Improving Early Equity

FROM EVIDENCE TO ACTION









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Foreword and acknowledgements

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FIND OUT MORE

To learn more about the early learning and well-being of five-year-olds:

- Learn what children say about their ECEC centre or school: https://issuu.com/oecd.publishing/docs/play-create-learn-what-matters-most-for-five-year-
- Read about five-year-olds' aspirations for their futures: https://issuu.com/oecd.publishing/docs/future-at-fivegendered-aspirations-five-year-olds
- Read more about social-emotional development at age five: https://issuu.com/oecd.publishing/docs/caringsharing-daring-social-emotional-development
- Read the summary report on the International Early Learning and Well-being Study (IELS): https://www.oecd.org/education/school/early-learning-and-child-well-being-study/International_Early_Learning_and_Child_Well-being_Study_Summary.pdf
- Read the full international report: Early Learning and Child Well-being – A study of five-year-olds in England, Estonia and the United States: www.oecd-ilibrary.org/education/early-learning-and-child-well-being_3990407f-en
- Check out the OECD Early Learning and Child Well-being website at: www.oecd.org/education/school/early-learning-and-child-well-being-study/
- Learn more about the OECD's wider work on child wellbeing: via: www.oecd.org/social/family/child-well-being/

Send questions and comments to the OECD Early Learning and Child Well-being team: earlylearning@oecd.org

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Executive summary

Early learning better predicts later educational success than any other factor, especially for disadvantaged[1] children

The initial five years of a child's life is a time of great opportunity and great risk. Children's learning happens at a faster rate in early childhood than at any other time of life.

Children who have poor early development experience enduring impacts on their later:

- **Academic achievements**
- **Employment and earnings**
- **Health outcomes**
- **Civic engagement**
- **Parenting skills**

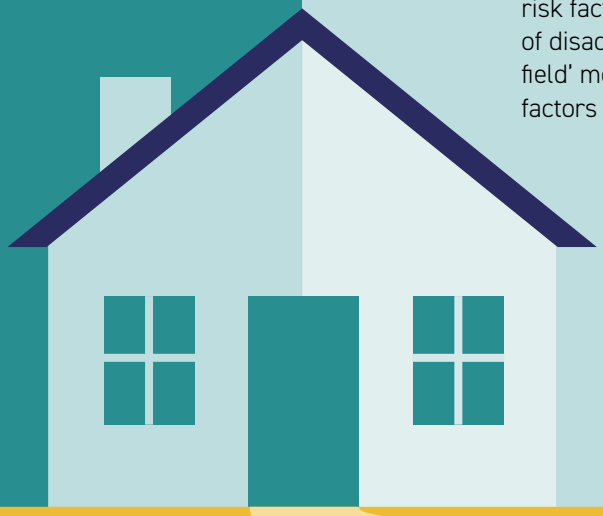
Disadvantaged children are much more likely to have poor early learning than other children

Growing up in a low socio-economic status (SES) household is the largest risk factor linked to children's early learning.

Five-year-old children from low SES families are, on average, 12 months behind high SES children in their cognitive development. The gap is even larger in their social-emotional development.

Children from low SES households are also more likely to experience other risk factors that compound their level of disadvantage, making a 'level playing field' more challenging. These risk factors can include:

- **Low birth weight**
- **A home language that is different from their ECEC centre or school**



But children from disadvantaged backgrounds can achieve a strong early start

Some children from disadvantaged households do achieve strong learning outcomes, including at similar levels to children from high SES households. These resilient children represent a minority of disadvantaged children.

Nonetheless, resilient children demonstrate that equitable outcomes are possible and they **show education leaders and policy makers the factors that make early equity possible.**



[1] Disadvantaged refers to families in the bottom quartile of socio-economic status (SES) whereas advantaged children are from families in the top SES quartile. SES is based on parents' education levels and occupations, and household income.

Achieving a level playing field for disadvantaged children requires action.

Delays in learning become more entrenched as children progress through primary school.

Early equity is a lever that can transform overall equity within education systems. Achieving early equity, however, requires deliberate, at-scale action, before children arrive at school.



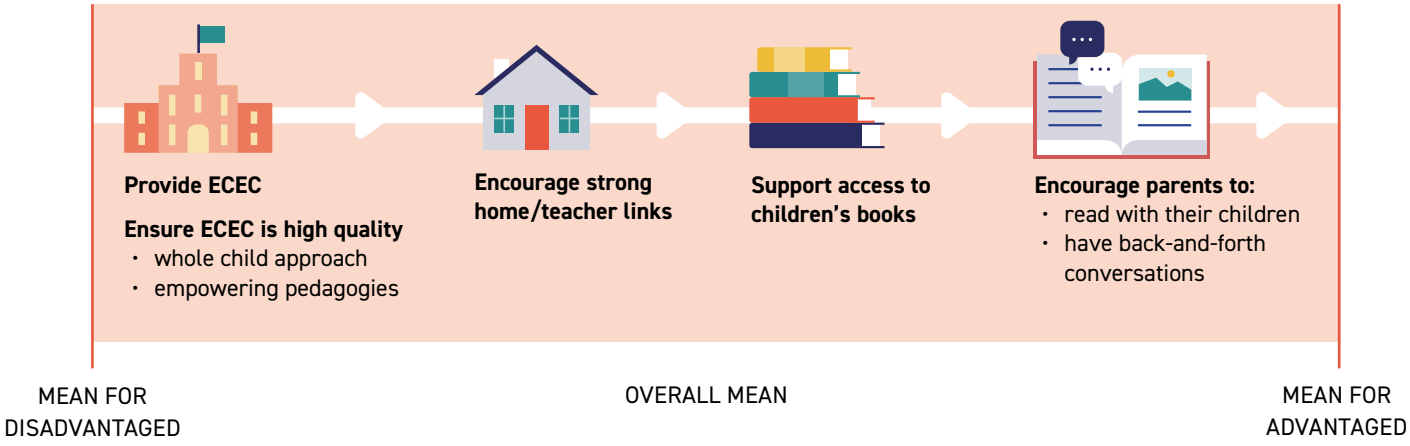
Education leaders and policy-makers can improve early equity through:

- Providing children with access to **early childhood education and care** (ECEC)
- Taking measures to ensure **ECEC is of high quality**
- Supporting **strong links between children's teachers and parents**
- Improving the **quality of children's home learning environments.**

Avoiding or at least reducing equity gaps in the early years is more effective and less costly than attempting to do so later in schooling.

Figure 1. Ensuring a level playing field for disadvantaged children

Using all of these measures shifts disadvantaged five-year-olds from being 12 months of development behind more advantaged peers to being on an equal footing, with every chance of educational success.



Data on child outcomes is essential for monitoring progress

Effective efforts to improve early equity are informed by reliable data. This is the only means to assess whether children's experiences and outcomes are improving.

Action on early equity requires a focus on children's learning trajectories. In some education systems, this will mean **acting beyond traditional institutional arrangements, such as schools**. The role of families, for example, is a critical but often untapped resource for improving early equity.

The International Early Learning and Child Well-being Study (IELS) is designed to help the following stakeholders give every child the strongest possible start in life:

Governments | **Education leaders** | **Teachers** | **Parents**

1. The learning gap between disadvantaged and advantaged children is, on average, eight to 20 months

Significant learning gaps between disadvantaged and advantaged five-year-olds are evident in cognitive and social-emotional skill development.[2]

Children from low SES families face an eight to 20-month learning gap behind more advantaged children. Most pronounced is the learning gap in social-emotional skills. These skills enable children to operate well in groups, get on with other children, regulate emotional responses and sustain attention. Social-emotional skills are key in enabling children to adjust to and succeed in a school environment ((Hammer, Melhuish and Howard, 2018[1]); (Schoon et al., 2015[2])).

The learning gaps disadvantaged children face in critical cognitive skills are also significant. Emergent literacy[3] is one of the best predictors of later student achievement (Duncan et al., 2007[3]). Yet at age five, there is a learning gap of 12 months between disadvantaged and advantaged children.

This learning gap represents a year of development that disadvantaged children need to close quickly if they are to have a chance of doing as well in school as advantaged children. Most disadvantaged children will not achieve the accelerated rate of development necessary to do so (Sammons et al., 2015[4]) (Heckman, 2011[5]).

In emergent literacy a learning gap of **12 months** exists between disadvantaged and advantaged five-year-olds.

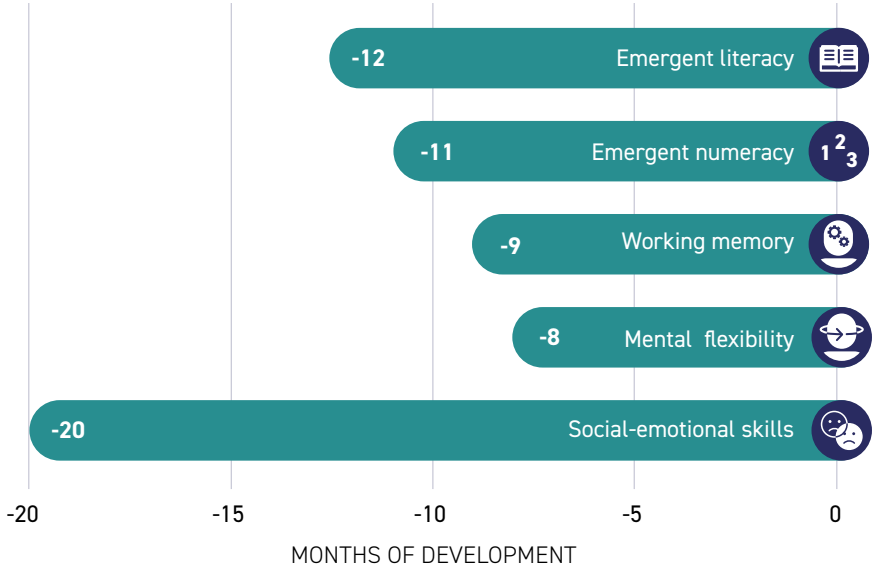


Disadvantaged children face significant development gaps at age 5

As children get older, inequities generally become more intractable (Stiles and Jernigan, 2010[7]). Thus, achieving a level playing field between disadvantaged and advantaged children requires education leaders and policy makers to adjust their systems to cater to the needs of disadvantaged children before they arrive at school as well as in the first few years of schooling.



