

Investing in high-quality early childhood education and care (ECEC)

Why invest in high quality ECEC?

OECD often tells countries that they should invest more in high quality early childhood education and care (ECEC). But why invest in high quality ECEC?

There are three broad rationales for putting public resources into high quality ECEC. *First*, it has significant economic and social payoffs. *Second*, it supports parents and boosts female employment. *Third*, it is part of society's responsibility to educate children, to combat child poverty and to help children overcome educational disadvantage.

Rationale 1:

ECEC has significant economic and social payoffs

The key question in any investment decision is how much benefit you will get at some point in the future in return for spending today (see Box). Looking at ECEC as an investment makes sense because the costs today generate many benefits in the future. And the benefits are not only economic: benefits can be in the form of social well-being for individuals and for society as a whole.

Why talk about ECEC as an investment?

An investment is simply a way of looking at costs and benefits in different periods of time. So if you spend a dollar, euro or yen today on ECEC, what benefits can you expect this spending to generate in future years? Benefits can be financial benefits or non-monetary "in-kind" benefits.

Return on investment is a standardized way of summing up the balance between the benefits and costs. Economists often distinguish between private returns and social returns:

- Private returns are those that the individual gets. For example, higher earnings from education or better health.
- Social returns are the private returns plus any extra benefits for society as a whole, such as better citizenship, larger tax base, lower crime rates, etc.

ECEC raises educational outcomes

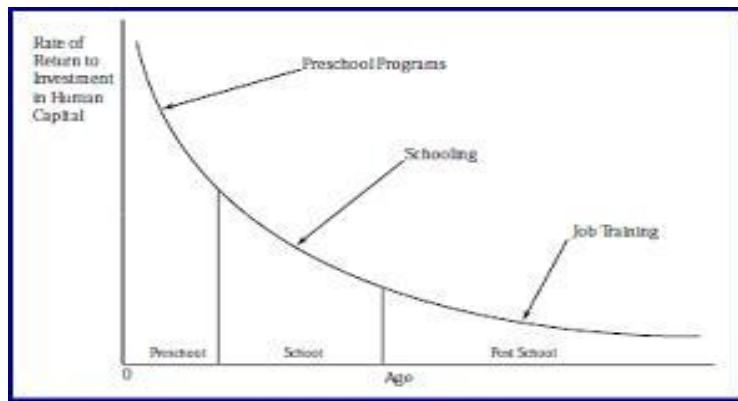
Economists such as Nobel prize-winner, James Heckman have shown how early learning is a good investment because it provides the foundation for further learning.

The big insight from these economists is that a dollar, euro or yen spent on pre-school programmes generates a higher return on investment than the same spending on schooling.

Why does this happen? Brain researchers have shown that the brain develops at an astonishing rate in the earliest years of life. But the brain's capacity to adapt and develop slows with age. A process of "use it or lose it" comes into play and the synapses (*i.e.* connections) in the brain that don't get used often are pruned back.

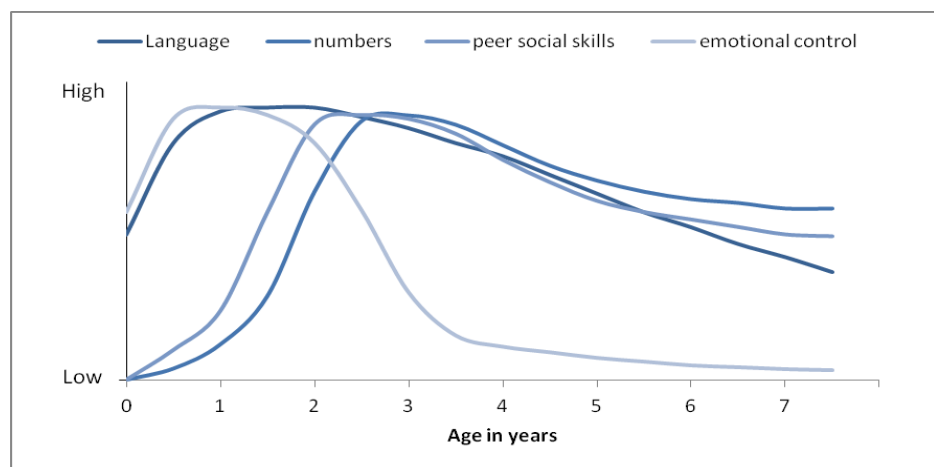
The educational impact of early childhood education shows up clearly by age 15 in the OECD's Programme for International Student Assessment ([PISA](#)). Across OECD countries, students who attended pre-school for one-year or more scored more than 30 points higher in reading than those who did not. Put another way, it's as if the students who went to pre-school had benefited from an extra year's schooling by age 15, compared to their classmates.

