

## NEW ZEALAND RESEARCH SAYS TEACHERS MATTER MOST: TRUTH OR 'TRUESPEAK'?

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Since the late 1990s, government and officials have consistently argued that the quality of teaching is the key determinant of educational success or failure, particularly for those students who comprise New Zealand's so-called long tail of underachievement in international surveys. The notion that 'teachers matter most' has been derived from various readings of the international research literature, and has been reinforced by the findings of several New Zealand classroom interventions funded by the Ministry of Education.

For teachers, it is an appealing thought – we all want to matter – but do teachers alone really make so much difference and, if so, how would we know? What kind of New Zealand research underpins these insistent claims on the importance of teachers (or their qualities, practices, dispositions and expectations) by officials and politicians? Is it good research and does it tell the whole story about the ways in which teachers matter? Just as important, does such research provide practical guidelines for classroom practice?

Shortly after the last election it was reported in the media that one Ministry had distributed a list of prohibited words to staff on behalf of the new government. These words were no longer to be permitted for use in public policy documents. One of the terms was 'social justice'. The revelation immediately conjured up images of Orwell's 1984 dystopia and the ideological work done for The Party by the Ministry of Truth. Could it be that in contemporary Godzone the use of language is similarly closely controlled in Ministry of Education policy texts? More worryingly still, could the research that is used in 'evidence-based' policy making itself be more 'truespeak' than truth?

In 2001, a visiting group of OECD examiners observed that New Zealand's overall expenditure on educational research and development (R&D) was low compared with the other 7 OECD countries for which data were then available. Moreover, while the OECD observed a growing political commitment to a strategic use of research to inform policy, the distinction between research and development work (notably in assessment) was seen as unclear:

In our view the overall picture of R&D in New Zealand is skewed towards the D in ways which may disguise some research weaknesses. (CERI, 2001, p. 11)

Two years later, a similar country report for UNESCO by Cathy Wylie of NZCER noted that most New Zealand research is funded through short term contracts which are "linked to current policy initiatives" and that "tertiary institutions, NZCER, and a few private firms and individuals compete against one another for limited opportunities, usually tendered and funded by the Ministry of Education. There is little private or philanthropic funding of research in New Zealand" (Wylie, 2003, p. 4). Overall then, it is questionable whether much of what is presented as educational 'research' in New Zealand is completely independent or disinterested because the Ministry of Education is all but the monopoly commissioner of operational research in this country. Moreover, research is closely tied to policy in which the funder has a vested interest. So, when we read that New Zealand educational research demonstrates this or reveals that, we need to seek fundamentally important reassurances about its purpose, balance, funding and independence.

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<sup>1</sup> Invited presentation to the Wellington regional conference of the NZPPTA, 21 August 2009

If most of the educational research in this country is linked in one way or another to the development and/or evaluation of current policy initiatives, how might this shape what gets investigated and what it is possible to say or not say, truthfully, about the nature of social and educational realities? As long ago as 1979, in a quite different research-policy nexus, Barrie MacDonald (1975 in Hamilton, 1976) suggested that there were three different approaches to the evaluation of policy (which apply equally, in my view, to policy research and development). According to MacDonald, a *democratic* approach to evaluation of a Ministry of Education initiative would be a service to the community at large. As such the evaluator would recognise values pluralism and would act as a broker of information between differing citizenry groups. In an *autocratic* evaluation, the evaluator would provide a conditional service to funders. In this approach, the funder receive external, independent validation in return for their compliance with the evaluator's recommendations<sup>2</sup>, which in turn would not be constrained by the funder's objectives. Finally, in a *bureaucratic* evaluation, the service to funders is unconditional. The evaluator accepts the funder's values and provides information in order to advance the funder's policy objectives.

In New Zealand, as we have noted, most funded contracts (research, development and evaluation) are very closely tied to current policy initiatives. In addition, most contracts are competitively tendered with close specification of the questions to which the Ministry of Education seeks answers. Typically, a principal-agent contracting model is used in which the Ministry of Education purchases specified outcomes from the contractor. In recent years, requests for proposals (RFPs) to undertake these 'research' exercises have increasingly specified the methods and even the samples to be targeted for data gathering. In key respects, then, these are entirely bureaucratic forms of research rather than activities in which the researcher retains an independent voice, or where the research is conducted in the pursuit of democratic participation. Yet, these important qualifications are rarely made explicit in Ministry of Education publications and media releases.

