

ACADEMIC FINDINGS ON CLASS SIZE AND TEACHER QUALITY

Executive Summary

Overview

- With the latest ACEQA data showing that requests for waivers by childcare centres are dramatically increasing as new stricter NQF requirements come into operation, it is possible that the rules set down as “a grand vision” by the state premiers in 2008 may be just that, a vision that is not achievable logistically or scientifically.
- The attached review of class size and teacher qualifications research conducted over the last twenty years suggests that the cost benefit of things “nice to have” has little bearing on outcomes if Naplan scores are regarded as outcomes, and therefore may be difficult to justify given present budgetary constraints on all governments. Recent government reports indicate that there was no significant differences in Naplan scores between Victorian and NSW Year 3 students despite having equivalent levels of preschool participation but vastly different class size ratios with a ratio at ten children per staff member in NSW and 50% more (15) in Victoria. The cost implications for this difference are massive and the savings by reverting to the Victorian standard prior to these changes would also be massive.

Key points from the paper.

- Although the Productivity Commission’s draft report recommends a number of changes to the way the money is spent, its draft fails to spell out how the government could save taxpayers money. Instead it tends to focus on how it might arrange it more equitably at a time when US researchers are quoting numbers like \$60 billion in savings for a revised US early learning funding model. In essence, it can be argued that the government is asking all those with no children in preschool to fund those parents who do have children in preschool so any savings should therefore be of benefit to all taxpayers as well as parents and government.
- Funding for childcare doubled in five years under Labor with 90% of families receiving a childcare benefit and childcare costs rising rapidly during that period.
- Affordability appears to be under threat while paperwork and regulation are expanding. The issue is emotive with some mistakenly believing that by throwing more money at the problem, things will be better. However, much of that spending could be ill-directed and too often reporters are willing to quote spurious studies that are little more than a parent wish list given the best of all possible worlds. The truth is that there must always be a trade-off between the best and what we can afford as a nation. In this regard, the attached paper raises some serious questions as to whether the initial assumptions behind the present NQF mandates can be justified.
- Without government subsidies, out of pockets for families vary from 16% of weekly disposable income for those on \$150,000+ to 40% for those families living on \$35,000. This is unsustainable. Government subsidies bring this cost down to around 9%-10% of disposable income across the board but rather than looking at whom to

penalise, the early learning and childcare program can be far better structured to save a lot of money without impacting the pocketbook of parents or providers.

- Under the Howard Government's National Childcare Accreditation Council, high quality performance ratings for childcare centres rose from 9% in 2003 to 98% in 2008 before slipping back to 87% during the initial years of the Rudd government.
- Corporate controlled centres as opposed to *not for profits* and small privately run centres were found to perform least well according to a 2006 Australian study.
- With the arrival of the Rudd government in 2008 and Labor premiers in power at the state level, state education departments and their ministers ignored cautionary advice from many leading commentators and seized upon some of the weakest recommendations from the NSW Teachers Federation and the NSW Parents and Citizens sponsored Vinson Report on childcare and early learning. They went "boots and all" into pushing for class size reductions as the best way to improve educational outcomes for early learning despite the shift in this debate in the United States where costs had been blowing out and educational outcomes had not improved.
- What appeared to be an "effect" from the "gold standard" Tennessee study conducted during the 1980's in one of the most disadvantaged states in the US, could not be demonstrated consistently anywhere else with the exception of situations of disadvantage or disability.
- So the emphasis in the US has now shifted to quality of teaching which the Productivity Commission draft report duly notes. Some US researchers suggest savings may be as high as \$60 billion if class size restrictions are loosened and teacher quality pursued.
- Data from Australia and elsewhere shows that quality of teaching is not directly related to level of teacher education. Rather the key is having specialised skills in early learning derived from specialised training. Moreover, certificate trained practitioners appear as effective as degree-qualified practitioners, and in some cases, more effective in terms of outcomes achieved.
- Leading Brookings scholar Russ Whitehurst argued before the US Congress recently that it is not a question of whether the US federal government supports early childhood but how it supports it. He put forward several key points of which the most notable were that:
 - 1) The federal government spends a disproportional amount on early learning programs relative to other levels of education.
 - 2) It was not getting its money's worth.
 - 3) The impact on children of differences in teacher quality is larger than the impact of differences in the centres they attend (code for class size).
 - 4) We should not focus on early learning as the yardstick for measuring the value of public expenditure on children and that learning is not totally determined by "hard"

measurement (i.e. socialisation is an important aspect of childcare and early learning).

- Several Australian researchers are cautioning about governments becoming mired in measurement-oriented regulation reminiscent of the scientific management theories of the 1950's and 60's propounded by the now discredited Frederick Taylor given its emphasis on class size mandatories and form completion. Preschools have been overwhelmed with regulation since the changes made under the Rudd government and they appear to be putting the capacity for a centre to deliver and capacity for parents to pay beyond of both stakeholders. This then places an even greater burden on government to fund the cost of these recent mandatories.
- In addition to class size reviews, there are other potential savings to be made on the basis of the evidence presented. Degree trained teachers who did not have early learning major training were shown to deliver poorer Year 3 Naplan test outcomes than teachers who had specifically trained in early learning - whether 2 year diploma or degree. Moreover recent Australian research also found that degree qualified practitioners with no training in early learning and child care were no more effective in many instances than those who had received the basic six months childcare certificate.
- While more research would provide further confirmation or otherwise of these conclusions, steps can be taken immediately to cut costs as well as the burden of excessive regulation and its policing. It is possible that the reporting system can be simplified to once a month online which could be processed in real time by the relevant educational bodies.

