Early Childhood Education: Equity, Quality and Transitions

REPORT FOR THE G20 EDUCATION WORKING GROUP

OECD

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Foreword

High-quality early childhood education supports the social and emotional well-being of the youngest members of our societies. Children who benefit from quality early childhood education (ECE) are more likely to do well at school, and later, in the labour market. Recognising the importance of ECE for individuals and societies, the G20 countries have made it an increasingly prominent topic of their cooperation.

In 2018, the Argentinian G20 Presidency and in 2019, the Japanese G20 Presidency, highlighted the importance of prioritising investment in early childhood programmes and promoting equitable access to support more prosperous societies. Building on this work, a central topic of the G20 Education Ministerial Meeting in 2020 convened by the Saudi G20 Presidency is how to realise the potential of ECE to promote equal opportunities for all.

The focus on ECE by the Saudi G20 Presidency reflects the overarching theme of the Saudi G20 Presidency: Realizing Opportunities of the 21st Century for All. One of three core aims is to advance the agenda of human empowerment, with a view to "creating the conditions where all people - especially women and young people - can live, work and thrive". Given the central importance of education to this vision, the Saudi G20 Presidency convened - for the second time – a G20 Educational Ministerial in September 2020.

This report was developed by the OECD at the request of the Saudi Presidency of the G20 to inform the discussion at the G20 Education Ministerial Meeting. The report synthesises OECD and other international research on good practice in ECE and brings together international data to outline trends in G20 countries.

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1 Early childhood education: equity, quality and transitions

Introduction

The role of early childhood education and care in realising opportunities of the 21st century for all

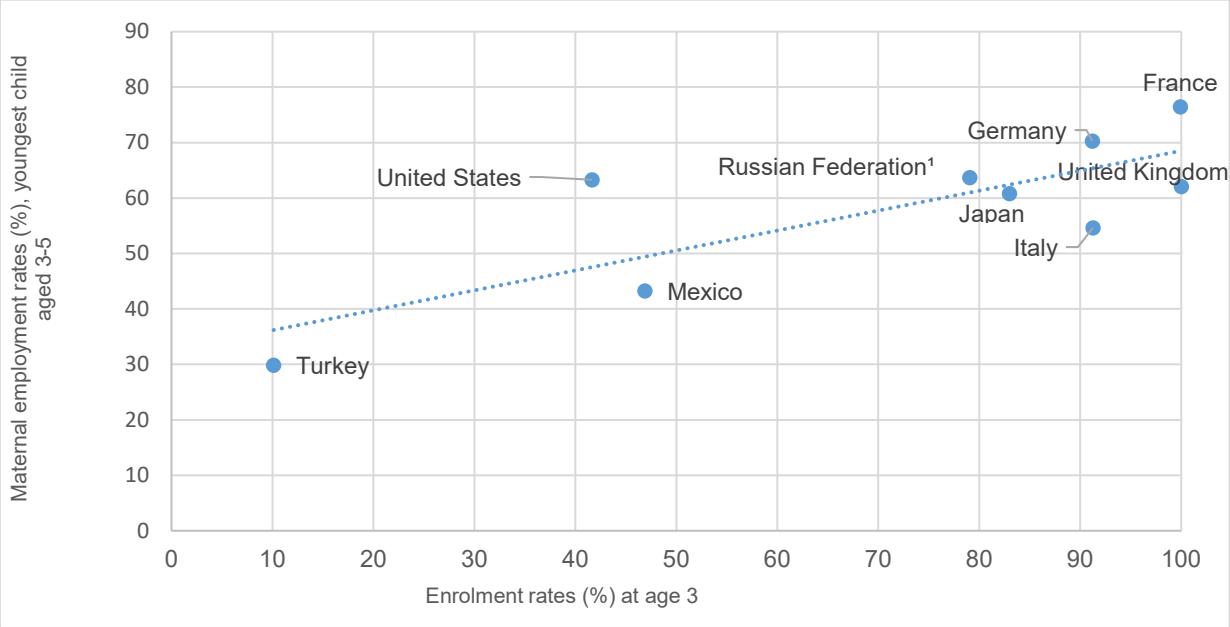
Research from neuroscience shows that during the early years of a child's life - from birth until around six years - their brain has extraordinary capacity for learning. By the time a child is six, the same time most early childhood education programmes end, their brain has already reached about 90% of its adult volume (Stiles and Jernigan, 2010[1]); (Shuey and Kankaraš, 2018[2]). Early childhood education and care therefore spans a critical window for development which sets the foundation for later success in school, career and life (UNICEF, 2019[3]).

High quality early childhood education and care has been shown to provide a wide range of benefits for individual children – especially the most disadvantaged. These benefits include supporting social and emotional well-being, lowering risks of school dropout and even contributing to higher learning and employment outcomes later in life (OECD, 2017[4]); (UNICEF, 2019[3]). Children's participation in early childhood education and care also offers greater opportunities for mothers and other caregivers to participate in the workforce (see Figure 1.1), increasing household earnings and breaking stubborn cycles of intergenerational poverty (OECD, 2017[4]) and (UNICEF, 2019[3]).

Investing in early childhood education and care and ensuring universal access to quality services is not only one of the most effective ways to reduce inequities, it is also one of the most *efficient*. Investments in early childhood education are particularly important for promoting equity. Research shows that disadvantaged children can benefit the most from high-quality early childhood education and the returns from interventions that take place during a child's "development window" are more significant than those that occur later on (OECD, 2017[4]). At a time when all G20 countries are looking for ways to strengthen the impact of public spending, early childhood education offers returns on investment for societies and economies as a whole - often more than other levels of education. When everyone is given a strong start, it helps reduce the costs needed to address poor results later on and sets children on a trajectory to stay in school and achieve their learning potential (UNICEF, 2019[3]). This is crucial since inequalities that take root early on tend to grow throughout school and life, making it increasingly difficult and expensive to address disparities.

Figure 1.1. Mothers' employment rates (2014) and enrolment rates at age 3 (2017)

Employment rates (%) for 15-64 year-old mothers whose youngest child is aged 3-5 and enrolment rates at age 3 (%) in ISCED 0



Note: For the Russian Federation, the reference age for the youngest child is 0-6 instead of 3-5.
Sources:
(OECD, n.a[5]), OECD Family Database, (accessed 02 March, 2020), www.oecd.org/els/family/database.htm
(OECD, 2019[6]), Education at a Glance 2019: OECD Indicators, OECD Publishing, Paris, (accessed 02 March, 2020) https://doi.org/10.1787/f8d7880d-en.

Scope and content of this report

This report focuses on policies to improve the quality and equity of early childhood education (ECE, or ISCED 02 under the international standardised classification of education). ECE covers all forms of organised and sustained centre-based activities - such as pre-schools, kindergartens and day-care centres – designed to foster learning and emotional and social development in children with some early childhood education. These programmes are generally offered to children from the age of three until the age of primary school entry. However, in some G20 countries it is not always easy to establish the boundaries between ECE and ISCED 01 provision that is more focused on basic childcare, health and nutrition and can be less structured. In these cases, the report refers to the general category of early childhood education and care (ECEC, or ISCED 0). Box 1.1 provides an overview of the differences between these two levels of early education.

This report is organised into four sections. This section (1) provides an introduction to the topic; Section 2 focuses on participation and equity in ECE; Section 3 examines elements that matter for the quality of ECE provision; and Section 4 provides insights on children's transition from ECE to primary school. The report draws on the latest findings from the literature and uses the most recent international data to present ECE education systems across the G20 countries. Primary sources of information come from a range of OECD work on ECE, namely the *Starting Strong* series, data from *Education at a Glance*, which since 2011 has covered all G20 countries, and other OECD surveys, such as the *Programme for International Student Assessment (PISA)*, the *Starting Strong Teaching and Learning Survey* and the *International Early Learning and Child Well-being Study (IELS)*. Where country information is not available from these sources and data collections, the report draws on other international and national sources of information.

Box 1.1.International standard classification of early childhood education and care

Early childhood educational development (ISCED 01)

The educational properties of early childhood educational development are characterised by a learning environment that is visually stimulating and rich in language. These programmes foster self-expression, with an emphasis on language acquisition and the use of language for meaningful communication. There are opportunities for active play, so that children can exercise their coordination and motor skills under supervision and through interaction with staff. Programmes providing only childcare (supervision, nutrition and health) are not covered by ISCED.

Early childhood education (ISCED 02)

The educational properties of early childhood education are characterised by interaction with peers and educators, through which children improve their use of language and social skills, start to develop logical and reasoning skills, and talk through their thought processes. They are also introduced to alphabetical and mathematical concepts, and encouraged to explore their surrounding world and environment. Supervised gross motor activities (i.e. physical exercise through games and other activities) and play-based activities can be used as learning opportunities to promote social interactions with peers and to develop skills, autonomy and school readiness. ISCED 02 is the focus of this report and is referred to as early childhood education (ECE).

Source: (UNESCO-UIS, 2012[7]), International Standard Classification of Education ISCED 2011, UNESCO Institute for Statistics, Montreal, (accessed 02 March, 2020) www.uis.unesco.org.

ECE in G20 countries

Providing the opportunity for all children to participate in high quality ECE can benefit their development and learning, and economies and societies more generally (OECD, 2011[8]). The G20 Education Ministerial Meeting offers a unique opportunity for countries to collaborate and raise awareness about the importance of quality early childhood education. However, the G20 represents a diverse group of countries that are at different stages of educational and economic development. Table 1.1. provides an overview of ECE education and the transition to primary school in G20 countries, and highlights some of the key differences in ECE provision across countries.

In most high income countries, where universal schooling is well established, the provision of ECE is already widespread. These countries also tend to have relatively small populations of young children, making universal entitlement to high quality ECE a legitimate and feasible target. In contexts with large child populations and high poverty rates - where the school sector is still being built - there may be limited public resources and capacity to fully develop the ECE sector. In these contexts, one way to develop the sector is to progressively extend ECE in terms of duration and access. A further consideration when making cross-country comparisons about ECE involves governance arrangements as the governing body and responsibility for the sector differs across countries. Governance arrangements and their policy implications are discussed in the following chapters.

Table 1.1. Early childhood education programmes, starting age of primary and compulsory education

G20 countries (alphabetical order)	Early childhood education programmes (ISCED 02)				Starting age of primary education	Starting age of compulsory education
	Name of the programme in national language	Name of the programme in English	Theoretical starting age	Theoretical duration of the programme (years)		
Argentina	Jardín de infantes - Educación Especial	Special education - Kindergarden	3	3	6	5
Australia	Quality early childhood education program	Quality early childhood education program	3	2	5	6
Brazil	Educação infantil - pré-escola	Pre-school	4	2	6	4
Canada	Kindergarten	Pre-elementary education or equivalent - kindergarten	4-5	1	6	6
China	学前教育	Pre-primary education	3	3	6	6
France	Ecole maternelle	Pre-elementary education	2 - 3	3	6	3
Germany	01 Kindergärten	Kindergarten	3	3	6	6
	02 Schulkindergärten (nur in einigen Bundesländern und in der Regel für Kinder, die noch nicht "schulreif" sind)	School kindergarten (only in some Länder, for children considered not yet ready for school)	5 or 6	1		
	03 Vorklassen (nur in einigen Bundesländern und in der Regel für Kinder, die noch nicht "schulreif" sind)	Pre-school classes (only in some Länder, for children considered not yet ready for school)	5 or 6	1		
India	m	Pre-primary education	3	1-2	6	6
Indonesia	Kelompok Bermain (KB)	Playgroup	3	1-2	7	7
	Taman Kanak-kanak (TK)	Kindergarten	5	1-2	7	
	Raudlatul/Bustanul Athfal (RA/BA)	Islamic kindergarten	5	1-2	7	
	TK Luar Biasa	Special Kindergarten	5	1-2	7	
Italy	Scuola dell'infanzia	Pre-primary school	3	3	6	6
Japan	Yohorenkeigata-Nintei-Kodomo-En	Integrated centre for early childhood education and care	3-5	1-3	6	6
	Yochien	Kindergarten	3-5	1-3		
	Tokubetsu-shien-gakko Yochi-bu	School for special needs education, kindergarten department	3-5	1-3		
	Hoikusho	Day care centre	3-5	1-3		
Korea	어린이집 (3-5세) (Eorinyijip, age 3-5)	Child-care centre	3-5	1-3	6	6
	유치원 (Yuchiwon)	Kindergarten	3-5	1-3		
	특수학교 유치원 과정(Teuksu-hakgyo Yuchiwon-kwajeong)	Kindergarten course, Special school	3-5	1-3		
Mexico	Educación preescolar	Pre-primary education	3	2-3	6	3
Russian Federation	Дошкольное образование	Pre-primary education	3	3	7	7
Saudi Arabia	مرحلة رياض الأطفال	Kindergarten	2	4	6	6
South Africa	Grade R	Grade R	5	2	7	7
Turkey	Okul öncesi eğitimi (3-5 yaş)	Pre-primary education (ages 3-5)	3-5	1-3	6	5-6
United Kingdom	Reception and nursery classes in schools	Reception and nursery classes in schools	3	1-2	4-5	4-5
	Pre-school or pre-kindergarten	Pre-school or pre-kindergarten	2-4	1-2		

United States	Pre-school or pre-kindergarten	Pre-school or pre-kindergarten	2-4	1-2	6	4-6
	Kindergarten	Kindergarten	4-6	1		

Sources:
(OECD, 2018[9]), "Table X1.3 - Starting and ending age for students in compulsory education and starting age for students in primary education (2016): The typical age refers to the age of the students at the beginning of the school year." in *Annexes*, OECD Publishing, Paris, (accessed 02nd March, 2020) https://doi.org/10.1787/eag-2018-table221-en.
(OECD, 2019[6]), Education at a Glance 2019: OECD Indicators, OECD Publishing, Paris, (accessed 02 March, 2020) https://doi.org/10.1787/f8d7880d-en.
(World Bank, n.a[10]), Education Statistics – All Indicators, (accessed 15 January 2020) https://databank.worldbank.org/reports.aspx?source=1159&series=UIS.CEAge.1.
(UNESCO Institute for Statistics (UIS), n.a[11])UNESCO Institute for Statistics (UIS) database, (accessed 15 January 2020) http://data.uis.unesco.org.
(UNESCO-UIS, 2012[7]), International Standard Classification of Education ISCED 2011, UNESCO Institute for Statistics, Montreal, (accessed 15 January 2020) http://uis.unesco.org/en/isced-mappings.

2 Participation and equity in early childhood education

Why focus on equity?

High quality ECE stands to benefit all children, especially those from disadvantaged backgrounds. A growing body of research recognises that quality ECE can help offset weak home learning environments for children living in poverty whose parents and other caregivers may struggle to find the time, emotional energy and confidence to create early learning opportunities. Data from the United Kingdom, for example, shows that by age five, children from the poorest families are on average 15 months behind in their vocabulary compared with children from the richest families (Finnegan and Warren, 2015[12]), highlighting the importance of providing equitable and high quality learning opportunities for young children. Countries are increasingly focusing on early years policies, not only to lift outcomes for individual children but also to support families in overcoming intergenerational poverty, for example by facilitating female labour market participation and promoting social and economic development more broadly (OECD, 2011[8]). Promoting equitable participation in ECE can also help to ensure that all children, regardless of background, can develop the competencies that they need for success in the twenty-first century.