Returns on investment to different levels of education



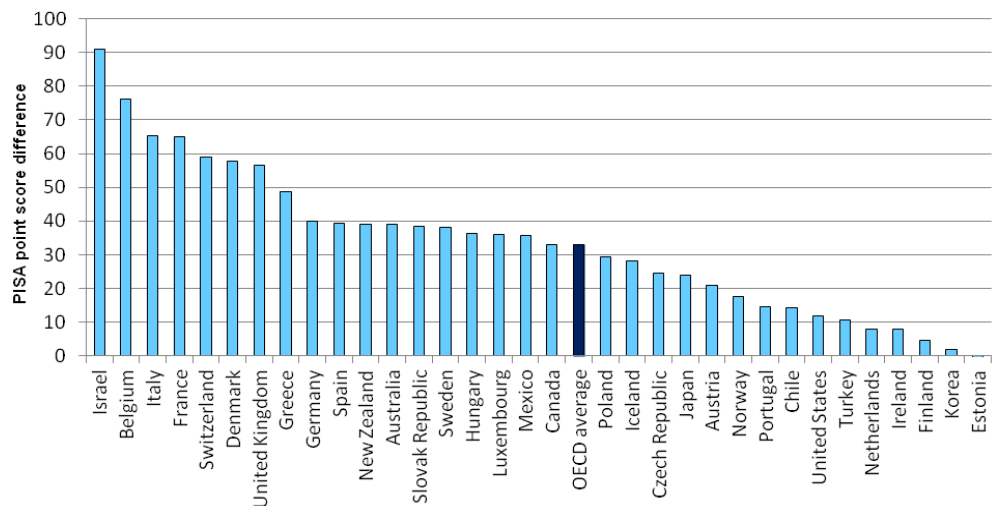
Source: www.heckmanequation.org

Sensitive periods of brain development



Source: Council for Early childhood Development (2010)

Impact of pre-school on reading literacy of 15 year-olds

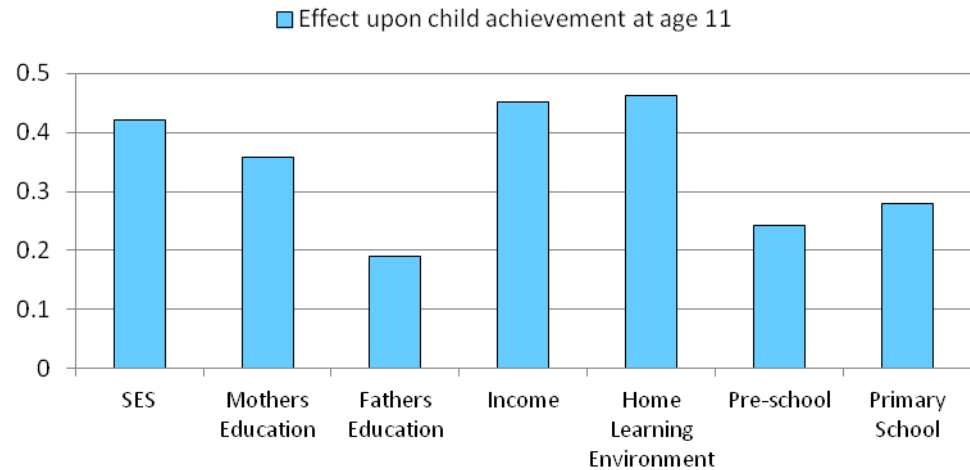


Source: OECD PISA 2009 database

Many factors affect child achievement

Of course, other factors also affect educational achievement. The home learning environment plays a major role, as do socio-economic factors such as family income and parents' educational level. However, after accounting for these factors, researchers in England found that pre-school had almost as much impact on children's education achievement at age 11 as school did – even though children had spent more years in school than in preschool.