Figure 1.1. Development differences between disadvantaged and advantaged children



[2] Children's cognitive skills in emergent literacy, emergent numeracy, working memory and mental flexibility were assessed directly. Social-emotional skills were assessed via teacher reports.

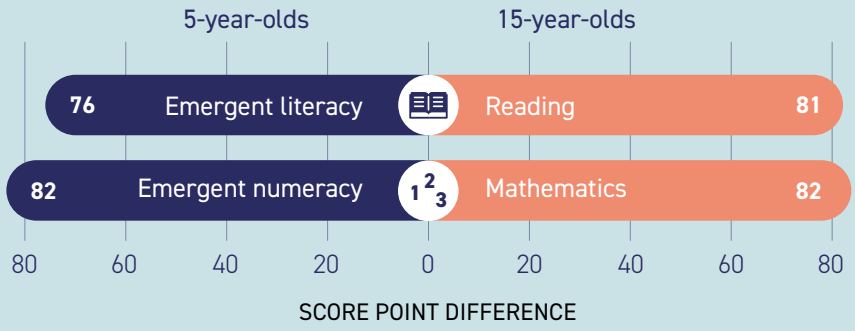
[3] Emergent literacy refers to children's oral language skills, i.e. their abilities to understand spoken language and to express themselves. No reading or writing is assessed in IELS.

Source for Figure 1.1: (OECD, 2020[6]) Early Learning and Child Well-being: A Study of Five-year-Olds in England, Estonia, and the United States, https://doi.org/10.1787/3990407f-en. StatLink 2 https://stat.link/6scugv

Equity gaps are strikingly similar at five and 15 years-of-age

The magnitude of learning gaps between disadvantaged and advantaged five-year-olds and between disadvantaged and advantaged 15-year-old students in the same countries are strikingly similar.

Figure 1.2. Score point difference between disadvantaged and advantaged children in IELS (2018) and in PISA (2018)



The five-year-olds in IELS 2018 are not the same students as those in PISA 2018, although they are from the same countries.



Understanding equity within education systems requires education leaders and policy makers to know whether their systems:

Continue existing inequities?

Exacerbate the disadvantages that young children face?

Ameliorate the effects of disadvantage?

> "The comparison of IELS and PISA cohorts raises questions on whether education systems are continuing existing early inequities rather than reducing them."

The five-year-olds in IELS 2018 are not the same students as those in PISA 2018, although they are from the same countries. Nonetheless, the above comparison of IELS and PISA cohorts raises questions on **whether these education systems are simply continuing existing early inequities rather than reducing these.**

In future years, countries participating in IELS will have access to PISA data on the same cohort of students. This will reliably show the impact of schooling on a country's overall education performance, as measured by PISA, as well as on how equity gaps are affected by students' schooling experiences.



Source for Figure 1.2: (OECD, 2018); OECD Programme for International Student Assessment (PISA) database, https://www.oecd.org/pisa/data/2018database/; (accessed on 12 July 2022). (OECD, 2020); OECD International Early Leaning Survey 2018 database https://www.oecd.org/education/school/early-learning-and-child-well-being-study/early-learning-and-child-well-being-3990407f-en.htm (accessed on 6 June 2022) StatLink https://stat.link/xo8ci6

2. Disadvantaged children face multiple risks

Coming from a low socio-economic status family is the most significant risk factor affecting children's early development.

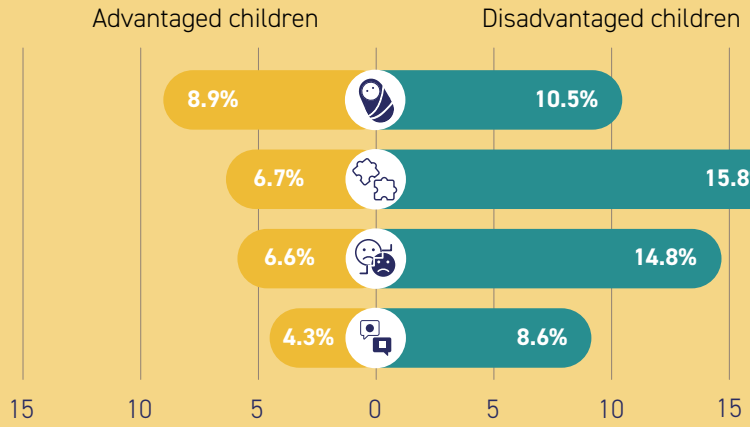
There are, however, a number of other risk factors that are negatively associated with children's early learning. These factors are where children have (see Figure 2.1):

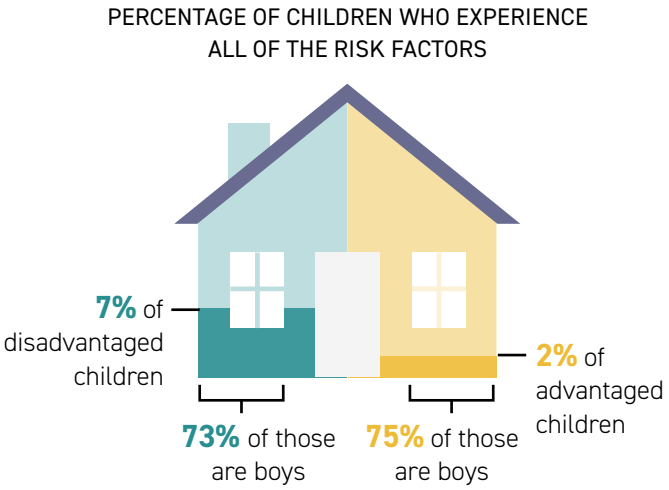
- Low birth weight
- Learning difficulties
- Social-emotional difficulties
- A home language that is different from their ECEC centre or school

> "More than **three times the percentage of disadvantaged children experience all of these factors** compared with the percentage of advantaged children."

Figure 2.1. The percentage of disadvantaged and advantaged children who experience risk factors associated with poorer learning outcomes

Children from low SES backgrounds are much more likely to experience each of the above risk factors than children from high SES backgrounds, with more than three times the percentage of disadvantaged children experiencing each risk factor compared with the percentage of advantaged children who do so.





Some children experience all of these risk factors, most of whom are children from disadvantaged families.

In total, 7% of disadvantaged children experience all of these risk factors, compared to 2% of advantaged children.

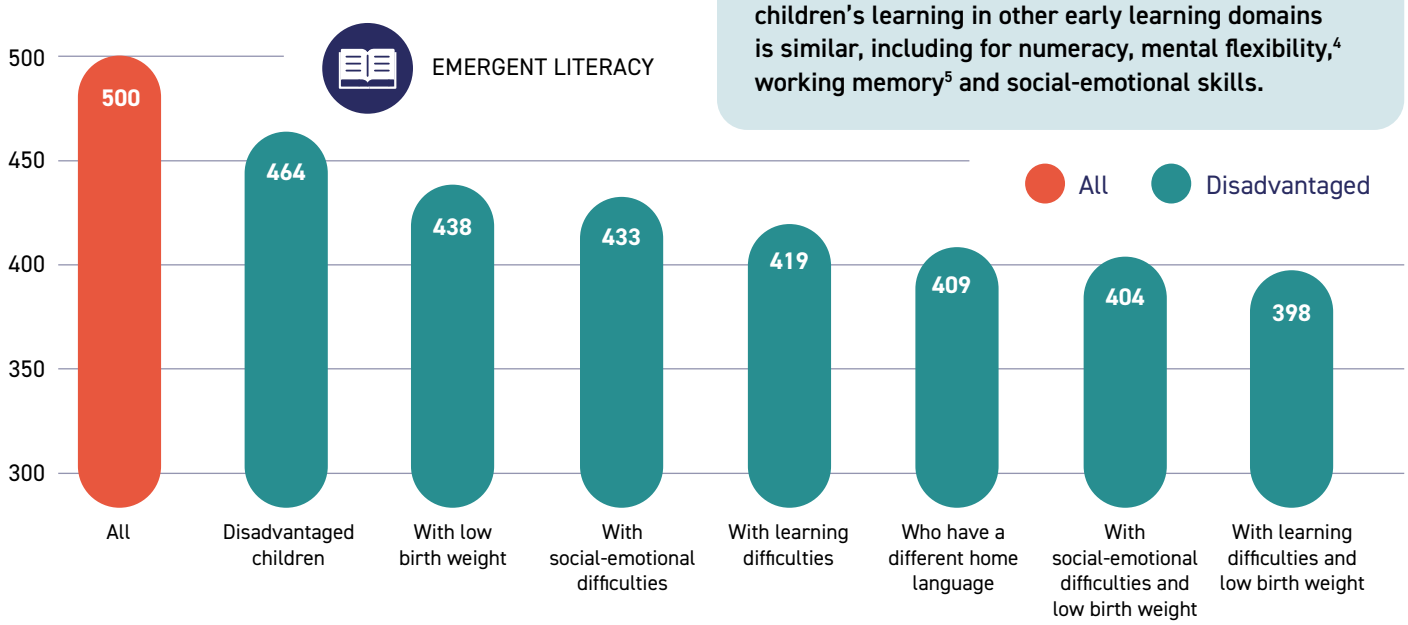
Among the disadvantaged children who experience all of these risks, 73% are boys. A similar proportion (75%) of the advantaged children who experience all of these risks are boys.

Source for Figure 2.1: (OECD, 2020); OECD International Early Leaning Survey 2018 database https://www.oecd.org/education/school/early-learning-and-child-well-being-study/early-learning-and-child-well-being-3990407f-en.htm (accessed on 6 June 2022) StatLink 2 https://stat.link/86tkg5

Multiple risk factors compound disadvantage

Risk factors have a negative link with children's early development, especially when more than one risk factor is present, as illustrated in Figure 2.2 below.

Figure 2.2. Emergent literacy scores by multiple risk factor



The relationship between these risk factors and children's learning in other early learning domains is similar, including for numeracy, mental flexibility,[4] working memory[5] and social-emotional skills.

Starting behind means staying behind for many disadvantaged children

Children's early learning and well-being have a direct and enduring impact on their later educational attainment, socio-economic status, health, well-being and civic engagement.

