



Quality and impact of Centre-based Early Childhood Education and Care

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Preface

This policy brief was developed by RAND Europe, which in 2011 was commissioned by the European Commission's Directorate-General for Employment, Social Affairs and Inclusion to provide content and technical support for the European Alliance for Families platform, which became the European Platform for Investing in Children (EPIC) in 2013.

The European Platform for Investing in Children (EPIC) was set up to explore demographic and economic challenges in the EU from a child and family-focused perspective. Its purpose is to share the best of policymaking for children and their families, and to foster cooperation and mutual learning in the field. This is achieved through information provided on the EPIC website, which enables policymakers from the member states to search evidence-based child-focused practices from around the EU and to share knowledge about practices that are being developed, and also by bringing together government, civil society and European Union representatives for seminars and workshops to exchange ideas and learn from each other.

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The document is designed to provide insights into issues of interest to policymakers and practitioners. It has been reviewed externally by one of the EPIC experts in child and family policy, and internally, following RAND's quality assurance processes.

The opinions expressed do not necessarily reflect the position of the European Commission.

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Executive summary

- This policy brief discusses the understanding and impact of quality in childcare provision in the European Union (EU). Specifically, this brief looks at the dynamics of how quality is understood and measured, and the landscape of certain quality indicators across EU member states.
- There are multiple ways to understand the concept of quality in ECEC, but two have become prominent in practice: *structural quality*, understood as the quality of the conditions of the ECEC centre, such as the number of staff and their working conditions; and *process quality*, understood as the way in which a child experiences the ECEC setting.
- Indicators used to measure structural quality include: governing practices, such as a national childcare strategy and monitoring and evaluation practices; family and community factors, such as greater support for disadvantaged families and a supportive transition to primary education; and centre-level factors, such as a highly-qualified workforce and small group sizes.

1 Introduction

1.1 Importance of Early Childhood Education and Care

Early Childhood Education and Care (ECEC) refers to any type (i.e. public, private or voluntary) of pre-school childcare provision that is subject to a national regulatory framework. Research shows that provision of good quality ECEC affects the cognitive, physical and socio-emotional development of children (e.g. Heckman 2011; Karoly et al. 1998). There is increasing evidence that these positive outcomes hinge on the quality of ECEC (Melhuish et al. 2015; Sylva et al. 2014). This brief will discuss different attempts that have been made to operationalise the concept of quality, and describe what is known about the relation between ECEC quality and child outcomes.

Issues related to the availability, affordability and quality of ECEC are important to policymakers at EU and member-state level, because they provide the means by which to reduce the transmission of inequalities, promote work–life balance and female labour participation, and invest in child development (European Commission 2013a). Most of the efforts by policymakers to date have been focused on increasing access to services and the creation of additional childcare places to facilitate parents' re-entry to the labour market (compare this with, for instance, the targets for providing childcare in the EU member states set by the European Council at the Barcelona Summit in 2002). This was in line with research showing that the lack or limited availability of childcare provision was a major obstacle to parents' employment, in particular women's employment (Esping-Andersen 2009; Mills et al. 2014; OECD 2006).

Recent policy discussions have shifted beyond the issue of work–life balance to focus on aspects related to the quality of care, as there is increasing evidence from studies by the EU that ECEC quality is

instrumental in obtaining good outcomes (Melhuish et al. 2008; Melhuish et al. 2015; Sylva et al. 2004; Sylva et al. 2014). Moreover, insufficient quality of childcare was cited as the third most important reason by European women aged 15–64 for not engaging in formal employment (after lack or high costs of services); this averaged 4 per cent across the 12 countries for which data was available, ranging from 3 per cent in Ireland to 20 per cent of respondents in Hungary (Mills et al. 2014). This shift in focus is illustrated by a number of communications from the European Commission (2011) and the European Council (2011), such as the European Commission’s 2013 Recommendation on ‘Investing in Children: breaking the cycle of disadvantage’, which re-emphasised the importance of high-quality inclusive ECEC that is responsive to the needs of families (European Commission 2013b).

1.2 Funding of ECEC provision

Our review covers a mix of public and private ECEC provisions for different age groups, in line with the trend of how ECEC is funded across EU member states. Most countries use a mix of public and private provision, often subsidised by direct cash transfers, subsidised places or family tax credits. With the exception of Ireland, which retains central level control over funding, ECEC is funded by a mix of local, regional and central sources (European Commission/EACEA/Eurydice 2014).

In this policy brief, we aim to cover the broad range of issues related to the quality of ECEC provision, such as indicators related to childcare educators (qualifications, training and remuneration of childcare staff), potential indicators of the quality of interactions between staff and children (such as staff-to-child ratios and the size of groups), as well as ECEC curricula and parental involvement. However, since the relationship between these indicators is very complex, we have not been able to review all aspects in great depth. A broad overview of the situation in European countries is offered, based on a non-systematic review of predominantly English language literature. Our conclusions should be considered within these limitations.

1.3 Policy drivers for investment in quality in ECEC provision

There are several socio-economic factors that drive investment in the quality of ECEC provision. Academic research provides arguments that early childhood is the stage at which education can most effectively influence one’s development and consequently make impact throughout an individual’s life. Children who have attended high-quality early-years education have, on average, higher levels of educational attainment and better long-lasting academic outcomes, and also demonstrate better social development (Heckman 2011; Karoly et al. 1998; Sylva et al. 2014). As Esping-Andersen states: ‘early learning begets better learning later on; a poor start translates into persistent inferior learning abilities.’ (2013, 293). Good quality ECEC provision has been found to increase the probability of obtaining qualifications and being employed in adulthood (for a review, see Melhuish 2013; Sylva et al. 2014; European Commission/EACEA/Eurydice 2015). Research also shows that investment in early childhood provision can produce high economic returns, in particular for disadvantaged children, by raising the productivity of society at large (see for instance Heckman 2011; Heckman & Mosso 2014; Heckman & Masterov 2007). As summarised by Esping-Andersen, ‘investments yield the highest returns in the preschool stage and decline exponentially thereafter’ (2013, 299). The economic argument for investing

in quality ECEC provision is also supported by studies showing that ECEC helps parents to more easily combine work and family (Esping-Andersen 2013) and can thus have an impact on the economic situation of parents and a moderate effect on reproductive decisions (see Beveridge et al. 2014 for a review).

1.4 Focusing on centre-based pre-school provision

This policy brief aims to present an overview of the current understanding and measurement of quality of ECEC in the EU member states. We concentrate our discussion on centre-based early-years provision, predominantly focusing on the pre-school years (from three years until compulsory school age).¹ In this context of centre-based ECEC provision, we discuss the definition and measurement of childcare quality and offer an overview of the definitions, measurements and practices of ‘quality’, and how these vary across the current European landscape.

There is currently no systematic measurement of childcare quality on the European level (although the OECD is in the process of developing an international ECEC Staff Survey to monitor trends and facilitate international comparisons in childcare provision and quality). Also the context in which ECEC is offered varies markedly according to the specific cultural, social and educational conditions of each member state. As a result, the intention of this brief is not to offer a comparative analysis or ranking of countries’ ECEC quality. Rather, it aims to move past the issues of affordability, availability and accessibility that dominate national-level debates, and to instead highlight *quality* as an important aspect when considering the efficacy of ECEC provision.

2 Understanding quality in ECEC

In order to assess the quality of ECEC provision, researchers, policymakers and other stakeholders involved in the design, assessment and funding of ECEC schemes need to first agree on what constitutes *good* quality – and how to assess it. We start this section with a discussion of why the quality of ECEC matters, giving an overview of the child outcomes associated with good-quality ECEC, before considering different approaches to defining quality.

