Early Learning Matters
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Foreword

The imperative to give all children a strong early start is more and more pressing. Children’s early experiences have a profound and long-lasting impact on individual children’s well-being and happiness during childhood, as well as their later life outcomes, including education, employment, health, citizenship and life satisfaction. Countries that fail to pay attention to the quality of children’s early years are ignoring the most effective means to assure the well-being and skills of the next generation and to achieve more equitable outcomes across families and communities.

The OECD’s new study on Early Learning and Child Well-being helps countries to better understand and improve the early experiences of their youngest citizens. It is the first OECD education study designed from the outset with a deliberate balance across children’s social and emotional development and their early cognitive skills. The study helps countries to learn from each other on what helps and what hinders positive early development across this holistic set of skills. Given the diversity of approaches within and across countries in early childhood education and care, as well as other early years interventions, this work will add considerable value to education leaders and practitioners over the coming years, as well as to children and their families who benefit from improved services and outcomes.

Providing more early childhood education and care (ECEC) does not automatically yield positive results for children. In some countries, ECEC has very positive effects on children’s learning outcomes, whereas in other countries it is neutral and even negative in some cases. Equally worrying, in a number of countries ECEC appears to benefit advantaged children more than disadvantaged children. Without reliable data countries cannot know whether and to what extent their policies are improving or exacerbating equity amongst children.

The countries that initiated the Early Learning and Child Well-being study wish to improve outcomes for children, especially the most disadvantaged children. These countries are concerned about uneven quality of provision within their countries and the poor measures available to them to assess quality. They are also aware that children have different needs. Thus, to achieve equitable outcomes, differentiated services may be necessary. Having reliable, valid and comparable outcome data is helping these countries to have confidence they are improving outcomes for all children.

Andreas Schleicher

Director for the Directorate for Education and Skills
Special Advisor on Education Policy to the Secretary-General
A strong start makes a difference

The first five years of children’s lives are crucial to their development. During this period, children learn at a faster rate than at any other time in their lives, developing basic cognitive and socio-emotional skills that are fundamental for their future achievements in school and later on as an adult. These skills are also the foundation for their general well-being – how they cope with future successes and setbacks, professionally and in their personal lives. And in order to foster this development, children require ongoing interaction with, and care and attention from their parents and other caregivers.

For this reason, early childhood education and care (ECEC) also plays an important role. Research findings show that high quality ECEC programmes provide long-term benefits for both cognitive and socio-emotional skills, prompting many countries to increase the number of such programmes in recent decades. Moreover, there is growing interest in enhancing the quality of ECEC programmes and children’s home environments in order to give every child a strong start early on.

The OECD has launched the International Early Learning and Child Well-being Study, recognising the impact that children’s early learning has on later life outcomes.

The goal of the study is to provide robust empirical data on children’s early learning through a broad scope of domains that comprise cognitive and social and emotional development. But even more importantly, it aims to identify factors that foster and hinder children’s early learning, both at home and in ECEC programmes. The findings from this study will assist countries to better support children’s early development, improving their life chances and long-term well-being.

**EARLY YEARS ARE THE MOST FORMATIVE PERIOD IN LIFE**

Research continuously shows that the brain develops at an astonishing rate during a child’s early years, and is at its highest levels of plasticity than at any other point in our lifetime. As a consequence, during this period, children are especially sensitive to external stimuli, such as the types of interactions they have with their caregivers.

Thus, the early years are a time of rapid cognitive, linguistic, social, emotional and motor development. But, with age, these learning capacities slow down and the amount of effort it takes to learn new skills increases (Figure 1).

**FIGURE 1  THE BRAIN’S ABILITY TO CHANGE AND THE AMOUNT OF EFFORT REQUIRED FOR SUCH CHANGE**

CHILDREN’S ENVIRONMENT HAS A CRITICAL ROLE IN THEIR DEVELOPMENT

Yet, the extraordinary plasticity of children’s brains is not sufficient to ensure that early learning actually occurs. The foundation for learning and continuous development depends on a nurturing and stimulating environment provided by family, ECEC services and the wider community (Figure 2).