Longitudinal studies (Shuey and Kankaraš, 2018[10]); (Sammons et al., 2015[4]) consistently show that strong early learning is associated with:

- **lower grade retention and drop-out**
- **higher academic achievement**
- **healthier lifestyles**
- **improved parenting behaviours.**

> **"The proportion of children who have poor early development constrains the extent to which any education system can achieve success for these children and perform well as a whole."**



Children who do not develop critical early skills such as emergent literacy or self-regulation, **face enormous challenges in achieving well at school and in having positive outcomes during adulthood.**

The benefits of strong early learning are clearly evident at school entry, at the end of compulsory schooling and later in adulthood (Shuey and Kankaraš, 2018[10]).

[4] Mental flexibility is the ability to react quickly to changing stimuli or shift between rules according to changing circumstances.
[5] Working memory refers to the ability to retain information, to enable the completion of a given task.
Source for Figure 2.2: (OECD, 2020); OECD International Early Leaning. StatLink 2 https://stat.link/wq49kv

3. A minority of disadvantaged five-year-olds are resilient

Resilience in an education context is defined as children or students who are from socio-economically disadvantaged backgrounds and who achieve high learning outcomes.

In IELS and PISA, high learning outcomes are defined as **learning scores in the top quartile for all students in a particular learning domain,** such as in literacy or numeracy.

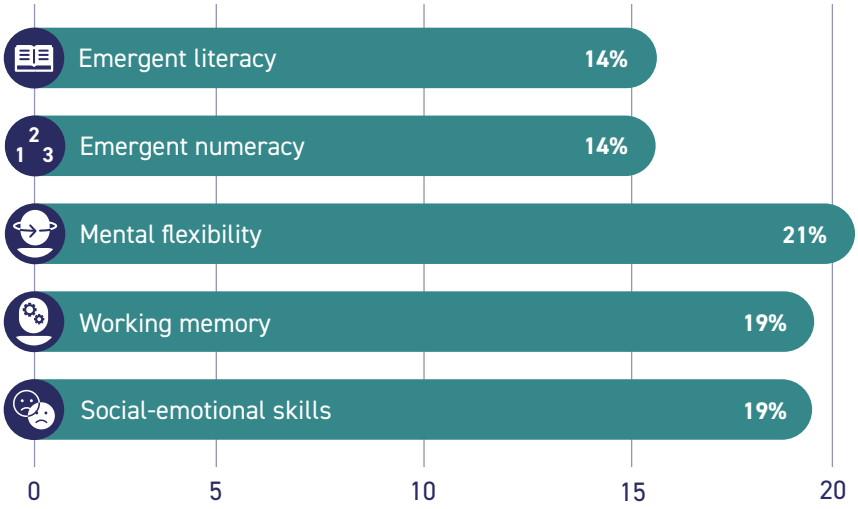
In IELS, a small proportion of disadvantaged five-year-olds have early learning outcomes that place them in the top quartile for all children.

Around one in five disadvantaged children have learning scores in the top quartile in the two executive function skills of mental flexibility and working memory, and in social-emotional skills.



Figure 3.1. Percentage of disadvantaged children who score in the top IELS quartile

A MINORITY OF DISADVANTAGED FIVE-YEAR-OLDS EXPERIENCE STRONG LEARNING AND WELL-BEING OUTCOMES



> By understanding the factors that are associated with resilience, education leaders and policy makers will be better equipped to create effective early learning environments.



Resilient five-year-olds are a minority of disadvantaged children. Nonetheless, they demonstrate that it is possible for disadvantaged children to achieve high levels of cognitive and social-emotional development, despite their family background.

Resilient children also demonstrate what it takes for disadvantaged children to experience a level playing field early in their lives. **By understanding the factors that are associated with resilience, education leaders and policy makers will be better equipped to create early learning environments** that build resilience among disadvantaged children and achieve improved early equity.

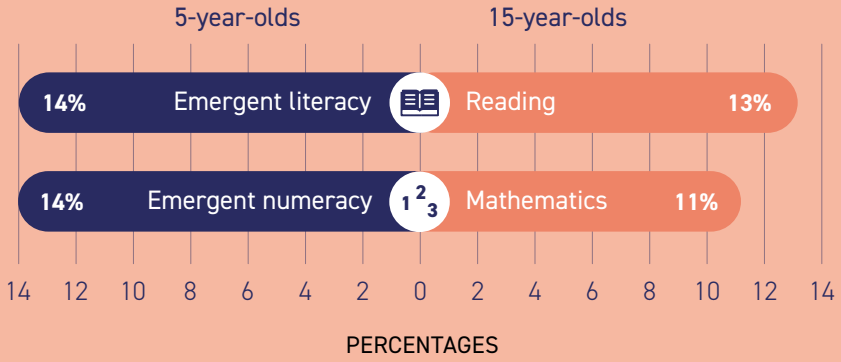
Source for Figure 3.1: (OECD, 2020); OECD International Early Leaning Survey 2018 database https://www.oecd.org/education/school/early-learning-and-child-well-being-study/early-learning-and-child-well-being-3990407f-en.htm (accessed on 6 June 2022). Source: Ye, W., R. Strietholt and S. Blömeke (2021), "Academic resilience: underlying norms and validity of definitions" StatLink 2 https://stat.link/w7f46y

Resilience may not increase with age

The proportion of resilient 15-year-old students is similar to that of five-year-olds.

The proportion of disadvantaged 15-year-olds who are resilient in reading is only one percentage point lower compared to five-year-olds, while in mathematics 11% of disadvantaged 15-year-olds are resilient compared with 14% of disadvantaged five-year-olds. These differences are not statistically significant.

Figure 3.2. Percentage of resilient children/students in IELS (2018) and in PISA (2018)



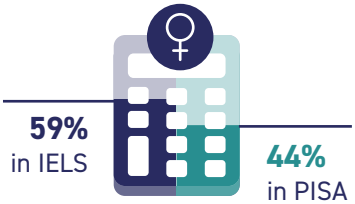
PERCENTAGE OF RESILIENT STUDENTS IN LITERACY WHO ARE GIRLS



Girls make up a slightly smaller percentage of resilient students in reading in PISA (58%) compared to resilient children in IELS (62%).

In mathematics, 44 percent of resilient students are girls, in comparison to 59 percent of resilient children in IELS.

PERCENTAGE OF RESILIENT STUDENTS IN NUMERACY WHO ARE GIRLS



These findings raise a key question on whether educational resilience increases or decreases with age or as a result of schooling.

Yet resilience is necessary for those from socio-economically disadvantaged backgrounds to increase their chances of educational success (Ye, Strietholt and Blömeke, 2021[11]). Research on resilience emphasises that it is an attribute that can be cultivated and developed in all people (Taket, Nolan and Stagnitti, 2014[12]); (Waxman, Gray and Padrón, 2003[13]).

Consequently, understanding the 'manipulable' factors that distinguish resilient children and students can help education leaders and policy makers to design and implement more equitable policies and learning environments.

> "Research on resilience emphasises that it is an **attribute that can be cultivated** and developed in all people."

Sources for Figure 3.2: (OECD, 2018); OECD Programme for International Student Assessment (PISA) database, https://www.oecd.org/pisa/data/2018database/; (accessed on 12 July 2022), (OECD, 2020); OECD International Early Leaning Survey 2018 database https://www.oecd.org/education/school/early-learning-and-child-well-being-study/early-learning-and-child-well-being-3990407f-en.htm (accessed on 6 June 2022). StatLink 2 https://stat.link/x9uc56

4. Early equity can be achieved, through action

Disadvantaged five-year-olds who are resilient have a number of factors in common, pointing to 'what it takes' to achieve early equity.

The most significant early protective factor is the quality of children's home learning environments. This is the nature and frequency of parents' active engagement with their children, particularly in activities that develop children's oral language skills.

Disadvantaged children's participation in ECEC is significantly linked to higher learning outcomes, and this relationship is stronger than for advantaged children who participate in ECEC.

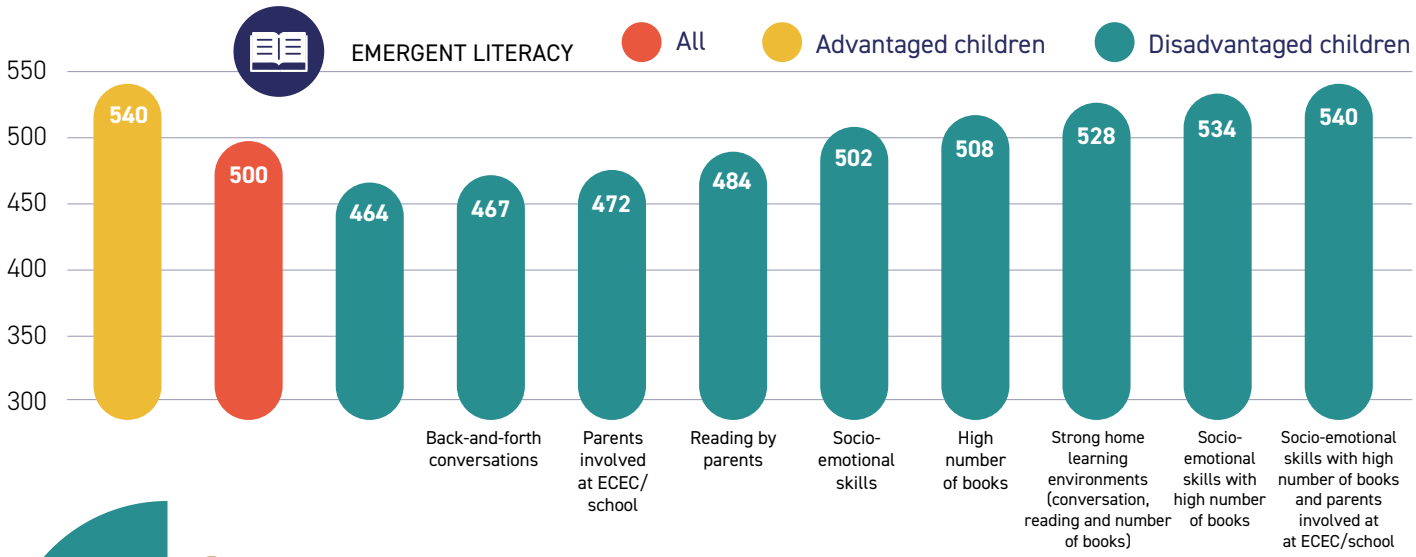
Even more pronounced is the extent to which parents are involved in their children's ECEC setting or school, as well as children's early dispositions towards learning and the extent of their social-emotional development.

