at Oxford on the strategic use of technology in teaching and learning.

Since returning to New Zealand Nina has been employed as a lecturer at the Faculty of Education at the University of Auckland where she specialises in new technologies in education.

Appendix A: The Education Hub Educator Survey

THE EDUCATION HUB IN MID-FEBRUARY 2017 released a survey on educators' perceptions of and engagement with educational research. The survey was open to all teachers and school leaders across New Zealand. Dissemination channels included professional associations, social media communities, and through key stakeholders in the educator community.

The survey sought to capture as broad a sample of educators as possible. Over 300 educators participated. The participants represent a broad cross section of educators (see table below).

Participant years of teaching experience	
<1	5.02%
1-5	12.54%
6-10	15.77%
11 and over	66.7%

Level of the school system (NB some participants work across multiple levels)	
Primary	51.08%
Intermediate	18.71%
Secondary	43.88%

Leadership positions held	
Principal	12.90%
DP/AP	10.04%
Dean	2.87%
Head of subject/faculty	21.86%
Syndicate leader	5.02%
Head of year level	.72%
None	32.26%
Other	14.34%

Geographic location	
Northland	2.50%
Auckland	57.50%
Waikato	8.21%
Bay of Plenty	2.86%
Gisborne	1.07%
Hawke's Bay	1.43%
Taranaki	8.57%
Manawatu-Whanganui	4.64%
Wellington	3.21%
Tasman	1.79%
Nelson	0.71%
Marlborough	0.36%
West Coast	0.36%
Canterbury	4.29%
Otago	1.79%
Southland	0.71%

School Size	
<100	8.30%
100-199	9.75%
200-499	26.71%
500-999	22.74%
1000-1999	27.08%
2000+	5.42%

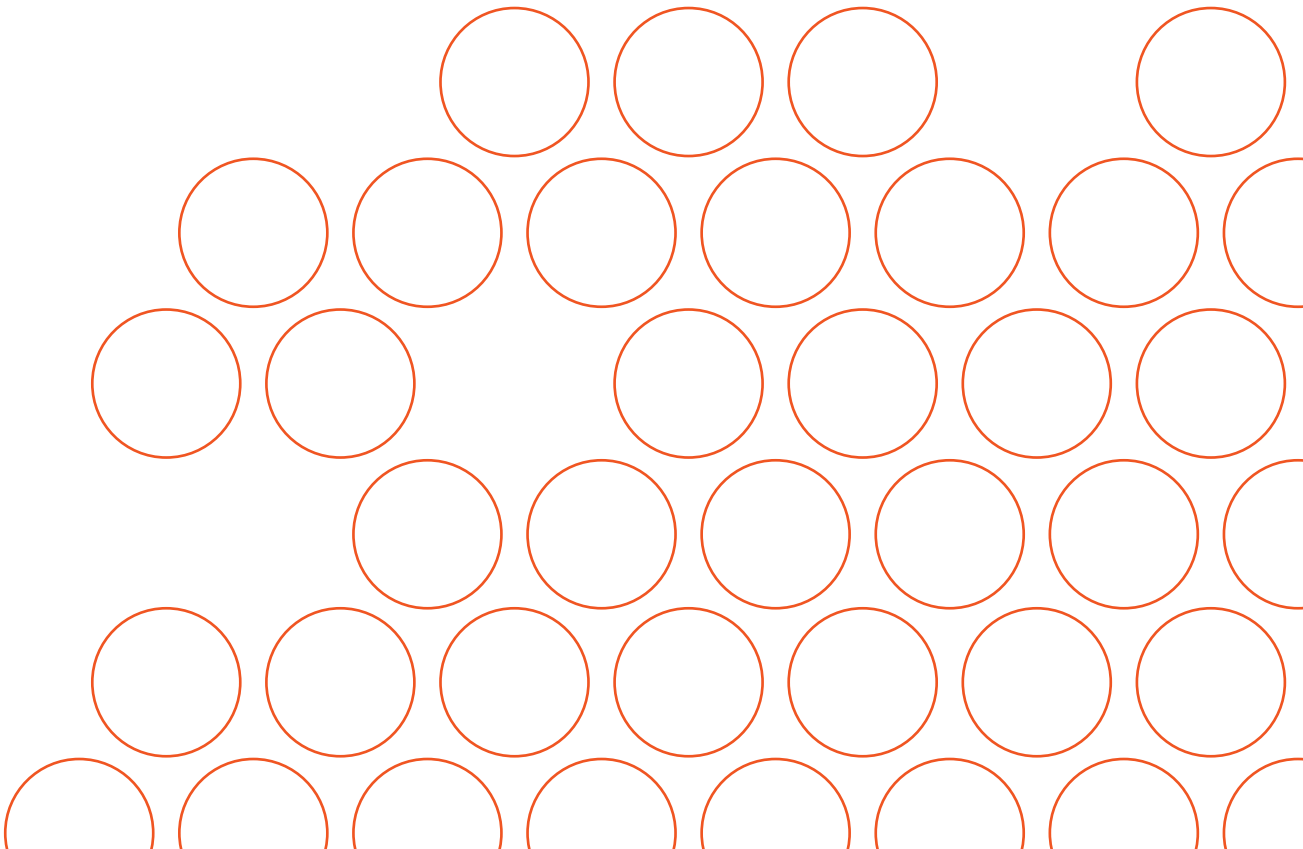
School Decile	
1	11.68%
2	4.01%
3	8.03%
4	7.66%
5	9.49%
6	8.03%
7	11.31%
8	6.57%
9	10.22%
10	22.99%

Age	
<25	6.14%
25-29	7.58%
30-39	24.91%
40-49	24.19%
50-59	26.71%
60 and over	10.47%

Undertaken post-graduate study in education	
Yes	60.00%
No	40.00%

the education hub

2017



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