Child care practitioners appear ready to assist government in the implementation of any sensible amendments and to provide the necessary input to produce a cost saving estimate for the government in regard to relaxation of class size and degree qualified quotas. This may be in the form of existing research or the sponsorship of additional research which might be undertaken on currently available data such as the Growing Up in Australia longitudinal material.

**Pre-school Care and the impact of recent changes to
legislation on childcare centres in Australia - Scoping
and Background.**

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Background

Within Statement 6 of this year's Federal Budget Paper 1, is a table which shows that childcare fee subsidies are one of the fastest growing direct cash payments by the federal government. During the next four years the Commonwealth proposes to invest more than \$16.1 billion in early childhood education and child care. According to Centre for Independent Studies researcher Trisha Jha (2014)¹, while the government is reducing family benefits, childcare subsidies have increased 9.9% since the 2013 budget and by the end of the forward estimates period 2017-18 assistance to parents will have almost doubled. The Commission of Audit did not overlook this but failed to propose actions that might lead to positive savings. Notwithstanding this apparent preservation of childcare payments, parents using childcare have been warned that their fees could jump as much as \$35 per week and smaller providers put out of business as a result of government tightening of eligibility criteria from 2015 according to a recent report in the Age newspaper.² It is argued in this paper that recent national regulations regarding class size maximums and increased proportions of graduate teachers as opposed to diploma trained teachers are major contributors to the increase in childcare costs at a rate well above official inflation.

Recent research in the United States shows that government has the ability to change the cost equation dramatically with no material impact on the quality of care. This paper addresses these recent developments and offers a direction for the service to assist federal and state governments to take the actions necessary to bring costs under control. Current educational philosophy surrounding class size is identified as the most critical factor in the cost blowout although it is not the only factor. This paper identifies this and other key determinants of cost using the latest US and Australian data from a variety of highly respected researchers in the area of early learning and education in general.

In November 2008, as the ABC Learning crisis was brewing, the Council of Australian Government (COAG) endorsed a new National Partnership Agreement on Early Childhood education under which all state and territory governments committed to ensuring that by 2013, all children in the year before formal schooling will have access to a high quality education program delivered by degree qualified early childhood teacher for 15 hours per week, 40 weeks of the year. A new National Quality Standard was also to be introduced by January 1, 2014 whereby an early childhood teacher will need to be in attendance all of the time when long day care and pre-school services are being provided to 25 children or more and at least some of the time when the number is less than 25 children. Within each long day care centre or pre-school half of all staff will need to have (or be actively working towards) a diploma-level early childhood education qualification or above.

Jha (2014) questions this decision describing these new policy settings as 'laughably optimistic'. "There needs to be significant changes to the underlying policies.

¹ Jha Trisha, "The looming task of childcare", Ideas@TheCentre, Centre for Independent Studies, 16 May, 2014, www.cis.org.au/ideasthecentre/article/5181-the-centre

² "Fees-rise fear for family day care", Matt Wade & Sherrill Nixon reporters, The Age, May 19, 2014. www.theage.com.au/federal-politics/political-news/feesrise-fears-for-family-day-care-20140518-38i14.html

Everything from first principles, to the purpose of government subsidies, to subsidy design needs to be up for debate.”

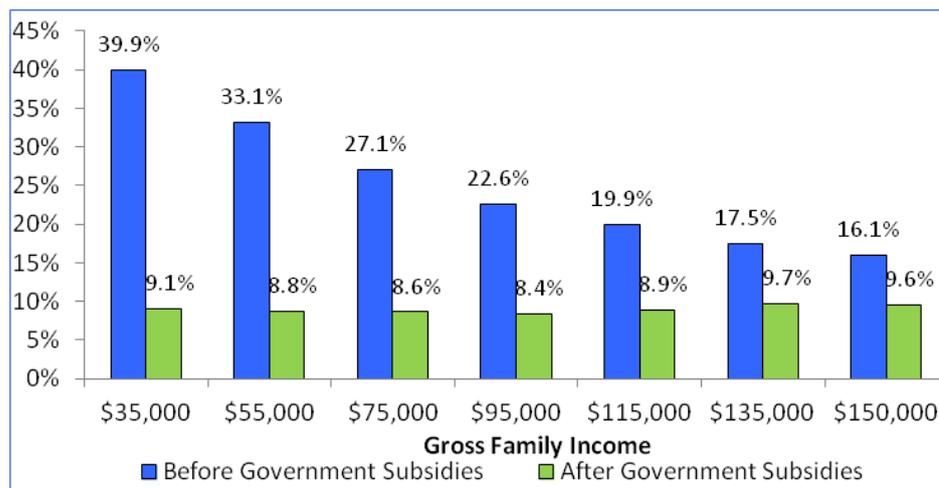
The state leaders signed off on a decades old American initiative shown in this paper to be effective for disadvantaged children and children with disabilities but had no benefit for the general classroom except to dramatically increase costs.