While disadvantaged children and families stand to benefit the most from ECE, their chances of accessing quality services remain lower than their advantaged peers. The main obstacles to participation are cost, availability and organisational arrangements, such as inflexible opening hours and bureaucratic enrolment procedures (European Commission, 2014[13]). The latter can especially be a deterrent for ethnic minority families or marginalised groups who may find it difficult to sign up for waiting lists, access information and complete ECE enrolment forms (OSCE, 2010[14]). Another barrier is that ECE facilities can be unequally distributed across urban and rural areas, or affluent and poor neighbourhoods, making facilities located far from home inaccessible. Less visible barriers can also discourage participation in ECE, such as low awareness about the benefits of quality services and/or a lack of trust in professional education and care, especially when provision does not align with a family's cultural childrearing practices (Leseman, 2002[15]).

Many G20 countries have already committed to making ECE access more equitable. The SDGs provide a central reference, emphasising that all girls and boys should have access to quality early childhood development, care and pre-primary education. One concept that can help in charting a course towards the achievement of this goal is "progressive universalism", meaning that education provision should be expanded in a way that benefits disadvantaged children at least as much as their better-off peers (Education Commission, 2016[16]). This argument – which takes forward the vision of the United Nations (UN) Convention of the Rights of the Child, that the right to education should be achieved progressively and on the basis of equal opportunity – is echoed in other international commitments to which individual members of the G20 subscribe, such as the European Union (EU) Council Recommendation on High-Quality Early Childhood Education and Care Systems (2019[17]). The G20 2020 agenda provided an opportunity to further define policies that will help advance these goals to establish more equitable ECE systems in G20 countries and beyond.

What policies contribute to equitable participation in early childhood education?

Policies and plans that prioritise availability and accessibility for all

A strong public policy commitment to ECE – backed by a bold vision, strong plans and adequate funds – is important to guarantee access on an equal basis

Including ECE as a central priority in national education strategies and plans – with clear targets, indicators and ministerial leadership – can make a significant difference in terms of the political and financial importance given to the sector. Many G20 countries have made commitments to develop ECE in the recent years, for example, Saudi Arabia's strategic national documents explicitly identify ECE as a policy priority for human capital development, calling for greater investment and capacity on behalf of the ministry to reach an ambitious target of raising the kindergarten enrolment rate from 17% to 95% by 2030 (Ministry of Education of Saudi Arabia, 2019[18]). Box 2.1 provides additional examples of ECE targets.

Targets should be ambitious but also realistic, and will vary across countries depending on available resources and capacity, as well as pressures at other levels of their education system. Most advanced G20 economies, where enrolment in the year before primary school is close to universal, have set targets intended to expand participation for younger children. For example, the European Council has set targets for EU member countries to enrol at least 95% of children from age four in ECE and 90% from age three (European Union, 2019[17]).

For G20 countries where baseline access across all pre-primary levels is still low, there are two broad options for scaling up provision. First, countries can start by implementing one year of ECE education, then build down gradually to younger grades – as is the plan in Saudi Arabia. Such an approach can achieve more equitable participation in the year proceeding primary school, but usually means disadvantaged children continue to lack access in the earlier years. The second option is to expand the ECE sector as a whole. This approach can deepen inequities since wealthier families tend to be the first to enrol in ECE services, requiring special measures to prioritise the enrolment of disadvantaged children.

Box 2.1.Examples of targets for enrolment of 3-6 year olds in ECE

One of the main objectives of the United Nation's Sustainable Development Goals (SDG 4.2.2) is universal participation in at least one year of organised learning before children begin primary school. The European Commission and the European Parliament have also set this goal as a policy priority in the Europe 2020 targets.

Some G20 countries have also set national targets for ECE enrolment that focus on access to services or disadvantage. For example, in Australia, the government aims to provide access to 15 hours per week or 600 hours per year of subsidised ECE for every child in the year before they begin primary education, in order to guarantee equal access to disadvantaged and indigenous children

Sources:
(European Commission, 2019[19]), Key Data on Early Childhood Education and Care, EACEA/Eurydice, (accessed 02 March, 2020) https://eacea.ec.europa.eu/national-policies/eurydice/sites/eurydice/files/ec0319375enn_0.pdf.
(Council of Federal Financial Relations, 2019[20]), Council of Federal Financial Relations, 2019, Universal Access to Early Childhood Education – 2020, (accessed 02 March, 2020) www.federalfinancialrelations.gov.au/content/npa/education/national-partnership/2020_UANP_FINAL.pdf.

Planning for universal access is the most equitable way to expand early childhood education but it is important to ensure that disadvantaged children are first to benefit

There is broad consensus that a universal, rather than targeted approach, to expanding access to ECE is better for equity since it avoids labelling a family or child as "in need", which can have potentially negative social and psychological consequences (European Commission, 2014[13]). However, it is likewise clear that making ECE services accessible to all population groups - and making sure disadvantaged groups benefit first not last - often requires additional, adapted measures. This may require flexible and alternative approaches to provision. For example, adjusting the opening hours of ECE facilities can help to accommodate families with irregular work schedules, who are often in informal, low-paid jobs. Inclusive language policies and clear, simple enrolment procedures are other ways ECE programmes can be made more accessible to disadvantaged groups, such as migrants and ethnic minorities. In G20 countries with large remote or rural areas, community or family-based services can offer an alternative means to expand access while more structured provision is being developed. Saudi Arabia is exploring ways in which digital platforms can be used to enrich the educational resources available to children outside the formal system. Partnerships with civil society organisations and the private sector offer another way to improve both inclusivity and coverage. However, when multiple providers are involved, it is important for governments to establish a strong co-ordination and regulatory framework to guarantee basic standards and a coherent approach to the sector's development (UNICEF, 2019[3]); (OECD, 2011[8]).

Raising awareness about the benefits of early childhood education and linking its provision with other services is an effective way to encourage participation and benefits for disadvantaged families and raise greater public demand for quality ECE

As well as expanding and adapting the supply of ECE, additional outreach efforts are often needed to overcome some of the less visible barriers to equal participation, such as a lack of awareness about the benefits of ECE and possible socio-cultural reservations about sending a young child out of the home. To increase demand, parents and caregivers need to understand the advantages of participating in ECE and see that their children are included and belong. For the most marginalised families - those living in poverty, with a migrant and/or second language background, or parents and caregivers with very low levels of education themselves - outreach can be more effective and beneficial when linked with other services. Box 2.2 discusses the range of services provided by Head Start in the United States. In emerging G20 economies, barriers to ECE participation often go beyond access to include other factors, such as malnutrition and poor health. Holistic and effective ECE services can help children in these contexts develop and thrive. Providing nutritious meals and good water and hygiene facilities in preschools, for example, can encourage the participation of poor children and support their education and development, while also helping to build trust between families and ECE providers (UNICEF, 2019[3]).

Box 2.2. Head Start, an integrated approach to equitable access to ECE in the United States

Head Start is a programme implemented in the United States across child care centres, family centres and schools. The programme aims to support the learning and development of disadvantaged children aged 0 - 5 by providing a range of services:

- Health and nutrition: such as nutritious meals, health checks and oral and mental health support.
- Supporting stable family relationships and well-being: by providing access to services for mental health, substance abuse, domestic violence and affordable housing.
- Early learning: the programme provides children with opportunities to interact with adults and other children through play and structured learning in ECE settings.

Each year the Head Start programme is provided to over a million children, including around 155 tribal communities.

Source: (Office of Head Start, 2019[21]), Head Start Programmes, (Accessed 27 February 2020) https://www.acf.hhs.gov/ohs/about/head-start .

Clear rights and obligations

Clear, unambiguous legislation on the right to free or publicly subsidised early childhood education is one way to encourage equitable access

Legal entitlements are one way that governments can give adequate priority to ECE, as it sends a strong message about the fundamental importance of child development at this stage in life. Legislation and policies affirming the right to ECE can also galvanise broader efforts by civil society to help expand provision. Many G20 countries have legislation in place guaranteeing the right to universal access, though the precise nature of the entitlements varies across and sometimes within countries. In Italy, Mexico and France, all children ages 3 to 5 can benefit from free ECE services. Other countries offer more restricted entitlements, ensuring the right to a place in ECE but limiting what years are offered at no-cost to families or targeting free services based on family need, as is the case in the United Kingdom. Additional entitlements for ECE might also be set at a regional level. This is the case in Germany, where some Lander offer free provision for certain age groups, in addition to a Federal entitlement that offers a place in ECE for all children from age 1 to school entry (OECD, 2016[22]).

An increasing number of countries have moved beyond legal entitlements, to make one or more years of pre-primary education mandatory

Lowering the starting age of compulsory education is one way to achieve equitable participation. Offering compulsory and free pre-primary education has been an accelerator for raising ECE enrolment in some lower-middle income countries; however, this requires high levels of investment and capacity (UNICEF, 2019[3]). Many governments therefore choose to introduce mandatory pre-primary education only once participation rates are already high and services are widely available. France, for example, has a well-established ECE system with nearly universal enrolment for children ages three to five. Recently, the French government lowered the start of compulsory education to age three with the goal of reducing inequalities and providing all children with high quality early learning opportunities (Ministère de l'Éducation, 2019[23]).

Other countries have introduced compulsory pre-primary education as a means to drive expansion in the supply and demand for ECE. South Africa, for example, announced plans to rapidly expand ECE access with the goal of eventually making the transition year before primary school (Grade R) compulsory. This policy was announced despite low levels of participation with the aim of spurring action across the government to swiftly increase access. Countries taking such an approach need strong, well-financed plans, along with monitoring frameworks that enable governments to identify and address challenges as they emerge. Initially, South Africa's efforts to introduce Grade R resulted in a two-tier system that exacerbated learning gaps, as ECE classes in poorer districts and communities did not receive the additional resources required to ensure quality provision (Biersteker, 2010[24]; Van der Berg, Servaas, 2013[25]). This was later addressed through changes in funding allocations, highlighting the importance of considering access, equity and quality when committing to make ECE compulsory (UNICEF, 2019[3]).

Measures to ensure affordability

When feasible, a guarantee of unconditional free pre-primary education is increasingly shown in research and practice to be one of the most effective ways to ensure equitable access

Even low fees can represent a significant barrier to participation in ECE for children from disadvantaged families, suggesting that universal free access to pre-primary education is an important policy to work towards (UNICEF, 2019[3]) and (European Commission, 2014[13]). This is already a reality in several G20 countries and most OECD countries, which now offer cost-free access to all children for at least the last year before entering primary school (OECD, 2017[4]). Universal free access - with direct public funding rather than paying benefits to parents - is associated with higher participation rates, more efficient management and better quality at the national level (European Commission, 2013[26]). Moreover, the increased diversity and social mix within this context has positive effects on children's learning processes and social interactions (European Commission, 2014[13])

Where public funds are limited and fees are needed, or in contexts where there is a strong reliance on the private sector to meet demand, pro-poor policies - such as progressive fee structures or subsidies - are important to remove financial barriers that can stand in the way of disadvantaged families' access to ECE. In Indonesia, for example, the government allocates additional funding to registered ECE facilities serving poor children and those with disabilities (Kobe University, 2016[27]). In Saudi Arabia, vouchers are provided for registered, private ECE institutions to increase enrolment among disadvantaged children in rural areas. These vouchers create more ECE places, equal enrollment opportunities and encourage the private sector to enhance public education (Ministry of Education of Saudi Arabia, 2019[28]). However, targeted approaches can sometimes have unintended consequences, for example children from advantaged backgrounds may end up benefiting more than those from disadvantaged backgrounds. Careful planning and monitoring are important to address such risks.

Adequate public spending on pre-primary education is a condition for reducing cost barriers for families

Providing free or publicly subsidised access requires substantial government investment in the pre-primary education sector. Despite ECE yielding high economic returns and supporting social and educational equity, it often receives relatively limited public investment and remains more dependent on private spending compared to the school and even the tertiary sector. While there is no conclusive evidence about the amount of public spending needed to raise ECE enrolments, higher investment is correlated with higher rates of participation. One way that countries can measure the adequacy of their investments is by considering how much they spend on ECE as a share of gross domestic product (GDP). While most G20 countries spend less than 0.5 % of GDP on pre-primary education, enrolment is frequently higher in

countries that spend more (see Section 2.3). In many G20 countries, increasing public spending on ECE will require reappraising how funds are allocated within the education budget since increasing overall expenditure is often very difficult.

Mechanisms to ensure adequate and equitable funding may be required in contexts where local governments are responsible for ECE services

In many countries, the funding and delivery of pre-primary education is decentralised. In such contexts, robust governance and accountability mechanisms across decentralised levels are important to ensure efficient allocation and use of ECE resources at all levels of government. There is often a need for some redistributive role from the national government to equalise funding per child across administrative areas. Brazil has identified ways to reduce disparities in funding across municipal governments, which are responsible for pre-primary education. Municipalities pay into a state fund that is redistributed according to the number of children enrolled and additional transfers are made if there are any unanticipated shortfalls at the local level (UNICEF, 2019[3]). Figure 2.1 discusses the capacity challenges faced in South Africa at provincial levels to use central funds effectively. Regardless of how countries decide to generate and allocate funding for pre-primary education, it is important that this process is well-coordinated and aligns with broader goals to improve equity.

Box 2.3.South Africa's responsibility for funding EC

In 2001, South Africa introduced a new national pre-primary year - Grade R. In the first three years following its introduction, Grade R was funded by conditional grants to subnational levels of government. However, insufficient staff numbers and weak capacity at provincial levels meant that in 2001 less than a third of the available funds were actually spent. Efforts to improve planning and implementation at provincial levels helped to improve local capacity and by 2004, 75 % of grant funding was used.

Grade R continues to be funded centrally, by the Department of Basic Education, with provincial allocations to promote equity. Provincial allocations are provided to public primary schools (where more than 90 % of Grade R classes are placed) to employ teachers and purchase materials, and to community-based centres (where the remaining Grade R classes take place) on a per capita basis. Ensuring that provinces continue to implement the central funds for staff salaries and learning materials as intended and equitably remains a challenge.

