



This submission focuses on a selection of the *Productivity Commission Draft Report* (July 2014) recommendations as noted within this submission (Draft recommendations 5.2, 7.2, 7.9, 8.5, 12.6, 12.7 and 12.8).

The Melbourne Graduate School of Education Early Childhood Education and Care (ECEC) team presents evidence and arguments related to these recommendations because we seek change in these recommendations in particular prior to the release of a final report. Our evidence is drawn from international research and development literature, and from selected *E4Kids* research data analyses that have been conducted by Melbourne Graduate School of Education researchers and named colleagues within the E4Kids research team.<sup>1</sup> We also acknowledge the expertise and research of senior colleagues within the Victorian Department of Education and Early Childhood Development, who provided some pertinent background evidence that is cited in this submission.

The major points raised in this submission include:

1. The need for enhanced investment in ECEC in Australia which equates to benchmarks set by other OECD countries. Enhanced investment will address the long reach of human capital development, enabling longer term improvements in outcomes for children's learning, and on a range of life consequences
2. The merits of a coherent ECEC system that is underpinned by a well-qualified and experienced ECEC workforce. The reform initiated by the National Quality Framework (NQF) is targeted at quality improvement across a whole system of ECEC, takes time to build, embed and refine. Since the NQF quality reforms are still in their infancy, any adjustments made must stem directly from the evidence of the NQF implementation. Changes in direction need to come in light of analyses of the performance of the NQF.
3. The E4 Kids study findings demonstrate that, from an early age, children living in disadvantaged circumstances typically demonstrate lower cognitive and verbal abilities than peers from more advantaged backgrounds, and they are less likely to access programs that demonstrate high levels of teaching and learning quality. The differentials are further exacerbated as children move through ECEC services and on into school. Addressing this issue of equity and access to high-quality programs requires policies that ensure the skilled application of effective teaching and learning approaches within play-based ECEC settings; and parental involvement to support children's learning and development at home.
4. A joined-up system to ensure integration rather than a proliferation of separate services by child-age or service type. This is important to the lives of children and families. It is also important for administrative efficiency and effectiveness.
5. The need for early intervention services to be provided at the earliest possible time. Early intervention services and supports must be accessible to the families who need these services so that geography does not predict and a child's destiny.
6. Services that are currently outside the NQF should receive resources to support NQF implementation and make adjustments to demonstrate that they meet/exceed the National Quality Standard

Regarding *Key Points* of the Draft Report (page 2)

- 1 **Funding the expansion of ECEC services in the past five years:** The Draft Report notes that “Australian Government funding has escalated to around \$7 billion per year, and covers two-thirds of total ECEC costs” (p.2) while parents continue to report problems of access, affordability quality and hours of service provision. In addition, the GDP impact of the Draft Report’s proposed changes to ECEC assistance is said to be “at most, 0.4%”.

*This submission, however, notes that an investment of 0.4% of GDP to this area remains at half the average contribution of OECD countries<sup>2</sup> and the level of this investment in Australia has been stable for many years. When the ‘international standard classifications for educational program definition (ISCED Level 0 for early childhood education provision<sup>3</sup>) is applied, Australian investment actually reverts to 0.1% or less of GDP<sup>4</sup>. Although the Draft Report acknowledges the benefits from preschool participation for children’s development, the ISCED classification ranks Australian investment in ECEC at twenty-ninth of twenty-nine OECD countries. The OECD assessment takes account of the educational properties of the program; institutional context; target age of children for whom the program is designed; program intensity/duration; staff qualifications; existence of a regulatory framework; and that the provision is not part of compulsory education. In international terms Australia is not yet providing sufficient threshold investment in quality early learning provision: Australian children do not yet have sufficient access to ECEC programs of internationally comparable quality and duration.*

- 2 **Retention, modification and extension of the National Quality Framework (NQF) to all Government funded services:** The NQF is designed to raise the quality of Australian ECEC provision and requires further investment and time to support sustainable change. The goal should ensure that Australian ECEC services to reach a standard that better meets the ISCED definition noted above, that programs are *typically designed with a holistic approach to support children’s early cognitive, physical, social and emotional development and introduce young children to organized instruction outside of the family context<sup>5</sup>*. The NQF is shifting ECEC provision in a positive direction, and effort must continue to increase the level of quality and access to programs. While adjustments may be necessary, the aim should not change.