> "An accumulation of **protective factors** increasingly supports disadvantaged children to reach a level of development on a par with more advantaged children."



Figure 4.1. Protective factors mitigate risk and build resilience

In the same way that multiple risk factors compound, an accumulation of protective factors increasingly supports disadvantaged children to reach a level of development on a par with more advantaged children.





Education leaders and policy makers can improve early equity through:

- Providing access to ECEC
- Taking measures to ensure ECEC is of high quality
- Supporting strong links between teachers and parents
- Improving the quality of children's home learning environments.

Sources for Figure 4.1: (OECD, 2020); OECD International Early Leaning Survey 2018 database https://www.oecd.org/education/school/early-learning-and-child-well-being-study/early-learning-and-child-well-being-3990407f-en.htm (accessed on 6 June 2022). StatLink 2 https://stat.link/xzm41b

BOX 4.1

Family hubs in England: giving every child the best start in life

In recognising the critical role that parents and carers play in children's early development and well-being, the Department for Education (United Kingdom) is promoting and funding the creation of Family Hubs across England.

This national initiative is intended to ensure that babies, children and their families have access to the support they need, in a planned and timely fashion. While Family Hubs bring together services for families with children at all ages, they include a strong focus on children's early years – the 'Start for Life' period from conception to age two – as the model in Doncaster illustrates.



Doncaster, a local authority with an urban population, has 12 Family Hubs delivering services across the 0–25 age range.

Among other objectives, these aim to:

- **enhance parents' wellbeing** and emotional and mental health
- **improve parenting** and the quality of **parent–child relationships**
- **improve children's early language** and literacy
- **improve children's early social and behavioural skills**
- **enhance children's wellbeing** and emotional and mental health.

Doncaster offers a range of services for the critical Start for Life period. Its coordinated, multiagency approach to identifying need during pregnancy enables the coordination of timely and appropriate support to meet those needs before the birth of baby. This paves the way for parents to be better prepared for birth and family life. Prenatal maternal health advice and support is offered at Family Hubs, alongside emotional and mental health support for parents and carers, and baby and infant health advice.

Midwives and health visitors are based at the hubs, which is particularly valuable in establishing trusting relationships between parents, carers and professionals. Family Hubs deliver interactive Stay & Play sessions and parenting programmes that support the development of high-quality parent–child interaction and parenting.

> "The multiagency approach to **identifying need during pregnancy** enables the coordination of support to meet those needs before the birth."



Source: (Anna Freud National Centre for Children and Families, n.d.) The Best Start for Life - National Centre for Family Hubs www.nationalcentre-forfamilyhubs.org.uk/toolkits/best-start-for-life/ (accessed on 1 August 2022).

5. The quality of children's home learning environments is critical

The activities parents undertake with their children are significantly related to their children's cognitive and social-emotional development.

Disadvantaged children with strong home learning environments have early learning outcomes that are well above the mean for all children (Figure 4.1). These children have every chance of success in schooling and later in life. While disadvantaged children are less likely than their more advantaged peers to experience positive home learning environments, much can be done to support their families to create such environments.

Elements of children's home learning environments that are strongly associated with children's learning include:

- parents and caregivers **regularly reading books** with their children (Figure 5.1)
- having **children's books at home** (Figure 5.2)
- parents and caregivers regularly having **back-and-forth conversations** with children (Figure 5.3).

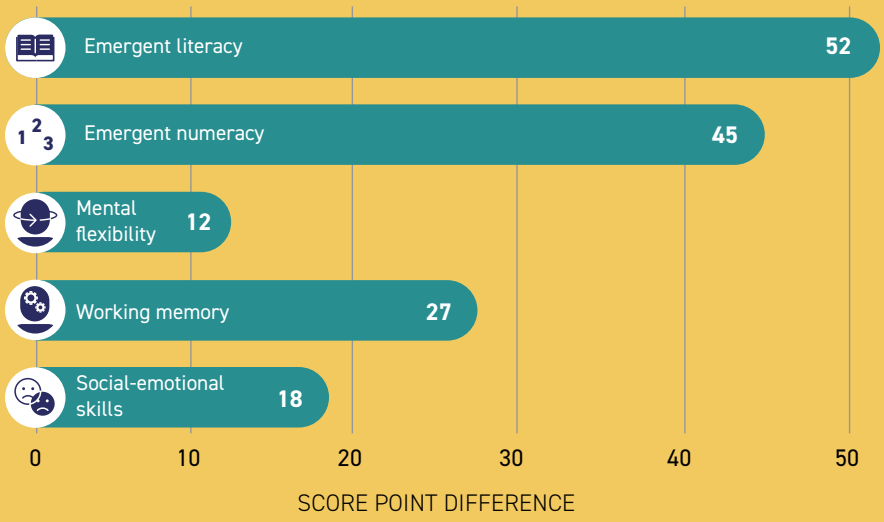


Reading books with children

The early learning gains associated with being read to at least five days a week, compared to less than once a week or not at all, are significant for both children's cognitive and social-emotional development.

In particular, being regularly read to is strongly linked to higher emergent literacy and, to a lesser extent, higher emergent numeracy. Nonetheless, the associations between being read to and mental flexibility, working memory and social-emotional skills are also significant.

Figure 5.1. Score point difference of disadvantaged children who are read to five days or more a week compared with disadvantaged children who are read to less than once a week or not at all



"Reading to children **five days a week or more** is linked to significant early learning gains for disadvantaged children."

Source for Figure 5.1: (OECD, 2020); OECD International Early Leaning Survey 2018 database https://www.oecd.org/education/school/early-learning-and-child-well-being-study/early-learning-and-child-well-being-3990407f-en.htm (accessed on 6 June 2022). StatLink 2 https://stat.link/tsqmcz

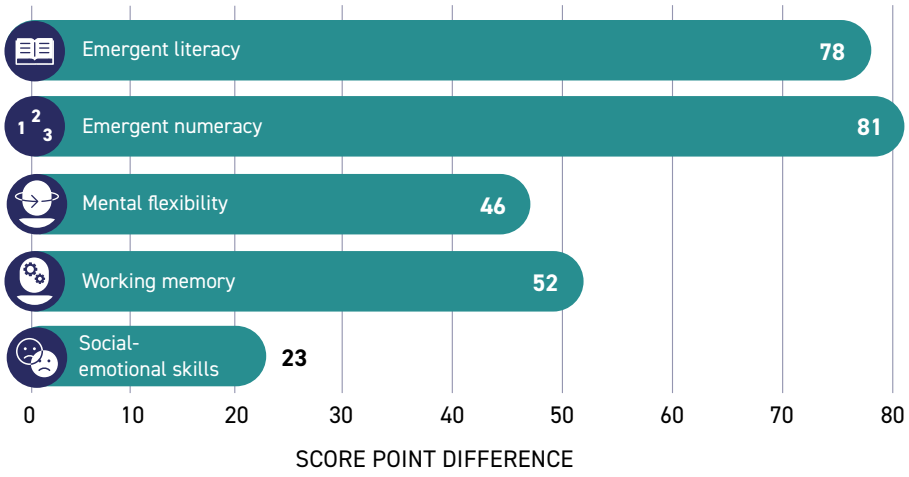
Children's access to developmentally appropriate books is strongly associated with more positive cognitive and social-emotional development.

Again, the strongest relationships are found with children's levels of emergent literacy and emergent numeracy. The size of the associations for emergent literacy and emergent numeracy are equivalent to around 12 months of learning.

> "In emergent literacy and numeracy, access to developmentally appropriate books is associated with **gains equal to around 12 months of learning.**"



Figure 5.2. Score point difference of disadvantaged children who have more than 50 children's books at home compared to disadvantaged children with fewer than 10 books at home



Access to children's books at home makes a **positive difference for disadvantaged children.**

Disadvantaged families can struggle to give their children access to e-books or hard copy books. Yet this is a practical need that can be addressed.



A number of charities and governments around the globe focus on increasing children's access to books, as a way of improving early literacy and because of the benefits that strong early literacy gives to children. Many of these efforts target children from disadvantaged families.

The *Books in Homes* programme in New Zealand provides books to disadvantaged children through early childhood centres and schools. Dolly Parton's *Imagination Library* mails one new book a month directly to disadvantaged pre-school children. Mobile children's libraries such as *BookBuses* provide lending services to children in disadvantaged communities.

Source for Figure 5.2: (OECD, 2020); OECD International Early Leaning Survey 2018 database https://www.oecd.org/education/school/early-learning-and-child-well-being-study/early-learning-and-child-well-being-3990407f-en.htm (accessed on 6 June 2022).

Parents who regularly engage their children in back-and-forth conversations help their child's emergent literacy skills in particular, as well as supporting other development domains.

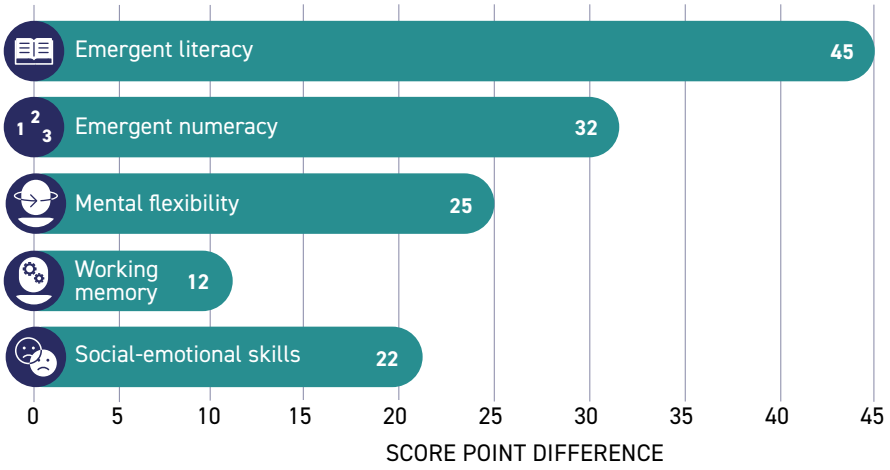
Back-and-forth conversations between a child and his/her parent or caregiver are those where there are multiple exchanges of asking and answering questions, and building on each other's comments.