Early childhood education and child care funding has more than doubled in the last five years to approximately \$4.4bn in 2012-13.³

During the September quarter 2013, 773,070 families used approved child care services for their 1,111,100 children. In terms of affordability, more than 90 per cent of these families are estimated to have received Child Care Rebate (CCR), with 50 per cent of their out-of-pocket costs covered by the Australian Government. In terms of availability, in the September quarter 2013, there were 15,907 services providing approved child care services across Australia with more than one third (5,403 or 34.0 per cent) of these located in New South Wales. The number of families in NSW using long day care (LDC) services was 177170 which is 69% of all approved child care services in this state, up 6.5% from September 2012. LDC costs have risen an average of 7% per annum over the last seven years.⁴

Before Australian Government child care subsidies were taken into account, out-of-pocket costs for families varied from 39.9 per cent of weekly disposable income for families earning a gross income of \$35,000 per year, to 16.1 per cent for families earning a gross income of \$150,000 per year. After Australian Government child care subsidies, out-of-pocket costs were significantly reduced to around 9.0 per cent of disposable income across all income ranges.⁵

Figure 6: Out-of-pocket costs¹ for one child in long day care before and after Australian Government subsidies, March quarter 2013



¹ Out-of-pocket costs (before and after Australian Government subsidies) are shown for families with one child using long day care for 50 hours of care per week.

³ Office of Childhood Education, “State of Childcare in Australia”, Dept. of Education, Employment and Workplace Relations, April 2010.

⁴ Child Care & Early Learning in Summary, September Quarter 2013, Australian Government, Dept of Education

⁵ Child Care & Early Learning in Summary, September Quarter 2013, Australian Government, Dept of Education

Source: Department of Education administrative data.

From 2003 to 2011 the National Childcare Accreditation Council (NCAC) controlled the assessment of all childcare centres across Australia. Over that period “High Quality” ratings increased from 8.9% of centres in 2003 to 98% in 2009 and by that year, the number of private child care establishments had increased to 75% of all providers (of which approximately one third were large corporates). With the demise of ABC Learning in 2010, this percentage fell to 66% when a number of not-for-profit community groups combined to take over more than 600 former ABC Learning centres.

This was a turbulent time for the service (exacerbated by the collapse of ABC Learning) and the “High Quality” percentage slipped to 88% but still a massive lift from 2003. Rush’s (2006) study for the Australia Institute based on a stratified sample of childcare centres across Australia showed that according to each centre’s own employee ratings, corporate controlled chains were doing considerably less well than either the small privately owned centres or *not for profit* community centres. In a sense, these findings foreshadowed the demise of the ABC Learning experiment and problems with the corporate approach to child care. Rush suggested that the rapid increase in the size of the corporate controlled segment may have been an attempt to achieve economies of scale which when coupled with cost cutting would achieve the profit targets shareholders demanded, even if “at the expense of humanist concerns”.⁶ Today there are fewer corporate operators with most suppliers being locally based small private operators.

It is possible that state governments and/or their education departments saw these developments as not only a crisis in the service but also an opportunity to bring it directly under their control and in doing so introduce what they believed would be a far more rigorous performance standard as recommended in the “Vinson Report” (2002).⁷ It would appear that state educationists may have relied too heavily on recommendations from Vinson’s Independent Inquiry into Public Education in NSW as the impetus for change, in addition to noting Rush’s “humanist” concerns. Report Chairman Vinson singled out the STAR study of Tennessee schooling⁸ as the “gold

6 Rush E. (2006) “Child Care Quality in Australia”, Discussion paper Number 84, Australia Institute, April 2006.

7 Inquiry into the provision of public education in NSW : First report May 2002, Chairman of panellists: Tony Vinson, NSW Teachers Federation and Federation of P&C Associations of NSW, 2002

8 The Tennessee class size project was a three-phase study designed to determine the effect of smaller class size in the earliest grades on short-term and long-term pupil performance. The first phase of this project, termed Project STAR (for Student-Teacher Achievement Ratio), was begun in 1985, when Lamar Alexander was governor of Tennessee. Governor Alexander, who later served as secretary of education in the cabinet of President George Bush, had made education a top priority for his second term. The legislature and the educational community of Tennessee were mindful of a promising study of the benefits of small class size carried out in nearby Indiana, but were also aware of the costs associated with additional classrooms and teachers. Wishing to obtain data on the effectiveness of reduced class size before committing additional funds, the Tennessee legislature authorized this four-year study in which results obtained in kindergarten, first, second, and third grade classrooms of 13 to 17 pupils were compared with those obtained in classrooms of 22 to 25 pupils and in class-rooms of this larger size where the teacher was assisted by a paid aide. Both standardized and curriculum-based tests were used to assess and compare the performance of some 6,500 pupils in about 330 classrooms at approximately 80 schools in the areas of reading, mathematics, and basic study skills. After four years, it was clear that smaller classes did produce substantial improvement in early learning and cognitive studies and that the effect of small class size on the achievement of minority children was initially about double that observed for majority children, but in later years, it was about the same. The second phase of the project, called the Lasting Benefits Study, was begun in 1989 to determine whether these perceived benefits persisted. Observations made as a part of this phase confirmed that the children who were originally enrolled in smaller classes continued to perform better than their grade-mates (whose school experience had begun in larger classes) when they were returned to regular-sized classes in later grades. Under the third phase, Project Challenge, the 17 economically poorest school districts were given small classes in kindergarten, first, second, and third grades. These districts improved their end-of-year standing in rank among the 139 districts from well below average to above average in reading and mathematics. According to Frederick Mosteller, Ph.D., is a professor emeritus of mathematical statistics at the departments of Statistics and of [Health Policy](#) and Management at Harvard University, this [controlled experiment](#) was one of