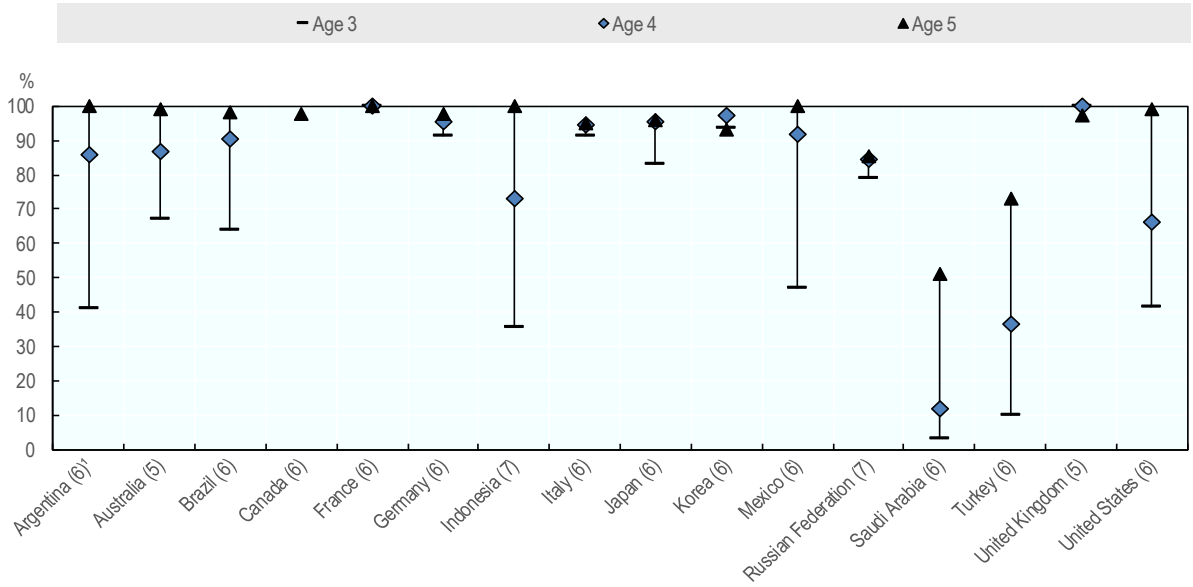
Source: (UNICEF, 2019[3]), A World Ready to Learn: Prioritizing Quality Early Childhood Education, New York, (accessed 02 March, 2020) https://www.unicef.org/media/57926/file/A-world-ready-to-learn-advocacy-brief-2019.pdf.

What do data reveal about participation and equity in ECE in G20 countries?

Universal or near-universal participation among 5 year-olds is now the norm across most G20 countries

Among G20 countries with available data, the majority have over 90% enrolment in pre-primary education for 5 year-olds. It is important to note that compulsory education begins at age five in some countries, which contributes to high enrolment levels. However, participation rates tend to be lower for younger age groups. At age 4, seven countries have a participation rate below 90%, and at age 3 this increases to 10 out of 15 countries with data (Figure 2.1). National data from China suggest that in 2019, 5 year-olds made up 39% of enrolments in pre-primary education, while the share of 3 year-olds only comprised 22% (Ministry of Education of the People's Republic of China, 2019[29]).

Figure 2.1.Enrolment by age, early childhood education and care or primary education (2017)



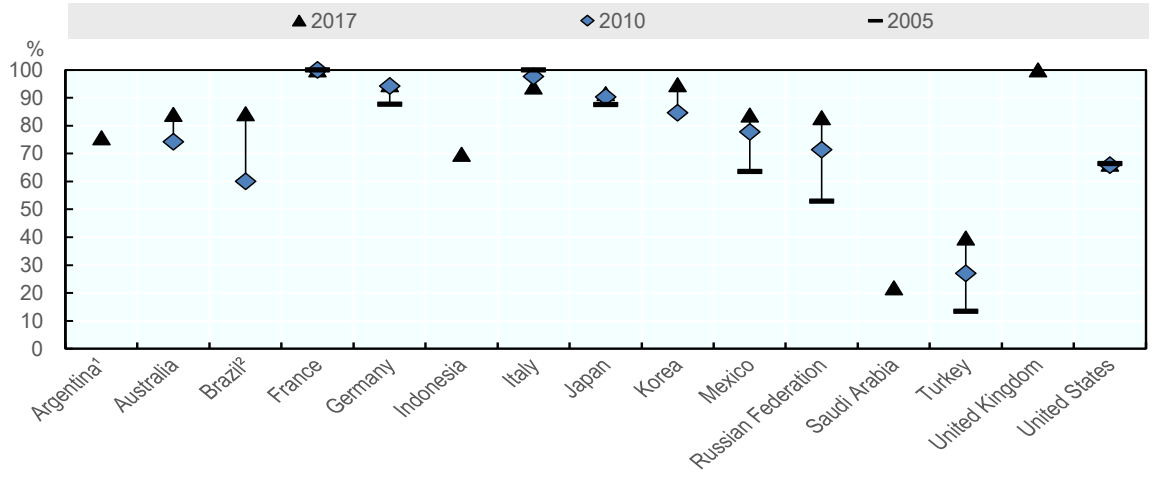
Notes: Figures in parentheses refer to the typical starting age of primary education.
[1]Year of reference 2016.
Countries are in alphabetical order.
Sources:
(OECD, 2019[6]), Education at a Glance 2019: OECD Indicators, OECD Publishing, Paris, (accessed 02 March, 2020) https://doi.org/10.1787/f8d7880d-en.
(UNESCO Institute for Statistics (UIS), n.a[11])UNESCO Institute for Statistics (UIS) database, (accessed 15 January 2020) http://data.uis.unesco.org.
(UNESCO-UIS, 2012[7]), International Standard Classification of Education ISCED 2011, UNESCO Institute for Statistics, Montreal, (accessed 15 January 2020) http://uis.unesco.org/en/isced-mappings.

Enrolment has increased among 3-5 year-olds in most G20 countries

Most OECD countries have seen positive trends in the enrolment of 3 - 5 year-olds in recent years (Figure 2.2.). The fastest growth has been in countries where participation had historically been limited, driven by deliberate policy efforts and rising societal demand. In Turkey, enrolment tripled between 2005 and 2017, while in Brazil, Mexico and the Russian Federation enrolment increased by at least 20 percentage points during the same period. Similarly, national data for Saudi Arabia shows that enrolment for this age group doubled, from 11% in 2010 to around 29% by 2022. More developed economies, starting from a higher baseline, have seen more modest growth, though there is considerable variation between countries. France is the only G20 country that has maintained universal enrolment for 3 - 5 year-olds since 2005. In the United States there has been no notable change in enrolment for the past fifteen years, though for a large Federal country, the national average reveals only part of the picture.

Figure 2.2. Trends in enrolment rates of 3-5 year-olds (2005, 2010 and 2017)

Enrolment in public and private early childhood education and care (ECEC) and primary education institutions



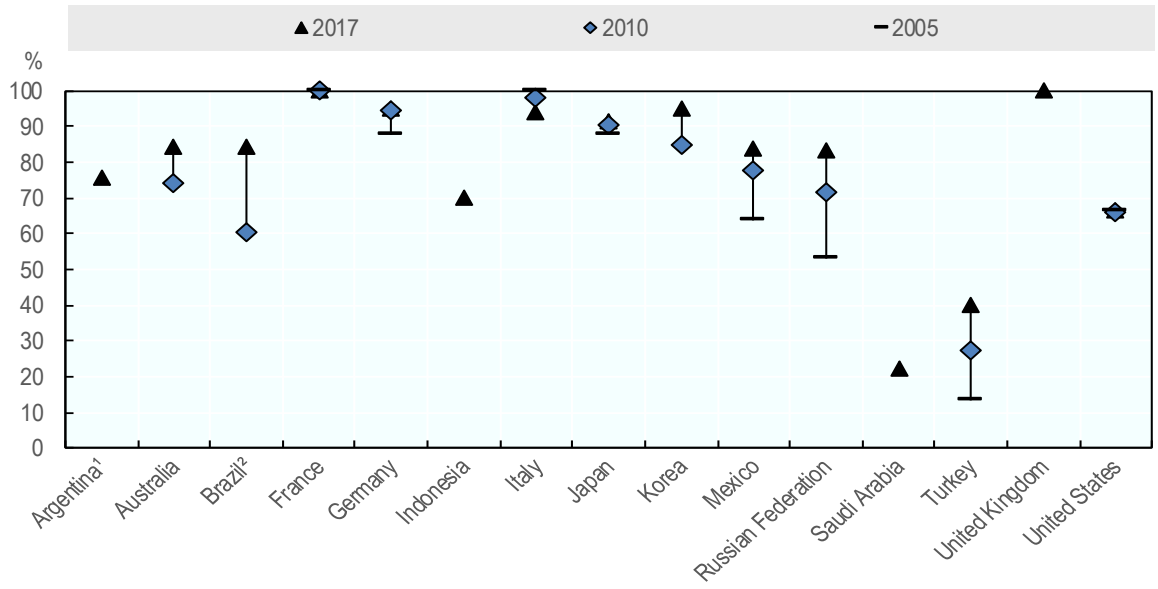
Notes: [1]Year of reference 2016 instead of 2017.
[2]Year of reference 2012 instead of 2010.
Countries are in alphabetical order.
Source: (OECD, 2019[6]), Education at a Glance 2019: OECD Indicators, OECD Publishing, Paris, (accessed 02 March, 2020) https://doi.org/10.1787/f8d7880d-en.

Economically and socially advantaged students are more likely to participate in ECE than their less advantaged peers

Data from the OECD Programme for International Student Assessment (PISA) suggests that two years of ECE significantly increases the chance of reaching a good level of academic performance at age 15. However, the data also reveal that the most advantaged students - those in the top quarter of the distribution on the PISA index of economic, social and cultural status within their countries/economies – are more likely to report having participated ECE than their most disadvantaged peers (Figure 2.3) (OECD, 2018[30]). This disparity is more than 20 percentage points in Turkey and more than 10 percentage points in Australia, Brazil, Mexico, the United Kingdom and the United States. However, the socio-economic gap

in ECE participation is less than five percentage points in France, Germany, Italy, Japan, South Korea, Russia and Zhejiang and the Chinese special administrative regions of Hong Kong and Macao.

Figure 2.3.Percentage of 15-year-old students who attended early childhood education for two years and more, by student socio-economic profile (PISA 2018)

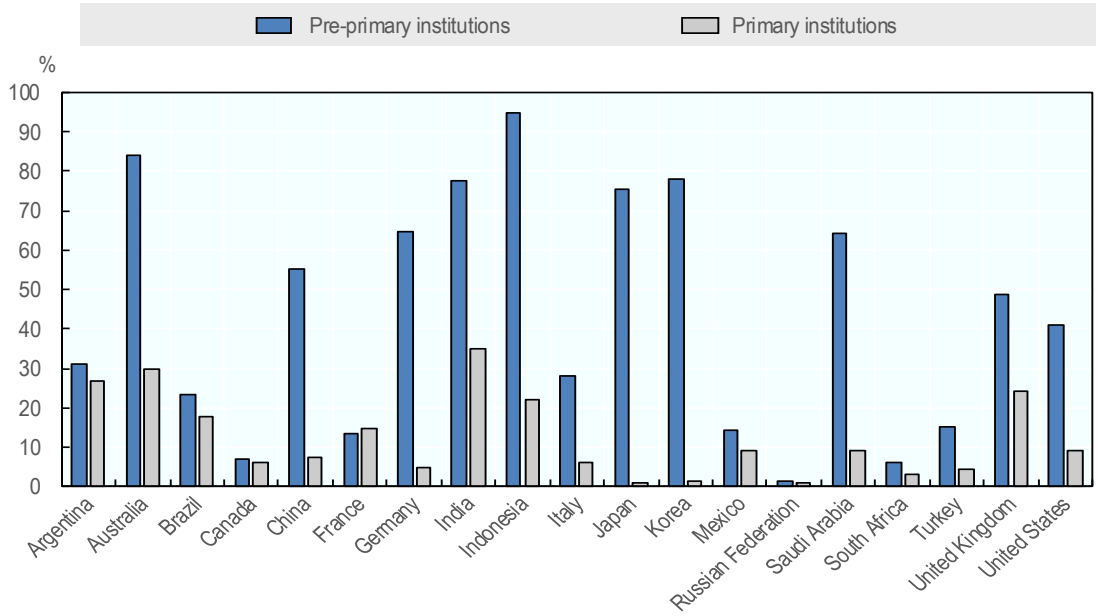


Note: Countries are in alphabetical order
Source: (OECD, 2018[30]), PISA online education database, 2018, OECD, Paris, (accessed 02 March, 2020) http://www.oecd.org/pisa/data/.

Private institutions account for a large share of pre-primary enrolment in many G20 countries, in contrast to primary schooling

The institutional context for pre-primary education tends to be more complex than for primary education, with a wider diversity of providers. In many G20 countries, the private sector accounts for a large share of pre-primary enrolments, and in all countries for which data are available, the share of children in private institutions is higher – often much higher – at the pre-primary level than at the primary level, where provision is predominantly public (Figure 2.3 and Figure 2.4.). For example, in Japan and Korea, around 75% of children enrolled in pre-primary education are enrolled in private institutions, compared with just 2% or less in primary education. In eight G20 countries, private provision accounts for more than half of all pre-primary enrolments, with more than three in four children attending private pre-primary institutions in Australia, India, Indonesia, Japan and Korea. In contrast, pre-primary provision is mostly public in Canada and the Russian Federation, with less than 10% of children participating in private pre-primary institutions. While a large private sector has been an important means to expand access for many countries, it can raise significant challenges for governments in terms of ensuring equity, as well as curricula coherence and consistent quality.

Figure 2.4. Share of children and students enrolled in private pre-primary and primary institutions (2017)

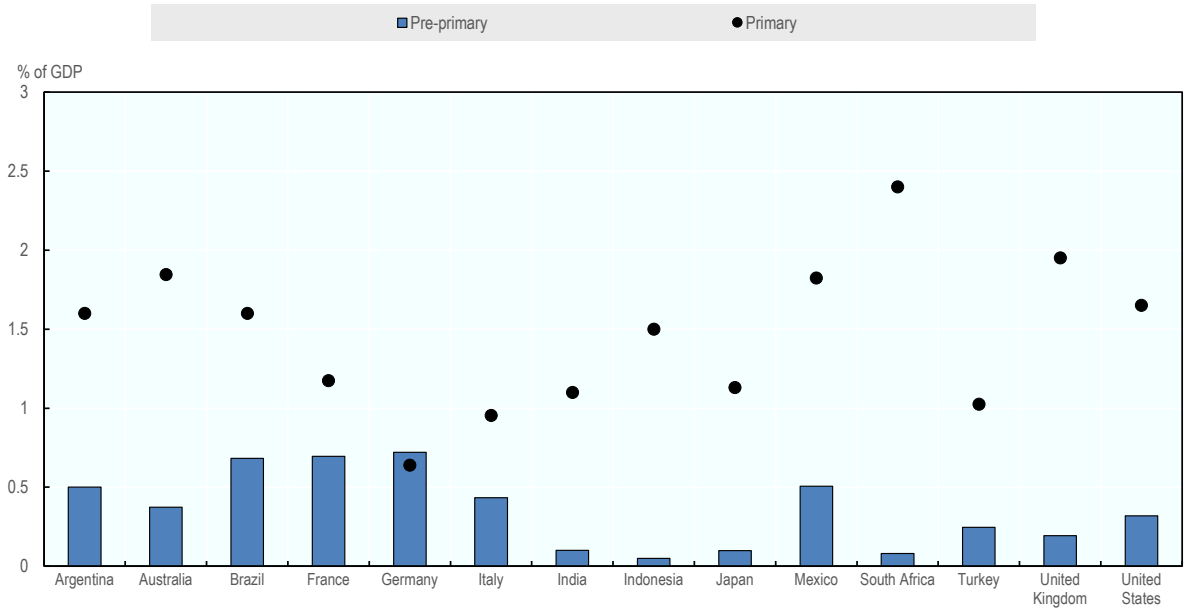


Note: Data provided is from the latest available year.
Countries are in alphabetical order.
Sources:
(OECD, 2019[6]), Education at a Glance 2019: OECD Indicators, OECD Publishing, Paris, (accessed 02 March, 2020) https://doi.org/10.1787/f8d7880d-en.
(UNESCO Institute for Statistics (UIS), n.a[11])UNESCO Institute for Statistics (UIS) database, (accessed 15 January 2020) http://data.uis.unesco.org.
(UNESCO-UIS, 2012[7]), International Standard Classification of Education ISCED 2011, UNESCO Institute for Statistics, Montreal, (accessed 15 January 2020) http://uis.unesco.org/en/isced-mappings.