The intent of the National Quality Standard was to ensure that all children attending ECEC services, regardless of type or location, would benefit from a quality program and that curriculum for children from birth to school entry could meet the learning and development needs of each child, in the context of their family circumstances and culture. Until the NQS was introduced, Australia, unlike most OECD countries, had no national regulatory system for ECEC; nor was there a national curriculum framework which acknowledged and supported this crucial period of children’s learning; the foundation for later life and learning. The previous system was characterised by ad hoc requirements in each State and Territory and there was also recognition that the ECEC system, because of its fragmented nature of delivery through different service delivery types required a learning framework and standards which would provide for continuous improvement and allow for parents and educators to share a common language and approach to ECEC provision

### **Contextualising this submission within an international perspective**

OECD countries have increased early childhood services in response to a growing demand for better learning outcomes as well as growing female labour force participation. Human capital development has a very long reach<sup>6</sup>and hence, earlier childhood programs are more (cost-) effective than programs that focus on later years. The period from birth until formal schooling is a period for strong investment (Figure 1).

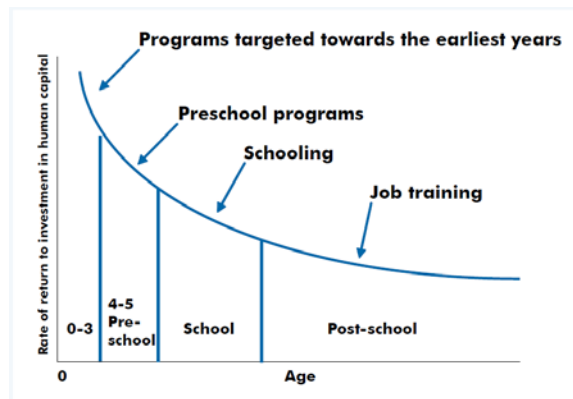


Figure 1: Returns to a unit Dollar invested.

Return to a unit dollar invested at different ages from the perspective of the beginning of life, assuming one dollar initially invested at each age (Heckman, 2008).

Over recent decades, two factors - the growth of neuroscientific knowledge of human learning and development and labour market strategy - shifted the goals for Early Childhood provision to become more child-centred, having a stronger focus on the quality of early learning. “Improving access without giving due attention to the quality of Early Childhood services *is not sufficient* to secure good individual and social outcomes.” The PISA results show that high-quality Early Childhood delivers better outcomes in the later stages of life. In 2000, countries concerned with raising the educational performance of their students following the publication of the PISA 2000 (e. g. Germany) invested heavily in early childhood education. In comparison, in 2000, Australian students were performing at relatively high levels and the rate of GDP investment in quality early childhood education remained stable. When comparing results from PISA 2000 with PISA 2012, a steady decline of Australian children’s performance is noted compared with Germany’s significant increase in performance<sup>7</sup>.

## STAFF QUALIFICATIONS: regarding Draft Recommendation 7.2

The period from birth to three years is a sensitive period of child development. Evidence from different scientific fields converges to affirm that stimulating and nurturing adult-child interactions are important for the achievement of positive child outcomes. Findings linking moderate and high quality provision to positive child outcomes are well-documented, and the outcomes for children experiencing lower quality provision are less clear.

The quality of provision has both structural and process components:

- The structural components of quality are in-setting enabling conditions relating to health, safety and space; staff to child ratios and staff qualifications and typically addressed through policy setting and regulation.
- The process components are typically built from the structural foundations and can be linked directly with child outcomes. Process components include: effective staff-child interactions and relational behaviours; the children’s experience of stability and continuity; the practice of delivering curricula; the climate of positive staff behaviours and communications between staff and parents.

The structural quality settings (qualifications, ratios and environment) are important enablers of quality, while the process (the interactions) quality mediates the child outcomes. *E4Kids* is the first large-scale Australian study of the effects of ECEC programs on the development of ≈2600 children, and of a further 160 children who did not take part in programs during the first year of this five year study. *E4Kids* analyses are indicating a cause-effect link between the structural components and process quality and in turn, predicting improvements in children’s learning and development. Our *E4Kids* analyses of structural and process quality variables demonstrate that bachelor-level and above qualifications are associated with higher levels of *process* quality in settings for three to five year old children, as measured by CLASS.<sup>8</sup> Better structural process quality components such as child-to-adult ratios, teacher education and experience, and higher values in the independent rating of environments *lead to* better process quality<sup>9</sup>.