If the principal purpose of a research activity is to provide information that advances the funder's policy objectives, this raises serious questions about its independence, credibility and truthfulness, just as it does with much of the 'research' commissioned by drug and tobacco manufacturers. Not surprisingly, such research is usually regarded as compromised because of the degree of influence that may have been exerted by the funder. Manufacturers and consumers in these cases have conflicting interests. The question is often asked, in whose interest is this research being conducted? We might well ask the same of educational research in its various guises in this country.

In the last decade, all government departments in New Zealand have been required to develop 'best evidence'-informed approaches to policy making. In these approaches, the research literature is interrogated to find evidence of 'what works' on the assumption that policy based on evidence will therefore also work. The evidence-based approach is taken from the area of medical research where it can be used, for example, to measure the relative efficacy of drug A versus Drug B, or the benefits of treatment 1 compared with no treatment, or with an alternative treatment 2. In Education, this systematic review approach has been borrowed by officials and has led directly to the 'evidence says teachers matter most' mantra we hear constantly from them and politicians.

A former university professor of education and now Chief Education Adviser in the MoE, Dr Adrienne Alton-Lee, completed the most influential of these literature reviews in 2003. Based on her systematic analysis of the literature of the 'effect size' (a standardised 'before' and 'after' measure of student performance) of a range of teaching interventions, it was widely reported that:

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<sup>2</sup> In my experience the MoE works to avoid having the word 'recommendation' in final reports.

The evidence reveals that up to 59% of variance in student performance is attributable to differences between teachers and classes, while up to almost 21%, but generally less, is attributable to school level variables. (Alton-Lee, 2003, p. v)

Noteworthy here is the writer's qualification: "up to". Does this mean that most studies have shown fifty nine percent variance, one study only, or is this an average variance across all studies? Indeed, how many studies are we talking about altogether? Presumably, because a further qualifier "but generally less" is used in relation to the figure given for school level variables, we might reasonably assume that fifty nine percent would be most or an average (in which case we would be quite wrong). The point is that the assertion about variance is meaningless unless we know a great deal more about the data that were used to support the claim. In the scientific medical literature, raw data are reported or made readily available for scrutiny. In this case, the figure of 59% is taken from a third hand source and is therefore difficult to scrutinise for accuracy or validity or relevance to the NZ educational context. It is difficult to either replicate or refute the data analysis, which is one of the basic norms of good research.

Not surprisingly, perhaps, the figure of up to fifty nine percent variance taken from the research literature immediately became a political benchmark for improved teacher performance, irrespective of context, in the Minister of Education's media release:

The research has found that within the education system, the quality of teaching practices by educators is the largest influence on the achievement of children in schooling – greater than school-level influences and other factors such as class programme, curriculum, activities, resources or environment. (Mallard, 2003, unpaginated)

In the same press release, the research finding was qualified, albeit indirectly, by reference to the finding of another BES on the influence of social and family outcomes on education, released at about the same time:

Taken as a whole, family and community resources, processes and characteristics are the most important influence on educational outcomes for children in early childhood and schooling. (Mallard, 2003, unpaginated)

Both statements together say something considerably more meaningful and truthful to uninformed readers than either does alone. The whole picture is that (i) family and community are the most important determinants *overall* of successful educational outcomes but (ii) *within* formal educational settings, teaching practices in the classroom exert greater influence than do institutional level variables. Here research reinforces common sense, experience and reason (Cohen & Manion, 1989) – we already know that some teachers are considerably better than others. Nevertheless, one might reasonably expect that researchers and policy makers would wish to present the most complete and accurate picture of the possibilities for educational achievement by children, and would therefore give equal emphasis to both findings from the literature.

However, in the years that followed release of these two BES syntheses, the two parts of the whole were all too often either uncoupled entirely in statements from officials and government, or reported in such a way as to suggest that not only do teachers matter most, but that only teachers matter.

We know from national and international research that quality teaching is the most important influence on student achievement within the school environment. Studies show that as much as 60 per cent of the variation in student achievement is directly related to differences in teaching. (Mallard, 2004, unpaginated)

If there has been a conscious decoupling, then the single version of the statement would appear to serve purposes other than the truth alone. Indeed my argument is that the purposes to which the BES and other studies have been put have been hegemonic. Those in positions of power, it would appear, are attempting to persuade teachers that it is what they do (and believe, think, say and expect) in classrooms that alone determines whether or not a child succeeds in formal education. In other words, the purpose of research findings becomes that of persuading teachers of the nature of educational reality as seen by those in power, rather than demonstrating it to teachers on the ground and permitting them to draw their own conclusions and make their own judgments. In the former, evidence may be used selectively to make a case (as with manufacturer-sponsored drugs or tobacco research); in the latter, evidence is presented in a disinterested manner to establish or test a working hypothesis about the nature of the social world.