While higher investment is correlated with higher rates of participation, most countries spend less than 0.5 % of GDP on pre-primary education

Total expenditure on education as a percentage of GDP reveals the share of national wealth devoted to different levels of education (Figure 2.5.). Countries with the highest levels of spending on pre-primary education also have the highest enrolment rates for 4 and 5 year-olds (see Figure 2.1 and Figure 2.5.). Among G20 countries with available data, most countries (15 out of 19) spend less than 0.5% of their GDP on pre-primary education. Overall, ECE receives the lowest share of GDP expenditure across education levels in all G20 countries with data available, except for Germany, where spending on pre-primary education slightly surpasses that of primary (UIS, 2020[31]) (OECD, 2019[6]).

Figure 2.5. Expenditure on education as a percentage of GDP, by level of education (2016)



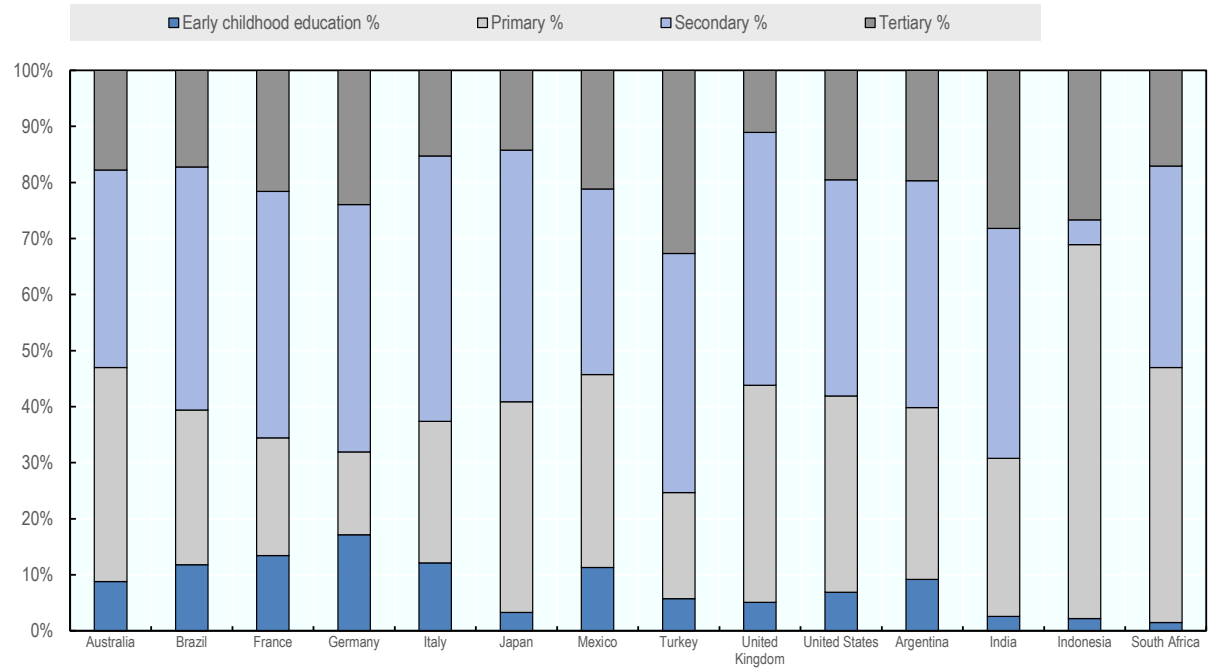
Notes: Expenditure from international sources are not included at pre-primary level.
Data provided is from the latest available year.
Countries are in alphabetical order.
Sources:
(OECD, 2019[6]), Education at a Glance 2019: OECD Indicators, OECD Publishing, Paris, (accessed 02 March, 2020) https://doi.org/10.1787/f8d7880d-en.
(UNESCO Institute for Statistics (UIS), n.a[11])UNESCO Institute for Statistics (UIS) database, (accessed 15 January 2020) http://data.uis.unesco.org.
(UNESCO-UIS, 2012[7]), International Standard Classification of Education ISCED 2011, UNESCO Institute for Statistics, Montreal, (accessed 15 January 2020) http://uis.unesco.org/en/isced-mappings.

Public spending on ECE varies markedly, partially reflecting different priorities in education budgets

In both absolute terms and relative to other education levels, the importance given to pre-primary education in governments varies considerably. One way to compare expenditure across levels of education is to examine expenditure per child. In general across G20 countries, per child spending tends to increase progressively from the pre-primary to tertiary level. For example, in the United States, public spending per child (or student) is USD 6 803 in pre-primary education, USD 11 281 in primary education, USD 12 573 in secondary education and USD 14 630 in tertiary education. Despite being the foundation for later education, pre-primary education is the level receiving the lowest public investment per child.

Examining the breakdown in public expenditure by education level provides another perspective (see Figure 2.6). However, this information needs to be interpreted in relation to population size and other contextual factors. In South Africa, public spending on ECE remains low at around 1.3%, despite high levels of enrolment in public pre-primary institutions. Public allocations for ECE are also low in Indonesia (1.4%) and India (2.6%); however, private spending plays a more important role here. It is also notable that these countries allocate significantly more to the tertiary level than pre-primary education. In more advanced G20 economies, public expenditure still favours tertiary education but this difference is much smaller, reflecting decisions to increase spending in the earlier years where investment is more equitable and effective.

Figure 2.6. Distribution of public expenditure on education, by level of education (2016)



Note: Data provided is from the latest available year. It shows the total expenditure on educational institutions as a percentage of GDP, by level of education.
Countries are in alphabetical order.
Sources:
(OECD, 2019[6]), Education at a Glance 2019: OECD Indicators, OECD Publishing, Paris, (accessed 02nd March, 2020) https://doi.org/10.1787/f8d7880d-en.

(UNESCO Institute for Statistics (UIS), n.a[11])UNESCO Institute for Statistics (UIS) database, (accessed 15 January 2020) http://data.uis.unesco.org.
(UNESCO-UIS, 2012[7]), International Standard Classification of Education ISCED 2011, UNESCO Institute for Statistics, Montreal, (accessed 15 January 2020) http://uis.unesco.org/en/isced-mappings

3 Quality in pre-primary education

What defines quality in ECE and why is it important?

High quality early childhood education takes a holistic approach to children's development

There is consensus across researchers that early childhood education (ECE) should take a holistic approach to children by fostering their learning, development and well-being. Areas of early learning that are of particular importance include: language and literacy; numeracy and other non-verbal cognitive skills; self-regulation; emotional health, social well-being and social and emotional skills (Shuey and Kankaraš, 2018[2]). These domains are interrelated, meaning that ECE should aim to foster children's development and learning in these multiple dimensions and lay the foundations for global competence to support positive individual and societal outcomes throughout life.

While a growing body of research suggests that the magnitude of the benefits to children of attending ECE depends on the level of quality of services, there is also evidence that low-quality ECE can be associated with no benefits or even with detrimental effects on children's development and learning (Britto, Yoshikawa and Boller, 2011[32]; Howes et al., 2008[33]). Taking steps to ensure the quality of ECE provision is therefore essential for countries investing in the development of their ECE sector.

Quality in early childhood education is influenced by structural and process factors

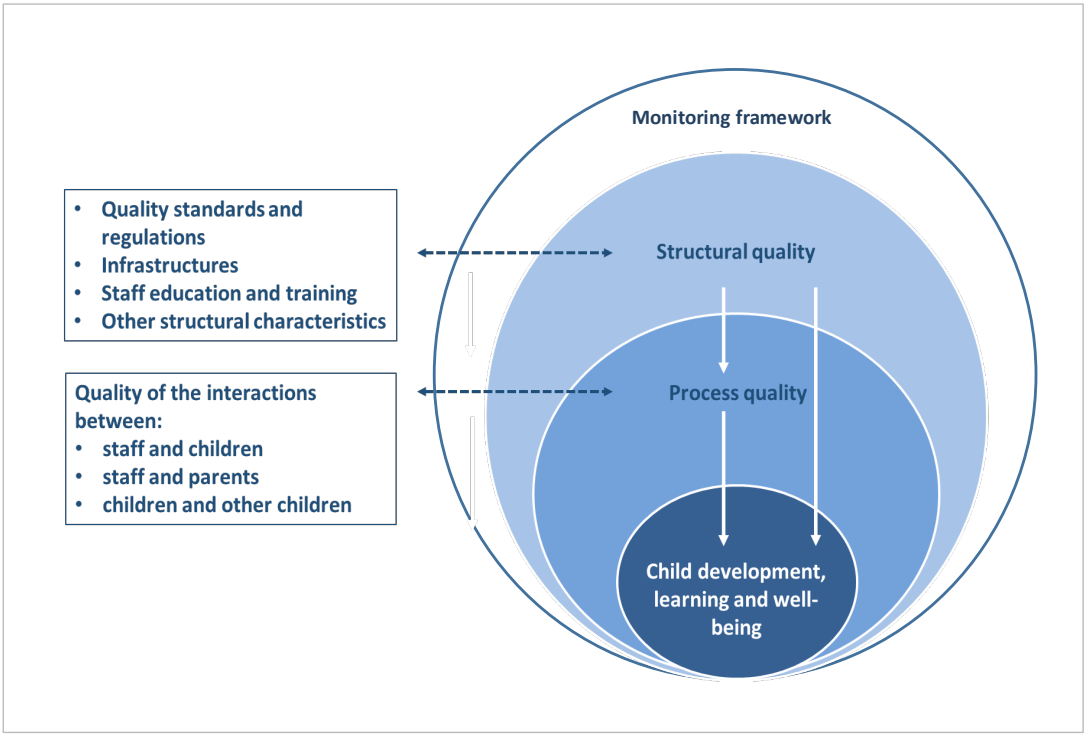
High-quality ECE encourages all children to learn and develop to their full potential along multiple dimensions, regardless of their socio-economic background, native language and other specific needs. While the definition of quality in ECE is evolving, most definitions distinguish between two aspects - structural and process - that contribute to the overall quality of outcomes in ECE for children, their families and society:

Structural aspects of quality refer to characteristics of the ECE environment, such as the number of children per staff member, group size, workforce education and training, staff turnover, programme, children's development monitoring and other structural factors.

Process quality comprises children's interactions in ECE settings with other children, staff/teachers, space and materials, their families and the wider community. These interactions result from activities proposed by staff in settings involving social, emotional, physical and instructional aspects, while building on play and routines.

There is a growing consensus that process quality is closely related to children's development and learning (Pianta, Downer and Hamre, 2016[34]). The evidence shows that, with more positive staff-child interactions or staff providing higher quality or more exposure to developmental and educational activities, children have higher levels of emerging literacy and numeracy skills in ECE settings, as well as better behavioural and social skills (OECD, 2018[35]). Structural aspects of quality can affect the interactions between staff and children, although they do not guarantee the quality of these interactions. Figure 3.1 presents a framework to understand quality in ECE.

Figure 3.1. Framework to understand quality in early childhood education and care



Source: Adapted from (OECD, 2018[35]), Engaging Young Children: Lessons from Research about Quality in Early Childhood Education and Care, Starting Strong, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264085145-en.

What policies contribute to quality?

Policies can influence both structural and process aspects of quality. There is a shared view of the main policy levers to affect quality in ECE. They include: 1) curriculum and pedagogy; 2) workforce development; and 3) monitoring, governance, and funding. However, policy makers generally face tight budget constraints and decisions in spending require that they evaluate the trade-offs of investment in the various drivers of quality.

Curriculum frameworks and pedagogy

Curriculum guidelines or frameworks can lead to a shared understanding of the goals of early childhood education

Curriculum guidelines or frameworks are a powerful tool to improve the pedagogical quality of services in which young children participate. Curriculum guidelines or frameworks are over-arching documents that articulate the vision of curricula within the context of ECE and education systems. They can be broad and general, or quite specific. Curriculum frameworks or guidelines regulate the proposed activities in ECE through the goals, learning areas and materials (e.g. pedagogical support, games) that are specified. They often provide principles to help staff organise their pedagogical work to address developmental goals or learning standards (OECD, 2018[36]). These goals, learning areas and materials affect the quality of children's interactions in the play - or classroom by promoting activities that encourage children to develop relationships with peers, ECE staff, space and materials, parents and family, and the community. In

Australia, the Early Years Learning Framework describes the principles, practices and outcomes that support young children's learning from birth to five years of age, as well as their transition to school. It is designed so that early childhood services are able to develop their own strategies to implement its objectives (Australian Government, n.d.[37]).

Curriculum guidelines or frameworks can encourage practices that place children at the centre and foster their development across multiple areas

The curriculum influences the pedagogical approaches and practices used by early childhood education providers. The OECD's work on early childhood education reflects a consensus view that can be characterised as social constructivist. This view stresses the importance of children's intrinsically motivated activity and initiative as the engine of development, but also of the role of ECE staff to develop emergent skills in language, literacy, numeracy, mathematics and science. The latter are essential for children during their early years and their first years of schooling. They also provide the foundations for later global competencies and twenty-first century skills that are important in the global economy.

Pre-service and in-service training of ECE staff are important to ensure that staff's beliefs about what is important for children are aligned with the goals of the curriculum. There is empirical evidence that the beliefs of ECE staff on what is important for children are associated with their pedagogical practices. The OECD's Starting Strong Teaching and Learning International Survey (TALIS Starting Strong) is an international large scale survey of the ECEC workforce (see Box 3.1). TALIS Starting Strong shows that the ability to co-operate easily with others is at the top of the list of skills and abilities that ECE staff regard as important for young children to develop and that practices facilitating children's socio-emotional development are widely used (OECD, 2019[38]).

Box 3.1.The Starting Strong Teaching and Learning International Survey (TALIS Starting Strong)

The OECD TALIS Starting Strong is an international survey of staff and centre leaders working in ECEC at pre-primary (ISCED 02), and as an option for children under 3. It aims to provide internationally comparable information for policies and decision-making that better support children's learning conditions, well-being and development.