A key aspect is that the child is active in taking turns to respond to and lead the exchanges.



Figure 5.3. Score point difference of disadvantaged children who have back-and-forth conversations five or more times a week compared to less than once a week or never

Regular back-and-forth conversations support disadvantaged children's **emergent literacy skills.**



Back-and-forth conversations provide children with opportunities for language processing and active use of language for communicating and for expressing themselves. This reinforces their language acquisition from more passive activities, such as being read to, and supports children's social-emotional well-being.

Even at later ages, 15-year-olds who have parents who **"spend time just talking"** with them report higher levels of life satisfaction (OECD, 2017[15]).



Source for Figure 5.3: (OECD, 2020); OECD International Early Leaning Survey 2018 database https://www.oecd.org/education/school/early-learning-and-child-well-being-study/early-learning-and-child-well-being-3990407f-en.htm (accessed on 6 June 2022). StatLink 2 https://stat.link/6bmtuh

Disadvantaged children experience less positive home learning environments than advantaged children

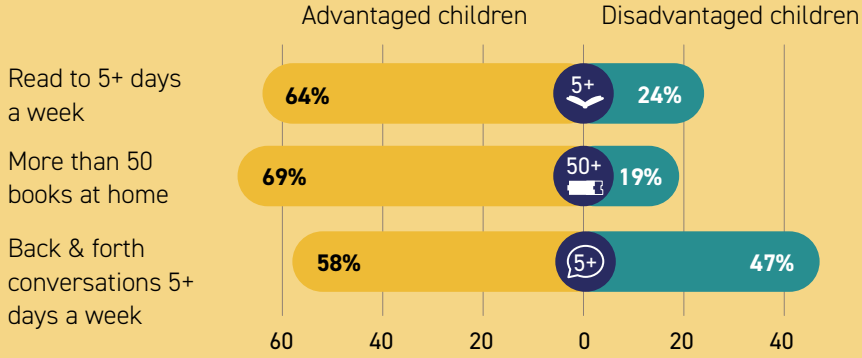
Children from disadvantaged families are much less likely to be read to by their parents or to have access to children's books at home.

Disadvantaged children are also less likely to have parents who engage in back-and-forth conversations with them (Figure 5.4).

Parents in disadvantaged households provide the same level of learning opportunities to girls and to boys. This is also the case for girls and boys from advantaged families.



Figure 5.4. Percentage of children with positive home learning environments



BOX 5.1

Parenting programmes in Boa Vista, Brazil

Achieving positive and significant improvements in children's well-being and development in poverty stricken communities requires targeted and at-scale efforts.

The Survive and Thrive programme in the northern Brazilian city of Boa Vista shows what it takes to make a difference for children who would otherwise endure impoverished home and community environments, leading to ongoing inter-generational poverty.

The Survive and Thrive programme targets vulnerable pregnant women during the second trimester of pregnancy, until the child is three years-of-age. The women in the programme are either poor, under 20 years of age, victims or witnesses of domestic or sexual violence, or living in a high risk neighbourhood. Many women in the programme experience a number of these risk factors.

The programme provides support to the women directly, in addition to other family members, and to the child. **The aim is to promote nurturing home environments that improve health outcomes for both mother and baby**, such as reduced maternal depression, and that increase the development outcomes of the child.

The programme consists of both regular home visiting and centre-based parenting groups. Fortnightly home visits monitor maternal and child health and well-being, but also provide mothers with skills and resources to create nurturing home learning environments for their infant.

This includes not only parenting advice but also child stimulation activities, supported by toys and other learning materials. The activities are designed specifically to develop the child's gross and fine motor skills, social-emotional, language and other cognitive development. Toys and other learning materials are exchanged for a new set at every two-week visit.

Source for Figure 5.4: (OECD, 2020); OECD International Early Leaning Survey 2018 database https://www.oecd.org/education/school/early-learning-and-child-well-being-study/early-learning-and-child-well-being-3990407f-en.htm, (accessed on 6 June 2022). StatLink 2 https://stat.link/cdp0if
Source for Box 5.1: (Brentani et al., 2020); Survive and Thrive in Brazil: The Boa Vista Early Childhood Program: study protocol of a stepped-wedge, randomized controlled trial", Trials, Vol. 21/1, https://doi.org/10.1186/s13063-020-4217-3

6. Access to high quality ECEC accelerates cognitive development

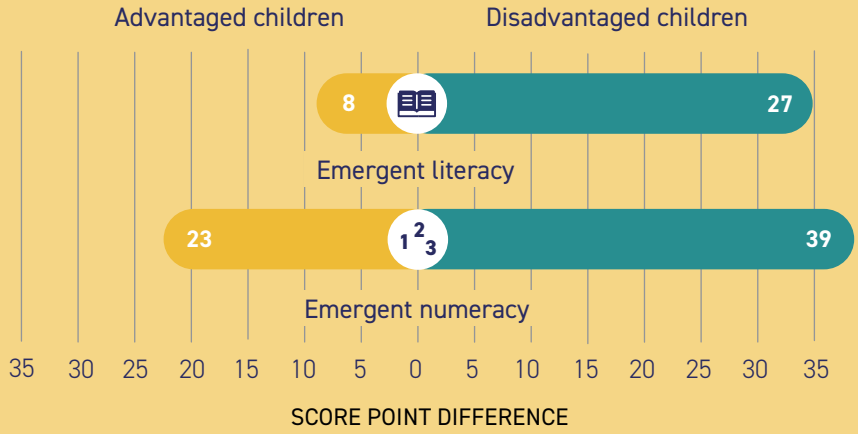
Attending early childhood education and care (ECEC) is linked to positive gains for disadvantaged children across all learning domains.

The strength of this association for disadvantaged children is particularly apparent in emergent literacy and emergent numeracy, and greater than that for advantaged children (Figure 6.1).

This suggests that **investments in ECEC should be a key component** in any strategy to improve early equity.



Figure 6.1. Score point difference between children who did and who did not attend ECEC



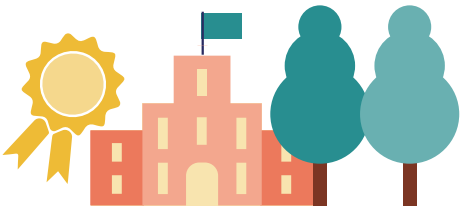
Attending ECEC is linked to **stronger cognitive development** among disadvantaged children.

The quality of ECEC matters a great deal for children's development.

While participation in ECEC has been increasing in many countries over the last two decades, universal access is still not available in a number of countries and communities. Where access to ECEC is not universal, disadvantaged children are less likely to attend ECEC than advantaged children (OECD, 2020[6]).

High-quality provision, compared to average-quality provision, can result in double the growth in children's verbal comprehension, in addition to significant gains in numeracy and social-emotional development (Siraj, Kingston and Melhuish, 2020[19]) . Thus, having reliable data on the quality and impact of ECEC provision is critical for assessing whether the potential benefits from ECEC are in fact being fully realised.

> "High-quality, compared to average-quality ECEC provision, can result **in double the growth in children's verbal comprehension.**"



Source for Figure 6.1: (OECD, 2020); OECD International Early Leaning Survey 2018 database https://www.oecd.org/education/school/early-learning-and-child-well-being-study/early-learning-and-child-well-being-3990407f-en.htm, (accessed on 6 June 2022). Source: (Bartik and Hershbein, 2018[17]); (van Huizen and Plantenga, 2018[18]) StatLink 2 https://stat.link/k2asur

BOX 6.1

Accelerating Indigenous children's learning in Manitoba

Indigenous children's early years are a key period for addressing inequities in educational outcomes between Indigenous and non-Indigenous Canadians.

The Truth and Reconciliation Commission (2015) included a call to action for governments to ensure culturally appropriate early childhood education programmes to enhance young children's development.

The Commission also noted the importance of parenting support to address legacies from residential schooling, which generations of Indigenous parents experienced as children.

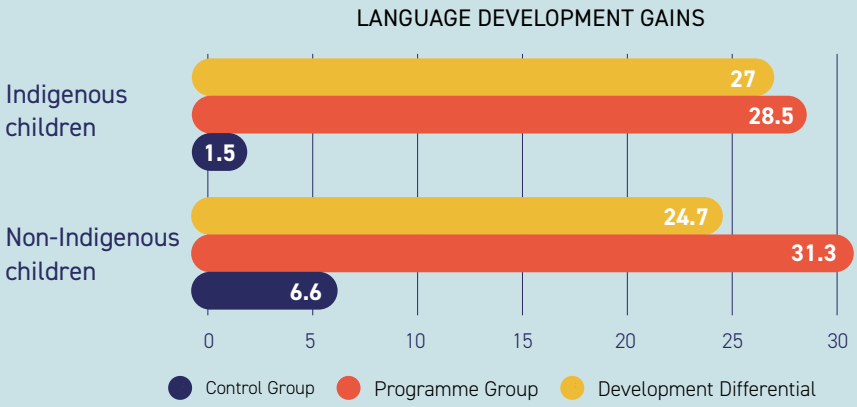
As part of an effort to address early inequities, the Manitoba provincial government established a tailored early childhood education and care centre in an impoverished urban neighbourhood in Winnipeg, aimed at 'levelling the playing field' for vulnerable children and their families.

Approximately 50% of the children in the programme are from Indigenous families.

The centre brings together children, caregivers, families and the community

- **Children enter the centre at three months of age** and attend five days a week, full-time, until they start school.
- **Each child has a primary caregiver** at the centre, who provides individualised, relationship-based care.
- **The focus is on language development**, which supports cognitive and social-emotional development.
- **Engagement with children's families** is a focus, both to support parents in enhancing their children's development and to address any issues the family may be facing.
- **Engagement with families is strength-based** and occurs through home visits, involving parents in the centre, a monthly parent support group and a co-located drop-in resource centre.
- **Recognition of Indigenous cultures is a key aspect of the programme**. An Indigenous Programme Co-ordinator is on-staff, and Indigenous art, knowledge and cultural practices are woven into the day-to-day environment.
- **Staff are drawn from the local community**, including Indigenous staff, which helps to strengthen connections with families and keeps staff turnover relatively low.