A research project has delivered concentrated professional development in literacy instruction to groups of early childhood and new entrant teachers in Mangere and Otara. The outcome has been a substantial lift in the reading and writing achievement of new entrants. (MoE, 2004)

The *Picking up the Pace* project was established in South Auckland as part of a large-scale schooling improvement initiative funded by the Ministry of Education, *Strengthening Education in Mangere and Otara* (MoE, 2004). As such it was a development initiative that had research-evaluation elements built in. The professional development and evaluation phases were conducted by separate teams of researchers at Auckland University Faculty of Education. The research data (the validity and analysis of which have been disputed by some Massey University literacy researchers following publication) were reported to have shown a significant increase in literacy achievement by new entrants. The Ministry of Education has claimed on this basis that the achievement gains were directly attributable to the model of professional development in literacy, combined with greater "openness", "expectations" and "commitment" by the participating teachers (Foreword to summary report by Secretary of Education Howard Fancy, in MoE 2004).

Indeed, the Ministry of Education stated in its summary of the project (intended for dissemination across the education sector) that the research was focused exclusively on the relationship between the professional development package and achievement. In other words, the purpose of the research was to establish whether there was a causal relationship between the teacher learning and student learning.

The researchers in this study set themselves two questions to answer.

- What would be the separate and combined effects on children's literacy achievement of providing professional development to teachers in early childhood centres and to teachers of children in their first year of schooling?

- Could this professional development result in an increased number of children in decile 1 schools achieving at expected levels for their age at school entry and at 6,0 years? (MoE, 2004)

However, in the body of the summary report was a much less widely reported aspect of the study, namely that the class sizes were reduced and kept unusually low in order that teachers could complete the additional assessment, teaching and record keeping required through the professional development.

The project findings point to a significant relationship between class sizes for new entrants and the gains made in their achievement levels.... For maximum benefit from this kind of approach, it is recommended that class sizes for children in their first year of schooling in low decile schools should not exceed 18....

However, the study showed that while class size did make a difference, the smaller the classes the better the outcomes, but only in conjunction with professional development. Without professional development, class size may make no difference. (MoE, 2004)

Scholarly, political, official and media reports have consistently portrayed the effects of this initiative as a consequence of the professional development and changed teacher practices and dispositions. The fact is that class sizes were also reduced as an integral part of the project. To not give this variable equal weighting when referring to what went on is like reporting an observational study which showed that light and heat are the requirements for successful plant growth, while omitting the essential fact that the plants were also watered each day. No reputable scientist would do so but for some reason it appears to be regarded as perfectly acceptable to be selective in the dissemination of New Zealand educational research – it's the overriding message that counts, not the simple facts. This is marketing, not science.

More recently, the release of John Hattie's (2009) book, *Visible Learning*<sup>3</sup>, has been widely reported in the media, including the author's somewhat controversial (at least to teachers) assertion that class size is relatively unimportant in terms of increasing student achievement levels. Indications are that the research (in effect a "synthesis" of other people's meta-analyses of the research literature) is likely to prove influential with the current Minister of Education on the grounds that it holds the "key" to "effective teaching":

A major new Kiwi study into what makes students succeed casts serious doubt on the importance of homework, small class sizes and even which school a child attends.

The huge study, based on research into 83 million students from around the world, instead shows that the key to effective teaching is the quality of the feedback students get and their interaction with teachers.

The research has been dubbed "teaching's Holy Grail" by an influential UK education journal, the Times Educational Supplement. National's new education

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<sup>3</sup> Visible Learning Laboratories is also the name of the company established by Auckland University Uniservices Ltd to commercialise AsTTle (free to NZ schools) overseas. The first item on the News page of the website is an Auckland University media release entitled 'Education professor delivers Holy Grail'.

minister, Anne Tolley, says it will have a "profound influence" on the future of schooling in New Zealand. (Sunday Star Times, 2009, January)

Unfortunately, the popular media coverage of the research study generally does not present the careful qualifications of it set out by the author in his book. Equally unfortunate is the inability of the media to distinguish between the facts that are presented through the study, and the author's personal ideologies or beliefs which have no basis in the evidence provided in the study itself.

Auckland University professor John Hattie, who authored the study, says some of the results fly in the face of National's popular election promise to reduce class sizes. He believes extra money should instead be spent on boosting teacher salaries. "Class size has a pretty small effect... and I wonder why they would spend a penny on it."