Impact of different factors on child achievement at age 11

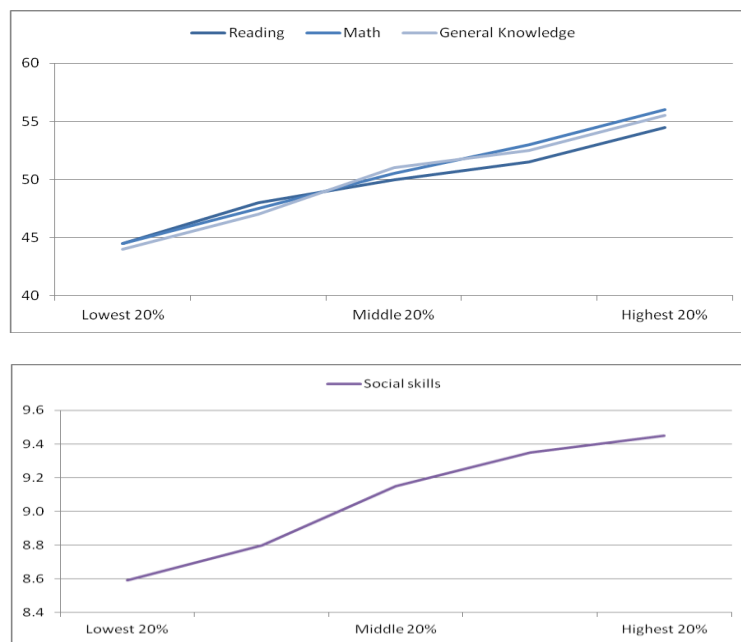


Source: Sammons, P. et al., (2007)

Disadvantaged children benefit most from ECEC

All children gain from attending high quality ECEC but disadvantaged children have the greatest potential to benefit from ECEC because their abilities are less developed when they start school and so they have more scope for catch-up. The gaps are not only evident in reading, math and general knowledge. Children from lower income households also have weaker social skills.

Median abilities of children entering kindergarten by family income



Source: Barnett, W. S. (2007)

For reading literacy, the disadvantage is highlighted in one well-known study of the vocabulary of children between 6 months and 3 years in the United States. The study showed that children in professional families were exposed to many more words per hour than children in working class families or those on welfare.

Less well-known is that the children in the study experienced different types of verbal interactions. Children from professional families experienced around six positive verbal interactions (affirmations such as “oh, that’s interesting”) for each negative one (prohibitions such as “don’t touch that”). In contrast, children in families on welfare received two negative interactions for each positive one.

Vocabulary experiences of young children

	Family status		
	Welfare	Working Class	Professional
Words heard per hour	616	1,251	2,153
Affirmations per hour	5	12	32
Prohibitions per hour	11	7	5

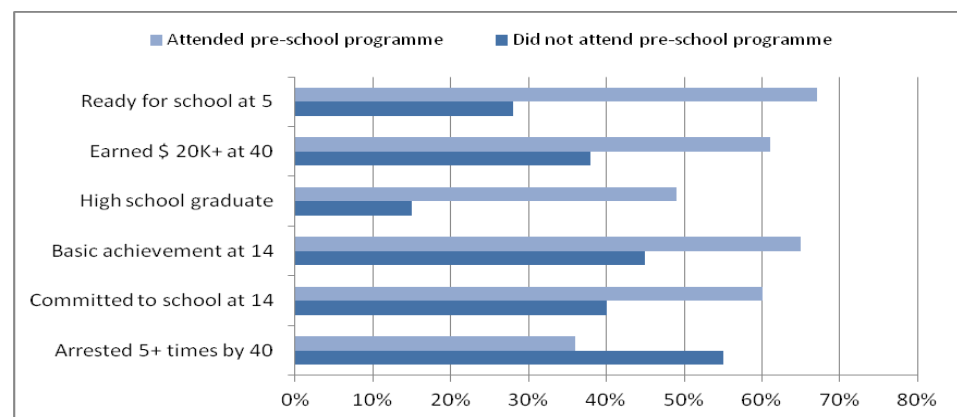
Source: Hart, B. and T Risley, (1995)

These differences turn out to be especially important in developing confident self-directed learners with the personality traits needed to succeed. And an increasing weight of evidence points to the importance of personality traits, such as conscientiousness, for labour market success (see Almlund *et al.*, 2011). The influence of early childhood education may be even stronger through these non-cognitive channels than through cognitive elements.

The impact of early childhood education on disadvantaged children has been demonstrated in a number of longitudinal studies. The longest running study started in the 1960s. The Perry Pre-school Study involved children from underprivileged families and one group of them received two years of pre-school education while the “control” group did not.

The two groups of children have been followed as they grew up: those who received pre-school outperformed those who did not at each evaluation point. By age 21, the benefits generated were more than 7 dollars for each dollar spent on the programme. By age 40 the benefit/cost ratio had risen to more than 16 dollars.