2.1 Outcomes of high-quality ECEC

The *quality* of ECEC provision is of great importance, as it can have a significant effect on children’s experiences and learning in the pre-school years. Research suggests that different ECEC settings can have different impacts on children’s cognitive, social and behavioural outcomes, with early years provision

¹ Across Europe, there is a variety of ECEC services, ranging from formal centre-based provision of nurseries, playgroups and pre-schools, to home based services provided by childminders and nannies. Typically, information on these services is provided for two groups: services for children up to three years of age, and services for children between three years old and compulsory school age. Analysis of ECEC does not include children that are already part of a compulsory schooling system. For instance, in countries where compulsory schooling starts early, such as in the UK, where children start school in the September after their fourth birthday, we only analyse trends in ECEC for children between two and four years old.

mostly beneficial to children if it is of high quality (European Commission/EACEA/Eurydice 2015; Melhuish et al. 2015; Sammons et al. 2014; Sylva et al. 2014).

Outcomes of ECEC attendance fall into the following categories:

- Educational and labour market outcomes: this refers to higher educational attainment and subsequent improved labour outcomes following ECEC attendance.
- Economic outcomes: this refers to the financial returns that follow from investments in ECEC, as a result of, for example, lower crime rates, increased earnings potential and higher school completion rates, which follow later in life from ECEC attendance.
- Social outcomes: this refers to non-cognitive child benefits, such as improved health and wellbeing, and indirect social effects such as higher fertility rates.

Not all outcomes of ECEC attendance are equally influenced by the quality of ECEC provisions. The evidence for the beneficial effects of good quality ECEC is particularly strong for educational and labour market outcomes. There is consistent evidence that there is a link between the quality of pre-school and the persistence of educational outcomes; studies have shown both that good quality preschool has long-lasting effects on cognitive performance later in life (Anders et al. 2011; Melhuish, 2004; Melhuish et al. 2008; Sammons et al. 2008; Sammons et al. 2014; Sylva et al. 2014) and that good quality ECEC has more persistent effects compared to poor quality (Anders et al. 2013). Results from this last study suggest that specifically good process quality of ECEC provision (i.e. quality of the curriculum, pedagogical practices and a safe socio-emotional environment) is a predictor for the persistence of positive outcomes. These effects of good quality are specifically true for children from disadvantaged backgrounds: studies have shown an association between good-quality ECEC in pre-school years and better grades in mathematics and science at age 14, as well as better scores on English and maths at age 16, in children of lower-qualified parents (Sylva et al. 2011).

High-quality childcare has also been shown to affect child wellbeing, one of the social outcomes of ECEC. There is an increasing number of studies that aim to capture wellbeing in young children, using subjective wellbeing measures such as a positive sense of self, agency and security and safety (Fattore et al. 2009; Mashford-Scott et al. 2012). Although it is difficult to directly attribute any changes in child wellbeing to ECEC attendance alone, a majority of studies suggest that indicators of quality of care, such as quality of carer–child relationship and the ‘ability of staff to create an intersubjective space dominated by high sensitivity and responsivity’ (Seland et al. 2015, 10) are key to subjective wellbeing.

The economic outcomes of high-quality ECEC are contested, since the majority of these outcomes can only be measured later in life; for this reason, quality indicators related to outcomes, in particular long-term outcomes, are often not included in analyses. The majority of evidence for the economic effects of good-quality ECEC thus comes from large longitudinal studies outside of the EU context or from a few studies in Europe on medium- to long-term outcomes of ECEC attendance. For this reason, the relationship between ECEC quality and economic outcomes will not be discussed here.

Lastly, it is important to note that any outcomes related to ECEC quality are additionally mediated by the availability, affordability and access to ECEC provisions within a country. These factors necessarily interact; for example, a country’s policy on how ECEC is implemented, which affects the affordability and availability of ECEC, will affect the average age that children receive ECEC, and similarly the effects of quality are mediated by the average number of years that children receive ECEC.

2.2 What makes a high-quality ECEC setting?

Views on what constitutes quality in the context of ECEC provision depends on several aspects, such as a country's socio-economic context and widely-held views and beliefs, as well as the needs, roles and motivations of the different stakeholders involved in defining and assessing ECEC provision (Litjens & Taguma 2010). According to a model proposed by Katz (1995, summarised in Harrist et al. 2007), the following perspectives should be considered when determining the quality of childcare:

- The perspective of a researcher (the top-down approach)
- The perspective of parents, social service professionals and policymakers (outside-in)
- The perspective of caregivers and directors (inside-out)
- The perspective of a child (bottom-up).

Katz (1995, summarised in Harrist et al. 2007) argues that the perspective of researchers dominates the discourse on ECEC quality, while the three other perspectives have been largely ignored. This could be because the scientific perspective focuses on quantifiable and objective measurements that can be easily adopted and applied in childcare regulations (Harrist et al. 2007).

Box 1 summarises the perspectives of researchers, parents, childcare staff, social policymakers and funders, and government/regulatory bodies by outlining questions that these stakeholders may be asking when defining quality.

Box 1: Perspectives on defining quality in ECEC

Among the perspectives that can be used to define quality are the following (Farquhar 1989):

- That of **experts in the field** of child development (who ask, e.g. 'What facilitates optimal child development?').
- That of a **parent** ('What is best for my child?', 'What best fits my needs as a worker and parent?').
- That of **childcare staff** ('What allows me to succeed in my role as a provider?').
- That of **social policy and funding** ('What is the role of childcare in this society?', 'Who pays for childcare if it is to be successful?').
- That of **government/regulatory and social service agencies** ('What kind of childcare system works best for the needs of the state or country?', 'How can community and family needs be met by childcare?').

Source: Harrist et al. (2007, 306) cited in Mathers et al. (2012, 6).

Nonetheless, despite the multiple lenses that can be brought to bear on the subject, there are some standards that are commonly agreed to constitute 'quality' in ECEC: that the immediate environment is safe, healthy and stimulating; that the setting adequately prepares the child for transition to the next phase

of schooling; and that it has positive social and academic developmental outcomes, even if debate remains over the prioritisation of those outcomes (such as social over academic development) and the policy levers to be used to facilitate quality improvement.

Unsurprisingly, given the cost of the research, few large-scale longitudinal studies have been launched to examine the relationship between the inputs at ECEC level and long-term development. As a result, while a number of studies have measured the eventual outcomes following attendance of a 'low' or 'high' quality setting, fewer have ventured to undertake in-depth analyses of *specific* practices in the ECEC environment and their eventual development outcomes.

One notable exception is the long-running UK Effective Pre-school, Primary and Secondary Education (EPPSE) study (Taggart et al. 2015). In the course of the research, the research team studied in detail 12 UK childcare providers, who were examples of 'effective' childcare: that is, who had achieved educational outcomes significantly above the level expected for children of particular socio-economic backgrounds, and high scores on the ECERS classroom environment rating scale, used to measure quality in ECEC settings (see chapter 3.1). In doing so, the team were able to identify certain characteristics that were shared by 'excellent' providers, regardless of their variation in other aspects of childcare delivery. Settings considered 'excellent' were distinguished by an approach which:

- Viewed academic and social development as equally important but maintained a strong educational focus, especially where a higher proportion of trained teachers working alongside less well qualified staff.
- Had strong leadership and long serving staff who had a good knowledge of the early years curriculum, child development and young children as learners.
- Provided a good balance of practitioner initiated and freely chosen play activities, with adults that extended children's learning opportunities and provide on-going formative feedback.
- Provided adult-child interactions that involved 'sustained shared thinking' and open-ended questioning to extend children's thinking being mindful of differentiation and children's individual needs.
- Had behaviour policies that supported children rationalising and talking through areas of conflict.
- Encouraged parental involvement and hold regular discussion with parents about their child's progress. (Taggart et al. 2015)

The observational 'Competent Children' study in New Zealand (Wylie & Thompson 2003) studied a number of indicators of ECEC quality, and the subsequent social-developmental competencies displayed by children at age 10. Settings shown to have positive associations at age 10 (controlling for maternal education and income) were those in which:

- ECE staff ask children open-ended questions
- The ECE centre is 'print-saturated'
- Children can select their own activities from a variety of learning centres
- ECE staff guide children through activities
- ECE staff join children in their play
- Children are allowed to complete their work

- Children co-operate and support one another
- There are enough age-appropriate resources.