The first round of TALIS Starting Strong was undertaken in 2018 and included nine countries Chile, Denmark, Germany, Iceland, Israel, Japan, Korea, Norway and Turkey. The survey asked ECEC staff and leaders about their characteristics, the practices that they use with children, their beliefs about children's development and their views on the profession and the ECEC sector. Main findings from the data include:

- Around 70% of staff report regularly using practices that facilitate children's socio-emotional or language development.
- In pre-primary centres, the average size of the group of children that staff work with varies from 15 children to more than 20.
- ECEC staff have typically completed education beyond secondary school. Japan, Korea and Turkey have the highest rates of ECEC staff with post-secondary education.
- In all countries, a majority of staff (more than 75%) report having participated in professional development activities in the last year. Staff who are less educated tend to participate less in professional development activities.
- ECEC centres are generally stand-alone buildings. In several countries, co-location with a primary school is associated with more frequent meetings and communication with primary school staff and transition-related activities for parents and guardians.

- Monitoring activities tend to focus more frequently on assessing the facilities and financial situation of centres than on the quality of interactions between staff and children (i.e. process quality). More than 20% of leaders in Germany and Japan report that their centres have never been evaluated on process quality.

A next cycle of TALIS Starting Strong is planned for 2024 and countries are welcome to join in 2020.

Source: (OECD, 2019[38]), Providing Quality Early Childhood Education and Care: Results from the Starting Strong Survey 2018, TALIS, OECD Publishing, Paris, https://doi.org/10.1787/301005d1-en.

Guidelines and frameworks can also help ECE staff engage with parents to foster children's development

Parents play a critical role in children's learning, development and well-being. The curriculum framework should help ECE staff to engage with parents to foster children's development, for example by raising parents' awareness about the role and importance of activities in the ECE centre. ECE staff discussions with parents can also support parents in their interactions with their children so that all children benefit from the best learning and development opportunities.

Curriculum and guidelines can encourage positive staff-parent interactions by recognising the role of parents for children's development and providing guidance for ECE staff to successfully engage parents in the centre's activities. For example, in Wales (United Kingdom) the Flying Start programme supports families with young children (zero to four) in disadvantaged communities. One of the programme's core elements is parenting support and support for the development of children's speech, language and communication. Several studies have shown that this programme is positively associated with children's language skills and social and emotional development (OECD, 2017[39]).

Quality and professionalisation of the workforce

Staff are at the centre of efforts to enhance pedagogical practice and promote young children's development. Common challenges that countries face in establishing a high-quality workforce include: raising the level of qualifications of staff; recruiting, retaining and diversifying a qualified workforce; continuously up-dating the skills of the workforce; and ensuring the quality of the workforce in the private sector.

The level, type and content of pre-service training are important drivers of quality

Research shows that higher pre-service education among staff is associated with higher quality interactions between staff and children in ECE settings (Manning et al., 2017[40]; OECD, 2018[35]). The exact level of staff education required to enhance quality is unclear, however, increases in teacher training beyond secondary education (ISCED level 3) appear important for improvements in early childhood quality (OECD, 2019[38]). In most G20 countries, ECE teachers have the same minimum qualifications as primary teachers - a Bachelor's degree or equivalent (ISCED level 6) (see Table 4.1).

In many countries, the ECE workforce includes significant diversity of staff profiles, such as teachers and assistants. Staff education requirements depend on their role and the way interactions between staff and children are organised. A number of G20 countries, such as China and France make extensive use of teaching assistants. In these countries, while the child-teacher ratio is comparatively high (more than 20 children per teacher), the use of teaching assistants mean that the child-to-staff ratios are substantially lower (OECD, 2017[4]). Countries developing their ECE systems and facing shortages of ECE teachers might also consider recruiting assistants to work with teachers.

The focus and content of training for early childhood professionals also contributes to the quality of ECE settings, for example whether training focuses on early childhood or specifically prepares staff to work in ECE settings. Data from TALIS Starting Strong shows that staff with a higher level of education and trained specifically to work with children report tailoring their approach in the classroom or playroom to individual children's development and interests (OECD, 2019[38]).

Practical learning experiences, such as work-based learning, as part of pre-service training programmes can be particularly valuable for ECE staff. Such experiences can help staff learn how to manage a group of children in the classroom/playroom setting, adjust practices to children's changing needs and effectively foster children's learning, development and well-being. Work-based learning (or apprenticeships) can also provide a mechanism to attract new staff to the profession, ensure they are familiar with the day-to-day demands of the job and grow the ECE workforce as programmes involve working and studying at the same time. Finally, participants in work-based learning can help to support ECE staff by providing additional adults in the classroom/playroom, enabling staff to provide children with more individualise attention.

Staff need high quality and flexible opportunities to develop their skills and knowledge along their careers

Initial training should be complemented by in-service professional development to help staff develop their knowledge and skills throughout their careers. Professional development can also provide an alternative channel to recruit candidates into ECE which can be important in countries that do not have enough candidates that complete initial pre-service training programmes. Professional development can also help relieve some sources of stress and thereby improve staff interactions with young children.

Professional development activities that provide individualised support, such as coaching or personal feedback are found to be more effective in changing staff practices (Egert, 2015[41]). However, the effectiveness of professional development differs across countries and settings and further research is required to understand how investments in professional development can be most impactful (Slot, Lerkkanen and Leseman, 2015[42]).

Policy makers need to engage with the early childhood education workforce to identify priorities for creating attractive working conditions

In order to attract and retain the most suitable candidates to the early childhood education workforce, countries not only need to offer adequate pay but also provide an environment where leaders and other staff are given the autonomy, and have the time and space to work as professionals.

As for other jobs, the quality of ECE jobs is influenced by: labour market security; quality of the working environment; and earnings quality. Regarding labour market security, staff turnover rates are seen as a common challenge in the ECE sector but how staff fare in terms of labour market security, including their contractual status and likelihood of permanent employment, is not well understood. While little is also known about the quality of the working environment for ECE staff, the TALIS Starting Strong survey provides information on the sources of work stress that staff face (OECD, 2019[38]). Across all countries, a lack of resources is one of the top three factors that create "a lot" of stress for staff. Another common source of stress is having too many children in the classroom/playroom. Finally, earnings quality tends to be low for ECE staff and in many countries lower than in primary education.

These challenges suggest that job quality in the ECE sector can be improved by reducing child-staff ratios and group size; providing competitive wages and other benefits; setting reasonable schedules/workloads to work as professionals; providing relevant learning support and material for staff to use with children; and employing a competent and supportive centre manager. However, most countries have limited room for increased public expenditure, and ECE budgets compete with the budgets of other levels of education and

other public policies. In this context, policy makers need to engage with the profession to identify and agree policy priorities and how to implement them.

Monitoring and quality assurance framework

The monitoring framework should be comprehensive

Given the complexity of the ECE system and the high level of autonomy devolved to local authorities and centres in some countries, monitoring can play an important role in ensuring quality across early childhood services. Monitoring needs to be comprehensive and include structural and process quality, staff, as well as child development, learning and well-being. Monitoring can help policy makers steer the ECE system to help staff improve interactions in the classroom/playroom and support children's development.

An important structural factor that a government can regulate is the staff-child ratio. A smaller number of children per staff member facilitates positive staff-child relationships. Multiple studies of individual countries, including G20 countries such as China and the United States, and a meta-analysis of 17 studies from Europe and North America suggest that a smaller number of children per staff member tends to be associated with higher process quality for centres catering to children aged 3 to 5 (OECD, 2018[35]). While the association was not found everywhere, there is no evidence of any negative effects. Too many children in the group can also be an important source of stress for staff (OECD, 2019[38]). As an overall reduction of the size of groups can be costly, flexible organisation of activities and practices can ensure that staff interact with small groups of children for at least part of the day.

The monitoring and assessment framework needs to cover structural and process aspects of quality

TALIS Starting Strong shows that although participating countries have established structures and mechanisms to assess ECE centres, monitoring efforts are focused on a limited number of domains (OECD, 2019[38]). Aspects linked to the state of the facilities and financial management of the settings seem to be regularly monitored in most countries. Structural features of quality (child-staff ratio, qualification levels of staff) and process quality (e.g. interaction with children, content of activities) appear to be unevenly monitored across countries.

In addition to developing minimum standards on structural aspects of quality, countries should consider to what extent their monitoring systems are able to track the implementation of such regulations and their implications for process quality. In France for instance, inspections in *écoles maternelles* (preschools) are conducted to monitor the individual performance of teachers. After a direct observation of about two hours, the inspector interviews the teacher to analyse the practices observed. The professional quality of the teacher is also evaluated and suggestions for improvement, as well as other possible pedagogical practices, are discussed. Further training and professional development are also recommended. Monitoring curriculum implementation may offer insights into what can be improved in curriculum and pedagogical practices, or training for the curriculum, which can then enhance quality and child outcomes. At the same time, monitoring should not put a too heavy administrative burden on staff or centres' leaders.

The monitoring and assessment framework of children's development should be designed to improve staff's interactions with children

Research has shown that ECE staff who know children's level of development in specific areas, such as motor development, language development, social development, emotional development and self-regulation, adjust their practices to suit the child's needs. A concern in some cultures is that staff tend to resist child monitoring or assessment because of its associations with "schoolification". The distinction between formative and summative monitoring and assessment is important in the ECE field (Sim et al.,

2019[43]). Summative monitoring or assessment indicates the current level of functioning of the child in terms of development or learning by reviewing documentation gathered from a range of source. Formative monitoring or assessment includes a range of formal and informal child assessment or monitoring procedures conducted by ECE staff during routine activities in order to modify the environment, activities or curriculum to improve young children's learning and development. ECE staff in many countries have traditionally been supportive of formative monitoring or assessment, and most concerned with the potential misuses of summative methods.

Internationally, data on early learning can help countries to reflect on their strategies for early learning, identify goals for system improvements and learn from the policies and practices in other countries. The OECD International Early Learning and Child Well-being Study is an international survey of children at age 5 that identifies key factors that drive or hinder the development of early learning (see Box 3.2).

Box 3.2.The International Early Learning and Child Well-being Study

The OECD International Early Learning and Child Well-being Study (the Study) is an international survey that collects empirical information and in-depth insights on children's learning and development at age 5. With this information, countries will be able to share best practices and work towards the ultimate goal of improving children's early learning outcomes and overall well-being.

The Study assesses children in four developmental domains that are widely recognised as key for early learning and development: emergent literacy; emergent numeracy; self-regulation; and social-emotional skills. The Study also collects information on contextual factors such as children's socio-demographic characteristics, home learning environment and early childhood education participation.

The results from information collected from children's parents and teachers, and direct assessments of just under 7 0000 children in England, Estonia and the United States were published in March 2020. Key findings included:

- Girls have significantly stronger skills than boys in emergent literacy, prosocial behaviour, identifying others' emotions, trust and non-disruptive behaviour.
- Children from high socio-economic groups have significantly stronger skills in almost all measures of the Study, most notably in emergent literacy and numeracy.
- Most 5-year-olds use electronic devices regularly. On average, 83% use an electronic device at least once a week and 42% use a device every day.
- Children who have books at home and whose parents are involved in their ECEC centre or school have higher scores in a number of skills.

Teachers that were sampled for the Study were hugely supportive of it, with over 90% choosing to participate. Teachers stated that they participated in order to highlight the importance of children's early learning and well-being outcomes and their belief that an international study by the OECD would achieve a greater emphasis on outcomes for this age group. Preparation for the next cycle of the Study will begin in 2020.

Source: (OECD, n.a[44]), Web-page: International Early Learning and Child Well-being Study, (Accessed 06th May, 2020) http://www.oecd.org/education/school/early-learning-and-child-well-being-study/.

Data on the early childhood education sector should be developed and used to improve quality

Data can help establishing facts, trends and evidence about ECE services, staff, child development and curriculum implementation. In most countries, data on the ECE sector are lacking. An important initial step to better understand the ECE sector is to develop a list of settings that exist in the country and their different types (e.g. public versus private, age covered, whether they qualify for pre-primary education according to the ISCED classification). In some countries, the prevalence of centres that are not registered makes it difficult to establish a comprehensive view of the sector. Then data need to be collected with the view to inform policy decisions. Countries can ensure they progressively collect systematic information on the various drivers of quality to inform policy for quality improvements. International data collections, such as the OECD's TALIS Starting Strong and the Early Learning and Child Well-being Study, can provide data to better understand the ECE sector and early learning and identify better policies (see Box 3.1 and Box 3.2).

What do data reveal about the quality of pre-primary education in G20 countries?

On many aspects of the quality of pre-primary education, there are no international data and where they exist, they cover only a limited number of countries. This section presents some of these limited data.

Minimum qualifications to work in pre-primary education vary

The type of qualification, duration of training and the programme content all matter for preparing staff to work with children. The qualification awarded at the completion of teacher-training programmes varies across countries for which data are available, ranging from upper secondary education (ISCED level 3) in Brazil to a master or equivalent (ISCED level 7) in France (Table 3.1). For teachers' aides, the education requirement is lower and several countries with available data require a vocational programme.

Table 3.1.Minimum ISCED qualification required to work in pre-primary education (2017)

	Teachers	Teachers' aides
Argentina	m	m
Australia	m	m
Brazil	ISCED 3	ISCED 3
Canada	m	m
China	m	m
France	ISCED 7	ISCED 3, vocational
Germany	ISCED 6, vocational	ISCED 3, vocational
India	m	m
Indonesia	m	m
Italy	m	a
Japan[1]	ISCED 5 or 6	m
Korea	ISCED 5	m
Mexico	ISCED 6	ISCED 2 and training
Russian Federation	m	m
Saudi Arabia	ISCED 6	ISCED 4
South Africa	m	m
Turkey	m	m
United Kingdom[2]	ISCED 5 or 6	m
United States	ISCED 6	m

Notes: 1. Data on staff do not cover all ECEC services.
2. The minimum qualification of ECEC teaching staff is ISCED 6 in England and ISCED 5 in Scotland.

Countries are in alphabetical order.
Sources:
(OECD, 2019[6]), Education at a Glance 2019: OECD Indicators, OECD Publishing, Paris, (accessed 02nd March, 2020) https://doi.org/10.1787/f8d7880d-en.
(Ministry of Education of Saudi Arabia, 2019[45]), دليل مدارس الطفولة المبكرة, Saudi Arabia minimum qualification is from the Early Childhood Schools Guide.

Lack of staff to compensate for staff absences is the most frequently reported barrier to participation in professional development

Participation in professional development varies greatly across and within countries (Table 3.2). TALIS Starting Strong asked pre-primary education staff in nine countries about the barriers to participation in professional development (OECD, 2019[38]). The most prevalent barrier is a lack of staff to compensate for absences followed by professional development being too expensive. Compensating for staff absences and providing release time during regular working hours for professional development activities are necessary to encourage greater engagement in ongoing training but can be difficult to implement in the context of staff shortages. Flexible forms of training, such as learning from peers and mentoring, can help staff improve their practices with children. These informal forms of professional development do not require release time from working with children, as they can be easily combined with staff's usual schedules.