standard” in research studies on class size effects to justify government action. With the benefit of hindsight and 13 years of follow up research, this appears to have been a mistake. In an effort to reign in corporate controlled early learning businesses, the proscribed legislation appears to have severely hamstrung an entire service. State education heads, media commentators and some politicians seized upon Vinson’s recommendations regarding class sizes to spark an avalanche of new regulations and requirements for the service despite warnings to proceed cautiously by Centre for Independent Studies researcher Jennifer Buckingham (2003) who in response to Vinson, pointed out that the NSW Education Department chose to focus on some of the weakest associations in the “Vinson Report” report as a result of the undue influence of NSW teacher and P&C submissions over independent research. Buckingham argued that both of these groups had funded the project and arguably had a vested interest in bringing down class sizes to increase employment levels in the teaching profession inter alia.⁹

Despite these warnings, state educationists pressed on pushing lawmakers even harder for class size reductions at what would be a massive cost to state and federal education budgets, while the rest of the Western world was beginning to question whether class size reductions were worth the effort and that maybe recruiting better teachers might be a more cost efficient solution. For the past ten years at least, education costs in Australia have risen at double the CPI and in many years at a faster rate than health costs. The federal Labor Government scrapped the previous national quality standards and the NCAC was disbanded in 2011. Victoria instituted a new standards regime through its Education Department which was adopted by NSW and other states that were controlled by then Labor governments. Although labelled a “national law” its interpretation varies from state to state; in some cases considerably. As a result, any changes to it may require state by state submissions.

Hundreds of pages of New Regulations Introduced

The new “National law” and its accompanying vexatious policing regime some argue has left the service unclear as to what is required, how it might be achieved and whether in fact it is even workable. The incoming federal coalition government appears to have recognised the potential unintended consequences attached to the many hundreds of additional pages of regulation, not only from comments by the new federal Minister for Education, but also in the remarks made by the Prime Minister when he launched his first “Red Tape Removal Day” in the Federal Parliament earlier this year. Prime Minister Abbott noted that Australia ranked 128th in the world in terms of ease of navigation of regulations, right there between Romania and Angola and singled out childcare services as a prime example asking:

“Why should a long day-care centre with 15 staff and 75 places have to do paper work said to cost on average, \$140,000 per year which is \$2000 per child or \$10,000 per staff member?”

Based on this and other examples, the Prime Minister indicated that he was “not surprised” that Australia’s competitiveness ranking had slipped six places in the last four years.

the most important educational investigations ever carried out and illustrates the kind and magnitude of research needed in the field of education to strengthen schools.

⁹Buckingham J, (2003) “The Missing Links: Class Size, Discipline, Inclusion and Teacher Quality: A Response to the Vinson Report on Public Education in New South Wales” Issue Analysis, No 29, Feb 2003.

The Global Debate on Class Size Reduction (CSR)

The debate around the world as to the value of class size reduction and its cost effectiveness is raging as state and national governments buckle under the cost of social programs of all kinds. Regulations appear to be mounting daily in Australia seriously impacting the ability of the childcare service to deliver its product according to service representatives. Demands for increased numbers of university qualified over often more experienced 2-year diploma qualified staff, endless paper work and reduction of class sizes to a maximum 11 (in NSW it is 10) per preschool staff member for children 4-5 has led many in the service to raise the alarm. They point out that the new regulation burden is putting massive strain on a service still recovering from the ABC Learning collapse when it may not even be justified. As of January 1, 2011 educator/child ratios for children 0-2 years became 1:4 and as of January 2016 the E/C ratio for children 2-3 years becomes 1:5.

Superficially at least, based on a participation rate in the ninety plus percent range, the latest ACARA data for Year 3 children in NSW and Victoria shows no differences in performance of Year 3 children in NSW and Victoria on the 2013 NAPLAN results.¹⁰ This is despite a preschool class size difference in their year preceding formal school for these children of more than 25% (i.e. Victoria 15 per staff member Vs NSW 11). Warren and Haisken-DeNew (2013) noted this in their recent paper based on 2008 NAPLAN results in a far more rigorous analysis which is discussed in detail later in this paper.

It is argued by the child care service that not only have overzealous regulators added to an already massive workload for staff, they have also ensured an increase in the cost of care by insisting on staff/child ratios of no more than 11 children (NSW) with extremely limited if any definitive long term evidence that class size per se acts as a major performance deflator in early learning. As noted the service faces a 1:10 ratio for 4-5 year olds, 1:5 for 2-3 year olds from 2016 and 1:4 for 0-2 years effective from January 2014. Unwarranted emphasis on high level qualifications of staff is also proving to be an impediment to the day to day operation of childcare centres according to some commentators.

Australian Regulators push the importance of class size over other critical factors in educational outcomes.

Jha (2014) argued that COAG was convinced to sign off on the basis of “old thinking” which had been shown even in 2008, to be highly questionable. It appears that Australian early learning regulators had “missed the class size boat” given developments in the US where no researcher had been able to replicate the Tennessee STAR study outcomes from 1986 and many were now questioning the massive cost of CSR in relation to other options.

The Denver Post¹¹ in 2011 summed it up as follows:

¹⁰ NAPLAN Report for 2013, Australian Curriculum and Assessment Reporting Authority

¹¹William Maloney, “Guest Commentary: A smart answer to K-12 cuts? Hike class sizes.” Denver Post, 02/20/2011.