Figure 6.2. Language development gains of children in the programme in comparison to the control group



Children's language development is regularly tracked, alongside children in a control group from the same community. As illustrated in this figure, the positive benefits of **the programme over a two year period are slightly higher for Indigenous children** than non-Indigenous children, although both groups make considerable learning gains compared to the control group.

Source: Adapted from (Stevens et al., 2019); "The Abecedarian Approach in a Low-Resource Urban Neighborhood in Canada: An Impact Evaluation in a Child Care Setting", International Journal of Early Childhood, Vol. 51/2, pp. 217-232, https://doi.org/10.1007/s13158-019-00245- StatLink 2 https://stat.link/69uwz0

7. Strong links between teachers and parents is also key

Parents' involvement in their child's ECEC centre or school can be due to many factors.

Parental involvement can be influenced by the policies and practices of the ECEC centre or school that encourage or discourage active parental involvement. Parents' working hours can also have a significant influence on the extent to which they can be involved in their child's ECEC centre or school.

Disadvantaged children whose parents are involved in their child's centre or school[6] have higher learning outcomes than those whose parents are not involved. These associations are strongest for the cognitive domains of emergent literacy, emergent numeracy and working memory.

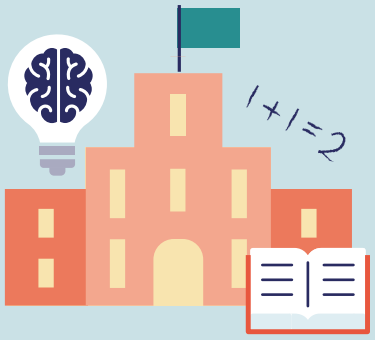
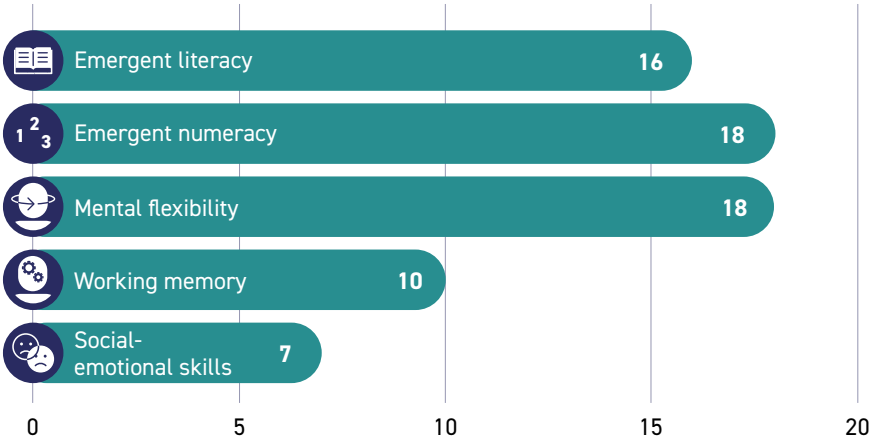


Figure 7.1. Score point difference for disadvantaged children whose parents are involved in their ECEC centre or school



"Parents' involvement in their child's ECEC centre or school is **positively linked to their child's development**."

While there are also positive associations for advantaged children whose parents are involved in their centre or school, the effects on cognitive development are more modest than those for disadvantaged children.

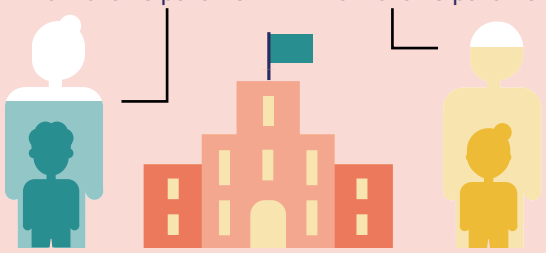
As with home learning environments, disadvantaged children are less likely to have a parent who is involved with their ECEC centre or school than advantaged children.

Sixty-three percent of disadvantaged children's parents are involved with their ECEC centre or school, compared with 86 percent of advantaged children's parents.

PERCENTAGE OF PARENTS INVOLVED WITH THEIR CHILD'S ECEC CENTRE OR SCHOOL

63% of disadvantaged children's parents

86% of advantaged children's parents



[6] Data on parents' involvement in their child's ECEC centre or school is provided by the child's teacher.

Source for Figure 7.1: (OECD, 2020); OECD International Early Leaning Survey 2018 database https://www.oecd.org/education/school/early-learning-and-child-well-being-study/early-learning-and-child-well-being-3990407f-en.htm , (accessed on 6 June 2022). StatLink 2 https://stat.link/69uwz0

BOX 7.1

Supporting strong parent-kindergarten linkages in Hong Kong

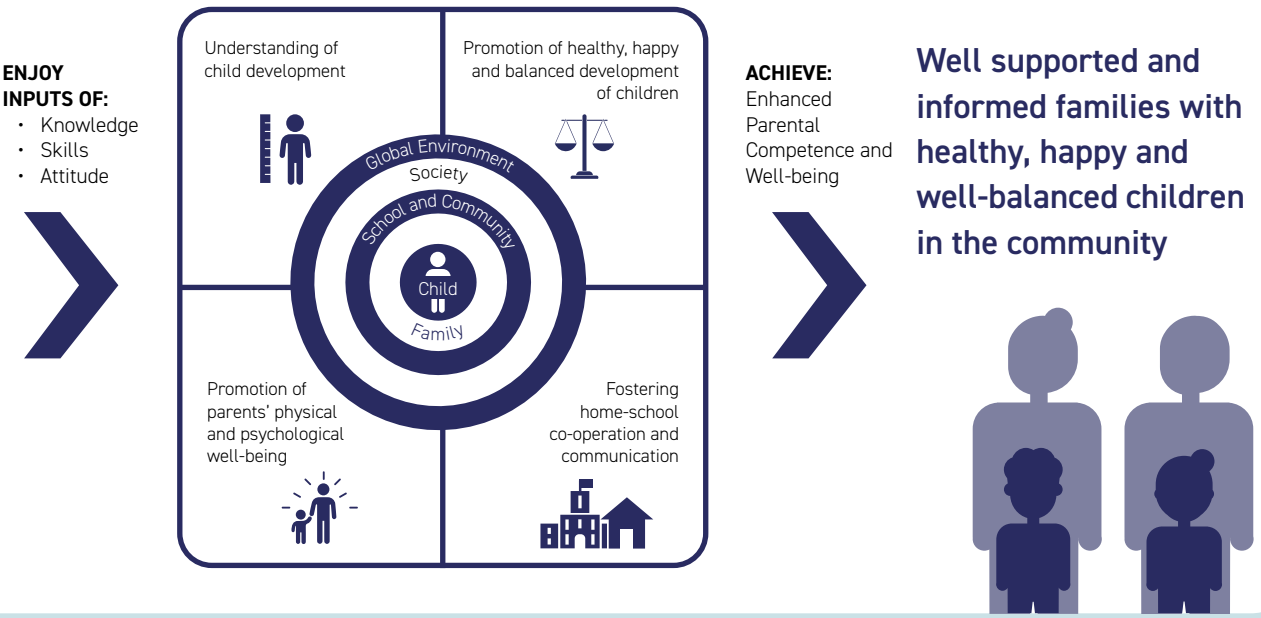
In 2021 the Education Bureau of the Government of Hong Kong released A Curriculum Framework on Parent Education (Kindergarten).

The Framework provides a resource for parents of children in kindergarten (aged 3 to 6 years) and for kindergarten teachers.

The Framework is designed to support children's healthy development and effective learning through four key pillars (see diagram below), one of which is to foster home-school co-operation and communication.

> "Partnerships between parents and teachers enable teachers to **understand the needs of individual children** and parents to support and extend their child's learning at home."

Figure 7.2. A Curriculum Framework on Parent Education (Kindergarten)



Partnerships between parents and kindergarten teachers can help:

- Teachers to better understand the needs of individual children
- Parents to support and extend their child's learning at home and at kindergarten.

The Framework sets out a range of activities **kindergartens can do to engage parents**, such as:

- Providing **overviews of the curriculum**
- **Inviting parents to observe** kindergarten classes
- Setting up **parent-to-parent mentoring** or buddy schemes.

The Framework also provides guidance to parents and kindergarten teachers on **enhancing children's home learning environments.** This includes how to **develop regular reading habits, the role of play** in learning and how to make the most of **community resources such as libraries and parks.**

Source: (Education Bureau of the Government of Hong Kong, 2021); A Curriculum Framework on Parent Education (Kindergarten), Education Bureau of the Government of Hong Kong, https://www.parent.edu.hk/en/article/framework_kg (Accessed on 20 August 2022).

8. Social-emotional skills improve overall development

Social-emotional skills are an integral part of children's development.

These skills enable children to interact well with others, operate as part of a group, persist in tasks, try new approaches and cope with setbacks.

Social-emotional skills are learned, through the interactions and other experiences a child has with his or her family, with other adults and other children.

And while curiosity is innate in new-borns and toddlers, a child's level of curiosity can be enhanced or diminished in their home and other early learning environments.

Early social-emotional development is strongly linked with children's progress in cognitive domains such as emergent literacy and emergent numeracy.