Key results from Perry pre-school study



Source: Schweinhart, L. J. et. Al. (2005),

ECEC also brings wider social benefits

OECD work on the Social Outcomes of Learning shows that high-quality early childhood education and care brings a range of social benefits to individuals. These include better health, reduced likelihood of individuals engaging in risky behaviours and stronger ‘civic and social engagement’. In part, these benefits reflect the important and positive influence of early childhood education on social skills and personality traits.

These individual benefits also lead to broader benefits to society through spill-over effects. More healthy individuals benefit others through lower costs associated with risky behaviour such as use of tobacco, alcohol and drugs or obesity.

Socially engaged individuals also generate benefit for others by volunteering, voting, and fostering trust. And everyone benefits from living in a “safer” environment.

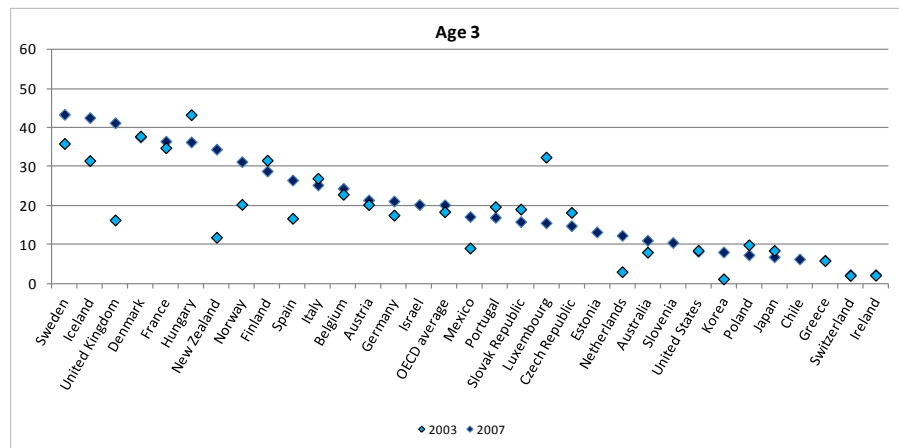
Rationale 2:

ECEC can support working parents and boost labour force participation

Investing in early childhood education and care isn't only about the benefits for children. Working parents, mothers in particular, need someone to care for their children while they work. Women need high quality, affordable ECEC to be able to return to work, with confidence that their children are well-cared for and to achieve a better work-life balance. For the children's sake, it is important that they spend those hours in a high-quality learning environment.

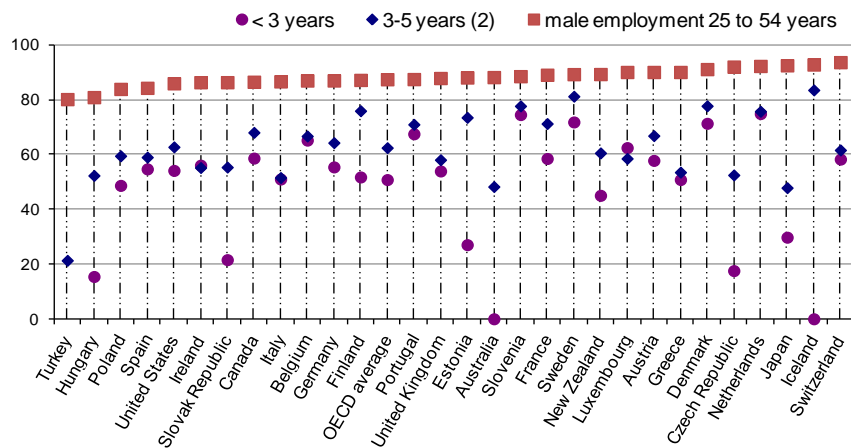
In recent years, many OECD countries increased budgets to expand ECEC places for working parents. Nonetheless, across OECD countries, participation rates of mothers with young children are considerably lower than the rates for men.