“Other systems make their key priority high teacher quality not low class size. The evidence is clear, CSR with its staggering cost has been the most damaging and counter-productive reform in 40 years as US education slips further and further down the Global Top 100. As pointed out in ‘Stretching the School Dollar’¹², if policy makers had maintained the same overall teacher-to-student ratio since the 1970’s we would need one million fewer teachers, training could be focussed on a smaller and more able population and average teacher pay would be close to \$75000 per year. Total cost of the extra million teachers \$60bn/year.”

Jepsen & Rivkin (2009) found positive effects for class size reduction albeit at about half the size of the Tennessee study but these effects were clearly outweighed by the unintended consequences of increasing the number of teachers to manage smaller classes. Those recruited were not always fully certified or as experienced with the result that any positive benefit associated with smaller class sizes was completely over-ridden by poorer teaching standards.¹³

In an internationally framed exercise, Woessman & West (2006) found that for 7th and 8th grades, **within-school class size effects on performance on international exams in eleven countries varied markedly**. For poorer countries, there appeared to be a small positive effect related to class size. However in all others, the result was either nil effect or a non-significant effect. In the case of Singapore which was the top performer average class size was significantly higher (33) than in the western nations (approximately 26) tested despite their focus on class size reduction in recent years.¹⁴ Hoxby (2000) found a similar lack of association at the end of the 20th century when reviewing class size and exam results in Connecticut 1st and 2nd grade classes.¹⁵

Over the last twenty years, US researchers had begun to seriously question the skyrocketing costs attached to the class-size dictums as well as the ability to generalise the results of the STAR project. Chingos and Whitehurst (2011)¹⁶ when looking at the impact of class size on the educational outcomes noted:

“Despite there being a large literature on class size effect on achievement, only a few studies are of high enough quality and sufficiently relevant to the given credence for legislative action. Class size reduction (CSR) rests on the Student Teacher Achievement Ratio or STAR study conducted in Tennessee in the late 1980’s and the only study that has ever produced very significant effects. In this study students and teachers were randomly assigned to a small class (average 15 students) or a regular class (average 22 students). This 32% reduction in class size was found to increase student achievement by an amount equivalent to about three months of schooling four years later. Studies in Texas and Israel found benefits in

¹² Hess FM & Osberg E, Eds (2010) *Stretching the School Dollar: How Schools and Districts Can Save Money While Serving Students Best*. Harvard Education Press, Cambridge Ma. 9 Chingos MM & Whitehurst GJ (2011), “Class Size: What Research Says and What Research Says and What it Means for State Policy” Brookings Paper, May 11, 2011. <http://www.brookings.edu/research/papers/2011/05/11-class-size-whitehurst-chingos>

¹³ Jepsen C & Rivkin S “Class Size Reduction and Student Achievement: The Potential Trade-off between Teacher Quality and Class Size”. *Journal Human Resources*, 44(1) 223-250 (2009)

¹⁴ Woessman L & West M, (2006) “Class size Effects in School Systems Around the World: Evidence from Between Grade Variation in TIMMS” *European Economic Review* 50(3):695-736 (2006)

¹⁵ Hoxby CM (2000). “The Effects of Class Size on Student Achievement: New Evidence from Population Variation” *Quarterly Journal of Economics*, 115(4) 1239-1285, 2000

smaller class sizes but not to anywhere near the magnitude of the Tennessee STAR study.”

In studies scientifically rigorous enough to satisfy Chingos and Whitehurst (2011), they report that results on the effects of class size have been mixed. This included ‘no effects’ and ‘variable effects’ in California, Florida and Connecticut; although it was acknowledged that class size reduction was more likely to have some influence when introduced in the earliest grades for students from disadvantaged backgrounds or situations. Notwithstanding the benefits of one-on-one teaching for disadvantaged children or children with a disability, when looked at across the board, the relationship could not be generalised to the population of pre-schoolers as a whole.

What can be said from more recent evaluations is that in 1986 class size had an effect on academic outcomes in Tennessee which happens to be one of the poorest states in the US and arguably, one of the most disadvantaged and we know these factors are related to positive CSR outcomes.¹⁷ The authors concluded that:

“Class size reduction has been shown to work for some students in some grades in some states (US) and countries but its impact has been found to be mixed or not discernible in other settings and circumstances that seem similar. It is very expensive. The costs and benefits of class size reduction mandates need to be carefully weighed against all of the alternatives when difficult decisions must be made.”

In support of Chingos and Whitehurst, a long term follow up of the STAR participants into adulthood by Ray et al (2010) utilising IRS tax records found that students assigned to small classes at the beginning of elementary school, were about 2% more likely to be enrolled in college at age 20 but the authors found no impact on incomes by age 27.¹⁸ Rivkin, Hanushek & Kain (2005) had found in a follow up to the mid 1990’s Texas study based on 500,000 Texan students that there were some positive effects on reading and maths attached to smaller classes for 4th grade but the result for 5th graders was far less clear. Results in the Texas study initially were found to be around half the magnitude of those reported in the STAR study so this follow up has not made the case for CSR any stronger in Texas.

Degree qualifications *per se* do not guarantee superior outcomes.