While these findings suggest some common aspects of high-quality ECEC, the complex nature of the recommendations also raises questions about the best means by which policymakers can recognise, monitor and encourage such practices in ECEC provision. However, despite the difficulty in operationalising the complex concept of quality, there are some common approaches for recognising and measuring high-quality ECEC settings that are typically used across EU member states. Notably, two approaches to measuring the quality of ECEC are frequently used in the academic literature, and provide useful lenses for engaging with the concept: *structural* and *process* quality.

2.3 Two Lenses: Structural and Process Quality

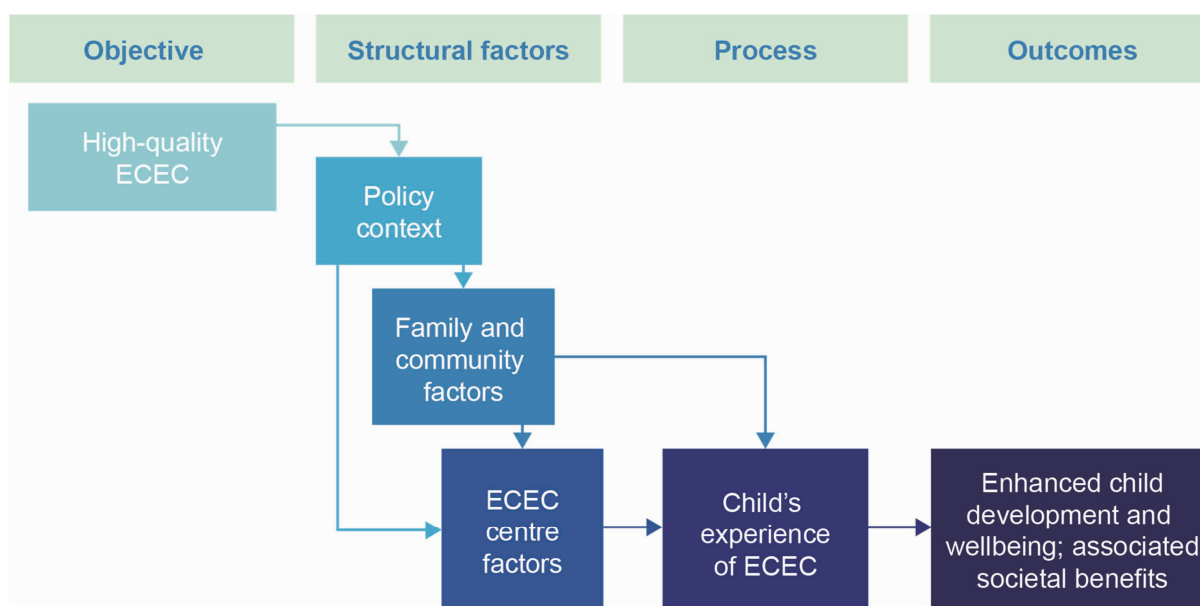
Despite the diversity in views as to what constitutes a ‘high-quality’ setting, a commonly-drawn distinction in the academic literature is to discuss quality in terms of *structural* and *process* quality. While the two concepts are closely related, they offer different ways to understand, recognise and measure quality in ECEC settings.

Structural quality consists of ‘inputs to process-characteristics which create the framework for the processes that children experience’ (Cryer 1999b, cited in Litjens & Taguma 2010). In the ECEC context, these inputs include aspects such as staff qualifications and skills, group size, and monitoring the provision of teaching and care. A setting considered to be of high structural quality may have teachers with high qualifications, small group sizes, a hygienic environment and follow a recognised curriculum. Structural quality is typically measured by the **human, financial and time resources (inputs) that are required to deliver services**, and many structural quality measures can be regulated at the state level.

Process quality, on the other hand, refers to the ‘aspects of the classroom environment as experienced by children – their interactions with teachers and peers, and the materials and activities available to them’ (Phillips et al. 2000, 476, cited in Harrist et al. 2007). Aspects that fall under process quality have an influence on children’s experiences, wellbeing and development (Litjens & Taguma 2010). Process quality is measured by **processes that are required to deliver ECEC services and how children experience the inputs**; for instance how those inputs affect the relationships between staff and children, communication with families and wider community support services. A setting considered to be of high process quality may involve frequent, supportive interactions between children and staff, a stimulating curriculum and effective pedagogical practices.

Structural and process indicators thus provide two different lenses to use when judging the quality of ECEC. Although they describe different methods of observation, high process quality generally follows from high structural quality: structural indicators such as staff–child ratios or the availability of sufficient learning materials facilitate positive child experiences and interaction with the childcare environment. However, process quality does not *necessarily* follow from good structural quality, and insofar as there is a relation, this differs between countries and settings. There are many structural inputs that work together to create good process quality (Cryer et al. 1999b). The relationship between structural and process indicators and their outcomes is worth noting here, and is represented in figure 1.

Figure 1. Relationship between structural indicators of quality, process indicators of quality and outcomes of ECEC



Source: based on Harrist et al. (2007); Litjens & Taguma (2010); DG EAC (2014).

It is therefore important not to consider such indicators in isolation, and care must be taken to relate these indicators to the cultural, educational and social context in which the ECEC is provided. Indeed, research that has tested the interaction of various structural indicators across countries has clearly demonstrated this complexity (Cryer 1999a; Cryer et al. 1999b; Slot, Lerkkanen & Leseman, 2015; Slot, Leseman, Verhagen & Mulder, 2015). Just as the definition of ‘quality’ may differ across countries, so too may the factors shown to have a significant effect on positive outcomes. In an analysis of data from several European longitudinal studies, Slot, Lerkkanen & Leseman (2015) found that in the UK, the type of provision and teachers’ educational backgrounds were shown to have an effect on process quality; meanwhile in Germany, the main effect was the number of children of a migration background in a classroom. Whilst certain factors such as teacher’s work experience were often associated with higher quality settings, ‘country-specific moderators’ were found in all cases (Slot, Lerkkanen & Leseman, 2015, 7).

To a large extent, this is likely to be indicative of the wider education and social support frameworks within and across countries – and the way in which certain structural indicators may moderate shortcomings in other areas. For example, while Germany has larger class sizes than many European countries, it also has, on balance, a more highly qualified ECEC workforce. In this case, large class sizes may not be an indication of relatively poor process quality, but rather an indication of relatively highly-qualified teachers and their ability to effectively control larger groups of children (Cryer et al. 1999b).

Similar relationships may be at play elsewhere: lower rates of participation in professional development may reflect higher initial qualifications; a lack of central regulations may in fact be indicative of a competitive private sector able to self-regulate; an excellent teacher may compensate for a sub-standard

curriculum. Careful consideration of the wider context in which ECEC is provided is key to understanding the quality factors. As the CARE study (Slot, Lerkkanen & Leseman, 2015) concludes: ‘In order to increase process and curriculum quality, policy makers should not focus on regulating single structural aspects, but rather take into account the combined, interactive and systemic effects of several other structural characteristics, while also bearing in mind the specific aspects of the ECEC system in their countries’.

3 Approaches to measuring ‘quality’

Apart from deciding what *constitutes* quality, policymakers and other stakeholders need reliable measures and tools that allow them to *identify* and *evaluate* these agreed provision standards. Several such measures and tools exist, many of them validated by research studies as capturing those aspects of quality ‘which are “predictive” of child outcomes’ (Mathers et al. 2012, 5). Nevertheless, stakeholder perceptions of what constitutes good quality may not be uniform. The accessibility of measures and tools to be used by stakeholders may also vary, making it difficult for them to make decisions about ECEC quality. This lack of comparability and the inaccessibility of tools to measure quality, and specifically process quality, is one of the reasons that structural indicators are sometimes used to measure process quality. As summarised by Mathers et al. (2012: 5): ‘The fact that a measure “captures” quality effectively does not guarantee that it will be a practical and useable tool for quality improvement, or indeed that its use will lead to improved child outcomes. Likewise, tools which are accessible and easy to use may not necessarily have been validated by research.’ For that reason, it is always a balancing act to decide which measures and tools should be used to assess quality in a given situation.

3.1 Measuring process quality

Process quality is less tangible to measure than structural inputs, at least in a comparative context. As a consequence, these aspects are less often analysed in the European and international comparative studies.