FIGURE 2 CONTEXTUAL FACTORS INFLUENCING A CHILD’S EARLY LEARNING

FAMILY
- Home activities
- Parental background
- Parenting styles

ECEC SERVICES
- Curricular & extra-curricular activities
- Peer relations

COMMUNITY
- Civic & cultural activities
- Public services
- Safety


FAMILY PLAYS A CENTRAL ROLE

While various factors influence children’s learning, the home learning environment shapes their development the most (Figure 3).

Families play a central nurturing and educational role, enriching their children’s development through the activities they do together and other aspects of their home environment.

FIGURE 3 IMPACT OF CONTEXTUAL FACTORS ON CHILDREN’S LITERACY AT AGE 5

Note: Effect size compares the relative strength of different factors that influence children’s literacy proficiency at age 5. It is expressed in the units of standard deviations where an effect of 0.1 is relatively weak, one of 0.40 is moderately strong, and an effect of 0.70 is strong.

The family’s influence is even stronger during a child’s first two years, when children need almost constant care, supervision, and timely and stimulating interaction. Children who experience fewer interactions with their parents (e.g. reading with children, number/letter activities, going to the library, painting and drawing, etc.) from ages 10 to 36 months perform lower on cognitive skills tests (e.g. in mathematics) later in life than children whose parents were more involved with them (Figure 4).

**FIGURE 4** IMPACT OF THE HOME LEARNING ENVIRONMENT ON CHILDREN'S ENGLISH AND MATHEMATICS ATTAINMENT AT AGE 11

![Graph showing impact of home learning environment on children's English and Mathematics attainment at age 11.](image)

*Note:* Effect size compares the relative strength of the frequency of learning opportunities in the home on children’s cognitive skills at age 11. It is expressed in the units of standard deviations where an effect of 0.1 is relatively weak, one of 0.40 is moderately strong, and an effect of 0.70 is strong.

The shifting role of ECEC

Today, ECEC serves a dual role, both important and increasingly relevant. In many countries, its primary purpose was seen as benefiting the economy. It was used as a tool to: increase women’s labour market participation; reconcile work and family responsibilities; confront demographic challenges (decreasing fertility rates and an aging population); and maintain a high employment/population ratio (OECD, 2011).

More recently, however, governments increasingly realise that ECEC is also a platform for children’s development. High-quality ECEC programmes can effectively help children, especially from disadvantaged or immigrant backgrounds, build a strong foundation for the cognitive and socio-emotional skills necessary to navigate through life’s challenges. These programmes can also enrich the home learning environment, and combat linguistic and economic disadvantages that would otherwise hinder children’s development and integration. As such, ECEC is a critical policy measure that can promote equity, support holistic and continuous development and improve child well-being.

**ECEC CAN BENEFIT CHILDREN IN THE LONG TERM**

Children who participate in high quality ECEC programmes are better prepared for school and tend to perform higher academically. Results from the Programme for International Student Assessment (PISA) show that children who attended ECEC tend to score higher in reading at age 15 (Figure 5).

**FIGURE 5 RELATIONSHIP BETWEEN PARTICIPATION IN ECEC PROGRAMMES AND READING PERFORMANCE AT AGE 15 THROUGHOUT DIFFERENT PISA CYCLES**

Note: PISA 2015 data do not provide trend data for this indicator.

A STRONG START GIVES CHILDREN AN ADVANTAGE

Evidence from the new wave of PISA conducted in 2015 shows that the duration of ECEC also matters. Students who enter these programmes at a younger age perform better in PISA than those who entered at a later point. Across OECD countries, students who attended ECEC for three years or more scored 50 points or higher in reading, mathematics and science, compared with those who attended for less than one year (Figure 6). Put another way, the students who attended ECEC for longer, benefited from an equivalent of more than one full year of schooling by age 15, compared with their classmates.

FIGURE 6 RELATIONSHIP BETWEEN DURATION OF ECEC PARTICIPATION AND STUDENT PERFORMANCE AT AGE 15

<table>
<thead>
<tr>
<th>Duration of ECEC</th>
<th>Reading</th>
<th>Science</th>
<th>Mathematics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than a year</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-2 years</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-3 years</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>More than 3 years</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: OECD (2016), Programme for International Student Assessment (PISA) database.