Public spending per child at age 3



Source: OECD (2009) and OECD (2011a)

Employment rates for women with young children



Source: OECD Family Database

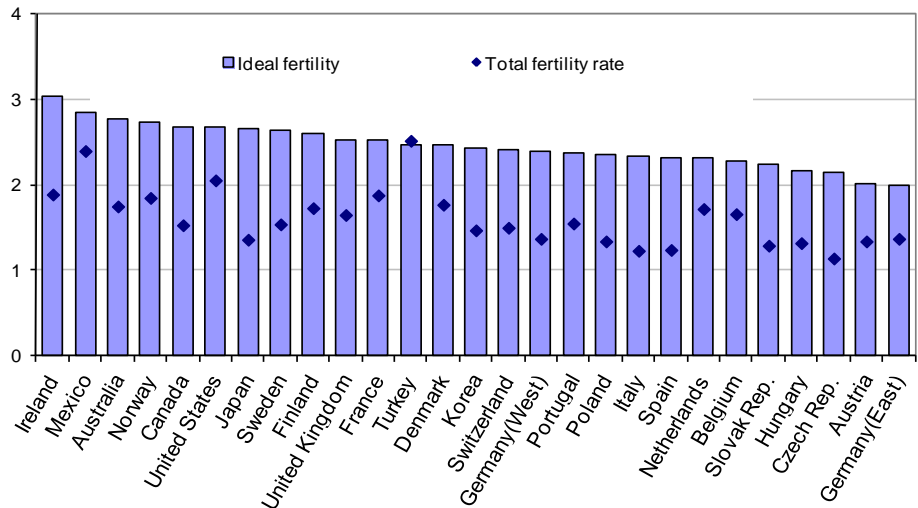
Raising participation rates of women by providing high-quality affordable childcare can have three main benefits. *First*, working mothers can improve family income and help lift families out of poverty. *Second*, women can continue pursuing their careers as well as having children. This in turn provides women with greater financial independence, higher lifetime income, and greater scope to accumulate pension entitlements. *Third*, the availability of good ECEC for children, and opportunity for mothers to pursue a career, can make it more attractive to have children.

Public expenditure on ECEC is partly offset by an increase in the tax base from higher rates of female employment, and through higher female lifetime earnings. Expenditure on ECEC can also be offset over time by lower rates of households

reliant on public income support to raise their children and fewer elderly women with inadequate pensions.

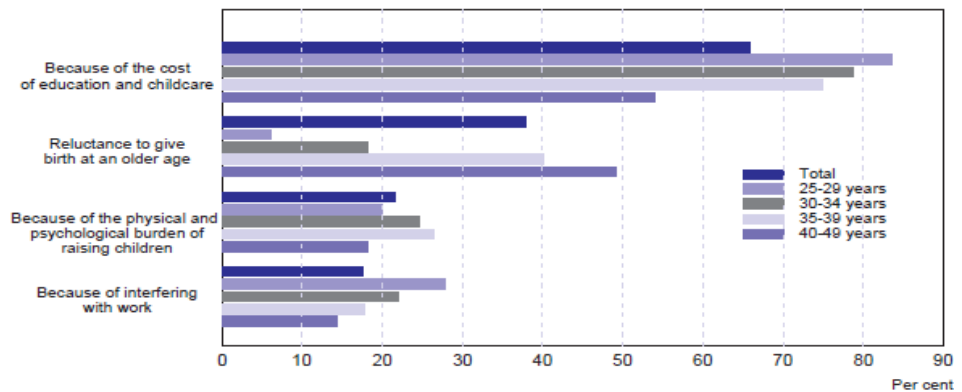
In some countries the lack of high quality and affordable early childhood education and care may be a factor explaining low fertility rates and why women have fewer children than their ideal family size. In Japan, for example, women say that the cost of education and childcare is the biggest reason why they have fewer children than they would like.

Ideal and actual fertility rates



Source: D'Addio-Dervaux and M. Mira d'Ercole (2005)

Reasons why Japanese women have fewer children than they would like



Source: OECD Economic Survey Japan (2011b)

Rationale 3:

ECEC is part of society's responsibility to educate children and promote child well-being

In 1948, the Universal Declaration of Human Rights of the United Nations stated that childhood is entitled to special care and assistance. The declaration also set out the right to education, which would be free, at least in the elementary and fundamental stages and compulsory at elementary level.

The UN Convention on the Rights of the Child in 1989 reiterated children's right to education and in particular committed ratifying countries to make primary education compulsory and available free to all.

In 1990, the *Education for All* movement was launched as a global commitment to provide quality basic education for all children, youth and adults. In 2000, at the World Education Forum, 164 countries pledged to achieve Education for All by 2015 and adopted six concrete goals, the first of which is:

“Expanding and improving comprehensive early childhood care and education, especially for the most vulnerable and disadvantaged children”.