Providing further challenge to the new Australian regulations agreed by COAG ministers in 2008, based on a review of work in the USA by Tout, Zaslow and Berry

¹⁷ <http://www.act.org/newsroom/data/2010/states.html>

¹⁸ Ray C, Friedman JN, Hilger N, Saez E, Whitmore Schanzenbach & Yagan (2010), “How does Your Kindergarten Classroom Affect Your Earnings?” Evidence from Project STAR, NBER Working Paper No 16281, Sept 2010.

(2005)¹⁹ and Early et al (2007)²⁰ and (2006)²¹, Australian researchers Warren and Haisken-DeNew (2013)²² noted that:

“There is no conclusive evidence that a teacher with a Bachelor degree or any other specific level of qualification will ensure a high quality pre-school classroom or better cognitive outcomes.”

Bogard, Traylor and Takanishi (2008)²³ supported this observation. They concluded that:

“Recent studies do not find consistent relationships between teacher degree, major, and certification, and PK outcomes” raising questions about the impact of the degrees and certifications of PK (pre-Kindergarten) teachers on children’s learning. Bogard et al noted that these findings did not support the conclusion that teacher education does not matter for children’s learning but failed to provide specific directions for policymakers who decide on the minimum requirements for teacher qualifications in PK programs.” The researchers further remarked that *“these findings raise issues for researchers and policymakers about whether PK is part of a K-12 educational continuum, how teachers are prepared to teach, how research is designed to inform policy, and the importance of developmental science in policy-relevant education research.”* They suggested that professional PK education combined with extensive classroom experience was the desirable course of action in the PK education environment.

Rivkin, Hanushek & Kain (2005), were able to look at teacher effectiveness with data that enabled them to relate individual students to individual teachers. **This process produced perhaps the most important finding of that project i.e. that teacher qualifications explained very little of the variance in teacher effectiveness.**²⁴ This result would have come as no surprise to Australian researcher Leigh (2014) who found similar results in a recent large Australian study reported elsewhere in this paper.

Whitehurst (2014), Brookings scholar and arguably foremost spokesperson on early childhood education in the US in his recent testimony to the US Congress House Committee on Education and the Workforce made his position very clear:

“The question for me is not whether the federal government should support the learning and care of young children from economically disadvantaged homes and

¹⁹ Tout K, Zaslow M, Berry D (2005) Quality and Qualifications: Links between professional development and quality in early care and educational settings. In M. Zaslow, I Martinez-Bek (Eds), Critical issues in early childhood professional development, 77-110, Baltimore: Brookes Publishing.

²⁰ Early, D. M., Maxwell, K. L., Burchinal, M., Bender, R. H., Ebanks, C., Henry, G. T., et al. (2007). Teachers’ education, classroom quality, and young children’s academic skills: Results from seven studies of preschool programs., *Child Development*, 78 (2) 558-580

²¹ Early, D.M., Bryant, D. M., Pianta, R. C., Clifford, R. M., Burchinal, M. R., Ritchie, S., et al. (2006). Are teachers’ education, major, and credentials related to classroom quality and children’s academic gains in pre-kindergarten? *Early Childhood Research Quarterly* - 21,174–195

²² Warren D & Haisken-DeNew J P, “Early Bird Catches the Worm: The Causal Impact of Pre-school Participation and Teacher Qualifications on Year 3 National NAPLAN Cognitive Tests”, 2013, Melbourne Institute Working Paper Series, Working paper No.34/13,

²³ Bogard K, Traylor F, Takanishi R (2008) Teacher education and PK outcomes: Are we asking the right questions?, *Early Childhood Quarterly* 23, 1-6.

²⁴ Rivkin SG, Hanushek EA & Kain JF (2005) “Teachers, Schools and Academic Achievement, *Econometrica* 73 (2) 417-458, 2005.

otherwise vulnerable status but how it should do so. The current system, a mishmash of 45 separate, incoherent, and largely ineffective programs, fails to serve the broader public and certainly is less than optimal for the children and families to which it is directed.

“My goal today is to offer some policy recommendations that are within the realm of political reality and would reform present federal efforts, that are grounded in a hard-headed examination of what we know and don’t know about effective early childhood programs and child development, and that are motivated by the desire to improve the prospects of the most vulnerable among us.”

Using only rigorously-constructed research studies, Whitehurst offered seven key points to the Committee for their consideration in determining the ongoing relevance of the class size funding model. These were as follows:

- 1) The federal government spends disproportionately on early childhood programs relative to its expenditures at other levels of learning.
- 2) We are not getting our money’s worth from present federal expenditures on early childhood services.
- 3) State programs may be no more effective than heavily criticised Head Start program.
- 4) The results from Perry and Abecedarian cannot be generalized to present-day programs.
- 5) Only some children need pre-K services to be ready for school and life.
- 6) The impact on children of differences in quality of the childcare staff and teachers with whom they interact will be much larger than the impact of differences in the quality of the centres they attend.
- 7) Early childhood programs have important functions for parents and the economy, independent of their impacts on children. We ought not to focus exclusively on early learning as the yardstick for measuring the value of public expenditures on childcare.²⁵

Clearly many in other countries are recognising the futility of a class size driven philosophy of educational quality and there is recognition that many alternative options should be considered. *The problem according to Whitehurst isn’t a lack of funding but how it is being deployed.*

Latest Australian Research on Early Learning and Class Size.

