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EDUCATION POLICY COMMITTEE**

Network on Early Childhood Education and Care

From policy questions to new ECEC indicators

Draft background paper for the 14th meeting of the OECD ECEC Network

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1. Introduction

1. Early childhood education and care (ECEC) continues to be high on the political agenda. The driving objectives include building strong foundations for lifelong skills formation, ensuring equity, tackling child poverty, promoting intergenerational social mobility, boosting female labour force participation and enabling parents to reconcile their family and professional aspirations. In recent decades, many OECD countries have increased their public spending on ECEC. At the same time, pressure to consolidate public finances has built up and ECEC policymakers are asked to justify the expanding expenditure on early childhood services.

2. Across the OECD, countries seek to better understand the performance of their ECEC systems, questioning comparative expenditure and efficiency as well as the outcomes of their investments in early years' services. Policymakers need evidence that goes beyond the assessment that ECEC matters and that its quality is important. There is a growing need to measure quality in ECEC and investigate what works in ECEC. However, internationally comparable data on ECEC remain very limited and it is difficult to investigate which systems work best and why.

3. This paper seeks to identify the types of data that can address the needs of policymakers and thus support better informed policy choices. At its 13th meeting, the OECD ECEC Network agreed to take the following seven steps to develop indicators (Box 1). This paper will address the first two of these steps and help define the direction to be taken. It will suggest a roadmap of data development for system-level, staff-level and child-level data in view of short-term (2014), medium-term (2015/16) and long-term tasks (2017/18). It will conclude by suggesting focuses of attention for data to be developed in the Education Policy Committee's Programme of Work and Budget (PWB) 2015/16.

Box 2. Agreed Steps of Data Development for the OECD Network on ECEC

1. Agree on the policy questions that the data need to address.
2. Identify the indicators and underlying data that need to be developed to address these policy questions.
3. Examine who is the best respondent for such data and how to reach this respondent (e.g. are these system level data that national ministries/agencies should respond to or are other methods needed to reach the most suitable respondent, e.g. a sample survey with service providers or staff?)
4. Develop definitions for the data items and data collection guidelines.
5. In the case of system level data collection, assess national data availability through a 'data availability questionnaire'.
6. Pilot the data collection in a few countries to test the definitions and data collection guidance.
7. Conduct the live data collection with all countries, data cleaning, quality checking, country validation and reporting.

For more detail, see the following discussion paper on the proposed data development strategy [[EDU/EDPC/ECEC\(2013\)1](#)].

2. Country needs analysis and suggested indicators

4. In Q2 2013, the OECD Secretariat asked the OECD ECEC Network members to identify the key policy questions that are the most relevant and the priorities for their countries in the area of ECEC. Nineteen countries responded [[EDU/EDPC/ECEC\(2013\)1/ANN1](#)]. The Secretariat reviewed the questions, grouped similar questions and assessed which data need to be developed or updated to provide a comprehensive answer for each question.

5. In grouping the questions, the structure used in *Education at a Glance (EAG)* has been adopted, *i.e.* four chapters: *i) output and impact*, *ii) financial resources invested in ECEC*, *iii) access and participation* and *iv) learning/well-being environments and organisation*. This division of indicators is useful to structure both data collection and analysis. However, it is important to note that adjustments are necessary for ECEC contexts in comparison with other levels of education.

6. The Secretariat prepared a matrix of tables that can link the policy questions suggested by countries and the types of indicators needed to respond to the questions (see Tables 1 to 4). The data are followed by specification of the level (*i.e.* system, staff or child level). The names of the country respondents appear in brackets.

7. As will be discussed later in this section, development of quality assured, staff-level and child-level data would require a longer process than system-level data development. It is therefore pivotal that the matrix indicate not only policy priorities but also a realistic timeframe. Thus, the third and fourth columns are intended to give a visual snapshot of the degree of priority and feasibility of development for the data in focus. The third column informs about priority (the darker the colour  the higher the priority); the fourth about feasibility (the darker the grey  the more feasible the collection).

8. The final column informs on the availability and status of the respective indicators, *i.e.* whether the data would be made available by updating the existing data, carrying out the current PWB 2013/2014 or developing new data. It is directed by the findings of the data mapping exercises [[EDU/EDPC/ECEC\(2012\)3/REV1/ANN2](#)] and [[EDU/EDPC/ECEC\(2013\)1/ANN3](#)].

2.1 Output and impact

9. In recent years, many governments have increased public spending on ECEC. For accountability purposes and under the current budget constraints, more and more governments are expected to justify their spending on ECEC. New Zealand, Singapore, Slovenia, Spain and the United Kingdom indicated their interest in showing their ‘return on investment (RoI)’ as they need to justify their spending on ECEC (Table 1).

10. In past decades, a growing number of countries have launched longitudinal studies, including age cohorts in ECEC. The purposes of such studies include not only better understanding of factors which affect early year’s child outcomes to improve programme quality but also advancing cost-benefit analysis with long-term economic, social and educational RoI in ECEC.¹

1. <http://www.oecd.org/edu/school/49322823.pdf>

11. The level and types of investment can be measured by calculating public and private spending, while the level and types of ‘return’ may vary according to each country’s expected policy goals and expected policy outcomes with short-term and long-term visions. For the Network’s data collection, the **impact**, or **outcomes indicators**, suggested by the Network’s *Working Group (WG) on Data* focused on ‘child/student outcomes’, including ‘academic performance’, ‘child wellbeing/involvement’, and ‘contemporaneous outcomes’ [[EDU/EDPC/ECEC\(2012\)4](#)].