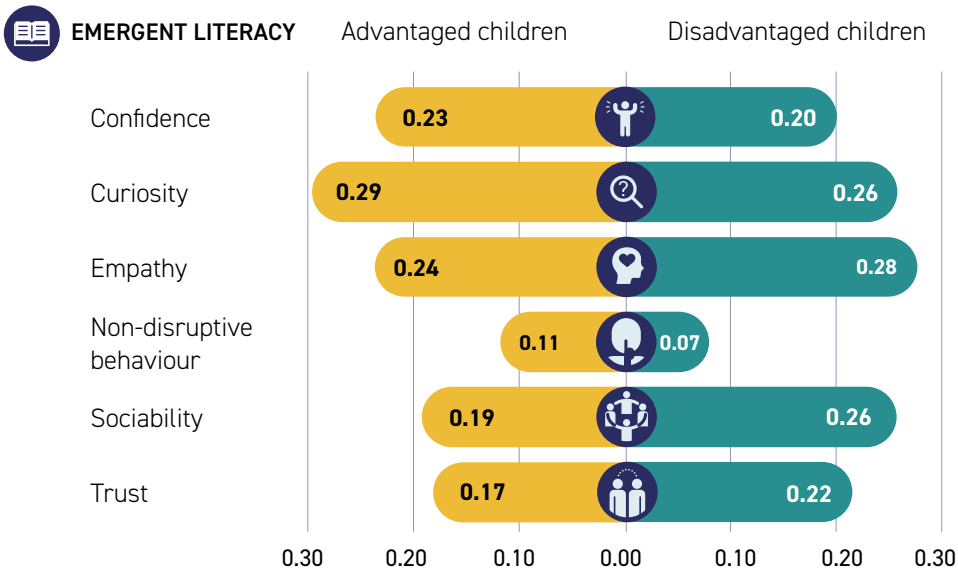
Social-emotional skills are learned, through the interactions a child has with family, other adults and other children.



Figure 8.1. Correlations between social-emotional skills and emergent literacy for disadvantaged and advantaged children

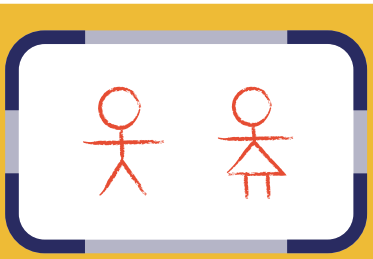
In emergent literacy, the social-emotional skills most strongly associated with disadvantaged children's learning are curiosity, empathy and sociability.

Levels of sociability and trust appear to be more important for disadvantaged children in comparison to advantaged children. Non-disruptive behaviour[7] has the weakest association with emergent literacy for both groups of children.



Social-emotional skills and gender

Teachers rate girls as more empathetic, sociable, trusting and less disruptive than boys, but rate girls and boys as having similar levels of confidence and curiosity. These gender differences are similar for both disadvantaged and advantaged children.



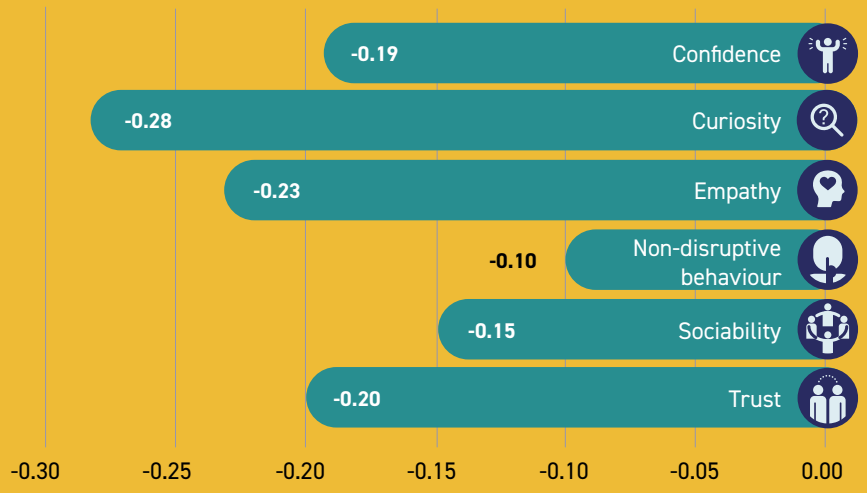
[7] Non-disruptive behaviour refers to the absence of disruptive behaviours, such as fighting with other children or preventing other children from doing their own activities.

Source for Figure 8.1: (OECD, 2020); OECD International Early Leaning Survey 2018 database https://www.oecd.org/education/school/early-learning-and-child-well-being-study/early-learning-and-child-well-being-3990407f-en.htm, (accessed on 6 June 2022). StatLink 2 https://stat.link/pmtehl

Disadvantaged children have lower levels of social-emotional development than advantaged children

As noted earlier, the largest development gap between disadvantaged and advantaged children is found in children's social-emotional development (Figure 1.1). This is the case across all six measures of social-emotional development: confidence, curiosity, empathy, non-disruptive behaviour, sociability and trust (Figure 8.2).

Figure 8.2. Differences in social-emotional development between disadvantaged and advantaged children



The largest gaps between disadvantaged and advantaged children are in levels of curiosity and empathy, both of which show strong correlations with early cognitive development.

Curiosity is essentially a disposition to learn. It also has a positive relationship with levels of creativity (Arnone, 2003[22]).
Early empathy enables children to build relationships and collaborate with others, strengthening their language skills, their ability to learn and their well-being.

Thus, social-emotional skills provide disadvantaged children with a powerful resource that supports their wider learning. As shown in Figure 4.1, disadvantaged children with social-emotional skills in the top quartile have emergent literacy skills just above the overall mean. These children will likely succeed in early and later schooling.

"Curiosity is essentially a disposition to learn. It also has a positive relationship with levels of creativity."



Source for Figure 8.2: (OECD, 2020); OECD International Early Leaning Survey 2018 database https://www.oecd.org/education/school/early-learning-and-child-well-being-study/early-learning-and-child-well-being-3990407f-en.htm, (accessed on 6 June 2022). StatLink 2 https://stat.link/4ms2lb

9. Child-centred, empowering pedagogies are linked to better child development

Attending ECEC only has benefits for children if the approach taken is responsive to and effective for the diverse needs of children and their families.

Data on children's early learning suggests the following elements should be core to a child-centred, empowering and effective pedagogy:

- **fostering a positive disposition** towards learning
- providing children with some level of **choice and autonomy** over their activities
- **enabling children to play**, to support both their learning and their sense of well-being.

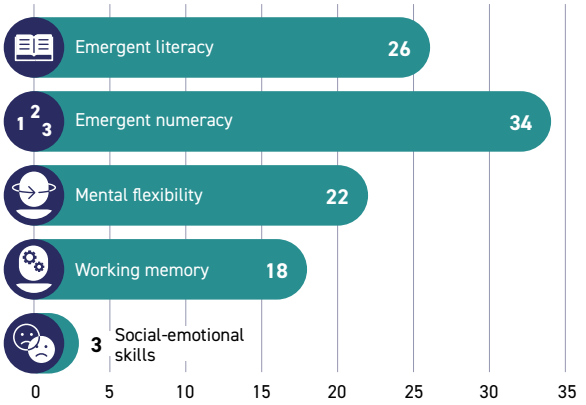
> "Disadvantaged children who say learning is their favourite part of ECEC or school have higher early learning scores than the average – equal to **nine months expected development in emergent literacy** and eight months in emergent numeracy."

Fostering a positive disposition towards learning

In response to the question "What do you like most about your ECEC centre or school?", a number of children say that their favourite activity is learning (OECD, 2021[23]). Disadvantaged children who say that learning is their favourite part of being at their ECEC centre or school have significantly higher early learning scores than the average scores for disadvantaged five-year-olds (Figure 9.1).

This effect is most pronounced for emergent literacy and emergent numeracy. These gains are equivalent to approximately nine months of expected development in emergent literacy and eight months of expected development in emergent numeracy.

Figure 9.1. Point score difference of disadvantaged children who state they enjoy learning compared to the mean for disadvantaged children



> "Disadvantaged **children's early attitudes to learning** are mirrored by their levels of development."



Learning gains are similar for advantaged children who state that they like learning. Children from disadvantaged backgrounds, however, are less likely to mention their enjoyment of learning than children from advantaged backgrounds. And while children from disadvantaged backgrounds are as likely as children from advantaged background to say that they enjoy language and literacy activities, they are less likely than advantaged children to say they like numeracy, ICT or science activities.

Source for Figure 9.1: I 2057 (OECD, 2020); OECD International Early Leaning Survey 2018 database https://www.oecd.org/education/school/early-learning-and-child-well-being-study/early-learning-and-child-well-being-3990407f-en.htm, (accessed on 6 June 2022). StatLink 2 https://stat.link/vu3a1t

Providing children with some level of choice and autonomy over their activities

Disadvantaged children who like being able to choose their activities also have higher-than-average early learning scores, across a range of domains.

Similar to children who state that learning is their preferred activity, these higher learning outcomes are most pronounced in emergent literacy and emergent numeracy.

Children from disadvantaged families are as likely as children from advantaged families to say they like being able to choose the activities they engage in. In both groups of children, girls are more likely than boys to say they value having some level of choice and autonomy over their activities.

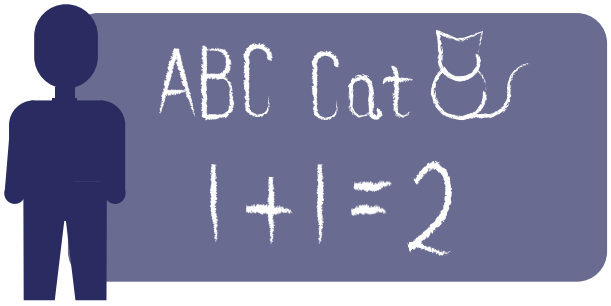
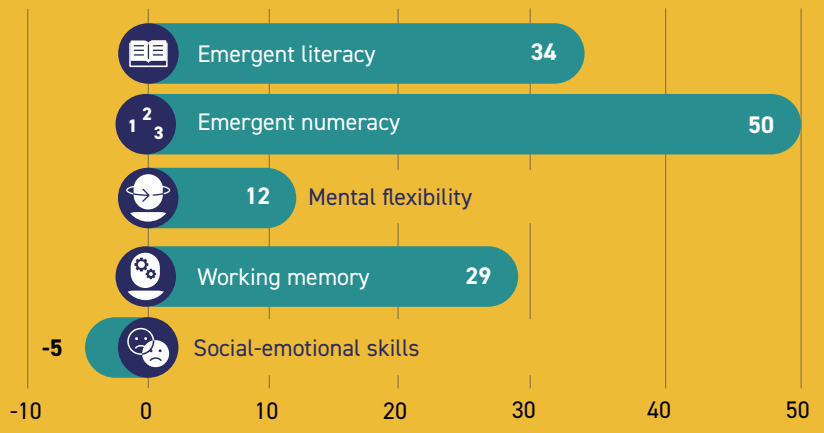


Figure 9.2. Point score difference of disadvantaged children who state they enjoy choosing compared to the mean for disadvantaged children



"Disadvantaged children who like having some choice over their activities have **significantly higher learning outcomes** in emergent literacy and emergent numeracy than other children."