Why quality matters

Increase in academic achievement as early childcare quality improves

Going further, the UNESCO Conference on Early Childhood Care and Education, in 2010, adopted the Moscow Framework for Action and Cooperation: Harnessing the Wealth of Nations, which stated:

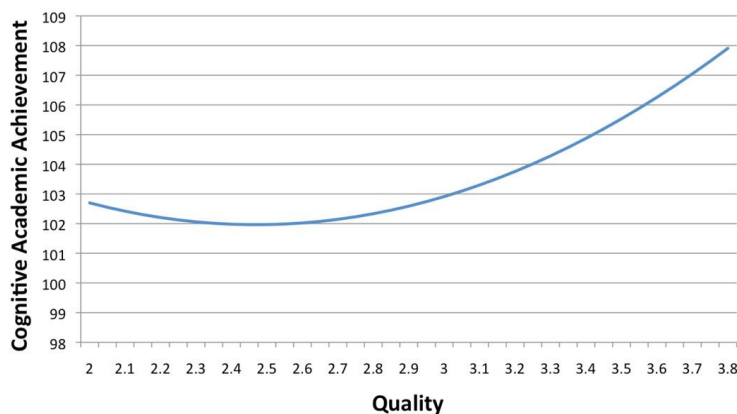
“We adopt a broad and holistic concept of Early Childhood Care and Education as the provision of care, education, health, nutrition, and protection of children aged zero to eight years of age. Early Childhood Care and Education is therefore a right and an indispensable foundation for lifelong learning.”

Work is now underway to develop a Holistic Child Development Index, which will be used to monitor global progress towards the equitable provision of quality and holistic early childhood care and education services. This UNESCO-led initiative will also serve to monitor countries’ progress towards achieving the *Education for All* goal.

Early childhood education and care needs to be of sufficient quality to achieve beneficial child-outcomes and yield longer term social and economic gains. Research shows that poor quality ECEC provision can have lasting detrimental effects on children’s development.

One approach to assessing the impact of ECEC quality is through longitudinal studies on a sample of children. Longitudinal studies that have included a measure of quality in early childhood settings show a consistent impact of quality on children’s cognitive and socio-emotional outcomes.

The National Institute for Child Health Development (NICHD) followed children across several US states and found escalating positive effects on cognitive academic achievement at age 15 in line with exposure to higher quality childcare.



Source: Vandell, D. L. *et al.*, 2010

The Effective Pre-school and Primary Education (EPPE) longitudinal study carried out in England found that the quality of pre-school setting was still exerting a positive effect on literacy and maths after the children had been at school for five years. However, the children who had gone to low-quality pre-schools were no different from those who had not gone to pre-school at all. The same study found positive links between quality of pre-school and better self-regulation, reduced hyperactivity and better “pro-social” behaviour at age 11.

The Competent Children, Competent Learners study in New Zealand has followed a sample of children from early childhood education through schooling and beyond. The study found that at age 16, five measures of ECEC quality had enduring effects on students’ performance:

- staff responsiveness
- staff guiding children in activities

- staff asking children open-ended questions
- staff joining children in their play
- providing a print-saturated environment

To learn more

The OECD has carried out analysis of many aspects of early childhood education and care across many countries. These include the major projects *Brain and Learning, Starting Strong I and II, Babies and Bosses* and *Doing Better for Families*. More information can be found about these projects can be found on the OECD website:

www.oecd.org/edu/brain
www.oecd.org/edu/earlychildhood
www.oecd.org/social/family/doingbetter

The OECD is now developing an Online Policy Toolbox for identifying how to improve quality in ECEC. The toolbox is organised into 5 action areas:

- 1) setting out quality goals and regulations;
- 2) designing and implementing curriculum and standards;
- 3) improving workforce conditions, qualifications and training;
- 4) engaging families and communities; and
- 5) advancing data collection, research and monitoring.

The toolbox aims to present practical tools that policymakers can use to brief their ministers, facilitate dialogue among stakeholders, inform policy and the public of international experiences, etc. The toolbox will include checklists, self-assessment sheets, research briefs, lists of strategy options, etc. For more information on the Policy Toolbox: www.oecd.org/edu/earlychildhood/quality

The OECD Network on Early Childhood Education and Care aims to facilitate peer learning among policymakers of OECD countries and non-member economies in line with the OECD global strategies. Members meet twice a year to learn about the latest research findings, exchange their country experiences on the most relevant policy issues, and network among members and researchers. For more information on the OECD Network: www.oecd.org/edu/earlychildhood/network

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