The second most frequently cited barrier – professional development being too expensive - indicates that staff also need adequate financial returns to support their investments in professional development. This points to several options for policies: i) financing part of the cost of training to limit the upfront cost for participants; ii) developing flexible training programmes that enable working and training at the same time to avoid a loss of wages; and iii) developing career progressions to ensure that the cost of training is offset by higher future wages.

Table 3.2.Barriers to participation in professional development for pre-primary staff (2018)

Percentage of pre-primary education staff who "strongly agree" that the following are barriers to their participation in professional development

	I do not have the pre-requisites (e.g. qualifications, experience, seniority)	Professional development is too expensive	There is a lack of support from my employer	Professional development conflicts with my work schedule	I do not have time because of family responsibilities	There is no relevant professional development offered	There are no incentives for participating in professional development	There are not enough staff to compensate for my absence
Germany*	1	10	5	6	4	4	5	15
Japan	4	15	12	21	19	5	9	25
Korea	7	12	24	46	12	17	34	55
Turkey	1	8	7	11	9	5	11	23

Note: * Estimates for sub-groups and estimated differences between sub-groups need to be interpreted with care.
Source: (OECD, 2019[38]), Providing Quality Early Childhood Education and Care: Results from the Starting Strong Survey 2018, TALIS, OECD Publishing, Paris, https://doi.org/10.1787/301005d1-en.

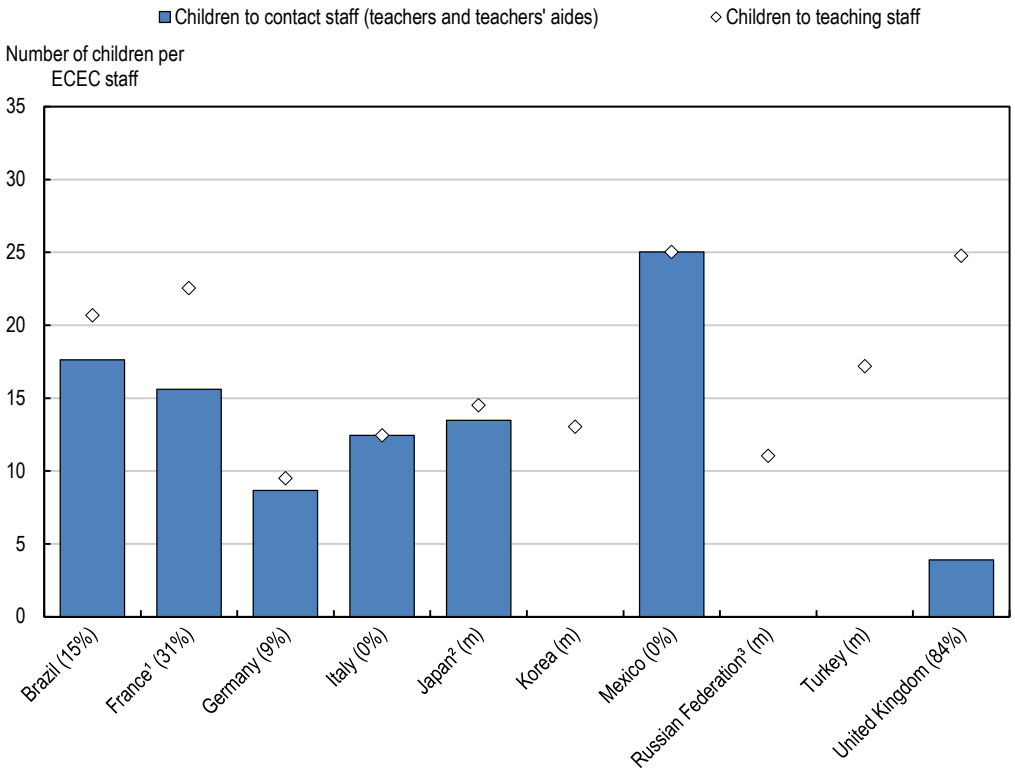
There are large variations in countries' child-to-staff ratios

The ratio of children to teaching staff is an important indicator of the resources devoted to education and the most commonly used in regulations to improve ECE quality. Staff need to be able to work with children as part of small groups to adapt to children's needs and interests and for overall high-quality interactions. There are large variations across countries with, for instance 25 children per staff in Mexico and less than

five children per staff in the United Kingdom. When only teaching staff are counted, these ratios tend to be higher (Figure 3.2).

Figure 3.2. Ratio of children to staff in pre-primary education (2017)

Public and private institutions, calculation based on full-time equivalents



Notes: Figures in parentheses show the percentages of teachers' aides among ECEC contact staff (teachers and teachers' aides).
1. Excluding independent private institutions.
2. Data on staff do not cover all ECEC services.
3. ISCED 0 instead of pre-primary education (ISCED 02).
Countries are in alphabetical order.
Source: (OECD, 2019[6]), Education at a Glance 2019: OECD Indicators, OECD Publishing, Paris, (accessed 02nd March, 2020) https://doi.org/10.1787/f8d7880d-en

4 Transitions from Early Childhood Education to Primary Education

Why transitions matter?

The transition into primary school is a major milestone in the life of any young child and their family. For the vast majority of children in most G20 countries, it means transitioning from an early childhood education (ECE) setting into formal schooling, while for some it means regularly attending an institution beyond their home environment for the first time. For all children, starting school is a significant change in what and how they learn, the adults that guide them and how their day is organised. Managing this transition well is important for children's well-being and to help them achieve their potential at school (OECD, 2017[39]).

The importance of transitions for children's learning, development and the equity of educational outcomes has led to increasing research and policy interest on the quality of transitions into schooling. Transitions are an especially salient topic for governments investing in early childhood education because evidence shows that some of its benefits can fade out in the early years of schooling if transitions are not well-managed, or quality in the first years of schooling is low (OECD, 2017[39]). This is a particular concern for children from disadvantaged backgrounds, who are also less likely to benefit from high-quality ECE education in the first place.

What policies contribute to a smooth transition?

The growing policy focus on transitions has revealed that a key challenge in many countries is cooperation and collaboration. Multiple actors are involved in transitions – children and their families, pre-primary settings, primary schools, social services, national and local authorities. Policies that contribute to a smooth transition focus on promoting coherence and communication across these actors.

Provide age-appropriate pedagogical practices

Encourage pedagogical continuity across the transition years

Pedagogical continuity refers to the curricula, developmental goals and pedagogical approaches, teachers' practices, and structural aspects like staff-to-child ratios and group sizes that shape children's experiences in pre-primary and primary school (OECD, 2012[46]). How far curricula and developmental goals are aligned across pre-primary and primary significantly impact the degree of continuity that children experience as they transition across settings (Kagan, S. L., 2006[47]). Alignment has also been found to improve children's pedagogical literacy and mathematics skills (Ahtola, A., 2011[48]).

One aspect of pedagogical continuity is the curriculum framework or guidelines that cover pre-primary and primary education. The curriculum covers the contents and methods for children's development, learning and well-being. In all G20 countries, there is a curriculum framework or guidelines in place for pre-primary (ISCED 02) and primary (ISCED 1) (Shuey et al., 2019[49]) (Haque et al., 2013[50]) (UNESCO, 2011[51])

(Zhu, 2009[52]) (OECD, 2016[53]) (National Council of Educational Research and Training, 2019[54]) (UNESCO, 2005[55]) (Yudina and Bodrova, 2018[56]) (Department of Basic Education, 2015[57]). The G20 countries take different approaches to achieve curricula alignment i.e. coherence and continuity across pre-primary and primary (see Box 4.1).

Box 4.1.Approaches to curriculum alignment across countries

Countries take different approaches to organising their curricula across the last year of ECE and primary school. These approaches can be broadly categorised as:

- Integrated curricula. A single document that provides common themes, goals and perspectives for at least the last year of ECE and the first years of primary education with separate content for each age group. Examples cover a very broad age group, for example in Italy there is an integrated curriculum for ages 3 to 14 years, or a much narrower range, such as in Wales (United Kingdom) that covers 3 to 4 years.
- Explicitly aligned curricula. Countries in this category have separate documents for each level of education. Each level provides age-specific goals and perspectives that are thematically aligned to facilitate pedagogical continuity. For example, while Japan has separate curricula for pre-primary and primary education, the curricula are aligned through common goals and values.
- Curricula is not aligned or integrated. There are separate documents for each level of education, and developmental goals and themes do not intentionally or explicitly consider the transition between ECE and primary education. This is the case in Turkey.

Sources:
(OECD, 2017[39]), Starting Strong V: Transitions from Early Childhood Education and Care to Primary Education, Starting Strong, OECD Publishing, Paris, https://doi.org/10.1787/9789264276253-en .
(Shuey et al., 2019[49]), Curriculum alignment and progression between early childhood and care and primary school: A brief review and case studies", OECD Education Working Papers, No. 193, OECD Publishing, Paris, https://dx.doi.org/10.1787/d2821a65-en.

In many countries, a challenge to ensuring age - and developmentally-appropriate pedagogy across education levels is a traditional difference in pedagogical focus and perspectives. ECE has tended to emphasise a more comprehensive approach by encouraging children's cognitive, social and emotional development, while primary school has tended to be more academically-oriented (Publishing, 2017[58]). This creates the risk that efforts to promote continuity across levels leads to the 'schoolification' of ECE, when ECE curricula and pedagogy become increasingly aligned with that of primary school (Woodhead, 2007[59]); (Shuey et al., 2019[49]). To avoid this risk, countries need to ensure that curricula are age-appropriate - balancing play, self-regulation and pre-academic activities, and encourage pedagogical practices that correspond to children's developmental needs at each stage (OECD, 2017[39]). Victoria (Australia) provides an example of how the ECE curriculum can be used to inform primary school curriculum, rather than just simply extending primary school content to ECE (Shuey et al., 2019[49]).

Another important aspect of continuity are the activities and learning that children engage in. Learning activities should provide some stability, for example, stability in instructional practices can help children predict what they are expected to do and reassure them. At the same time, activities and learning respond to children's developing cognition and prior learning - so that they gradually become more self-directed and instruction becomes more complex (OECD, 2017[39]). Guidance and examples in how to deliver the curriculum can help teachers and staff adapt pedagogy to children's developmental levels, while ensuring stability for pedagogical continuity. For example, Scotland's (United Kingdom) integrated curriculum includes design principles for teachers and staff to use when creating learning experiences. These

principles allow flexibility at the level of ECE programmes and schools that can promote or limit continuity, depending on their implementation (OECD, 2017[39]).

Equip pre-primary and primary staff and leaders with knowledge and skills of transitions

Providing staff with specialised preparation on transitions seems to have a positive impact on the quality of children's transitions (OECD, 2017[39]). Professional development supports staff to develop high-quality skills overall, and can provide them with specialised content on transitions, which might not have been part of their pre-service preparation. As well as filling in gaps in staff knowledge, professional development can update staff knowledge and skills on transitions in line with recent research and best practices. Research has found that ECE staff that have received training with specific content on transitions or early childhood development are more likely to use transition practices like communicating with parents and making written records available (Rous, B., 2010[60]). Staff with ECE training were also reported to have a better understanding of developmentally-appropriate teaching and learning (Britto, 2012[61]).

Comparative data on the availability of staff training on transitions across G20 countries are limited. However, among the G20 countries that participated in the OECD's survey on transitions from ECE to primary education, Turkey is the only country where ECE staff are provided with training on transitions as part of both their pre-service and in-service training. In two other countries - Germany and Italy - ECE staff receive training on transitions during pre-service preparation, while staff in Japan are trained in transitions during in-service training (OECD, 2017[39]).

Integrated professional development programmes where teachers and staff from pre-primary and primary levels attend the same training courses together are particularly effective to help make sure that staff across the different levels share the same core knowledge on transitions. Research also suggests that joint training sessions can help to harmonise pre-primary and primary teachers' status and encourage mutual recognition (Neuman, 2005[62]).

Develop monitoring tools to help staff respond to children's individual needs

Monitoring information about children's development and learning can help ECE and school staff better understand each child's specific needs and adapt their practices in response. Sharing information about child development from ECE settings with primary schools is particularly important so that schools are fully informed about, and can prepare for, children's needs before they enter school (OECD, 2017[39]).

Across G20 countries with available data, it is a common practice to share child development information across the last year of ECE and primary schools in four countries (Germany, Italy, Japan and Turkey). In Canada, the sharing of such information is at the discretion of the individual settings (OECD, 2017[39]).

Monitoring and assessment in ECE settings should use a range of formal and informal tools to develop an holistic assessment of a child's overall development rather than just narrow testing of academic skills (Shuey et al., 2019[49]). A number of G20 countries have established a specific format for assessing children's development in ECE, which often takes the form of a child profile or descriptive report that covers multiple developmental areas. Countries have also established protocols to ensure that information is systematically shared with schools and parents. Box 4.2 provides an example of how child developmental information is developed and shared in New South Wales (Australia).

Box 4.2.Sharing child developmental information New South Wales (Australia)

In 2014, **New South Wales** (Australia) introduced the Transition to School Statement, to improve communication between early childhood services, families and schools. The statement records a child's strengths, interests and learning, in line with the Early Years Learning Framework. Its aims are to help school teachers prepare for children entering kindergarten by planning appropriate and individualised learning and teaching programmes.

An evaluation of the statement found that both parents and kindergarten teachers who had received them felt better informed about the child's strengths and interests, as well as of ways to help their transition to school, than respondents who did not receive statements. Most families surveyed felt that their children made a smooth transition to school, and felt that their child was well supported in their transition. The evaluation found that although the statement was seen as a valuable resource by early childhood educators, workload and time constraints made it challenging to complete.

Sources:
(NSW Government, 2016[63]), The Transition to School: Literature review, Centre for Education Statistics and Evaluation.
(NSW Government, 2015[64])), Evaluation of the Transition to School Statement, Centre for Education Statistics and Evaluation, www.cese.nsw.gov.au/images/stories/PDF/Transition_to_School_Report_final.pdf.

Create structural conditions that facilitate cooperation and collaboration across pre-primary and primary schools

Develop a national strategy or guidelines on transitions

In many G20 countries, the multiplicity of institutions involved in transitions - pre-primary settings, primary schools, local authorities and social services - means that responsibility for transitions is diffuse. Different institutions can also have different expectations on what constitutes a "smooth transition" and their role in supporting it. These challenges are further complicated when pre-primary and primary education are under the jurisdiction of different ministries and authorities. Pre-primary education may also include private providers.

One way to address the governance complexity of transitions is to adopt a national strategy or guidelines on transitions which defines what a "smooth transition" means from multiple perspectives, notably those of the children directly involved but also their families and pre-primary and primary teachers to promote shared expectations. National strategies can also set out the responsibilities of different institutions in managing transitions and provide guidelines on policies and practices that can help to encourage smooth transitions. Strategies or guidelines should aim to encourage national coherence while leaving space for local leadership and solutions to develop and evolve in response to local needs and the diversity of children's backgrounds.