Play is a natural, in-built mechanism for learning and well-being

In the same way that curiosity is an in-built disposition that nearly all children are born with, helping them to learn and understand their world, children's desire to play is also an in-built mechanism to enhance learning and well-being.

Play provides children with a means to build social connections and to negotiate with other children, assisting language development and self-regulation skills. Play also helps children to use their imaginations. In addition, play is often associated with physical activity and physical development, such as gross motor skills.

Playing is more popular than any other activity identified by the children in this study.

Play is equally popular among low and high SES five-year-olds and among girls and boys. Ensuring children have ample opportunities to play supports positive attitudes to learning and to later schooling, as well as supporting children's overall development and well-being.



Source for Figure 9.2: (OECD, 2020); OECD International Early Leaning Survey 2018 database https://www.oecd.org/education/school/early-learning-and-child-well-being-study/early-learning-and-child-well-being-3990407f-en.htm, (accessed on 6 June 2022). StatLink 2 https://stat.link/n4f6lr

BOX 9.1

From evidence to action: Leveraging IELS data to improve children's early development in Estonia

Estonia is globally recognised for its high performing and equitable education system. Since joining PISA in 2006, Estonia has been one of the highest performing countries in science, and its performance in reading and mathematics has significantly improved since PISA 2009.

In PISA 2018, Estonia was the highest-performing country in the OECD in reading and science, third for mathematics, and among the top performers across all participating countries and economies in the study.

> "In 2018, Estonia was the highest-performing country in the OECD in reading and science, third for mathematics."



Notwithstanding the clear strengths of its education system, Estonia continues to seek improvements in students' learning experiences and to monitor its progress across a range of key indicators.

As part of this continual improvement effort, **Estonia is increasingly focusing on children's early years development**, particularly through early childhood education and care (ECEC), as well as through its participation in IELS.

Following the first release of IELS data in 2020, Estonia has taken a number of actions:

1. **Informing and engaging the early years sector** on the findings and potential implications of these findings for ECEC teachers, heads, teacher educators and parents.
2. **Distributing of a wide range of accessible and engaging materials**, including video.
3. **Holding a virtual, nation-wide conference**. During the national conference, teachers confirmed the importance of IELS and other evidence-based studies as a means for learning how to create better learning environments for children.



Miia and Toomas, Estonian characters of the IELS study stories

Building on the national engagement, the Estonian government has made several changes to the ECEC system.

There is now a clearer legal framework for ECEC, which is part of the general education system.

Changes to professional development for ECEC teachers and heads particularly focus on children's language and speech, Estonian as a second language, supporting children with special needs and the use of child-centred strategies, including digital pedagogy.

The child-centred approach followed in Estonia focuses on the child's general skills, including play, cognitive and learning skills, social and self-regulation skills. Different fields of teaching and learning are integrated, e.g. language and speech, mathematics, environment, art, music and movement.

Source: (OECD, 2020); Early Learning and Child Well-being in Estonia, https://doi.org/10.1787/15009dbe-en.

References

Anna Freud National Centre for Children and Families (n.d.), The Best Start for Life, https://www.nationalcentreforfamilyhubs.org.uk/toolkits/best-start-for-life/ (accessed on 1 August 2022). [14]

Arnone, M. (2003), Using Instructional Design Strategies To Foster Curiosity. ERIC Digest., EIRC clearinghouse of information and technology, https://www.ericdigests.org/2004-3/foster.html (accessed on 26 August 2022). [22]

Bartik, T. and B. Hershbein (2018), Pre-K Effectiveness at a Large Scale, W.E. Upjohn Institute, https://doi.org/10.17848/pb2018-2. [17]

Brentani, A. et al. (2020), "Survive and Thrive in Brazil: The Boa Vista Early Childhood Program: study protocol of a stepped-wedge, randomized controlled trial", Trials, Vol. 21/1, https://doi.org/10.1186/s13063-020-4217-3. [16]

Duncan, G. et al. (2007), "School readiness and later achievement", Developmental psychology, Vol. 43/6, pp. 1428-1446, https://doi.org/10.1037/0012-1649.43.6.1428. [3]

Education Bureau of the Government of Hong Kong (2021), A Curriculum Framework on Parent Education (Kindergarten), http://www.parent.edu.hk/en/article/framework_kg (accessed on 2022 August 2022). [21]

Hammer, D., E. Melhuish and S. Howard (2018), "Antecedents and consequences of social–emotional development: A longitudinal study of academic achievement.", Archives of Scientific Psychology, Vol. 6/1, pp. 105-116, https://doi.org/10.1037/ARC0000034. [1]

Heckman, J. (2011), The Economics of Inequality: The Value of Early Childhood Education. [5]

OECD (2021), Play, Create and Learn, https://issuu.com/oecd.publishing/docs/play-create-learn-what-matters-most-for-five-year-. [23]

OECD (2020), Early Learning and Child Well-being in Estonia, OECD Publishing, Paris, https://doi.org/10.1787/15009dbe-en. [24]

OECD (2020), Early Learning and Child Well-being: A Study of Five-year-Olds in England, Estonia, and the United States, OECD Publishing, Paris, https://doi.org/10.1787/3990407f-en. [6]

OECD (2020), International Early Leaning Survey 2018 database, http://www.oecd.org/education/school/early-learning-and-child-well-being-study/early-learning-and-child-well-being-3990407f-en.htm (accessed on 6 June 2022). [9]

OECD (2018), OECD Programme for International Student Assessment (PISA) Database, https://www.oecd.org/pisa/data/2018database/ (accessed on 12 July 2022). [8]

OECD (2017), PISA 2015 Results (Volume III): Students' Well-Being, PISA, OECD Publishing, Paris, https://doi.org/10.1787/9789264273856-en. [15]

Sammons, P. et al. (2015), "Pre-school and early home learning effects on A-level outcomes : Effective Pre-School, Primary & Secondary Education Project (EPPSE). Research report", p. 39, https://www.researchgate.net/publication/291970289_Pre-school_and_early_home_learning_effects_on_A-level_outcomes_Effective_Pre-school_Primary_Secondary_Education_Project_EPPSE (accessed on 26 August 2022). [4]

Schoon, I. et al. (2015), The Impact of Early Life Skills on Later Outcomes, http://ttp://discovery.ucl.ac.uk/10051902/1/Schoon_2015%20The%20Impact%20of%20Early%20Life%20Skills%20on%20Later%20Outcomes_%20Sept%20fin2015.pdf (accessed on 12 August 2022). [2]

Shuey, E. and M. Kankaraš (2018), "The Power and Promise of Early Learning", OECD Education Working Papers, No. 186, OECD Publishing, Paris, https://doi.org/10.1787/f9b2e53f-en. [10]

Siraj, I., D. Kingston and E. Melhuish (2020), "Can Professional Development in the Early Years bring about improved outcomes for children?", Researching Education, Vol. 1/2. [19]

Stevens, H. et al. (2019), "The Abecedarian Approach in a Low-Resource Urban Neighborhood in Canada: An Impact Evaluation in a Child Care Setting", International Journal of Early Childhood, Vol. 51/2, pp. 217-232, https://doi.org/10.1007/s13158-019-00245-4. [20]

Stiles, J. and T. Jernigan (2010), "The Basics of Brain Development", Neuropsychology Review, Vol. 20/4, pp. 327-348, https://doi.org/10.1007/s11065-010-9148-4. [7]

Taket, A., A. Nolan and K. Stagnitti (2014), "Family strategies to support and develop resilience in early childhood", https://doi.org/10.1080/09575146.2013.877421, Vol. 34/3, pp. 289-300, https://doi.org/10.1080/09575146.2013.877421. [12]

van Huizen, T. and J. Plantenga (2018), "Do children benefit from universal early childhood education and care? A meta-analysis of evidence from natural experiments", Economics of Education Review, Vol. 66, pp. 206-222, https://doi.org/10.1016/J.ECONEDUREV.2018.08.001. [18]

Waxman, H., J. Gray and Y. Padrón (2003), Review of Reseach on Educational Resilience, Center for Research on Education, Diversity and Excellence, Center for Research on Education, Diversity and Excellence. [13]

Ye, W., R. Strietholt and S. Blömeke (2021), "Academic resilience: underlying norms and validity of definitions", Educational Assessment, Evaluation and Accountability, Vol. 33/1, pp. 169-202, https://doi.org/10.1007/s11092-020-09351-7. [11]

Notes

[1] Disadvantaged refers to families in the bottom quartile of socio-economic status (SES) whereas advantaged children are from families in the top SES quartile. SES is based on parents' education levels and occupations, and household income.

[2] Children's levels of emergent literacy, emergent numeracy, working memory and mental flexibility were assessed directly. Social-emotional skills were assessed via teacher reports.

[3] Emergent literacy refers to children's oral language skills, i.e. their abilities to understand spoken language and to express themselves. No reading or writing is assessed in IELS.

[4] Mental flexibility is the ability to react quickly to changing stimuli or shift between rules according to changing circumstances.

[5] Working memory refers to the ability to retain information, to enable the completion of a given task.

[6] Data on parents' involvement in their child's ECEC centre or school is provided by the child's teacher.

[7] Non-disruptive behaviour refers to the absence of disruptive behaviours, such as fighting with other children or preventing other children from doing their own activities.

DEFINITIONS

Emergent literacy refers to the skills children develop that are a precursor to literacy and enable them to understand and communicate with others. In this study, there was no assessment of whether children could read or write.

Emergent numeracy refers to simple problem solving and the application of concepts and reasoning in relation to numbers and counting, working with numbers, shape and space, measurement and pattern.

Self-regulation refers to the skills children develop to inhibit their impulses and direct their thought processes, enabling them to concentrate, retain information and complete short tasks.

Social-emotional skills refer to children's abilities in interacting well with others and in managing their emotions.

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