Productivity Commission Inquiry into the National Education Evidence Base

Submission on behalf of the Early Childhood Education and Care research team

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SUMMARY

We welcome activity that achieves a comprehensive and consistent approach to data (population-level, and targeted samples) for education policy decision-making that is empirically driven, and improves Australian children's educational outcomes. To be effective the *National Education Evidence Base* needs to include data on children's development from birth.

This submission focuses on evidence related to early childhood learning and development and the linkages to data from formal school education. Much administrative information exists that is fundamental to supporting and tracking young children's progress and achievement, yet is not generally available. Gaps in early learning and development data also need to be addressed. Data collected at key points, including birth and infant health, access to services (health checks, early education and care programs, beginning school) are not yet used for educational policy and the improvement of educational achievement. Better accessibility, further items in the birth to school-age period of learning, focused use of the data, and a policy-relevant research plan that includes longitudinal and experimental studies would facilitate evidence-driven policy development and the improvement of educational outcomes.

In aggregate, our submission focuses on:

1. Ensuring a broad set of child capabilities are assessed including social and emotional capabilities as well as intellectual achievement outcomes
2. Integrating and harmonising data collections across a child's early years from birth, and school years (AEDC, NAPLAN) to produce longitudinal evidence, measure developmental trajectories and conduct experimental interventions within the early childhood phase (birth to age eight)
3. Creating a governance process – at arms-length of government – that brings together departmental administrative data and evidence held within authorities (e.g. ACECQA, ACARA) to enable research, address important questions, and maximise the utility of analyses and findings for policy and practice change
4. Ensuring sufficient data are collected, including program implementation quality, to explain the cause of differences in student outcomes, design effective interventions and remove ineffective programs. This requires augmenting and adjusting current collections.

Explaining the causes of educational outcomes

The early years are a key time for the development of competencies when it is possible to narrow or close achievement gaps associated with inequality and raise the capabilities of children doing well. Measures of key inputs to children's learning and development are essential if a *National Education Evidence Base* is to effectively to promote and improve programs and raise achievement. These inputs are necessary to explain the relative contribution that home learning environments, early childhood programs, and later schools, make to children's educational attainment.

Children found to be at risk of poor performance and those well above expected performance levels would be better served by an educational evidence base that can direct interventions, track progress and report outcomes. We have found significant inequities in the availability and quality of early childhood programs that affect school achievement outcomes. Our research findings (E4Kids, Abecedarian Approach Australia) point to issues of access, program dosage, pedagogical practices and home learning environments and suggest system level large- and small scale experimental programs to drive early educational policy and practice.

Considerable system-level administrative and program data exists that can help to explain the causes of educational outcomes; however, these data are neither coordinated nor deployed to direct improved educational achievement. Establishing a key set of causal indicators, reviewing the administrative data collections, joining them together and augmenting as necessary to supply population-wide and/or key samples is necessary. This action would help to inform policy by demonstrating where universal intervention is needed, where to target specific focused interventions, and where to find examples of effective services and interventions that are already operating.

Child, family, home, and community context all, together, play an important role and must be measured well - and over time - in order to fully explain how academic outcomes are achieved. Pointing to the key or sensitive times where children may be locked into poor educational trajectories, or are being underestimated despite having advanced (usually unmeasured) capabilities and acting for change, is a key function of a national educational evidence base.

The kinds of data that are needed

The lack of nationally consistent data on young children's competencies results in no consistent way to know how children are faring in the years *before* school, and the relation of this to their later school achievement. Data are available at the first year of school on children's developmental status (at or soon after school entry), children's physical, social and emotional development, and family circumstance (e.g., AEDC, SEHQ (Victoria), ICSEA). While valuable, this collection cannot effectively direct early childhood interventions. It is well established that gaps in cognitive outcomes emerge very early, and are predictive of later outcomes. In Australia, the E4Kids longitudinal study found that children who are behind their peers by age 3-4 years remained below their peers, and below age-normative levels three years later when they were six-seven years old. Our recent analyses show that these differences persist into school and are reflected in the NAPLAN scores of these children.

Evidence of child competencies at and before the age of 3-4 years, including measures of vocabulary, expressive and receptive language, and verbal ability lend themselves to be precursors of the NAPLAN's reading, grammar, and spelling assessments. There are opportunities to measure such competencies at the points where young children engage in ECEC services and/or child health checks and/or attend universal preschool programs, delivering evidence that could direct early learning and development intervention. Furthermore, parent-informed survey data could provide evidence about children's capabilities including social and emotional development, language and communication behaviour. At a population level, such measures are a low cost approach and the large number of observations provide great power to identify patterns of interest for educational intervention and program improvement. A significant opportunity is currently lost to track change and identify sensitive periods of development.