Encourage exchange and interaction across pre-primary and primary schools

There are a number of structural challenges for transitions. Pre-primary and primary schools are often located in different places, pre-primary and primary teachers and leaders have competing demands on their time and legal restrictions can make sharing information about individual children across institutions difficult. One solution to these challenges is physically integrating pre-primary and primary settings, for example in Saudi Arabia (see Box 4.3).

Physical integration reduces disruption for children since they do not have to move locations when they start primary school. It also facilitates the sharing of information about individual students, classes and activities across staff (OECD, 2017[39]). Across the G20 countries with available data, four (Canada, Italy, Turkey and Wales, United Kingdom) commonly integrate ECE in primary schools (OECD, 2017[39]). Countries can also appoint transition coordinators or counsellors to work across different settings where physical integration is not possible.

Box 4.3.Physically integrated ECE in primary schools in Saudi Arabia

In **Saudi Arabia**, current efforts to expand ECE and improve the quality of early learning are focused centrally on ways to improve both the physical and pedagogical integration of education services. A new integrated setting has been established for children of kindergarten age (ages 4-6) and early primary age (currently ages 6-8, and in the future age 9, corresponding to primary grades 1-2 / 3). All new ECE facilities will cater to this full age range. Where appropriate, existing primary schools will be expanded or converted to integrate children of kindergarten age. Instruction resources have also been revised to support a coherent and age appropriate learning experience for children. The Saudi Early Learning Standards provide a single framework with defined stages, for children aged 0-3, 3-6 and 6-8. Accompanying staff training and resources have likewise been developed to reinforce pedagogical coherence, and initial education programmes for ECE staff and primary school teachers are being reformed to ensure more consistency in approaches.

Source: OECD Education Policy Perspective: Early Years Education in the Kingdom of Saudi Arabia, forthcoming

Another way to reduce organisational and pedagogical disruption for children is through the creation of a transition class. A transition class is a separate group, class or year for the final year of ECE or the year before primary school. Across G20 countries with available data, Canada and Germany have created transition classes (OECD, 2017[39]). For example, in 10 Canadian provinces and territories, children can participate in optional kindergarten in the year before compulsory primary education begins, and in the other three provinces, kindergarten or ‘Grade Primary’ is part of compulsory primary education (OECD, 2017[39]).

Address differences in the perspective and status of pre-primary and primary teachers

Co-operation and communication between pre-primary and primary teachers is central to the success of each child’s transition. However, countries report that a lack of understanding and different perspectives across teachers can sometimes make this cooperation difficult. Aligning the content and level of qualifications for teachers across pre-primary and primary can facilitate cooperation and promote mutual respect (OECD, 2017[39]). The content of pre-service qualifications should ensure that teachers at both levels understand the aims and activities at each level. It is important to note that alignment does not mean that content should be the same. First and foremost, teachers of all levels need to be trained in how to meet the specific needs of the age group for which they are primarily responsible.

The time that teachers have for activities that support transition planning such as preparing activities, documenting child development, sharing information and collaborating with other teachers should also be considered (OECD, 2017[39]). Countries should take steps to ensure that pre-primary teachers have an adequate amount of time to prepare transitions.

Develop policies that build wider societal support for children of transition age

Prepare children and their families for the transition to primary school

The transition to primary school is often a period of excitement but also trepidation for children. In most G20 countries where data are available, it is common to organise specific activities to prepare children and their families for the transition (OECD, 2017[39]). Activities frequently include visits to primary schools, parent information meetings and taster days (where ECE children participate in primary school activities for one or more days). These activities can help to answer some of the key questions children have about starting school such as what their new classroom and school look like. In G20 countries such as Saudi Arabia and Turkey where a large share of children start school without prior ECE participation, preparation should also be adapted to these children's needs. Children might be provided with more information about how the school day is structured and how to ask adults for help if they need it, while parents might need additional information about how to manage administrative issues like registering their child at school for their first time. In Saudi Arabia for example, children entering primary school attend a course to build their foundational literacy and numeracy skills.

Research shows that engaging parents in transitions can help children be better prepared for school and encourage greater parental involvement in ECE and school (Margetts, 2003[65]) (Van Voorhis, 2013[66]). It is particularly important to engage parents from disadvantaged backgrounds in transition preparation since disadvantaged children are less likely to have benefitted from high-quality ECE and are more vulnerable to achieving lower educational outcomes in school overall[1]. A number of G20 countries try to promote parental involvement among disadvantaged families through activities focused on broader parental engagement, often from birth. Box 4.4 describes initiatives to engage and support parents in Wales. More broadly, many G20 countries are taking measures to encourage more equitable participation in high-quality ECE (see Participation and Equity in Early Childhood Education).

Box 4.4.Engaging disadvantaged families in Wales (United Kingdom)

In **Wales (United Kingdom)** several initiatives have been developed to help raise parents' awareness about the importance of their role during their child's transition to primary school. These include:

- How is my child doing in the foundation phase?: is a document that all parents receive when their child starts the foundation stage (3 – 7 year olds). It explains to parents what they can expect from schools and ECE settings, and provides suggestions on how they can best support their children's learning and development.
- Family and Community Engagement guidance: focuses on how engagement with families can provide them with guidance to support their children's learning. Engagement is focused on families of underperforming children, children from disadvantaged background and those who receive less support for learning at home.
- Ready to learn programme: provides information and leaflets for parents of children who will soon be starting school. Information focuses on how parents can help to prepare their children for school including games and play and other more structured learning activities.

Source: Case study prepared by the Welsh Government, edited by the OECD Secretariat, (Welsh Government, 2014[67]), "How is my child doing in the Foundation Phase? A guide for parents and carers", http://gov.wales/docs/dcells/publications/140707-how-is-my-child-doing-in-the-foundation-phase-en.pdf .

[1] Children from disadvantaged backgrounds include those of low socio-economic status, being from an immigrant or indigenous family and having special learning needs.

Encourage co-ordination across community, family, health and social services

Leaders of ECE settings and primary schools can play an important role in encouraging and establishing wider collaboration around transitions. Collaboration with health services can be particularly important for children since their learning can be impaired if they have health issues such as vision or hearing problems. In a number of G20 countries, children have a health check before they start school. This is the case in 15 German Länder, where the health check is mandatory. A doctor checks the child's physical (e.g. visual, hearing or speech disorders), cognitive and socio-emotional development. If the medical assessment concludes that the child is not yet "ready" to start school, the child may be allocated additional support, such as physio or speech therapy. The results of the check-up are however confidential and are not shared with the preschool. Some G20 countries with integrated early years' programmes such as Flying Start in Wales (United Kingdom) or Head Start in the United States also include integrated health services (see Box 2.2 and Box 4.4) (OECD, 2017[39]).

Children with special learning needs, including speaking another language at home, can also benefit from coordination and collaboration with other services. In some G20 countries, children with special learning needs are provided with specific support from specialists such as psychologists or social care workers. For example, in some Canadian jurisdictions an individual education plan is developed for children with special learning needs through a consultative process involving children, parents, school/programme staff, and other professionals. It provides detailed information about each child's learning and developmental needs (e.g. actions, strategies, and accommodations). This document is intended to guide teachers, ECE pedagogical staff, support staff, and families in providing all children with opportunities for success (OECD, 2017[39]).

Develop greater understanding about how transitions can be best managed

Internationally and nationally, understanding about transitions, in particular how they can be best organised to support child development, is limited. Important gaps to address include which areas (e.g. curriculum, pedagogy, child development information and staff training) across ECE and primary should be aligned. An important input to better understanding is greater monitoring, however only three G20 countries (Canada, Japan, and Wales in the United Kingdom) routinely monitor transitions (OECD, 2017[39]). Monitoring and research also needs to draw on the views of children and their families to understand the factors that promote positive transition experiences (OECD, 2017[39]).

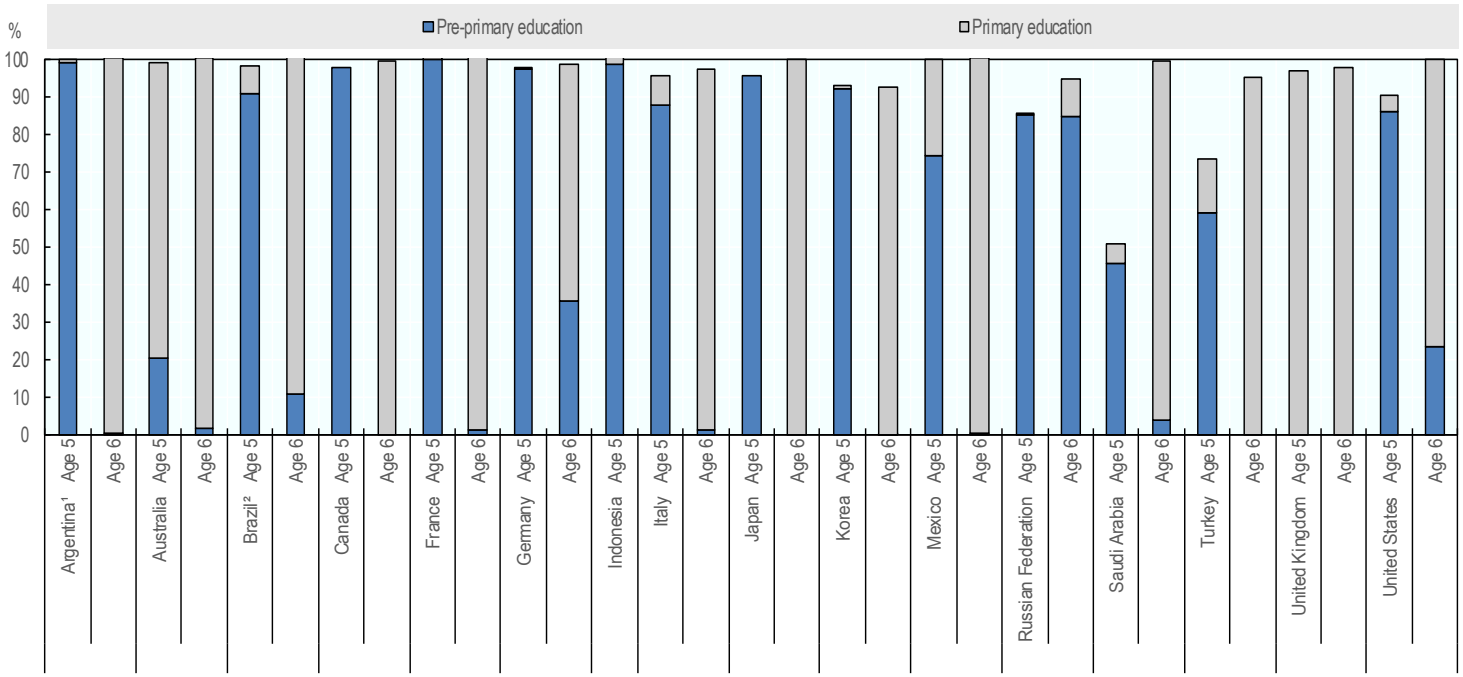
What do data reveal about transition from early childhood education to primary education in G20 countries?

Most children transition into primary school from ECE

Across G20 countries, the vast majority (over 85%) of children participate in ECE before they start school (Figure 4.1). In a few countries – Australia and the United Kingdom – most children are already in school at the age of five. The exceptions are Saudi Arabia and Turkey where only around half of children (45% in Saudi Arabia and 59% in Turkey) participate in ECE the year before they start primary school.

Figure 4.1. Enrolment rates in pre-primary and primary education at age 5 and 6 (2017)

Public and private institutions



Notes:
1. Year of reference 2016 instead of 2017.
2. Year of reference 2012 instead of 2010.
Countries are in alphabetical order.
Source: (OECD, 2019[6]), Education at a Glance 2019: OECD Indicators, OECD Publishing, Paris, (accessed 02nd March, 2020) https://doi.org/10.1787/f8d7880d-en..

Pre-primary and primary teachers have the same minimum qualifications in most countries

In most (14) G20 countries, pre-primary and primary teachers are educated to the same level. In half of G20 countries, both pre-primary and primary teachers are also required to have at least a Bachelor's Degree (ISCED 6) (Table 4.1). This is important for the quality of ECE since increases in teacher preparation beyond upper secondary education (ISCED 3) appear to be associated with quality (see Quality in Pre-Primary Education).

Table 4.1. Pre-primary and primary teachers' qualifications

Minimum qualifications required by G20 countries

	Same level of qualification			Different level of qualification
	Pre-primary and primary education teachers complete education with the same degree less than a bachelor	Pre-primary and primary education teachers complete education with a Bachelor's degree	Pre-primary and primary education teachers complete education with a Master degree	Pre-primary and primary education teachers complete education with different degree levels
G20 countries				
Argentina		X		
Australia		X		
Japan		X		
Korea		X		
Mexico		X		
Saudi Arabia		X		
South Africa		X		
Turkey		X		
United States		X		
China	X			
India	X			
Russian Federation	X			
France			X	
Italy			X	
The United Kingdom (England)			X	
Brazil				X
Germany				X
Indonesia	m	m	m	m
Canada	m	m	m	m

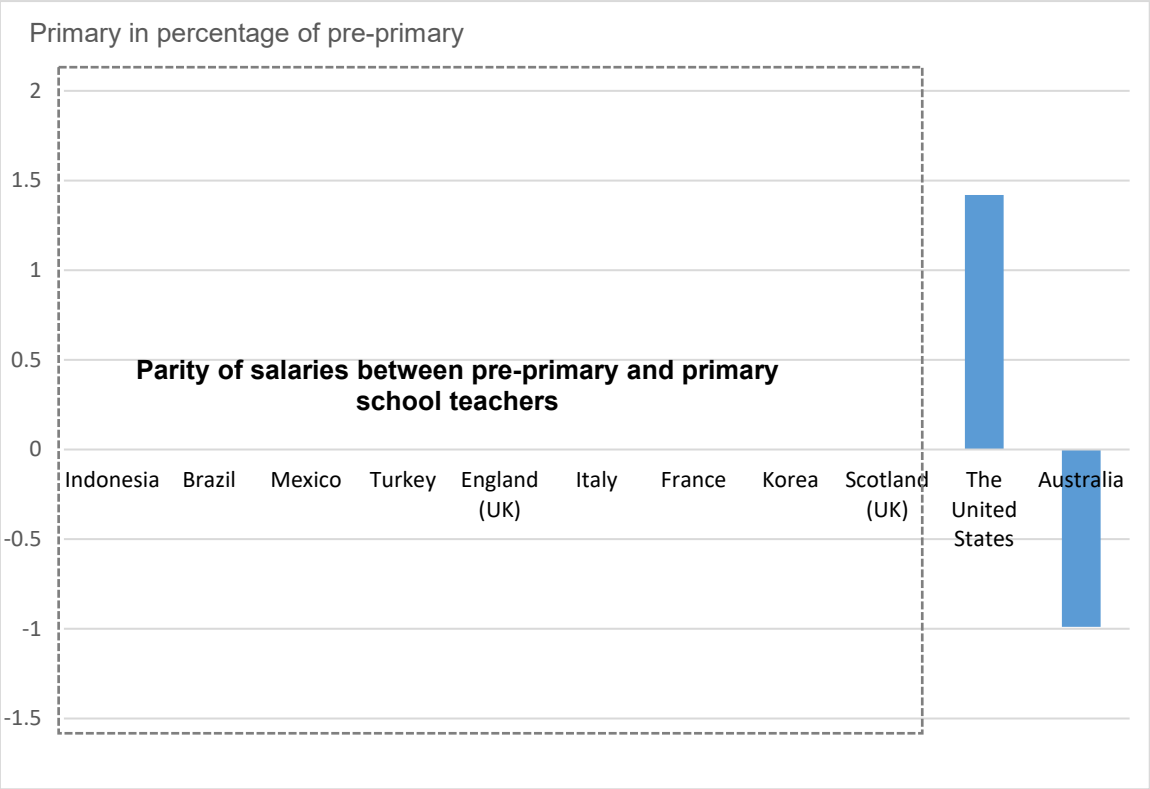
Sources:
(OECD, 2014[68]), Education at a Glance 2014. See Education at a Glance Annex 3 for notes, (accessed 02nd March, 2020) www.oecd.org/edu/eag.htm
For duration and level of pre-service education in Portugal: Ministry of Education, for duration of pre-service education of primary teachers in Austria: Ministry of Education.
For level of pre-service education of primary teachers in Korea and Japan: OECD (2017b), Starting Strong 2017: Key OECD Indicators on early childhood education and care.