BETTER QUALITY LEADS TO BETTER OUTCOMES

The degree to which ECEC produces long-term benefits depends on the quality of the services, i.e. responsiveness to the individual needs of the child. Increasing access to programmes without giving due attention to quality will not necessarily result in effective outcomes for children’s development or long-term benefits for society (Figure 7).

FIGURE 7 INFLUENCE OF QUALITY AND QUANTITY OF ECEC PROGRAMMES ON CHILDREN’S LITERACY

<table>
<thead>
<tr>
<th>Duration of ECEC</th>
<th>Literacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2 years</td>
<td></td>
</tr>
<tr>
<td>2-3 years</td>
<td></td>
</tr>
</tbody>
</table>

PISA 2015 results show the diverse effects of ECEC participation across OECD countries. Even after taking into account students’ socio-economic backgrounds, the effects of participating in ECEC on students’ academic achievement at age 15 differ substantially across countries (Figure 8). In Belgium, Hong Kong (China), Japan, Singapore and the United Kingdom, students that participated in ECEC score higher in science compared with those that did not. On the other hand, in Estonia and Latvia, participation in ECEC is related with lower scores in science at age 15. Clearly, participation alone is not enough to ensure long-term benefits for children.

**FIGURE 8  RELATIONSHIP BETWEEN PARTICIPATION IN ECEC PROGRAMMES AND STUDENTS’ SCIENCE SCORES ACROSS COUNTRIES**

![Diagram showing the relationship between participation in ECEC programmes and students' science scores across countries.](image)

*Note: Impact of participation represents score-point difference in science performance between students who reported having attended ECEC and those who did not. Differences in science scores take into account for students’ socio-economic profiles.*

*Source: OECD (2016), Programme for International Student Assessment (PISA) database.*
DISADVANTAGED CHILDREN CAN BENEFIT SIGNIFICANTLY

While children benefit from attending high quality ECEC research shows that children from economically and socially disadvantaged backgrounds can gain significant benefits from such programmes. For these children, intervention during the early years can make a critical difference in mitigating early disadvantage and help prepare them to enter primary school on an equal footing with other children from more advantaged backgrounds.

A number of longitudinal studies have shown the positive impact of high quality ECEC programmes on disadvantaged children. One of the best known and longest running studies in this area, the Perry Preschool Study, followed two groups of children from underprivileged families, one of which attended two years of ECEC, while the second group did not. Across the years, the first group outperformed the second at each evaluation point (Figure 9).

**FIGURE 9 LONG-TERM CONSEQUENCES OF PARTICIPATION IN THE PERRY PRE-SCHOOL PROGRAMME**

While the provision of ECEC, on average, does support the later achievement of students from low socio-economic backgrounds, the benefits of existing provision across countries appears to disproportionately favour children from advantaged backgrounds (as shown below in Figure 10). Failure to address these differences could mean ECEC exacerbates rather than mitigates inequity.

**FIGURE 10 ECEC STARTING AGE AND SCIENCE PROFICIENCY, BY SOCIO-ECONOMIC STATUS (SES)**


Source: OECD (2016), Programme for International Student Assessment (PISA) database.
ECEC programmes are especially important for students with an immigrant background. They help to develop the linguistic and social skills needed to effectively integrate in a new country’s school system. And immigrant students who reported attending ECEC scored 49 points higher, on average, on the PISA reading assessment than those who had not participated in such programmes, roughly corresponding to one additional year of schooling.

Moreover, the new PISA data show that immigrant students benefit more in the long term academically than native students from starting ECEC at an earlier age, and even score higher on the science assessment in PISA than native students at age 15 (Figure 11).

**FIGURE 11** IMPACT OF PARTICIPATION IN ECEC PROGRAMMES ON PISA SCIENCE SCORES FOR NATIVE AND IMMIGRANT CHILDREN

![Graph showing impact of ECEC programmes on PISA science scores for native and first generation immigrant children.]