A breadth of research evidence on quality of early childhood education and care for children under three years highlights the necessary dimensions of good quality provision including: stable relationships and interactions with sensitive and responsive adults; play activities and routines that allow children to take the lead in their own learning; educator support for communication and language and opportunities to move and be physically active. The research

makes clear that, to provide high quality pedagogy, staff need to be skilled and knowledgeable and to work within ECEC learning environments that support them in their practice. Staff best function when supported by strong leaders and when they operate in a stable team with a low turnover and good working conditions. Favourable ratios, staff continuity, along with a stimulating physical environment and engaged and involved families help to ensure high-quality provision for infants and toddlers.<sup>10</sup>

To expect a *complete* evidence-base that directly links specific qualifications to child outcomes at different points in children's lives is unrealistic, and over-simplifies the conditions and behaviours that drive child and program outcomes. The *use* of knowledge and understandings that result from completing a professional qualification is pivotal to effective educational practice. Qualifications in any human service profession (law, medicine, commerce...) do not, in and of themselves, guarantee high-quality outcomes for the users of a service. We note that a demonstrated evidence-base to justify the requirement of a qualification is not a test that is applied to primary and secondary teaching, or indeed to other professions such as medicine and law. Yet in ECEC settings, there are important findings related to professional qualifications and expertise including that:

- specialised qualifications contribute to the educator's ability to develop and foster positive relationships with children, support other practitioners, support families and ultimately improve learning outcomes for children<sup>11</sup>.
- the most significant factor affecting quality appears to be level of educator education, specialised qualifications, and training - across age groups and service settings<sup>12</sup>.
- highly qualified educators have the detailed knowledge of children's development and the skills to identify and act early when issues present that could impact on a child's future development or learning outcomes<sup>13</sup>.
- settings that have staff with higher qualifications have higher quality scores on quality rating systems<sup>14</sup>.
- educators with low qualifications and limited training are at high risk of burning out, suffering from depression and poor emotional health, which compromises their ability to develop the type of relationships that support young children's learning and development<sup>15</sup>.
- lower-qualified educators working alongside educators with higher qualifications or access to supervisors, mentors and coaches with higher qualifications have been shown to interact more positively with children and contribute positively to their own wellbeing<sup>16</sup>.
- more highly educated staff have a higher number and longer episodes of sustained shared thinking with children in their care<sup>17</sup>. Sustained shared thinking has significant predictive value for children's later success<sup>18</sup>.
- quality interactions by responsive and knowledgeable educators contribute to higher scores for cognitive and attitudinal competencies<sup>19</sup>.
- care providers with higher-educated staff were better able to provide improved learning environments and more sensitive care<sup>20</sup> which emphasise children's learning and development.
- stability and continuity in staffing have been shown to be critical for children under the age of three<sup>21</sup>.
- parents with low education levels are often unable to provide the stimulation, particularly regarding rich language experiences, that are known to benefit children. More highly educated staff provide high-level support and language stimulation for young children, and also play an important role supporting parents, and in modelling good practice to less-qualified staff<sup>22</sup>.

**In summary there is no case in the research to justify rolling back qualification requirements in programs for children under three years.** Just as in the provision of any human service, qualifications are an essential structural component of quality. In ECEC services staff qualifications underpin critical process components that drive child outcomes. Acknowledging that the evidence-base is not complete, experience in the UK concludes that, "*For children under three, factors such as the overall qualification level of the staff team are important; and there is also evidence that specialised training with appropriate content on child development is beneficial for quality. It is also important that practitioners have access to continuing professional development opportunities following their initial training.*"<sup>23</sup> The risk to children's outcomes of lowering agreed qualification levels in birth to age three provision is not known, yet the available evidence would predict such a direction would have a negative impact on child wellbeing. The available evidence would suggest the reverse action – to continue increasing the level of qualification while also researching the impact of a range of staff qualifications on process quality and child outcomes would have a positive impact on child wellbeing. Removing the requirement to have skilled teachers working with children under three years of age creates a context in which children are more likely to receive lower quality care which increases the risk that, at age three,

they will enter 'educational services', as identified by the Draft Report, already disadvantaged. This puts more pressure on these services to address disadvantage that could easily have been prevented. To date, our *E4Kids* research (2010 assessments of ≈2,600 children) has established that there are significant differences between children's cognitive abilities by the age of three, and these are persistent over time: children who start with lower cognitive abilities, all other things constant, maintain lower cognitive abilities compared to their peers<sup>24</sup>. Importantly, this difference means children from low SES backgrounds are, on average, below Australian norms at this point.