Pre-primary and primary teachers' salaries are aligned in most countries

Aligning pre-primary teachers' salaries with those of primary teachers can also help to boost the status of pre-primary teachers and facilitate collaboration across the two levels. The International Labour Office recommends setting salaries in pre-primary education at the "same level as the equivalent job in primary education with similar qualifications and competency requirements" (ILO (International Labour Office), 2013[69]). This is the case across most G20 countries (Figure 4.2).

Figure 4.2. Differences in salaries between pre-primary and primary teachers

Annual statutory teachers' salaries, in public institutions, in equivalent USD converted using PPPs for private consumption and for typical qualification, 2018



Notes:
Data for Indonesia is from the year 2012, Brazil is from the year 2017.
Data refer to the starting salary.
Sources:
(OECD, 2019[70]), OECD database, 2019 (accessed 14th February 2020), https://stats.oecd.org/.
(World Bank, n.a[10]), Education Statistics – All Indicators, (accessed 15 January 2020) https://databank.worldbank.org/reports.aspx?source=1159&series=UIS.CEAge.1.

References

Ahtola, A., E. (2011), "Transition to formal schooling: Do transition practices matter for academic performance?", *Early Childhood Research Quarterly*, Vol. 26/3, pp. 295-302. [48]

Australian Government (n.d.), *Early Years Learning Framework | Department of Education, Skills and Employment*, https://www.education.gov.au/early-years-learning-framework-0 (accessed on 31 January 2020). [37]

Biersteker, L. (2010), *Scaling-up early child development in South Africa introducing a reception year (Garde R) for children aged five times as the the first year of schooling*, Brookings Institution, http://www.brookings.edu/global (accessed on 7 January 2020). [24]

Britto, P. (2012), *School Readiness and Transitions, A companion to the Child Friendly Schools Manual*, UNICEF, New York. [61]

Britto, P., H. Yoshikawa and K. Boller (2011), *Quality of Early Childhood Development Programs in Global Contexts: Rationale for Investment, Conceptual Framework and Implications for Equity. Social Policy Report. Volume 25, Number 2*, http://proxy.library.nyu.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=ED519240&site=eds-live. [32]

Council of Federal Financial Relations (2019), *Universal Access to Early Childhood Education - 2020*, http://dx.doi.org/www.federalfinancialrelations.gov.au/content/npa/education/national-partnership/2020_UANP_FINAL.pdf. [20]

Department of Basic Education (2015), *The South African National Curriculum Framework for children from Birth to Four*, https://www.unicef.org/southafrica/SAF_resources_ncfcomprehensive.pdf. [57]

Education Commission (2016), *The Learning Generation: Investing in education for a changing world*, International Commission on Financing Global Education Opportunity, New York. [16]

Egert, F. (2015), "Meta-analysis on the impact of in-service professional development programs for preschool teachers on quality ratings and child outcomes", pp. 1-212. [41]

European Commission (2019), *Key Data on Early Childhood Education and Care*, https://eacea.ec.europa.eu/national-policies/eurydice/sites/eurydice/files/ec0319375enn_0.pdf. [19]

European Commission (2014), *Proposal for key principles of a Quality Framework for Early Childhood Education and Care*, European Commission Directorate-General for Education and Culture, Brussels. [13]

European Commission (2013), *Barcelona objectives: The development of childcare facilities for young children in Europe with a view to sustainable and inclusive growth*, Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions., http://dx.doi.org/10.2838/43161. [26]

European Union (2019), *Council Recommendation on High-Quality Early Childhood Education and Care Systems*. [17]

Finnegan, J. and H. Warren (2015), *Ready to Read: Closing the gap in early language skills so that every child in England can read well*, Save the Children on behalf of the Read on. Get on. [12]

campaign, London.

Haque et al. (2013), "Universal Pre-Primary Education: A Comparative Study", *American Journal of Educational Research*, Vol. 1, pp. 31-36, https://www.researchgate.net/publication/274516045_Universal_Pre-Primary_Education_A_Comparative_Study. [50]

Howes, C. et al. (2008), "Ready to learn? Children's pre-academic achievement in pre-Kindergarten programs", *Early Childhood Research Quarterly*, Vol. 23, pp. 27-50, http://dx.doi.org/10.1016/j.ecresq.2007.05.002. [33]

ILO (International Labour Office) (2013), *ILO Policy Guidelines on the promotion of decent work for early childhood education personnel*, International Labour Office, Sectoral Activities Department, Geneva. [69]

Kagan, S. L., E. (2006), "Alignment: a missing link in early childhood transitions?", *Young Children*, Vol. 61/5, pp. 26-32. [47]

Kobe University (2016), "Asia-Pacific regional report: Financing for Early Childhood Care and Education (ECCE)", Background paper commissioned by UNESCO Bangkok, Bangkok, http://www.unesco.org/open-access/terms-use-ccbysa-en. [27]

Leseman, P. (2002), "Early Childhood Education and Care for Children from Low-income or Minority Backgrounds", OECD Working Paper , Paris. [15]

Manning, M. et al. (2017), "The Relationship between Teacher Qualification and the Quality of the Early Childhood Care and Learning Environment: A Systematic Review", *Campbell Systematic Reviews*, Vol. 1/January 2015, http://www.campbellcollaboration.org/lib/project/313/. [40]

Margetts, K. (2003), "Does adjustment at preschool predict adjustment in the first year of schooling", *Journal of Australian Research in Early Childhood Education*, Vol. 10/2, pp. 13-25. [65]

Ministère de l'Éducation (2019), *La loi pour une École de la confiance - Ministère de l'Éducation Nationale et de la Jeunesse*, https://www.education.gouv.fr/cid143616/la-loi-pour-une-ecole-de-la-confiance.html (accessed on 7 January 2020). [23]

Ministry of Education of Saudi Arabia (2019), *Early Childhood - Care and Education Web-site*, http://dx.doi.org/www.moe.gov.sa/en/PublicEducation/EducationDepartments/Pages/Early-Ch-dev-care-2.aspx. [18]

Ministry of Education of Saudi Arabia (2019), *تدشين بوابة معين للقسائم التعليمية للتربية الخاصة*, https://www.moe.gov.sa/ar/news/pages/s-ed-1441-g.aspx. [28]

Ministry of Education of Saudi Arabia (2019), *دليل مدارس الطفولة المبكرة*, http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=2ahUKEwiU_-_K69_nAhUqxYUKHQZRAGMQFjAAegQIARAB&url=http%3A%2F%2Faflajedu.gov.sa%2Fdata.php%3Fsp%3Dd%26t%3D4%26p%3D506&usg=AOvVaw08_UcNHj8t_Und3lP9dzfz. [45]

Ministry of Education of the People's Republic of China (2019), *Number of Children in Pre-school Education by Age*, http://en.moe.gov.cn/documents/statistics/2018/national/201908/t20190812_394146.html. [29]

National Council of Educational Research and Training (2019), *The Preschool Curriculum*, http://www.ncert.nic.in/pdf_files/preschool_curriculum.pdf. [54]

Neuman, M. (2005), "Global early care and education: challenges, responses, and lessons", *Phi Delta Kappa*, Vol. 87/3, pp. 188-192. [62]

NSW Government (2016), *The Transition to School: Literature review*. [63]

NSW Government (2015), *Evaluation of the Transition to School Statement*. [64]

OECD (2019), *Education at a Glance 2019: OECD Indicators*, OECD Publishing, Paris, https://dx.doi.org/10.1787/f8d7880d-en. [6]

OECD (2019), *OECD database*. [70]

OECD (2019), *Providing Quality Early Childhood Education and Care: Results from the Starting Strong Survey 2018*, TALIS, OECD Publishing, Paris, https://dx.doi.org/10.1787/301005d1-en. [38]

OECD (2018), *Engaging Young Children: Lessons from Research about Quality in Early Childhood Education and Care*, Starting Strong, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264085145-en. [35]

OECD (2018), *PISA Online Education Database*, http://www.oecd.org/pisa/data/. [30]

OECD (2018), *Table X1.3 - Starting and ending age for students in compulsory education and starting age for students in primary education (): The typical age refers to the age of the students at the beginning of the school year (2016)*, https://doi.org/10.1787/eag-2018-table221-en. [9]

OECD (2018), *The Future of Education and Skills - Education 2030: The Future We Want*, OECD, Paris, http://www.oecd.org/education/2030/E2030%20Position%20Paper%20(05.04.2018).pdf. [36]

OECD (2017), *Starting Strong 2017: Key OECD Indicators on Early Childhood Education and Care*, Starting Strong, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264276116-en. [4]

OECD (2017), *Starting Strong V: Transitions from Early Childhood Education and Care to Primary Education*, Starting Strong, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264276253-en. [39]

OECD (2016), "Data Country Note for Germany", *Starting Strong IV: Early Childhood Education and Care Country*, http://dx.doi.org/10.1787/eag. [22]

OECD (2016), *Starting Strong IV: Monitoring Quality in Early Childhood, Education and Care Country Note: France*, http://www.oecd.org/education/school/ECECMN-France.pdf. [53]

OECD (2014), *Education at a Glance 2014*. [68]

OECD (2012), *Starting strong III : a quality toolbox for early childhood education and care.*, OECD Publishing, Paris. [46]

OECD (2011), *Starting Strong III: A Quality Toolbox for Early Childhood Education and Care*, Starting Strong, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264123564-en. [8]

OECD (n.a), *International Early Learning and Child Well-being Study*. [44]

OECD (n.a), *OECD Family Database*. [5]

Office of Head Start (2019), *Head Start Programmes*. [21]

]

OSCE (2010), *Mapping of participation of Roma and Sinti children in early education processes within the OSCE region*, Organization for Security and Co-operation in Europe. Office for Democratic Institutions and Human Rights, Warsaw. [14]

Pianta, R., J. Downer and B. Hamre (2016), *Quality in Early Education Classrooms: Definitions, Gaps, and Systems*, http://www.futureofchildren.org (accessed on 23 May 2019). [34]

Publishing, O. (2017), *Starting Strong V - Transitions from Early Childhood Education and Care to Primary Education.*, OECD Publishing. [58]

Rous, B., E. (2010), "Practices that support the transition to public preschool programs: Results from a National Survey", *Early Childhood Research Quarterly*, Vol. 25/1, pp. 17-32. [60]

Shuey, E. and M. Kankaraš (2018), "The Power and Promise of Early Learning"*, OECD Education Working Papers*, No. 186, OECD Publishing, Paris, https://dx.doi.org/10.1787/f9b2e53f-en. [2]

Shuey, E. et al. (2019), "Curriculum alignment and progression between early childhood education and care and primary school : A brief review and case studies"*, OECD Education Working Papers*, No. 193, OECD Publishing, Paris, https://dx.doi.org/10.1787/d2821a65-en. [49]

Sim, M. et al. (2019), "Starting Strong Teaching and Learning International Survey 2018 Conceptual Framework"*, OECD Education Working Papers*, No. 197, OECD Publishing, Paris, https://dx.doi.org/10.1787/106b1c42-en. [43]

Slot, P., M. Lerkkanen and P. Leseman (2015), "The relations between structural quality and process quality in European early childhood education and care provisions: Secondary analyses of large scale studies in five countries", pp. 1-61, http://www.ecec-care.org. [42]

Stiles, J. and T. Jernigan (2010), *The basics of brain development*, Springer US, http://dx.doi.org/10.1007/s11065-010-9148-4. [1]

UIS (2020), *UIS Statistics*, http://data.uis.unesco.org/?lang=en&SubSessionId=bc815974-9c38-4285-ba51-cf20d695f746&themetreeid=-200 (accessed on 19 February 2018). [31]

UNESCO (2011), *World Data on Education*, http://www.ibe.unesco.org/fileadmin/user_upload/Publications/WDE/2010/pdf-versions/Brazil.pdf. [51]

UNESCO (2005), *Policy Review Report: Early Childhood Care and Education in Indonesia*, https://bangkok.unesco.org/sites/default/files/assets/ECCE/publications/UNESCO%20Early%20Childhood%20and%20Family%20Policy%20Series/Indonesia.pdf. [55]

UNESCO Institute for Statistics (UIS) (n.a), *database*. [11]

UNESCO-UIS (2012), *International Standard Classification of Education ISCED 2011*. [7]

UNICEF (2019), *A World Ready to Learn: Prioritizing Quality Early Childhood Education*, http://dx.doi.org/www.unicef.org/media/57926/file/A-world-ready-to-learn-advocacy-brief-2019.pdf. [3]

Van der Berg, Servaas, E. (2013), *Final Report (Policy Summary, Executive Summary & Evaluation Report) for the Department of Basic Education and the Department of Performance Monitoring and Evaluation in the Presidency*, University of Stellenbosch, Stellenbosch. [25]

Van Voorhis, F. (2013), "The impact of family involvement on the education of children ages 3 to 8: A focus on literacy and math achievement outcomes and social-emotional skills", *MDRC*, http://dx.doi.org/www.mdrc.org/sites/default/files/The_Impact_of_Family_Involvement_ES.pdf. [66]

Welsh Government (2014), *How is my child doing in the Foundation Phase? A guide for parents and carers*. [67]

Woodhead, M. (2007), *Early Childhood and Primary Education: Transitions in the Lives of Young Children*, Open University, Milton Keynes. [59]

World Bank (n.a), *Education Statistics – All Indicators*. [10]

Yudina and Bodrova (2018), *Early Childhood Education in Russian Federation*, Routledge, https://www.researchgate.net/publication/327971303_Early_Childhood_Education_in_Russian_Federation. [56]

Zhu (2009), "Early Childhood Education and Relative Policies in China", *International Journal of Child Care and Education Policy*, Vol. 3, pp. 51-60, https://doi.org/10.1007/2288-6729-3-1-51. [52]