He also believes it is time to revisit the controversial idea of performance-related pay for teachers. (Sunday Star Times, 2009, January)

It is difficult to imagine a report of a viticulture science researcher's findings on grape vine quality being accompanied by her opinions on the hourly wage rates paid to seasonal fruit pickers in Marlborough vineyards; but for some reason it is acceptable for educational researchers' personal opinions to be reported together with their research findings, as if they were all the same phenomenon. Could it be that fact and opinion are not so readily distinguishable in educational research in this country?

A critical reading of the Hattie synthesis undertaken by a group of academics at Massey University (EPRG, 2009) has attempted to gain more widespread appreciation and discussion of its various limitations. In other research fields, scientists might typically state the limitations of their research whenever they introduce or discuss their findings: 'We may see a practical application in 5-10 years' time' or 'One must be cautious about interpreting the results to date' or 'This is promising but more research is needed' and so on. In this case, the Massey reviewers observed that: the effects of background, context and socio-economic variables had been excluded; that the 'synthesis' approach had not appraised the validity of each contributing study; the research was limited to the academic dimension of schooling, the research may not have any practical applications for teaching, and that one should not confuse correlation (effect size) with causation.

Their critique also suggested that clarity was an important criterion when comparisons of studies were made out of their original context. So, for example, if one is to conclude that class size does not matter, one needs to be very clear and precise about the variables involved: what is meant by small versus large classes; or open versus traditional classes, or streamed versus unstreamed schools or classes? If the research seeks to draw unambiguous conclusions about the effects of a single classroom variable across tens of thousands of studies, one has to be certain that the studies all refer to that same abstract variable. Equally, as the Massey group pointed out, educational research is not like conducting a drug trial: "classrooms are very complex and relevant variables are hard to pin down".

Complexity also matters, then. So, if one is to make the observation, as Hattie does, that class size is comparatively unimportant because the average effect of class size studies is only 0.2, one needs to provide as cautious, balanced or as truthful portrayal of the evidence as is possible. In this case, the Massey reviewers pointed out that (i) well-known American studies of class size included some with effect sizes of 0.62-0.64, (ii) a recent study of class size in inner London schools found that small classes in year 1 have a clear effect for both literacy and

numeracy, but that no clear effect is apparent after year 1 and (iii) a study of significant additional resourcing to 15 poorly-performing, disadvantaged schools in Texas had very mixed effects. In 13 schools, class sizes were reduced and there was no effect on learning or attendance. In two schools however, class sizes were reduced in conjunction with new curricula, changed pedagogies, inclusion practices, health service provision and parental governance. After several years these two schools were performing at or above state averages in learning and attendance.

As the latter study's authors pointed out, had the study (a) reported average effect sizes across all schools, the results would have shown an overall decline; (b) reported after one year, the results would similarly have shown no gains as the effects took time to achieve in the two successful schools and (c) if the analysis were "to include interactions between class size, instructional techniques" and student attendance and parental involvement efforts, the "package of changes" would have shown enormous effects.

The ideological thrust behind the commission and dissemination of much contemporary New Zealand educational research appears to be designed to argue that wider social inequalities are irrelevant to the processes of schooling: only teachers really matter. This argument not only misrepresents other 'best evidence' commissioned by the MoE, it also flies in the face of what we know about the structural relationship between inequality and achievement.

... the idea that education can reduce inequalities in a direct way should be regarded with some scepticism. A great deal of comparative research, in the US and Europe, demonstrates that education tends to reflect wider economic inequalities and these have to be tackled at source. (Giddens, 1998, pp. 109 &110)

Educational researchers working under contract to the MoE therefore need to exercise considerable caution to ensure, in so far as they are able, that their research is presented in the most truthful manner. Following Giddens, we would be within our rights to be sceptical of any political, official or scholarly work in education in New Zealand which implies that education alone, or teaching alone, or expectations, commitment and openness can itself reduce structural inequality.

It matters that officials, politicians and researchers speak truthfully about the complex causes and solutions of educational inequality. But, as Sissela Bok has argued: "the moral question of whether you are lying or not is not settled by establishing the truth or falsity of what you say. In order to settle this question, we must know whether you intend your statement to mislead" (Bok, 1978, p. 6). As researchers we can avoid misleading others by adhering to accepted procedural norms.

As well as the norm of truth or hitting the target, there are norms of right procedure. These govern whether you have done your stuff properly: taken the right observations, made the right inferences, hedged in the right places, weighed the evidence carefully and, in short, made yourself immune to procedural criticism. (Blackburn, 2005, pp. 29 & 30)

The primary responsibility not to mislead here is researchers' own. If they do not make their work immune from procedural criticism it is unlikely that policy makers or politicians will do so for them. This is not just about procedure, it is about informing officials and politicians unambiguously about what the research says, and what the research does not say. Educational researcher in this country have to do their stuff properly if they are not to be misreported.