## **VULNERABLE CHILDREN and an integrated system: DRAFT RECOMMENDATIONS 12.6, 12.7, 12.8, 5.2 and 7.9**

Early childhood education is vital for all children, particularly those with disabilities. The diagnosis of developmental delay and of some disabilities is complex for very young children. Some babies and children evidently have developmental disabilities that affect their physical, cognitive, sensory and social-emotional development, and for others this is less clear. Quality early intervention educational experiences for these children can impact positively on their life trajectories. Children with a diagnosed disability or developmental delay will be most likely eligible to receive support through the NDIS, and the optimal use of NDIS funding necessitates that educators are informed and given appropriate assistance in selecting and managing high-quality well-scaffolded services for early intervention.

Young children without a formal diagnosis of disability or developmental delay, however, may be at risk of developing language, behavioural or mathematical learning difficulties if they do not experience positive, rich and varied early learning experiences. For children whose academic or social learning difficulties may not be evident until their school years (up to 20% of the school age population), discriminatory labelling and low staff expectations can be problematic and can limit possibilities for lifelong success. A small but significant proportion of children at risk of developing learning difficulties (because of genetic, family and contextual factors), who experience quality early childhood education, become highly competent. Similarly, children who may be gifted and talented but who do not experience optimal early education experiences represent a loss of potential that is costly to society.

The way forward is to intervene early, with sensitivity and skill, and routinely provide quality ECEC for all young children. Our *E4Kids* analyses show that the relationship between vulnerability, access to and quality of ECEC programs is complex and confounding, and policy solutions that are simplistic are unlikely to be effective. For example, we conclude from the data that the quality of programs children access in disadvantaged areas is likely to be lower: ECEC markets are not yet delivering quality to all children. And from the Longitudinal Study of Australian Children it is apparent that children in disadvantaged areas are less likely to participate in services.

A strong universal platform of ECEC service provision provides the base from which additional supports can be built to ensure early intervention, and the platform needs continuous improvement if those having greater needs are to be supported by the Australian model of ECEC provision. For example, *E4Kids* current analyses confirmed only seven per cent of children from families in the lowest quintile of SES attended programs observed in the highest quintile of process quality (CLASS instructional support) – the driver for improving child outcomes. Conversely 30 per cent of children from families in the highest quintile of SES attend programs observed in the highest quintile of process quality (CLASS instructional Support)<sup>25</sup>.

*E4Kids* also finds that transport and time costs limit the number of ECEC programs available to Australian families – the median distance travelled to programs in Australia is less than 3km. This matters because there are fewer ECEC program places in low-SES areas – an under-supply of child care, as opposed to kindergarten, was particularly pronounced in such areas. There is lower demand and fewer families can pay the prices associated with the cost of providing high-quality EC. In addition, we found that the process quality of these services is lower than in more advantaged areas. When children from low-SES areas go to ECEC programs, it is for less time and in lower quality programs<sup>26</sup>. Given that there are barriers to families who live in low SES areas accessing high-quality programs, we expected to see developmental differences between children from less and more advantaged backgrounds.<sup>27</sup> Further, we also expect that the effect of proposed new employment conditions for family access will be to worsen the situation for children in disadvantaged circumstances. An activity test requirement (Draft Report, p.2).that limits access to an early learning subsidy excludes and labels the children whose parent cannot meet such a test. Moreover, the analysis of *E4Kids* data shows that most parents use ECEC programs in their own or neighbouring community. The concept of a market in which parents travel long distances to obtain higher quality, more effective programs is not accurate.

Service type and SEIFA code have strong, persistent effects on quality. Most director and teacher variables, and the age of children in the room, appear to affect the provision of quality. However, when all are included *together* many variables are not statistically significant<sup>28</sup>. Family SES is a strong predictor of the level of ability of the child at school entry. For example, for a one standard deviation increase in family SES (measured using ACARA's methodology) we see a 0.15 SD increase in children's Verbal Ability. But even with these strong selection effects, we *still see small effects for Instructional Support* (focusing on concept development, quality of feedback and language modelling) on children's Verbal Ability. In short, *high quality EC programs can contribute to children's learning and development when they access these programs*. At the same time all our tested conceptualizations of the home learning environment were significant predictors of initial child outcomes when age, sex, and child language were controlled for, and all were significant predictors of children's cognitive development when initial competencies, age, sex, and child language were controlled for. Only about 1-2% of additional variance was explained by the conceptualisation of the home learning environment.<sup>29</sup>