Nevertheless, there are several widely-used classroom research observation tools applicable to children in various age groups, which measure various aspects of classroom experience and a child’s developmental outcomes. These measures include: interactions between teachers and children, and between different children; language use; the type and variety of activities on offer to children; the learning environment; behaviour management strategies; safe and healthy routines; and planning and time management. It is important to note that no measure covers all domains (Bryant 2010). These measures, originally developed and refined for early childhood research purposes, according to the report by Bryant (2010), are increasingly used in the US in state-level Quality Rating Systems, childcare licensing, childcare provision reimbursement and professional development. We summarise these classroom observation tools² in

Table 1, providing details on the key domains observed by each tool and the child outcomes they measure.

² Some of these tools can be also used in the family childcare context. See Bryant (2010) for more detail.

Table 1. Classroom observation tools

Measure	Domains observed	Child outcomes
CIS Caregiver Interaction Scale	Emotional tone, discipline and style, and responsiveness of teachers	Social interactions in two-year olds
CLASS Classroom Assessment Scoring System	Teacher–child interactions in three domains: instructional support, emotional support and classroom organisation	<ul style="list-style-type: none"> • More social competence and fewer problems • Expressive and receptive language and math in pre-school • Task-oriented behaviour and aggression towards peers
ECCOM Early Childhood Classroom Observation Measure	Quality of instruction, management, social climate, cultural sensitivity, and resources	
ECERS–R Early Childhood Environment Rating Scale – Revised	Global quality and seven subscales: space and furnishing, personal care, language and reasoning, activities, interactions, programme structure, and parents/staff	<ul style="list-style-type: none"> • Expressive language in pre-school • Receptive language in pre-school and school • Verbal and non-verbal reasoning of pre-schoolers • Cooperation, independence, concentration
ECERS–E Early Childhood Environment Rating Scale – Extended	Developed to supplement the ECERS–R with more focus on academic achievement: literacy, mathematics, science and diversity; reflects the British national preschool curriculum	Pre-reading, mathematics, reasoning in five-year olds
ELLCO Early Language and Literacy Classroom Observation	Three tools: (1) literacy environment checklist, (2) classroom rating of 14 dimensions of literacy, and (3) Literacy Activities Rating Scale with a summary rating	Pre-reading skills and vocabulary in pre-schoolers, English and Spanish language skills
ITERS–R Infant/Toddler Environment Rating Scale – Revised	Global quality and seven subscales: space and furnishing, personal care, listening and talking, activities, interactions, programme structure, and parents/staff	
ORCE Observational Record of the Caregiving Environment	Focuses on an individual child's interactions with adults; sensitive, warm and responsive caregiving; several discrete behaviours and five qualitative ratings	<ul style="list-style-type: none"> • Positive peer interactions at 36 months • Cognitive and language scores at 54 months

Measure	Domains observed	Child outcomes
PQA Preschool Program Quality Assessment – 2 nd edition	Three observed domains: learning environment, daily routines, and adult-child interaction; four domains via interview: curriculum planning and assessment, parent involvement, staff qualifications and programme management	Cognitive scores in pre-schoolers
Profile Assessment Profile for Early Childhood Programs	Five subscales: learning, environment, scheduling, curriculum, individualising, interacting	Fewer problem behaviours, print concepts and story memory
Snapshot Emerging Academics Snapshot	Child's exposure to instruction and engagement in six academic activity settings, 11 content areas and six levels of teacher responsivity	Teacher ratings of children's language and literacy skills

Source: based on Bryant, 2010.

Notably, the ECERS family of tools has been shown to have high intercultural reliability and is frequently used in the literature to facilitate international comparisons of childcare systems (e.g. Sheridan et al. 2009; Tietze et al. 1996; Vermeer et al. 2016).

3.2 Structural quality indicators

Measuring and comparing process quality across countries presents a particular difficulty for researchers. Although the range of tools described above have been designed to measure different aspects of the interaction and experiences of children within these settings – and the subsequent effect on outcomes – these tools are often costly and time-consuming to implement, and data is difficult to gather. Research that has ventured a cross-country comparison has often done so using the data from existing national-level studies or on a small scale (e.g. Slot, Lerkkanen & Leseman, 2015; Cryer et al. 1999b; Vermeer et al. 2016).

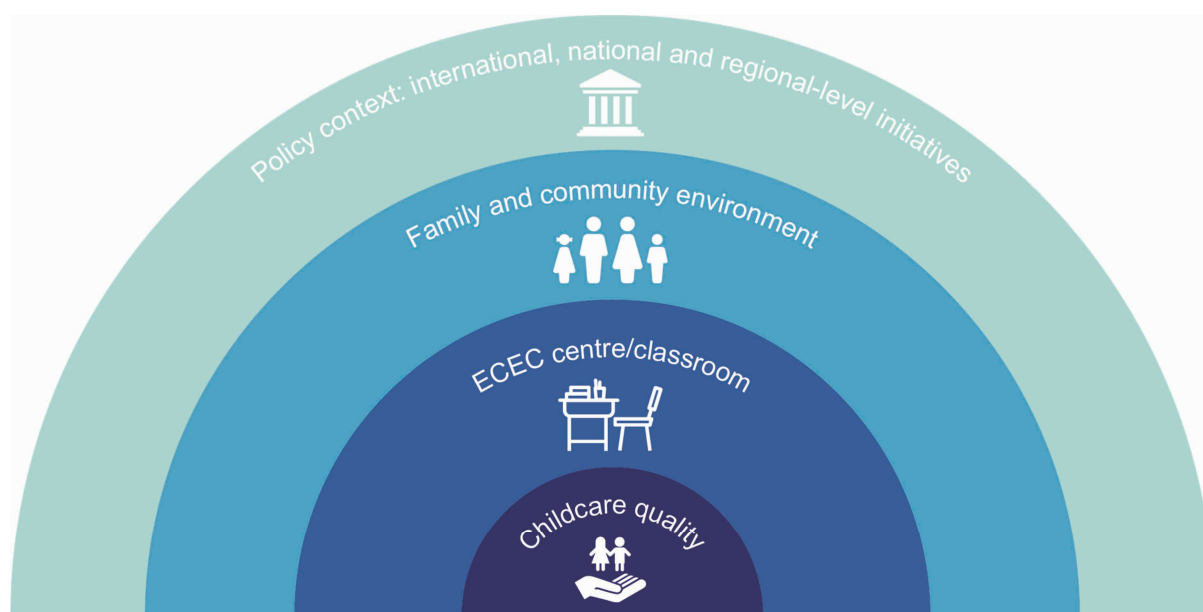
There are, however, a number of structural indicators that, when considered in the context of the wider ECEC, education and social protection systems can be an indicator of process quality. For instance, frequent interaction with adults has been shown to make a positive impact on children's social development; therefore, small class sizes may be operationalised as an indicator of quality (e.g. Slot, Leseman, Verhagen & Mulder, 2015; Cryer et al. 1999b). As discussed in the previous chapter, structural factors should not be considered in isolation; for policymakers seeking to improve quality in childcare systems, much may depend on the interplay between different structural inputs, such as group size and teacher qualifications. Nonetheless, given their ease of measurement, structural indicators have been used to facilitate international comparisons of childcare systems (Economist Intelligence Unit 2012; Pascal et al. 2013).

In this section, we present a range of structural factors that are frequently considered indicators of high process quality, with reference to the variation in the European ECEC landscape. We have grouped these into three contexts that influence the efficacy of ECEC provision:

- Factors at the national and local governmental level
- Factors related to the local community and family background
- Factors implemented at the level of the ECEC centre itself.

However, it is important to remember that these factors are not mutually exclusive, but that there is some extent of overlap between them. While our distinction is useful when considering the levels at which policies to improve quality in ECEC are implemented, many policy initiatives will depend on multiple categories for their success. Cryer et al. (1999b) proposed a schematic illustration listing various indicators of quality and the policy levels that they correspond with. Below we present an adapted version of this schematic illustration, which also provides guidance to the structure of the subsequent sections of this policy brief. In our view, this provides lenses for a better understanding of how different contextual factors work together to influence quality in ECEC, compared with simply discussing each structural factor in isolation.