It would therefore appear that absent strong supportive evidence together with a changing world view, Australian regulators may have burdened the local early learning service unnecessarily with a substantial increase in costs which will need to be passed onto the public at a time when many people are suffering massive cost of living pressure. Immediately prior to the 2013 federal election, our research arm [Australian Opinion Research](#), conducted a major political and social survey based on a national sample of 5360 voters. That survey identified cost of living pressures as the number one election issue singling out energy costs as one of the major culprits.

²⁵ Russ Whitehurst, *Testimony on early childhood education to the Committee on Education and the Workforce of the U.S. House of Representatives on February 5, 2014.*

<http://www.brookings.edu/blogs/brown-center-chalkboard/posts/2014/02/05-congressional-testimony-preschool-whitehurst>

Health and education are clearly the others. The Australian newspaper on Wednesday April 23, 2014 carried a page one article by Economics Editor David Uren pointing out that new data from Canberra University's National Institute for Social and Economic Modelling shows wages have been falling well behind costs for a while in particular structural costs such as energy, health and education;²⁶ and work by The Institute for 21st Century Problem Solving (2013) indicates that it is families who are usually hardest hit by these effects.²⁷

More research is now emerging in Australia which supports the original case by Buckingham (2003) to be wary of the class size mantra and this data is challenging the assumptions behind that present highly regulated and heavily policed approach.

[A ground-breaking study](#) by two researchers at the Melbourne Institute (part of the faculty of Business and Economics at Melbourne University)²⁸ was recently released based on solid longitudinal survey data together with a comprehensive review of the more rigorous research that has been undertaken in the last twenty years. The strength of this study unlike Leigh (2014) is that it has been able to control for most if not all of the external effects suggested by Leigh for which he was unable to test for due to lack of available ancillary data.

In contrast, Warren and Haisken-DeNew (2013) using data from the *Growing up in Australia* longitudinal research project were able to provide strong evidence for the following conclusions:

- 1) Children who attended a child care facility in the year prior to kindergarten (formal schooling), performed significantly better than those who do not on Year 3 NAPLAN tests.
- 2) Trained teachers delivered better results than untrained or minimally trained teachers on that same benchmark.
- 3) Teachers trained specifically in child care subject material achieved better outcomes than formally trained teachers without that specific training.
- 4) Degree trained teachers performed no better and in some subjects significantly less well than diploma trained teachers when both had been trained specifically in child care.

What this means is that 3-4 year PK degree trained teachers at no stage delivered a superior result to 2 year PK diploma trained teachers in terms of Year 3 NAPLAN scores. It should also borne in mind that cost factors are likely to be appreciably different between a two year diploma course and a four year degree which could be of particular interest to all stakeholders.

²⁶ The Australian, "Aussies doing it hard as prices outstrip pay" p1, April 23, 2014, Uren D.

²⁷ "Gonski Futures -..." <http://www.checkmateanalytics.com/institute-for-21st-century-problem-solving/>

²⁸ Warren D & Haisken-DeNew J P, "Early Bird Catches the Worm: The Causal Impact of Pre-school Participation and Teacher Qualifications on Year 3 National NAPLAN Cognitive Tests", 2013, Melbourne Institute Working Paper Series, Working paper No.34/13, see http://melbourneinstitute.com/downloads/conferences/LEW2013/LEW2013_papers/WarrenDiana_LEW2013.pdf

The fourth point above is in agreement with Leigh's (2014) [revisitation](#) of his earlier writings on teaching effectiveness (2008). His paper is based on 10000 Queensland primary school teachers and 90,000 children in years 3, 5 and 7 and subsequent test results i.e. that teacher experience is positively correlated with teacher effectiveness, but Leigh found no positive effect for teacher qualifications on test scores. Unfortunately, most of the differences between teachers according to Leigh are the result of factors not captured in the payroll database he had at his disposal. This was not a problem in the Melbourne Institute project.²⁹

The Melbourne Institute Study of Warren and Haisken-DeNew (2013) relied on data from the Longitudinal Study of Australian Children (LSAC)³⁰ conducted in 2004 and 2008 respectively and matching the details of more than 2229 children across Australia from all walks of life and across most if not all areas of advantage and disadvantage. This is particularly important because many previous studies (local and international) related to specific cohorts and as such the value of early learning could not be generalised confidently to all children. Even the supposed gold standard STAR study was confined to the state of Tennessee, one of the poorest and least core competent in the USA according to recent data.

Warren and Haisken-DeNew based their study on children who turned 4 or 5 and were not at school in 2004 but in 2008 had completed all five NAPLAN tests at which time NCAC rated 98% of Australian child care centres as High Quality based on varying ratios of 1:10 in NSW, 1:11 in Queensland and 1:15 in Victoria. No breakdowns were available as to whether any differences in class size impacted the 98% result but class size was not demonstrated as having any significant impact on outcomes.

From an initial nationally representative cross section of approximately 5000 children targeted, full pre and post data sets were achieved for 2229 of them. Although slightly less than half of the original sample pool, the sample is sufficiently large for the researchers to make a number of significant determinations, after accounting for potential confounding effects. The study goes to great lengths to control for intervening variables that could be offered as alternative explanations for the outcomes achieved. In our view, the researchers appeared to leave "no stone unturned" in the desire to address all possible areas of contention.

Despite a growing body of evidence that class size is by no means the most efficient method of delivering improved educational outcomes and that degree graduates have no better results than diploma qualified graduates, educational authorities persist in mandating class ratios and high quotas of degree-qualified teachers within child care centres commensurate with their size.