The prediction of educational failure can be prevented with high-quality early childhood programs that are implemented with fidelity. A series of rigorous scientific studies have demonstrated that the Abecedarian program has immediate and long lasting positive effects for vulnerable and disadvantaged children. More than 200 academic articles had been published on this research (a series of randomised control trials) in peer-reviewed journals<sup>30</sup>, and a new version of the Abecedarian approach is available in Australia. Called *3a* (Abecedarian Approach Australia), the approach has been aligned with the outcomes expressed in the NQF *Early Years Learning Framework*. *3a* was further customised in partnership with a range of Indigenous communities across the Northern Territory and Western Australian, and specific materials have also been published. A large number of Aboriginal families implement *3a* with local support from early childhood teachers and family liaison staff. Evidence of the effects is both promising and accumulating, and although not publicly available to date, early indicators of change in the trajectory of very young Indigenous children's learning may be obtained on request.<sup>31</sup> Abecedarian effects begin early and are long lasting. Notable already examples for at risk children from vulnerable families include developmental and cognitive advantage by the time the child is 18 months of age<sup>32</sup>; better social development and academic achievement throughout the school years<sup>33</sup>; increased rates of university graduation<sup>34</sup>; better mental and physical health in young adulthood<sup>35</sup>.

We welcome steps set out in draft recommendation 12.7 and advise that any additional support to children who are assessed as 'at risk' to access ECEC services be directed toward training in implementation of known active ingredients that advance early learning and that have clear evidence of effectiveness.

Draft Recommendations 12.6, 12.7 and 12.8 provide a positive approach to better access and support for children with disabilities and developmental delays. They recognise that a universal system that is proportionate to increasing need can raise overall outcomes, while efficiently identifying and reducing inequalities.<sup>36</sup>

Integrated service provision and family-centred practice (draft recommendation 5.2) recognise the potential benefits of integration across services, particularly when children have multiple or complex needs. Victoria has a record of providing some integrated, wrap-around services with co-ordination support, and this is critical to overcoming complex barriers to participation in quality ECEC. There is an emerging evidence base<sup>37</sup> and desire for action<sup>38</sup>; there are coordinating forums in place, yet the evidence from E4Kids points to how challenging it is to supply comprehensive, quality ECEC programs in a mixed-market context. A well-articulated vision and funding commitment to support children facing a range of disadvantages, overseen by local governments can achieve policy coherence and efficient use of resources within a more seamless service system for families.

The NQF approach of combining early childhood education *and* care services under the one umbrella demonstrates progress toward creating a holistic approach to ECEC service delivery which is supported by evidence that attention to emotional *and* instructional support is required to advance children's learning. A unified approach makes it easier to reduce opportunities for children to fall through gaps in the system; for authorities to monitor and assure quality; for families and community to develop appropriate expectations of early childhood services, to recognise quality and to respond to poor quality appropriately; and for early childhood professionals to move between different service types as they build their careers. Removing preschools from the framework would be a retrograde step, exacerbating the divide between care and education. Such a divide is a consequence of the history of the evolution of early childhood provision in Australia, and is counter to the best interests of children particularly to those who are assigned to the service of 'care' where lower qualifications for staff and lower standards of quality are being recommended by the Draft Report.



Consideration should additionally be given to:

- **better understanding the human-potential loss that is occurring in the early years** due to insufficient levels of investment – the draft report seeks to work within the current budget parameters. Our evidence suggests that further analysis may be given to differences in outcomes being driven largely by the uneven capacity of parents to invest in children or access quality ECEC services. As a consequence, this produces downstream costs in a range of areas including education, health and human services.
- **a tiered approach to the deemed cost for ‘additional needs’** – the deemed cost for children with disabilities and developmental delay should take account of the range of significant behavioural, emotional, medical and physical needs of these children which reflect child history. This may include additional funding for improved specialist educator training, educator: child ratios, trauma-informed practice, service co-ordination and wrap-around support.
- **recognition that disability diagnosis is complex in the very earliest years of life** – there has been a history of eligibility for additional support being limited to children with a diagnosed disability. Opening supports to children who may be at risk of developing learning difficulties or experiencing language delay may be judicious preventative investment.
- **sustained and streamlined support for the most vulnerable children** – the Draft Report reinforces the concerns highlighted in the Productivity Commission’s 2011 study into the Early Childhood Development Workforce that funding for children with disabilities and developmental delays, provided on a short-term basis, does not fully cover the cost of employing additional staff, and is onerous for services to apply for and maintain. Yet draft recommendation 12.7 introduces new requirements, including ‘assignment of a case worker’ which is an additional administrative and resource burden on both ECEC services and authorities already under significant demand pressures. Options that provide incentive for providers to supply high-quality support in the local context are necessary and may be more efficient.