Figure 2: Policy levels impacting on ECEC quality



Source: adapted from Cryer et al. 1999b

3.2.1 European, national and local policy context

3.2.1.1 Government strategy and investment

Responsibilities for strategies and developments in the ECEC area are within the scope of various governments at European, national, regional and local level; the public funding streams for ECEC reflect these divided responsibilities (OECD 2015b). Below we will first describe how ECEC is currently organised within the European, national and local contexts, before discussing in more depth how policy decisions at each of these levels affect the quality of ECEC.

In the past, the focus has been on increasing enrolment levels in ECEC. However, with the rising number of children attending ECEC services, governments have started focusing more on the aspects related to the quality of provision through the development and refinement of the frameworks for early learning.

A study by CORE (2012) notes that the **European Union** has an important role to play in the process of ensuring the quality of ECEC provision. The authors suggest that ‘it is very important that the European Commission continues to promote ECEC as a public good of general interest and as an integral part of the educational systems of Member States’ by taking initiatives to ‘work towards a European framework for quality of early childhood provision to complement the agreed quantitative targets’ (CORE 2012, 53). The authors also postulate that the EC should ‘develop European guidelines to support Member States to implement research and policy recommendations’ (CORE 2012, 53).

At the **national level**, governments are responsible for various aspects of ECEC governance, such as financing, standards setting, curriculum development and monitoring of provision. In terms of standards setting and funding of services, many national governments set policies encouraging access to ECEC and providing funding for ECEC services. In some EU countries, the increase in entitlement is a reflection of a legal right to ECEC provision for children. However, there are considerable differences across countries in legal entitlements to a place in an ECEC setting. In Germany, for instance, a child has a legal right to a place in an ECEC setting from the age of one until it reaches compulsory school age (five to six years old), whereas in other countries, such as the Czech Republic, a place is guaranteed for only one year before a child enters primary school (OECD 2015b). Differences also exist in the number of hours provided through government funding. In Italy, for instance, children aged three to five have a right to universal coverage of 40 hours per week; 24 hours is available to children the same age group in France; all three to five year-old children may have 15 hours of free ECEC per week in Sweden; and in England, children aged three to four receive 15 hours of free ECEC provision (OECD 2015b).

In general, across countries included in the OECD study (2015), the share of children attending ECEC and the number of hours they spend in the settings has been increasing, implying a trend towards universal early education. As summarised by authors of this report, ‘attention to the ECEC sector is not only motivated by concerns about parents’ participation in the labour force, but is increasingly justified by the important contribution ECEC can make to children’s development and educational progress’ (OECD 2015b).

National policies are also increasingly opting for integrated provision of ECEC services, rather than ‘split’ systems. The ‘split’ systems, in which provision for pre-school children is often governed by separate structures for younger and older children, often divide responsibilities between various levels of authority.

In ‘split’ systems, the focus is either on ‘education’ or ‘care’ and can ‘lead to incoherent objectives, operational procedures, regulation, staff training and requirements’ (OECD 2015b, 26). This often results in a fragmented system of governance, with recommendations and regulations governing provision being set by various government bodies. In contrast, in unitary systems a dedicated provision is available for children from an early age and this provision is integrated with the broader education system (European Commission/EACEA/Eurydice 2014). The trend of moving towards an integrated provision reflects the greater emphasis on the educational benefits of structured ECEC services for children’s development, in addition to the childcare services helping parents reconcile their family and professional responsibilities. As noted in the OECD study (2015), the focus on both education and care, typical for the integrated services, is found in ECEC settings in Belgium, Finland, France, Germany, Ireland, Italy, Sweden and England. However, for younger age groups in particular, the traditional care-only provision still operates in some countries, e.g. in the Czech Republic (in day nurseries), the Netherlands (childminders), Portugal (childminders and family crèches), Slovakia (nurseries, mother centres and children centres) and Scotland (UK) (childminders) (OECD 2015b).

In countries with integrated services, the governing of ECEC across all age groups is usually a responsibility of the ministries of education. In the ‘split’ systems, the ECEC services for younger children (until three years of age) are typically governed by the ministries of welfare or health and the ECEC services for older children by the ministries of education (OECD 2015b).

Some responsibilities related to the governance of ECEC provision are shared by **the regional and local governments**. For instance, this shared responsibility for ECEC is devolved in line with the wider regional governance context in the French and Flemish communities of Belgium, and in the countries of England and Scotland in the UK. In Germany, the regional and local authorities also have substantial responsibilities for ECEC governance, for instance in the areas of funding and monitoring (OECD 2015b).

Analysing the funding of ECEC services, the OECD (2015b) found large differences across countries. Funding decisions are often divided between different levels of government, e.g. central and local level (Slovenia), state and local level (Germany), or are the responsibility of all three levels (national, regional and local authorities), as in France and Italy. In many countries, such as Germany, France, Italy, Portugal, Slovakia, Slovenia and in the Flemish community of Belgium, ECEC is also funded through government grants. Typically, ECEC provision is also (at least partly) funded through parental fees and subsidies.

3.2.1.2 Regulation and minimum standards

There is recognition that provision of ECEC has to be of high quality. Regulatory standards for all forms of provision therefore play an important role in shaping the development, provision and evaluation of ECEC services. Studies suggest that in order to promote a participatory process in defining and ensuring quality, regulations and minimum standards should be defined and developed in a participatory and democratic process, involving different groups of stakeholders, such as children, parents, families, and professionals who work with children (OECD 2015b; CORE 2012).

Typically, regulations and minimum standards requirements include the following components (CORE 2012, 46):

- *Framework for governance* setting down policy responsibilities at different levels of government (e.g. EU, national, regional, municipal) and linking early-childhood policies to a wider policy context (e.g. welfare, equality, education).
- *Quality framework* addressing criteria for the level of quality required from all early-childhood services, and ways to develop good practices and involvement of stakeholders.
- *Curriculum frameworks* specifying overall goals, principles and competences for working with young children regardless of the institutional setting.
- *Qualifications framework* laying down professional preparation and professional development for all members of the ECEC workforce.
- *Monitoring and evaluation framework* ensuring data on the ECEC sector are collected systematically and evaluations involving all key stakeholders are conducted regularly.

3.2.1.3 Monitoring practices and quality assurance

Although all countries have various central and regional-level regulations covering a broad range of aspects related to quality, a similarly important indicator is the extent to which compliance and quality of ECEC provision is monitored and evaluated. Typically, EU countries monitor the following aspects related to quality: monitoring of curriculum and learning objectives related to children's progress, child development and outcomes, staff quality, service quality and capacity monitoring. These aspects are discussed in more detail in Section 3.2.3.

Monitoring the quality of ECEC provision is typically the responsibility of national public institutions or agencies, such as respective ministries (e.g. ministry of education) or inspectorates, and is funded from public sources. In decentralised systems, monitoring is carried out by regional and local authorities. The objective of monitoring is mainly for accountability purposes, to provide suggestions how the quality of ECEC provision could be improved and to further inform policy design. Information from the monitoring exercises is also shared with parents to allow them to make informed decisions about ECEC services that are best suited for their children (OECD 2015b).

The Eurydice report (2014) explained that curriculum and learning objectives related to children's progress and development are set and monitored in all EU countries. These objectives are codified in official educational guidelines aimed to help settings improve their provision. The learning objectives focus on personal, emotional and social development, as well as language and communication skills. However, as the authors note, in around half of the EU countries, these educational guidelines are only provided for settings for older children (three-year olds and over), with the emphasis on the care element in provision for younger children (European Commission/EACEA/Eurydice 2014).

Assessment of children's progress, achievements and outcomes is conducted on a regular basis in all EU countries. The aim of this assessment is typically twofold: first of all to evaluate the effectiveness of teaching and learning, and secondly to identify the needs of children and potential difficulties that hamper their progress. The Eurydice report (2014) states that in the case of older children, observations of their progress are typically provided in the format of a written record of assessment, which is typically shared with schools to enable continuity of learning and development (European Commission/EACEA/Eurydice 2014).

