Disciplined Innovation for Equity and Excellence in Education

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Meeting the ‘Quality Education for All’ challenge, will require education to move beyond its historical function of sorting.¹ Trustworthy evidence about what makes a bigger difference, why, and how, becomes a crucial resource in this endeavour.

Effect sizes are a very useful tool for evaluating practices or interventions. Not only do they reveal whether an intervention has had a positive or negative impact, or more or less impact than business-as-usual; they provide an index for judging excellence and equity.²

Cycles of high impact collaborative research and development (R & D) in which each cycle informs ongoing implementation (the how as well as the what of improvement) are a key to disciplined innovation that can be scaled to transform teaching and leadership. Such R & D generates knowledge and smart tools to be used by others responsively in their own contexts, given conditions that support the learning of all involved, both adults and children.

International studies show that ‘number of books in home’ is highly indicative of achievement³; the digital divide will only amplify this effect. Parents who try to help their children with reading can inadvertently have reverse influence with persisting negative effects⁴, yet one R & D intervention supports schools, parents and community libraries to engage so effectively together that in five hours the impact on achievement is greater than a year’s teaching. Families report that what was ‘always an angry time for us’ is now a positive experience, and productive school-parent partnerships have been established, including with parents whose own schooling was characterised by failure.⁵

Evidence about the equity and achievement costs of grade retention, socio-economic segregation, streaming, ability grouping and labelling has accumulated over decades.⁶ At the same time, clear evidence has emerged about highly effective, albeit challenging to implement, approaches to working with heterogeneous groups in which everyone benefits.⁷ R & D informed collaborative group work can accelerate achievement gains and build the social values and skills needed for a better world.⁸

Internationally there is a growing body of evidence forged from the expertise of indigenous and minoritised leadership about transformative approaches to schooling.⁹ Such approaches strengthen relationships for learning, leverage community funds of knowledge, address cultural capital challenges, and accelerate achievement gains where disparities have prevailed. New Zealand indigenous leadership developed through five phases of R & D, an approach that resulted in gains for Māori that were three times those of a comparison group.¹⁰

At the heart of these examples of accelerated improvement are complex pedagogies that translate the ‘science’ of what works in education into transformative change through a collaborative process that depends for its success upon building relational trust with all involved. Yet, as the foundational paper for this seminar highlights, the ‘pedagogical core’ that is at the heart of education ‘features surprisingly little in many reform agendas seeking to improve quality and equity around the world’. If reform is to serve the equity goals that are fundamental to the well-being of our societies we need to build and use evidence about effective pedagogies and change processes.

Hattie, J. (2009). *Visible learning: A synthesis of over 800 meta-analyses relating to achievement*. London: Routledge. See Chapter 2, p. 8. Note that the formula for calculating an effect size requires division by the standard deviation. This means the index of effect is not just a mean or mode. Rather an effect size takes into account the variability across the student group.


See Reading Togethers referenced in Chapter 7 of the BES referenced above. For more information see: http://www.readingtogether.net.nz/ReadingTogether.aspx and http://www.edgazette.govt.nz/Articles/Article.aspx?ArticleId=8645


Hattie’s (2009) synthesis (op. cit.) of over 800 meta-analyses shows an effect size of 0.54 for cooperative learning (vs competitive learning) and an effect size of 0.59 for cooperative (vs individualistic learning) across the curriculum.

Stanne, M.B., Johnson, D.W. and Johnson, R.T. (1999). *Does competition enhance or inhibit motor performance? A meta-analysis*. Psychological Bulletin 125: 133 – 54. Stanne et al. (1999) found in their meta-analysis of 64 studies that cooperation promotes higher motor skills performance than individualistic efforts or competition (effect sizes of 0.53 for cooperation; 0.36 for competitive or individualistic efforts).


Note the explicit Communication and Participation Framework embedded in mathematics education.


See also award winning http://www.3news.co.nz/tvshows/campbelllive/kerikeri-high-school-transforms-learning-for-maori-pupils-2014062517 and http://www.wise-qatar.org/te-kotahitanga-new-zealand