## HOME-BASED ECEC SERVICE – regarding DRAFT RECOMMENDATION 8.5

### *Family Day Care*

Family day care (FDC) educators work alone, under challenging conditions with high responsibilities – settings that mean their mental health is at risk, which is likely to impact the quality of care they provide and in turn, the children in their care. A recent doctoral study by Corr<sup>39</sup> investigated the relationships between FDC educator mental health and wellbeing, psychosocial working conditions and child care quality. The study reveals how educator mental health is intimately connected to care quality and the influential role of government policy on educator mental health. Crucially, findings highlight how educator mental health is affected by lack of respect, inadequate income and the quality of the educators’ relationships with the FDC Schemes. Schemes are the source of essential access to professional services, support and information, and they may choose the educators to whom new child-enrolments are allocated. High quality relationships between educators and the FDC Scheme coordinators are vital to the success of educator professional practice with children in the home setting. Each FDC Scheme has a pivotal role supporting its educators to enact government regulations, frameworks and standards, and in the day-to-day- operation of their services. This requires FDC Scheme personnel to have a breadth of skills, experience and adequate resources.

In many FDC Schemes resources are already stretched and the changes to the Community Support Program (CSP) funding are likely to increase these pressures and threaten the viability and quality of Schemes and the educators they support. There has been major growth in the FDC private sector in Victoria and licensees have variable experience of operating Schemes, and the kinds of support provided available to FDC educators are likely to vary widely. FDC Schemes can also work with educators across significant geographic distances in Australia, which requires significant time and resources.

A 2012 research review of regulated FDC services across ten countries<sup>40</sup> suggests that the Australian FDC system meets many of the criteria for high quality systems. The evidence suggests that high-quality systems should have staff with childcare related training (Australia requires a Certificate III for educators, a Diploma for coordinators); quality assurance guidelines (Australia has the NQF), and professional supports for providers (the Australian system requires

educators to be supported by a coordinator, although neither the ratio of educators to coordinators nor the nature of engagement between coordinators and educators is specified). Yet rapid growth, and the entry of many new providers calls into question the level of educator preparation and support that is provided by FDC Schemes within this sector. For example, Scheme A hosts 100 educators whereas Scheme B hosts 25 educators, the coordinator working in each scheme faces a dramatically different challenge regarding FDC educator professional services, support and information.

We argue that in light of the extraordinarily rapid growth in FDC provision there is a need to examine in more detail the set-up and operation of current FDC Schemes, including the entry requirements for opening FDC Schemes, the system of tracking children's participation within FDC, and importantly, the level and type of preparation and support to the educators working within homes that must be supplied by FDC Schemes. This is vitally important *before* any introduction of nannies into the system of home-based care provision.

## CONCLUSION

It is no longer sufficient to think of the early childhood period as being solely about keeping children healthy and safe in home-based or centre based services, allowing learning and development to take its course until children become old enough for formal education. Learning occurs from the period pre-birth<sup>41</sup>. ECEC services help to meet UN Convention<sup>42</sup> obligations to support young children's learning and development from birth and address persistent issues of inequality and social exclusion. Children depend on the secure and nurturing relationships with adults, and the educators working with children require qualifications that, at a minimum, meet the current requirements. Australia may be aware of the importance of early childhood education and care to the future of both individual and society as a whole, but as yet, there is insufficient formal commitment to a course of action that will ensure that children's experience in this crucial period will best prepare them for the rest of their life. We provide evidence and argument in this submission in the spirit of further advancing the positive steps being taken in this area in Australia. Development and further improvement of a complex services system is likely to ensure that all children obtain the best possible opportunities for learning and development.

E4Kids-Melbourne and Melbourne Graduate School of Education ECEC Team  
The University of Melbourne  
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*E4Kids Melbourne*: Collette Tayler, Frank Niklas, Dan Cloney, Tim Gilley, Caroline Cohrssen, Lara Corr (SPH), Elise Davies (SPH), Liz Waters (SPH).

*Melbourne Graduate School of Education ECEC*: Joseph Sparling, Amelia Church, Jane Page, Jan Deans, Sarah Young, Rachel Flottman, Isabel Brookes, Moein Ghodrati, Kimberley Meunier, Carole Rasborsek, Amy Parthenopoulos, Lorraine Graham, Dawn Davis.

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<sup>2</sup> OECD *Education Indicators in Focus*, 2013/02 (February).

<sup>3</sup> UNESCO. *International Standard Classification of Education. IECED 2011*. UNESCO-UIS 2012.

<sup>4</sup> OECD *Education Indicators in Focus*, 2013/02 (February)

<sup>5</sup> UNESCO. *International Standard Classification of Education. IECED 2011*. UNESCO-UIS 2012

<sup>6</sup> Heckman, J. (2008). *The case for investing in disadvantaged young children*. In First Focus (Ed.), *Big ideas for children: Investing in our nation's future* (pp. 49-58). Washington, DC: First Focus.