Service quality, including monitoring and accreditation of ECEC provision is in place in all EU member states with the exception of Bulgaria. However, the authority responsible for implementing the processes varies from the central level (in countries including Croatia, Latvia, Luxembourg, Malta, Romania, Slovenia and parts of Belgium) to the regional or local level (Austria and Denmark), with other EU member states having a mix of central, regional and local level accreditation processes (European Commission/EACEA/Eurydice 2014). The external evaluation of ECEC provision is similarly implemented most often at the central level. Evaluation procedures typically measure compliance with regulations, such as: health and safety and group sizes; management procedures of the ECEC centres; staff performance; and child wellbeing and learning outcomes. A few countries also involve some element of parental satisfaction feedback (European Commission/EACEA/Eurydice 2014).

Finally, all EU countries have some kind of capacity-monitoring and forward-planning systems in place, typically for older children. Yet, the particular arrangements for planning and monitoring capacity in ECEC differ largely across countries and are distributed between central, regional and local levels. For instance, responsibilities for such planning and monitoring is highly centralised in Malta, whereas in Denmark and Scotland (UK) local authorities play a prominent role. In Ireland and France, independent bodies take on a prominent or central role in capacity monitoring and development (European Commission/EACEA/Eurydice 2014).

3.2.1.4 National ECEC curriculum and learning standards

As a result of the growing awareness of the impact of early development and education on later outcomes, an increasing emphasis has been placed on the *educational* content of ECEC provision (OECD 2012b). A common educational framework at a national level can help children progress at an even rate, increase quality in educational provision, avoid repetition of work and ease the transition to primary schooling (European Commission/EACEA/Eurydice 2014; OECD 2012b), and as such is considered an important aspect of delivering quality ECEC. Mandatory curriculum standards and frameworks are typically developed at the national level, although in some regions these are non-binding guidelines, for example in some German Länder and in Scotland (OECD 2015b).

Although the use of central curriculum guidelines for home-based or younger children ECEC provision varies between countries, all EU member states have some form of educational guidelines in place specifying learning and developmental targets for older children (older than three) in ECEC. Those educational guidelines are contained in dedicated ECEC steering documents or wider educational plans, and contain recommendations for ‘understanding the world’, personal and social development, expressive arts, communication skills, numerical reasoning, reading literacy and physical development, while a smaller number of countries have similar recommendations in place for second-language learning (European Commission/EACEA/Eurydice 2014).

As Sylva et al. (2015) note, reporting on the CARE Project, the content of such guidelines are most commonly organised in two ways: *developmental domains*, such as language skills, and the *kinds* of learning a child should experience, such as play or interaction with staff. Member states frequently include both approaches in guidelines, to varying degrees. All EU member states, with the exception of Croatia, Austria and the Flemish community in Belgium, have some form of guidance as to the assessment methods to ascertain each child’s progress towards developmental outcomes. The most common methods are

observation and the keeping of written records for each child, while testing and self-assessment by children is used in only a few countries (European Commission/EACEA/Eurydice 2014).

It is important to note that the presence of central steering documents or regulations is no guarantee of quality. Studies note that policy in official guidelines may not reflect the full content of the ‘experienced’ or ‘realised’ curriculum that is implemented by staff in ECEC centres, and may depend on the extent to which practices are monitored, learning resources are available, and staff are suitably qualified to implement guidelines (Sylva et al., 2015). Similarly, curricular guidelines that are overly strict may limit the ability of staff to innovate and adapt practices to local conditions. For that reason, the OECD (2006, 2012b) highlight that care should be taken to ensure that parents, teachers and communities retain the flexibility to innovate and adapt central guidelines to the local educational and cultural context.

3.2.2 Family and community factors

The involvement of parents, communities and carers in ECEC provision can serve to complement and reinforce the benefits of quality ECEC provision (Eurydice & EACEA 2009; OECD 2012b). A number of factors can serve as indicators of high-quality provision. However, social and cultural environments may play a strong role in determining which interventions are more or less likely to improve quality, and successful interventions at a national level may not be generalizable at an international or local level.

The 2012 OECD review suggests that frequent and strong interactions with the families and community of the children can help in this regard. Engagement with these actors may help the policymaker or ECEC centre to understand the home environment and particular disadvantages a child or group of children may face, tailor interventions accordingly and drive local innovation to improve ECEC quality. Families can complement and reinforce the benefits of high-quality ECEC by providing a stimulating home environment. Communities, meanwhile, may act as a ‘connector’ between families and local services, a ‘social network’ for parents and a ‘source of resources’ for the ECEC centre (OECD 2012b).

Below, we present a number of structural factors at the family/community level that are considered important elements in enhancing the quality of ECEC provision.

3.2.2.1 Involvement of parents in the governance of ECEC settings

Sylva et al. (2004) reported on the largest European longitudinal study of quality in ECEC – the UK EPPE study – and found that a supportive home environment was a key element of sustaining the wider educational and social benefits of high-quality ECEC provision. The children of parents who complemented their children’s learning through activities, such as reading together, showed higher educational outcomes during early primary schooling. This relationship was markedly stronger than that of the socio-economic or educational background of the parents (Sylva et al. 2004).

However, poor communication and understanding between parents/carers and ECEC staff may frustrate attempts to create a collaborative and reciprocal relationship between the home and ECEC environment (Bernard van Leer Foundation, in Bennett 2012a). A review by DG EAC (Bennett, 2012a) of recent research studies recommended a number of initiatives that could improve the working relationship between ECEC staff and parents. These initiatives included frequent contact between parties, parental

involvement in governing structures and an ECEC workforce that reflects the ethnic, social and cultural diversity of the children for whom it provides education and care.

Most countries have formal recommendations in place for parental involvement in ECEC provision, primarily through parent–staff meetings. Similarly, the majority of member states require by law the involvement of parents on governing boards for older children, and to a lesser extent community representation, although these stipulations are less common in settings for the younger age range (European Commission/EACEA/Eurydice 2014).

3.2.2.2 Wider family support services and support for disadvantaged children

The provision of tailored support for individual needs is particularly important when providing for children from disadvantaged backgrounds. The particular benefit of high-quality ECEC for children from disadvantaged backgrounds is well-established (see for instance Bennett 2012a).

However, in all EU countries with data available, children with parents of a low education background are less likely to participate in ECEC (with the exception of Italy) (European Commission/EACEA/Eurydice 2014).³ Even those who do attend ECEC may face language or other cultural or socio-economic difficulties that act as a barrier to making the most of ECEC provision. The CARE study noted that even if ECEC is of high quality on balance across the country, selection tendencies and clustering may mean that certain groups of children ultimately receive poorer-quality ECEC provision, compounding existing social and economic disadvantages (Slot, Lerkkanen & Leseman, 2015).

As a result, a number of EU member states have implemented special measures to support children from disadvantaged backgrounds in ECEC. Around half of EU countries have special financial arrangements in place to offer targeted support for disadvantaged children (Eurydice & Eurostat 2014), predominantly by offering targeted funding and additional staffing for children at risk (Bennett 2012a).

The majority of EU member states take a group-based approach to this provision by targeting additional measures towards one or more particular population subsets, such as ethnic minorities, children with different linguistic backgrounds, socio-economic disadvantage, or particular geographical areas (Eurydice & Eurostat, 2014). Five countries, namely Italy, Austria, Luxembourg, Malta and Scotland, take an individual approach by focusing on each child's individual development and progress through the system (European Commission/EACEA/Eurydice 2014). Other member states use a combination of both approaches, and a few also provide for home visits from ECEC staff, or parenting programmes for children from disadvantaged backgrounds (European Commission/EACEA/Eurydice 2014).

Given the complex interplay of factors affecting the outcomes for disadvantaged children, the need for a wider, multi-agency approach to tackling disadvantage has been noted in the literature. Even high-quality ECEC may fail to adequately tackle structural disadvantage if it is not paired with simultaneous wider social and health support schemes for families and communities (Bennett 2012a, 2012b).