Historically degree graduates have chosen not to work in early learning but recently have joined an estimated 56,000 unemployed teachers in NSW and Queensland waiting for a job with the Education Department. In NSW, for many years, there remains a shortage of early-learning degree graduates which has been reported to be of

²⁹ Leigh A, "Estimating Teacher Effectiveness from Two Changes in Students Test Scores", Forthcoming Economics of Education Review 2014. <http://andrewleigh.org/pdf/TOPanel.pdf> & Leigh, A., & Ryan, C. (2008). How and Why has Teacher Quality Changed in Australia? Australian Economic Review, (2), 141-159.

³⁰<http://www.aifs.gov.au/growingup/>

the order of 400 or more. The result of this apparent shortage of graduates to take up additional positions in childcare as mandated by new regulation is to leave employers in a position where they cannot fulfil mandated requirements because they have no applicants to fulfil them. This is an untenable situation.

The final word is left to Brookings scholar and Brown Centre on Education Policy, Russ Whitehurst (2014) in a recent blog entitled “More Dubious Pre-K Science. In it he points out that the US President’s pronouncements on the Georgia program were incorrect and that no statistically significant relationship between class size and academic achievement had been demonstrated in either of the two studies conducted. Whitehurst says:

“Both these studies are careful econometric analyses, but their methods fall far short of providing the confidence in causal conclusions that could be expected from a well-designed and implemented randomised trial.

“The problem of non-equivalent groups in Regression Discontinuity Design studies is exacerbated in the Georgia Study by wildly differing parental consent rates” recorded as 77% in the control group and 30% in the treatment group.³¹

Aim of the Project

With evidence mounting that class size has at best a tenuous relationship with academic outcomes in the general population and the massive pressure being placed on the service to increase the quota of degree-qualified as opposed to diploma-qualified educators, the aim of this exercise is to provide a way forward for the Child Care service, in order to advise and inform regulators as to the optimum model for management and regulation of the early learning service. The service seeks to put forward an approach which realistically reflects the general consensus among educational researchers and which works to the benefit of parents and children, as well as meeting the needs of the child care service and government in terms of savings and outcomes.

Below is a scoping and format outline for the project as we see it at this stage. In particular, the survey will address the following issues in detail with parent clients:

- Excessive paperwork/red tape.
- Overzealous regulation particularly in relation to class size and degree-only qualifications.
- Realistic staff to child ratios.
- Optimum mix regarding staff qualifications
- Likely parent response to increasing fees as a result of rising staff costs and other issues e.g. will they seek lesser quality care e.g. unregulated

³¹ Whitehurst GJ “More Dubious Pre-K Science, The Brown Center Chalkboard, April 2, 2014.
<http://www.brookings.edu/blogs/brown-center-chalkboard/posts/2014/04/02-dubious-prek-science-whitehurst>

or untrained care or undertake other actions which may be detrimental to children?

Background on Richard Wilson

Richard Wilson is a social psychologist with 30 years' experience in marketing, communications and social and political research. Wilson pioneered lifestyle research and market segmentation in Australia. During the 1980's he launched Australia's first farmer research panel providing ongoing statistics on all aspects of agriculture from the primary producer's perspective. In the 90's he created the MLI system linking media, social opinion and markets in a way that had not previously been done in Australia. This was the first major single source survey in Australia

In more recent years however, Richard Wilson has focussed on the not for profit sector and is involved in exploring opportunities for communities, educational institutions, health care organisations and local businesses to work efficiently for the benefit of their constituencies.

His interest in education stems from a belief that although the education sector knows how to teach they are not quite as good at promoting the education message (needs and goals) to the wider community as well as to key decision makers and stakeholders.

Two young children moving through the school system has given Rick a strong interest in where teaching and learning are headed and given the direction of education in much of the Western world centred on straight line thinking and simplistic notions of educational success, he is anxious to ensure that Australia does not follow the same disastrous paths as other nations. The challenges of the century are vast and without a population capable of critical thinking who is able to hold its elected representatives and those so-called "experts and advisors" behind modern educational policy to account, we are destined for a second class existence in two generations.

Rick's voluntary work extends across education, professional associations and local community representative bodies dealing with business and government at all levels. In recent years as well as being involved in his children's school P&F bodies, Rick has been a member of the executive committee for the NSW Parents Council, the peak body representing parents of children at NSW independent schools, Vice President of NSW Parents Council and NSW Representative on the Australian Parents Council. He has also been a member of the Sydney Branch Executive of the Australian Psychological Society. Insofar as local government matters are concerned Rick has been a member of the Maroubra Precinct Committee as well as Secretary of that resident body. He has also sat on the and the Combined Randwick Precinct Committee which liaised with Randwick Council and the State Government on matters related to roads, development and community services.

A consultant and advisor to political leaders, educational bodies and not for profits as well as mainstream corporations, Rick continues to offer his unique perspective on the nature of human action in the 21st century. His vision remains for a world where organisations through a sharper understanding of people, politics and media deliver a vastly superior level of "social good" thereby ensuring success beyond their wildest imagination.

Rick also continues to be a dedicated member of The Australian Psychological Society, ESOMAR, the Australian Market and Social Research Society and the Society of Australasian Social Psychologists and other voluntary bodies.



Member
Australian
Psychological
Society MAPS

ESOMAR¹³
[corporate](#)