<sup>7</sup> Thomson, S., De Bortoli, L. & Buckley, S. (2013). *How Australia measures up. The PISA 2012 assessment of students' mathematical, scientific and reading literacy*. Camberwell: ACER.

<sup>8</sup> Cleveland, G. Tayler, C., Cloney, D. (2012). *The determinants of interaction quality: A production function approach*. Australian Association for Research in Education. Sydney. December.

<sup>9</sup> Tayler, C. & Siraj, I. (2014). *The quality of early childhood education and care programs and child development at school*. Early Learning Association Australia Conference presentation, Melbourne, May.



- 10 Mathers, S., Eisenstadt, N., Sylva, K., Soukakou, E., & Ereky-Stevens, .K. (2014). *Sound Foundations: A Review of the Research Evidence on Quality of Early Childhood Education and Care for Children Under Three Implications for Policy and Practice*.
- 11 Munton, T., Mooney, A., Moss, P., Petrie, P., Clark, A. & Woolner, J. (2002). *Research on Ratios, Group Size and Staff Qualifications and Training in Early Years and Childcare Settings*, Thomas Coram Research Unit Institute of Education, University of London.
- 12 Huntsman, L. (2008). *Determinants of quality in child care: A review of the research evidence*, NSW Department of Community Services.
- 13 Dalli, C., White, E., Rockel, J. & Duhn, I. *Quality early childhood education for under-two-year-olds: What should it look like? A literature review*. Ministry of Education, New Zealand, 2011.
- 14 Sylva, K., Melhuish, E., Sammons, P., Siraj-Blatchford, I. & Taggart, B. (2004). *The Effective Provision of Pre-school Education (EPPE) project: final report*, London: Institute of Education.
- 15 See, for example: Shonkoff, J. (2011). Protecting brains, not simply stimulating minds, *Science*, 333(6043), pp982–983.; Hamre B., & Pianta, R., (2004). Self-reported depression in non-familial caregivers: Prevalence and associations with caregiver behavior in child-care settings, *Early Childhood Research Quarterly*, 19, p. 297.
- 16 Mathers, S., Eisenstadt, N., Sylva, K., Soukakou, E., & Ereky-Stevens, .K. (2014). *Sound Foundations: A Review of the Research Evidence on Quality of Early Childhood Education and Care for Children Under Three Implications for Policy and Practice*.
- 17 Meade, A., Robinson, L., Smorti, S., Stuart, M., Williamson, J., Carroll-Lind, J., Meagher-Lundberg, P. & Whau, S. (2012). *Early Childhood Teachers' Work in Education and Care Centres: Profiles, patterns and purpose*, New Zealand Child Care Association.
- 18 Siraj-Blatchford, I. (2010). A focus on pedagogy: Case studies of effective practice, in K Sylva, E Melhuish, P Sammons, I Siraj-Blatchford & B Taggart, *Early childhood matters: Evidence from the Effective Pre-School and Primary Education project*, Oxford, Routledge, pp.149–165.
- 19 Wylie, C., Hodgen, E., Ferral, H. & Thompson, J. (2006). *Contributions of early childhood education to age-14 performance: Evidence from the Competent Children, Competent Learners project*, Ministry of Education, New Zealand.
- 20 Zaslow, M., Anderson, R., Redd, Z. & Wessel, J. (2010). *Quality dosage, thresholds, and features in early childhood setting: a review of the literature*. US Department of Health and Human Services.
- 21 *ibid.*
- 22 Mathers, S., Eisenstadt, N., Sylva, K., Soukakou, E., & Ereky-Stevens, .K. (2014). *Sound Foundations: A Review of the Research Evidence on Quality of Early Childhood Education and Care for Children Under Three Implications for Policy and Practice*.
- 23 Huntsman, L. (2008). *Determinants of quality in child care: A review of the research evidence*, NSW Department of Community Services. p25
- 24 Tayler, C., Cloney, D, & Niklas, F. (2014, under review) *A bird in the hand: understanding the trajectories of development of young children and the need for action to improve outcomes*, Unpublished manuscript, Melbourne Graduate School of Education
- 25 Cloney, D., Adams, R., Cleveland, G., Tayler, C. & Hattie, J. (2014 draft). *Selection and Socioeconomic Status: Who Benefits From High Quality Early Childhood Education and Care?* Manuscript in preparation: unpublished, Melbourne Graduate School of Education.
- 26 Cloney, D., Cleveland, G., Hattie, J. & Tayler, C. (2014 review) Variations in the availability and quality of early childhood education and care by socioeconomic status. Proceedings of joint International Conference of the Australian Association for Research in Education (AARE) and New Zealand Association for Research in Education (NZARE). 30 November – 5 December 2014, Brisbane.
- 27 Cloney, D. & Adams, R. (2014) Development Trajectories of children from low SES backgrounds and the influence of early childhood education and care programs. Proceedings of joint International Conference of the Australian Association for Research in Education (AARE) and New Zealand Association for Research in Education (NZARE). 30 November – 5 December 2014, Brisbane.
- 28 Cleveland, G. Tayler, C., Cloney, D. (2012). *The determinants of interaction quality: A production function approach*. Australian Association for Research in Education conference presentation. Sydney. December.
- 29 Niklas, F., Nguyen, C., Cloney, D. S., Tayler, C., Adams, R. (2014, under review). *Self-report measures of the home learning environment in large scale research: Measurement properties and associations with key developmental outcomes*. Unpublished manuscript, Melbourne: MGSE, University of Melbourne.
- 30 For a comprehensive synthesis, see Ramey, C.T., Sparling, J., & Ramey, S.L. (2012). *Abecedarian: The Ideas, the Approach, and the Findings*. Los Altos, CA: Sociometrics Corporation.
- 31 Refer, Sparling and Tayler, Melbourne Graduate School of Education, The Northern Territory Department of Education, and/or Silburn at the Menzies Research Centre for Child Development and Education.
- 32 Martin, S.L., Ramey, C.T., & Ramey, S.L. (1990). The prevention of intellectual impairment in children of impoverished families: Findings of a randomized trial of educational day care. *American Journal of Public Health*, 80, 844-847
- 33 Campbell, F.A., Ramey, C.T., Pungello, E., Sparling, J., & Miller-Johnson, S. (2002). Early childhood education: Young adult outcomes from the Abecedarian Project. *Applied Developmental Science*, 6(1), 42-57.
- 34 Campbell, F. A., Pungello, E. P., Burchinal, M., Kainz, K., Pan, Y., Wasik, B. H., Barbarin, O. A., Sparling, J. J., & Ramey, C. T. (2012). Adult outcomes as a function of an early childhood educational program: An Abecedarian Project follow-up. *Developmental Psychology*. 48(4), 1033-1043
- 35 Campbell, F. A., Conti, G., Heckman, J. J., Moon, S., & Pinto, R. (2014). Early Childhood Program Improves Adult Health. *Science*, 343(6178), 1478-1485
- 36 Marmot, M. (2010). *Fair Society Healthy Lives: Strategic Review in England Post-2010* (The Marmot Review).
- 37 Wise S (2013). *Improving the early life outcomes of Indigenous children: implementing early childhood development at the local level*. Issues paper no. 6. Produced for the Closing the Gap Clearinghouse.
- 38 Arabena, K (2014) *The First 1000 Days: catalysing equity outcomes for Aboriginal and Torres Strait Islander children*; Med J Aust 2014; 200 (8): 442.
- 39 *Victoria's Vulnerable Children Strategy 2013-2022*.