Governments subsidise or fully fund a range of ECEC and early child health programs. Because the dosage, quality and type of these programs that young children experience influence their learning and development, data collection related to these items needs inclusion in a *National Education Evidence Base.* For example, The Australian Children's Education and Care Quality Authority (ACECQA) and the Child Care Management System (CCMS) hold evidence about ECEC programs, including details of regulatory conditions and funding. The *Issues Paper* is silent on the existence of these data. Furthermore, evidence of performance against the Early Childhood National Quality Standard could be enhanced through the collection of more specific data on the educational program and practice that is occurring within ECEC settings. Already, assessors visit all approved ECEC services across the country, and the use of sampling and weighting methodologies could be applied to the

system database to select sites for further specific research into program variables that are known to affect educational achievement, without significant additional data collection cost.

At the school-age level there are already well established measure of academic competencies through the National Assessment Program – Literacy and Numeracy (NAPLAN). Clearly, there are key aims and outcomes for education within the Early Years Learning Framework, and the National Curriculum, that are not addressed by the NAPLAN. For example, evidence about critical and creative thinking, personal and social capability, and ethical and intercultural understanding could be measured in robust ways (e.g., nationally consistent and scales that all students at all ages/levels of abilities can be placed on) to better assist educational policy development and program design.

Integrating and harmonising datasets, and data linkage to support research

The current approach to data linkage is inconsistent and fragmented. Education research in particular is poorly served by already collected evidence, and resources are spent (re)collecting data when they could be better invested in further skilling the education sector on research design and analyses, and attending to research questions that may better guide the education system. A number of small consortiums, however, have developed substantial collaborative relationships and produced powerful data linkages. Formalising this process by learning from those who successfully complete data linkage is key.

At the outset, establishing a linkage of the currently available identifiers would facilitate data linkage of a large range of items. For example, while there are inconsistent student identifiers across the school sector (e.g., VSN in state schools, and other IDs used by Catholic Education and independent schools) and no ID for children in the early years, there are universal identifiers used for health (Medicare number). Curating a data linkage of Medicare number (or other universal identifier) on major education identifiers and/or an early childhood identifier would facilitate better utilisation of current data collections.

A governance and accessibility process

There is no clear framework in place for the collection and sharing of relevant data held by different government agencies and departments, for the purpose of directing educational policy and empirical research to direct educational programs. To achieve a legal framework and governance system the cooperation by the Australian, State and Territory governments is necessary. The recent *Early Childhood National Quality Reform* is a case-example: using COAG policy development and collaboration mechanisms, this reform process delivered (for early childhood education and care services) a common law bill, regulatory and administrative systems, and a National Quality Agenda IT system.

There are national agencies already in place that could have terms of reference revised to host a *National Education Evidence Base,* including the Australian Council for Educational Research (ACER), Australian Curriculum Assessment and Reporting Authority (ACARA) and the Australian Children's Education and Care Quality Authority (ACECQA). The agency of choice must have a clear *education evidence* brief, distinguishing this from related

priorities in child health, workforce, economic production, social welfare, or family studies. Importantly, the governance agency should be at arms-length for any government department: the host needs clear purpose and sufficient stewardship and authority to withstand resistance by single/local entities if such a governance agency is to address the important issues of data ownership, privacy, data consistency and comprehensiveness. No current agency addresses educational evidence inclusive of children from birth. Compared with health, the education sector has significantly less infrastructure for data and research to drive improvement within the educational system.

Action to improve and bring together early childhood and school related evidence to underpin a broad education system is new, timely and achievable. In 2015, the Organisation for Economic Cooperation and Development (OECD) also achieved the cooperation of interested countries to develop a conceptual framework on early learning outcomes, setting out inter-related key determinants of children's early learning, and is currently deploying its first *International Early Learning Study.* Further, the US National Center for Education and the Economy is leading a study of early childhood education systems within selected high-performing education countries, including Australia. These initiatives serve the illustrate the importance of common frameworks, and across-agency endeavour to achieve key evidence and coordinated governance. These examples also illustrate the kinds of data that should be included in a National Educational Evidence Base.

Using the Evidence base

Closely linked with the development of a national data strategy which includes early childhood, school and post-school evidence is a *National Education Research Strategy.* No such strategy exists to aid to use of current data to inform educational provision.