Note: Score-point difference between students who reported having attended ECEC programmes from age 3 and from age 5.

Source: OECD (2016), Programme for International Student Assessment (PISA) database.

In summary, there are significant short- and long-term consequences for children’s future well-being when early learning is hampered. The environment in which children grow up plays a fundamental role in ensuring they are able to develop sound cognitive and socio-emotional skills, preventing future learning difficulties and reducing the impact that socio-economic background has on learning outcomes.

Empirical research, however, is still rather limited on how children’s competencies develop and are interconnected at an early age. Therefore, it is critical to understand the key environmental factors at home and in ECEC programmes that promote or deter children’s development.

The new OECD survey aims to provide this kind of information, both at national and international levels, allowing countries to understand their commonalities but also their differences, in order to deliver better policies for children.
International Early Learning and Child Well-being Study

**IMPETUS FOR THE STUDY**

“If the race is already halfway run even before children begin school, then we clearly need to examine what happens in the earliest years.” (Esping-Andersen, 2005).

The OECD launched the International Early Learning and Child Well-being Study in recognition of the increasingly important role of children’s early learning and well-being. The study and its design is a collaborative effort between the OECD and member governments.

The first study of its kind, it is providing countries with a common language and framework, encompassing the collection of robust empirical information and in-depth insights on children’s learning development at a critical age. With this information, countries will be able to share best practices, working towards the ultimate goal of improving children’s early learning outcomes and overall well-being.

The International Early Learning and Child Well-being Study looks at:

- Children’s **early learning outcomes and development** through a wide scope of domains, including cognitive, social and emotional skills
- The relationship between children’s early learning and their **home learning environment**
- The relationship between children’s early learning and their **ECEC experiences**
- The role **contextual factors** play on children’s outcomes, including individual characteristics (e.g. age, gender and ethnicity), parental background, etc.

**FIGURE 12 CONCEPTUAL MODEL OF CHILDREN’S EARLY LEARNING**

**MAIN ASSESSMENT PRINCIPLES**

The study’s assessment approach is developed based on the following principles:

- **Policy relevance** – enabling changes in policies and/or practices
- **Feasible** – straightforward and easy to implement
- **Reliable, valid and comparable** across countries, languages, cultural contexts and over time
- **Ethical** – ensuring the well-being of children in the study is paramount in all decisions
- **Efficient** – limiting the burden on practitioners and parents, as well as on children
- **Cost-effective** – affordable for a range of countries
- **Sustainable** – establishing a strong foundation for the assessment in order to continue the study for multiple cycles or link to other OECD studies and nationally-based assessments.
KEY BENEFITS

- Improve the early learning environment at home and in ECEC
- Provide better parenting programmes and other support for parents
- Identify ECEC that is most conducive to early learning
- Improve understanding of children’s needs in early schooling

THE FOCUS OF THE STUDY

ASSESSMENT DOMAINS

There is a consensus among experts that early learning represents a holistic concept that involves developing cognitive and socio-emotional skills that are inter-related and mutually reinforcing (Tinajero & Loizillon, 2012; UNICEF, 2012).

Thus, the International Early Learning and Child Well-being Study takes a comprehensive approach to studying four developmental domains that are widely recognised as key early learning and development skills that ECEC programmes strive to develop (Figure 13):

- Emergent literacy/language skills
- Emergent numeracy/mathematics
- Self-regulation
- Social and emotional skills.

FIGURE 13 THE FOUR EARLY LEARNING DOMAINS ASSESSED IN THE STUDY
LEARNING CONTEXTS

The study will also collect information on contextual factors (Figure 12), including the child's:

- Individual characteristics
- Home learning environment
- ECEC experiences

A ROBUST DESIGN

MULTIPLE SOURCES OF INFORMATION

The International Early Learning and Child Well-being Study involves children, their parents or primary caregivers and staff in randomly selected ECEC centres and/or schools of participating countries.

- **Children**

The study's primary subjects are children at 5 years of age in officially registered ECEC centres and/or schools.

- **Parents and primary caregivers**

For every child surveyed, their parents or main caregivers are asked to complete a questionnaire about the child, his/her home environment and ECEC experiences.