- 
- <sup>39</sup> Corr, L. (2014) *Work and wellbeing in family day care: educator mental health and its relationship with working conditions and care quality*. PhD thesis, under examination. School of Population Health: The University of Melbourne
- <sup>40</sup> Davis, E, Freeman, R., Doherty, G., Karlsson, M., Everiss, L.; Couch, J. Foote, L., Murray, P., Modigliani, K., Owen, S., Griffin, S., Friendly, M., McDonald, G., Bohanna, I., Corr, L., Smyth, L., Ianke, E., Morreaunet, S., Ogi, M., Fukukawa, S. & Hinke-Rahnau, J. (2012). An international perspective on regulated family day care systems, *Australasian Journal of Early Childhood*, 37 (4) 127-137.
- <sup>41</sup> Graven., S.N. and Browne, J.V. (2008). Sensory development in the fetus, neonate and infant, *Newborn and Infant Nursing Reviews*, 169-172. Doi:10.1053/j.nainr.2008.10.007.
- <sup>42</sup> United Nations. (1989). *Convention on the Rights of the Child*. Geneva: Office of the United Nations High Commissioner for Human Rights.. and UN Committee on the Rights of the Child. (2005). *Implementing Child Rights in Early Childhood. General Comment. No. 7, OHCHR (CRC/C/GC/7)*. Geneva: United Nations.