³ Statistically insignificant difference: BE French community and BE Flemish community, CZ, HU, NL, UK Northern Ireland and Scotland

3.2.2.3 Transition between ECEC and primary education

The move to formal schooling can be a significant change for a child, and facilitating a smooth transition from ECEC to primary education is important if the benefits of high-quality ECEC are to be strengthened, rather than undermined (PPMI 2014). However, in their review of the literature, PPMI identify a number of barriers which prevent continuity in provision, such as a lack of coordination and communication between education institutions at different levels.

As a result, all member states with the exception of Poland have introduced central recommendations to ensure a smooth transition (European Commission/EACEA/Eurydice 2014). Similarly, countries with ECEC structures split across age ranges often have similar guidelines for transition from the younger to older ECEC age groups. In many EU member states, children are admitted to primary schools on the basis of their age (e.g. in the Scandinavian countries, Ireland, France, Greece, Lithuania, Poland, Portugal, Romania, Spain and the UK), whereas in other countries, their maturity and readiness for school is assessed (e.g. in Austria, Bulgaria, Estonia, Germany and Latvia). Several European countries allow deferment of admission, either at the request of parents or due to a child not fulfilling the readiness-for-school criteria (European Commission/EACEA/Eurydice 2014).

The strive for continuity is apparent in many national-level initiatives, such as the keeping of clear written observational records for each child to be passed on as recommendations to the receiver school (as in Bulgaria and Lithuania) (European Commission/EACEA/Eurydice 2014), or the integration of some ECEC sites within primary school buildings or organised visits between sites (as in Slovenia) (OECD, 2012b).

3.2.3 Centre-level factors

Finally, there are structural factors implemented at a centre-level. These comprise the majority of indicators discussed and tested in the ECEC literature, and are often considered the strongest determinants of process quality, given their impact on the day-to-day experience of the child. Below, we offer an overview of some of the major structural indicators considered by the literature to have the greatest impact on quality.

3.2.3.1 Curriculum implementation

As the OECD (2012b) notes, approaches to the delivery of the curriculum can be broadly grouped into systems that favour an *academic* approach, which focuses on delivering the knowledge required to begin school, and a *comprehensive* approach, which places a greater emphasis on the child's wider wellbeing and development.

The OECD (2012b) notes that both approaches have their merits as well as drawbacks. An academic approach can help improve a child's literacy, numeracy and IQ scores in the short term, while a holistic approach may help to better develop a child's confidence and creativity. EU member states often strive for a 'balance' between the two approaches (Sylva et al., 2015). However, as the OECD (2012b) notes, in some countries such a balance has been found to be less effective in practice than the dedicated approaches. As a consequence, little consensus remains on the ideal balance between academic and

developmental content in ECEC curricular guidelines, and the need for further research in this area has been highlighted (see Sylva et al, 2015; OECD, 2012b).

The types and extent of guidance on this subject varies between countries, ranging from criteria set in national legislation to broader guidelines for development content. Most countries recommend involving a mix of both teacher-initiated and child-initiated activities, and both group and individual activities, while in several member states there are central steering documents that contain formal recommendations for either a structured timetable or free play (European Commission/EACEA/Eurydice 2014).

Box 2: Perspectives on pedagogical quality in ECEC

Following a survey of 11 countries in the CARE consortium regarding the content of their national curricula, the CARE study found broad agreement on elements of pedagogical quality:

- "Focus on pedagogical interactions with emphasis on relationships and social interaction"
- "Enabling learning through exploration, project based activities, play and narratives"
- "A balanced approach where adults guide, support and facilitate, and ensure that experiences in all areas of development are offered, while giving enough room for the child's choice and interests"
- "Focus on observation as a means to reflect on children's development"
- "Environment that is stimulating, and gives children enough space and time"
- "Focus on co-operation and partnerships with parents"
- "Importance of institutional bodies which support and guide pedagogical practices"

Source: Sylva et al., (2015, 7)

3.2.3.2 ECEC workforce

Studies reviewing childcare quality have highlighted staff knowledge, training and professionalism as key to ensuring quality in ECEC provision (see OECD 2006; OECD 2012b; Bennett 2012a). Interaction with adults is a critical part of the child's social and educational development, and can have a strong impact on the ability of the child to develop within an ECEC setting (see Sylva et al. 2004). Analysis from the Office for Standards in Education shows that a better quality of ECEC staff provides higher quality support for children, in particular for children aged between two and a half and compulsory school age (OECD, 2015b). Given the length of time a child may spend with ECEC staff during these critical early formative years, ensuring *quality* within this interaction is important, but is, at the same time, difficult to measure. As a result, a strong emphasis has been placed in the literature focusing on the continuous quality improvement of ECEC services on the benefits of attracting, developing and monitoring a professional, skilled and well-educated workforce to the sector, capable of understanding and managing children's educational, social and developmental needs.

Three categories of staff have been broadly identified in literature when assessing ECEC (European Commission/EACEA/Eurydice, 2014):

- *Educational* staff, with broad responsibility for learning objectives;
- *Care* staff, focusing on immediate child wellbeing;
- *Auxiliary* staff, who work in an assistance capacity.

As the study notes, mandatory qualifications, continuous professional development (CPD) and experience requirements are often roughly split along these lines, although staff categories and responsibilities may vary across countries and regions.

While the focus in the literature is primarily on staff working directly with children in ECEC centres, it is important not to overlook the importance of skilled staff at a central level. Skilled administrators are required not only to manage the ECEC structure within a country, but also to actively innovate and reform the system and effectively manage funding flows from European and international initiatives (Bennett, 2012a).

3.2.3.2.1 Staff qualifications

Qualifications remain an important indicator of both knowledge and commitment across the workforce. The UK's long-running Effective Provision of Pre-School Education study showed that settings whose staff held high-level qualifications attained greater scores on the 'quality' measure. At the same time, children made more progress, in particular if the centre manager was highly qualified. The study concluded that the most effective tool for achieving high quality scores was the presence of trained teachers for a 'substantial' portion of time (Sylva et al., 2004).

Other studies highlight that the benefits of a well-balanced and thoughtful curriculum depend on the extent to which the ECEC workforce is capable of implementing a diverse curriculum through various educational approaches. In addition to having sufficient knowledge to deal with the educational content of lessons, staff must *understand* the process of early years development and learning (Bennett, 2012a), and should be able to successfully support child-initiated activities and a development-oriented curriculum (OECD, 2012b; Jensen & Iannone, 2015).

All EU member states now have some form of mandatory qualification level for educational staff working with older children in ECEC. The required qualification ranges from upper secondary-level education in Scotland, to a master's degree with a five-year initial qualification in France and Italy (European Commission/EACEA/Eurydice, 2014). Similarly, all member states, with the exception of Denmark, Ireland, Sweden and parts of the UK, have some form of mandatory educational qualification for heads of centre-based provision (European Commission/EACEA/Eurydice, 2014).

Apart from formal qualifications, staff working in ECEC settings are usually also required to register with professional educational or childcare bodies, hold a licence to practice and undergo various checks, e.g. a criminal record check or security check. (European Commission/EACEA/Eurydice, 2014). Inspections of ECEC staff involve the overall quality of their teaching and care, as well as how well they are implementing the curriculum. Monitoring staff quality is typically conducted through inspections and self-evaluations, and sometimes through parental surveys, peer reviews and staff testing. External

monitoring of ECEC staff quality is typically conducted at the regional/state or municipal level, whereas the internal monitoring typically takes place at the setting level (OECD, 2015b).

Educational requirements for auxiliary and support staff are typically lower than requirements set for educational staff. For instance, Ireland, France, Italy, Latvia and the UK ask for no formal qualifications for auxiliary staff. In other countries, including Denmark, Estonia, Greece, Lithuania, Portugal, Slovenia and Slovakia, auxiliary and support staff are required to hold a minimum of an upper secondary qualification of between three and five years in length (European Commission/EACEA/Eurydice, 2014). ECEC assistants may take on a variety of caring, educational or administrative tasks. The benefits and importance of their professional development remain understudied and, as some argue, unappreciated in the literature on improving quality in ECEC (Van Laere et al. 2012).