- **Staff**

For every child surveyed, a staff member who knows the child best is asked to complete a questionnaire about the child. Staff members can be teachers, early childhood educators or any other person taking part in pedagogical work in the ECEC centre or school the child currently attends.

FIGURE 14  ENSURING CHILD WELL-BEING IN THE STUDY
SAMPLE DESIGN

The International Early Learning and Child Well-being Study samples at least 3,000 children in at least 200 settings per country, with up to 15 children per setting. An international comparative study, it is based on nationally representative samples of children. To meet these requirements, a two-stage probability sampling design is used. In the first stage, a random sample of centres/schools within a country is selected, and in the second stage, children are randomly selected from the list of children who meet the given requirements within each of the selected centres/schools. These sampling activities are co-ordinated and monitored to assure the quality and comparability of the national samples.

DATA COLLECTION METHODS

The survey provides a comprehensive overview of children’s cognitive and socio-emotional development and environment through direct and indirect assessment and contextual background questionnaires.

Direct assessment: the four early learning domains

The direct assessment measures four early learning domains: emergent literacy, emergent numeracy, self-regulation, and empathy. Children complete the assessment on tablets, within the presence of a trained study administrator. The activities the children engage in are simple and fun stories and games. Two characters – Mia and Tom – guide the children through the activities via audio that accompanies the animations. There is no reading or writing involved in these activities. The assessment takes approximately 15 minutes per domain, with two domains administered per day.

Indirect assessment: cognitive and socio-emotional skills

An indirect assessment of children’s skills is obtained from parents and staff through online and paper questionnaires. Additional information is collected from the study administrators’ observations.

- Parents/caregivers provide information on children’s emergent cognitive and socio-emotional skills, and the child’s behaviours that they observe at home.
- Staff provide information on children’s emergent cognitive and socio-emotional skills and behaviours they observe at the ECEC centre or school.
- Study Administrators provide additional information from their observations of the child during the direct assessment.

Contextual information

The parents’ questionnaire is also used to collect information on children’s socio-demographic characteristics, parental background, home learning environment, ECEC participation and community characteristics.

Child's perspective

After completing the direct assessment sections, children are asked if they liked the assessment activity, its content and different aspects. These debriefing sessions will be used to ensure children’s well-being during the assessment but also to provide valuable feedback about the assessment material and procedures.
TIMELINE

2016/2017
Planning, tendering & contracting

2016/2017
Domain, survey & instrument design & development

2017
Field test

2018
Instrument finalisation

2019/2020
International & country reports

2019
Data verification & data analysis

2018
Main study
Contact information

STUDY WEBPAGE:

OECD EARLY CHILDHOOD EDUCATION AND CARE PROJECTS:
http://www.oecd.org/education/school/earlychildhoodeducationandcare.htm

STUDY CONTACT:
EarlyLearning@oecd.org

PROJECT LEADER:
Rowena.PHAIR@oecd.org

OECD AND THE DIRECTORATE FOR EDUCATION AND SKILLS

The OECD provides a setting where governments compare policy experience, seek answers to common problems, identify good practices and co-ordinate domestic and international policies. It brings together countries committed to democracy and the market economy from around the world to:

- support sustainable growth
- boost employment
- raise living standards
- maintain financial stability
- assist member and non-member countries' economic development
- contribute to growth in world trade

In today’s globalised economy education is a major driving force for growth and development. The OECD Directorate for Education and Skills focuses on current key challenges facing education systems, including how to improve the quality of teachers, teaching and learning in order to provide the knowledge and skills needed in the 21st century.
Find out more about OECD work

Organisation for Economic Co-operation and Development

The OECD is a unique forum where governments work together to address the economic, social and environmental challenges of globalisation. The OECD is also at the forefront of efforts to understand and to help governments respond to new developments and concerns, such as corporate governance, the information economy and the challenges of an ageing population. The Organisation provides a setting where governments can compare policy experiences, seek answers to common problems, identify good practice and work to co-ordinate domestic and international policies.

The OECD member countries are: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States. The European Union also takes part in the work of the OECD.

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