Research confers credibility on the statements of officials and policy makers precisely because it is research, rather than common sense, experience or reasoning (Cohen & Manion, 1989). Researchers, then, are in a powerful position to insist that their work is presented in ways that conform with norms of doing *and* reporting research. Research is not simply a means to an end: vehicle for policy making or policy evaluation, nor is it simply one cog in the policy process. Research is an end in itself: "the systematic, controlled, empirical and critical investigation of hypothetical propositions about the presumed relations among natural phenomena" (Cohen & Manion, 1989, pp. 4 & 5). Research is disinterested in the sense that truth and truthfulness matter most.

In research, subjective belief must be checked against objective reality. Moreover, "research is self-correcting ... procedures and results are open to public scrutiny by fellow professionals. (Cohen & Manion, 1989, p. 5). If educational researchers compromise the norms of investigation by either (i) unquestioningly accepting the values of the funder or (ii) provide information largely to advance policy objectives or (iii) fail to hedge their findings in the right places, then any statements to the effect that teachers matter most, without careful qualification, mislead. These statements do not necessarily falsify the facts, but they omit essential information and, as such, may be regarded as a form of lying (Bok, 1978).

In its ethical guidelines, The New Zealand Association for Research in Education has a clear statement about the obligations of researchers in the reporting of their work:

All research work should be done and reported objectively and frankly, without prejudice. Due note should be taken of limitations in techniques and the influence of particular theories and ideologies in research. Opinions unsupported by evidence should be clearly distinguished from research findings. (NZARE, 1998)

I, for one, remain to be convinced that sufficient care is taken by New Zealand educational researchers today to meet this basic ethical reporting criterion, or to exert sufficient pressure on funders, politicians and policy makers to ensure that the reporting of their work is truthful. Too little attention is paid to the limitations of professional development interventions and too often researcher beliefs and opinions, unsupported by evidence, are conflated with research findings.

The gold standard in medical research is the randomised, controlled trial because such trials are designed to be entirely disinterested: neither researchers, medics nor patients know who is receiving the intervention. Research undertaken by big pharmaceutical concerns is often rightly perceived as misleading because the corporations have a vested interest in the results of research on their own products, which they also commission and fund. Health supplements are largely dismissed by researchers and medical practitioners because there is limited and, in most cases, no scientific evidence to support their use. Other than the universally applauded NEMP, what educational research in this country might be said to aspire to or meet a gold standard? Conversely, which of our high profile educational research projects seem more like corporate-funded drug or tobacco trials, or claims made by suppliers of commercial health supplements? Which truth claims can we believe among the various studies that insist teachers matter most?

My brief and necessarily highly selective overview suggests that we can usefully ask some probing questions about educational research in this country rather than continuing to accept at face value the tabloid headline that teachers matter most.

- Is the research disinterested?

- How normative is the science?
- How normative are the procedures?
- Are all the variables identified and clarified?
- How frank and open is the reporting?
- Are the limitations stated?
- Are theory, evidence and opinion clearly distinguished?
- Have attempts been made to refute the findings?
- Does the research attempt to mislead?

Not only do we need to be able to distinguish truth from truespeak in this regard, we surely need in the longer term to establish research funding and commission approaches which serve similar purposes to those of MacDonald's democratic evaluation. In other words, we have to find ways of funding research on teaching that serve the information needs of the community as a whole, recognise values pluralism, and where the researchers act as information brokers between the various citizenry groups, not just for their funder. Such a model is not to be found in the Teaching and Learning Research Initiative, which, apart from its lack of funding and independence from government, struggles to conduct studies that meets accepted standards and norms of educational research. Instead, I would argue for a realistically funded, public good national institute for research on teaching, as exists in the French INRP. The key points here are that (i) governance is shared across official, teacher, researcher and family constituencies; (ii) research is intended to inform collective discussion and action; and (iii) research is grounded in the broad, self-correcting disciplines of education.

INRP's role is to inform the discussions and actions of practitioners and administrative and political decision-makers....The establishment conducts research into education, ensures that this research is transferred to practitioners, evaluates the results of research and helps to circulate them....Its main areas of study are the didactics of disciplines, the sociology of education, the history of education, and new technologies in education. (Codd et al, 2002, p. 172)

In my opinion, only a democratically governed, publicly funded and collaboratively conducted approach to pedagogical research will enable us to address over time the structural inequalities that persist within and outside formal education. Only by separating the commissioning of research on teaching from the related decisions of policy makers and funders are we likely to secure truthful reporting of research findings. Surely, this is little enough to ask if common sense, experience and reason all tell us that teachers really do matter most.

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