A number of member states, including the Flemish part of Belgium, the Czech Republic, Germany, Finland, Sweden, England and Scotland, have begun offering staff alternative routes to becoming qualified ECEC staff, such as fast-track qualifications, in-work training schemes and formal recognition of past experience (European Commission/EACEA/Eurydice, 2014).

3.2.3.2.2 Specialist staff

Support for specialist development and educational needs is also widely provided for in member states' ECEC policies. In a majority of countries, central regulations or recommendations for ECEC cover the provision of specialist support workers, most commonly speech/language therapists, educational psychologists, and special educational needs (SEN) specialists. The number and type of specialist support workers required varies across countries. Malta, for example, recommends specialists in a wide variety of categories, while France does not providing any central recommendations for ECEC for older children (European Commission/EACEA/Eurydice, 2014).

These specialists operate in a variety of contexts. Some are based in ECEC centres through in-house or staff provision, while others are part of external, multidisciplinary teams and social services with which regulations mandate cooperation (European Commission/EACEA/Eurydice, 2014). As the joint report notes, physical developmental specialists are most commonly recommended for younger children, while provision for older children focuses more often on educational and social development (European Commission/EACEA/Eurydice, 2014).

3.2.3.2.3 Continuous professional development

Continuous professional development (CPD) has gained importance in recent years, with an increasing number of countries requiring CPD for any staff working with younger children (European Commission/EACEA/Eurydice, 2014). Further and continued training may help staff to gain new qualifications and skills, update existing skills, and understand new developments and innovations in ECEC provision (OECD, 2012b). On the basis of a literature review, Eurofound concluded that CPD can increase the self-confidence of practitioners as professionals in the sector (Eurofound, 2015).

Of all the EU member states, only Ireland, Denmark, Sweden and Cyprus classify CPD for ECEC staff as optional. All other member state countries have some form of professional requirement for CPD, or require CPD for promotion through professional norms or legislation (European

Commission/EACEA/Eurydice, 2014). Various forms of incentives are offered for participation in training, from salary bonuses (as in Spain) to designated training days (as in Germany) (Eurofound, 2014).

The Eurofound literature review (2015) found CPD to be most effective when integrated into the wider pedagogical or curricular framework, in a practice-based setting, and when practitioners are actively involved in improving ECEC provision in their centre.

3.2.3.2.4 Workforce supply and working conditions

A review of working conditions in certain European countries by Eurofound (2014) noted that poor pay, limited prospects of career progression and limited opportunities for training were common problems in the ECEC sector.

Studies suggest that heavy workloads, limited benefits, low salaries and the perceived low status of ECEC work may negatively impact on the working lives and job satisfaction of ECEC staff. This can lead to high turnover rates and act as a disincentive for dedicated and skilled staff to enter the sector (Moon & Burbank 2004; Huntsman 2008 in OECD 2012b). This, in turn, may negatively impact on the ECEC experience for children, as a high staff turnover may prevent staff from understanding the needs of individual children and building supportive relationships (Moon & Burbank, 2004; Huntsman, 2008; OECD, 2012b). Higher workloads may also have an adverse effect on the *quality* of interaction between staff and children, as the time spent on each relationship decreases (see De Schipper et al. 2007).

Nonetheless, there is little existing literature focusing on the impact of various forms of working conditions on child development and educational outcomes, and the indicator has been highlighted as an area meriting further research (OECD, 2012b).

3.2.3.2.5 Child-to-staff ratios

Having a maximum number of children per staff member is necessary if ECEC settings are to adhere to safety standards. But it is also important for developmental objectives, ensuring that each child has sufficient time for regular and ‘meaningful’ interaction with adult carers (European Commission/EACEA/Eurydice, 2014; OECD, 2006; Pianta et al., 2009). Studies suggest that higher child–staff ratios may also increase the work burden for staff, leading to lower quality interactions, lower job satisfaction and the associated problems discussed above. In addition, the increased individual attention afforded by lower child–staff ratios directly contributes to the child’s social and linguistic development and may help staff to more easily identify and tackle the early signs of special behavioural or educational needs (see De Schipper et al. 2007; Pianta et al. 2009).

Data published by Eurydice (2014) shows striking variation on the issue of group ratios across Europe. For younger children, the maximum number of children per staff ranges from four to one in Finland to sixteen to one in Cyprus. As children get older and become more independent, more autonomy is given to centres over the size of groups and staff allocation, with the child-to-staff ratio rising accordingly from eleven to one in Lithuania to twenty-five to one in Cyprus, with some countries dropping upper limits altogether (European Commission/EACEA/Eurydice, 2014).

There is some evidence showing that maintaining standards for group sizes is similarly beneficial, albeit with a weaker relationship to quality than child-to-staff ratios (Eurofound 2014; OECD, 2012b). As with child-to-staff ratios, maximum group size numbers vary across member states, and increase as children mature.

4 Conclusion

While aspects related to ECEC availability and affordability still dominate policy discussions, recent years have seen an increasing attention to the quality of ECEC provision. This is in line with research showing a strong association between the quality of ECEC provision and the outcomes for children. These outcomes include educational and labour market outcomes, economic outcomes and social outcomes, such as improved child health and wellbeing.⁴ Together, these outcomes make a strong case for increasing investments in the quality of ECEC at a national level. The EC's Recommendation 'Investing in children: breaking the cycle of disadvantage' re-emphasised the importance of investing early in high-quality ECEC.

The aim of this policy brief was to review current academic and policy debates on the issues related to the quality of ECEC services. We examined the definitions and measurements of childcare quality in EU member states and found that views and understandings of what constitutes quality in ECEC provision differs across countries and the actors involved. These understandings reflect the socio-economic context of member states as well as the beliefs, needs, roles and motivations of the different stakeholders involved in defining ECEC services.

We reviewed the broad range of structural and process indicators that have been linked to quality, with a focus on understanding how structural inputs are related to process quality and eventual child outcomes later in life. The interaction between structural and process indicators of ECEC quality is complex, and may vary significantly across socio-economic, cultural and national contexts. Similar outcomes may be achievable through a different combination of contributing factors. As Cryer et al. (1999b) concluded, 'taking steps to improve one significant structural characteristic may, at first glance, appear to be a solution to improving process quality, but in reality the effect is unlikely to be substantial unless other variables are also considered. From this perspective, the most promising intervention strategies to improving quality would be to address changes in all spheres of influence simultaneously.'

However, resources are not unlimited. While relationships can be drawn between most of these structural indicators and an improvement in quality, in reality there may be significant opportunity costs involved in selecting where to focus efforts and resources. With this in mind, and recognising there is no 'magic bullet' of policy interventions that leads to high quality ECEC, we identified potential policy levers for improving ECEC quality, based on structural factors that are frequently considered indicators of high process quality. Table 2 shows these indicators and the policy level at which they work. As can be seen, government strategy is key to the implementation of interventions that lead to quality improvement, as none of the policy changes can happen unless governments are persuaded of the value of ECEC.

⁴ The EPIC policy brief 'Early Childhood Education and Care (ECEC) and its long-term effects on educational and labour market outcomes' provides an in-depth discussion of the long term and short term outcomes of ECEC.

Similarly, there are some recommendations that can be made, based on ‘best practices’: as part of ‘Starting Strong III’, the OECD has developed a ‘Quality toolbox for ECEC’, which outlines strategy options under different policy levers, together with country examples (OECD 2012b).

Table 2: Potential policy levers for improving ECEC quality

National level	<ul style="list-style-type: none">• Government strategy and investment• Regulation of quality standards• National curriculum standards• Monitoring and evaluation of settings
Family and community level	<ul style="list-style-type: none">• Support for disadvantaged families• Parent involvement in ECEC setting governance• Supportive transition between levels of schooling
Childcare setting	<ul style="list-style-type: none">• Pedagogical approach• Workforce pay and conditions• Staff qualifications, experience and CPD• Specialist learning and development support• Group sizes and child-to-staff ratios• Adequate learning and play resources

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