12. At the 13th network meeting, members shared concerns about narrow summative assessments on child outcomes as well as political, ethical and ideological concerns within their countries. To address these concerns and to support members in better defining the scope of child outcomes for assessment, the network’s *WG on Outcomes* prepared a framework of child outcomes for assessment [[EDU/EDPC/ECEC\(2013\)8/REV1](#)]. Research supports a holistic approach to defining the scope of child outcomes since all development domains are relevant for children’s growth and societal development in general. Such outcomes should include not only cognitive and linguistic outcomes but also social, emotional and physical/health developmental outcomes (Cost Quality and Child Outcomes CQCO study team, 1995; Friendly *et al.*, 2006; Huntsman, 2008).

13. The network also called for a need to start opening up this untapped area by taking stock of the instruments which are in use by countries to measure child outcomes, the ways in which the results are being used and for what purposes, as well as the policy lessons that can be drawn from the assessment of child outcomes. To respond to this need, the Network’s *WG on Outcomes* has started to undertake the preparatory stock-taking exercise of existing instruments [[EDU/EDPC/ECEC\(2013\)12](#)].

14. The development of child outcomes data would require significant conceptual work and a gradual development of instruments, which could, for example, allow the analysis on relationships between investment, quality of provision and the child outcomes achieved. Such data are also key to estimating RoI. Thus, exploring data development in this area is pivotal for assessing the efficiency, quality and performance of ECEC systems.

15. A proposal on ECEC in the PWB 2015/16 suggests that the Secretariat deliver, among other things, a conceptual framework on child outcomes in early years [[EDU/EDPC\(2013\)20](#)]. At its recent 14th meeting, the Education Policy Committee discussed and emphasised the need to focus the work on ECEC more clearly on the quality of outcomes and provision.

Table 1. Policy questions and indicators on "output and impact"

Question	Types of indicators	Level	Priority	Feasibility	Data status
What is the return on investment in ECEC and is the financing sustainable (New Zealand, Singapore, Slovenia, Spain, UK)?	Expenditure by government and parents	System			To improve by adapting ISCED 2011 definition, in collaboration with INES and ELS
	Expenditure by employers and other institutions				To update EAG 2013 Table B3.2a (for pre-primary 3 years and older) and <u>new</u> data for childcare.
	Early year’s cognitive, non-cognitive and well-being outcomes	Child			New to be defined by the working group on outcomes (Long term plan, PWB 2013/14, 2015/16)
	Student cognitive outcomes at age 15				OECD PISA series (link to ECEC to be improved through PISA 2015)

2.2 Financial resources invested in ECEC

16. Strong public policy forms the basis for a high quality ECEC system and an adequate level of funding is required to provide high quality, affordable ECEC services (OECD, 2001, 2006). At the same time, countries are seeking to bring new financing into ECEC systems *e.g.* cost-sharing among ministries, social partners and local community users; reallocation of resources within education budgets; introduction of market mechanisms; and integrating ECEC services (OECD, 2006). Hungary, Japan, the Netherlands, New Zealand and Norway have expressed interest in better understanding the sources of funding and cost arrangements (Table 2).

17. The amount of public funding raises concerns about *how* the budget is spent. This discussion includes issues of efficiency and equity (Cleveland and Krashinsky, 2004). As research suggests, programmes with similar budgets might differ greatly in quality and in their ability to develop children. Therefore, it is not just the level of public funding but also what the funds are being spent on that interests policymakers (Friendly *et al.*, 2006). Hungary, the Netherlands and Norway expressed interest in data on spending per child and on staff.

18. Data on expenditure by governments, parents, employers and other institutions on ECEC are partly available through the OECD but would need to be improved. Furthermore, better data are needed for the under-three-years age group. The implementation of ISCED 2011 is expected to improve the financial data in this respect.

19. The network is capable of collecting system-level data by using the channels currently in use and, thus, feasibility is high. It needs coordination with the OECD EDU's INES and the OECD DELSA.

Table 2. Policy questions and indicators on "Financial resources invested in ECEC"

Question	Level	Priority	Feasibility	Area of indicators	Data status
What are the sources of ECEC funding and how are parent fees regulated (Hungary, Japan, Netherlands, New Zealand, Norway)	System			Expenditure by government and parents	<u>To improve</u> by adapting ISCED 2011 definition, in collaboration with INES and ELS
				Expenditure by employers and other institutions	<u>New</u> and <u>to update</u> EAG 2013 Table B3.2a (for pre-primary 3 years and older)
				Legal entitlements and fees for accredited ECEC services	<u>To update</u> from unpublished data collected for SSIII and <u>To improve</u> by adopting the model of the child care fees for a two-year-old attending ECEC services in Chart PF3.4A of the Family Database
What is the expenditure on ECEC per child and how much is spent on staff (Hungary, Netherlands, Norway)	System			Public spending per child	<u>To update</u> , in collaboration with INES (% of DGP) and ELS (by age of children)
				Staff cost	<u>New</u> with public spending per staff, or <u>For improvement</u> from staff remuneration figure 3.7 of Starting Strong III (SSIII) OR Table D.3.1 of EAG 2013

2.3 Access and participation

20. In many OECD countries, access to and participation in ECEC have increased although policy concerns as well as data issues remain as key challenges. The concept of access and participation is a complex one. Starting Strong II argued that currently available data need to be interpreted with caution, as they often fail to explain or take into account important internal factors of the ECEC field (OECD, 2006). Examples include:

- The conditions of access/participation (e.g. free or fee-paying?)
- The scope of access/participation (e.g. sessional, half-day or full-day?)
- The types of access/participation (e.g. using just one type of service or other services?)
- The quality of access/participation (e.g. minimum standards, pedagogy, flexibility).

21. While better data are made available on enrolment rates in early childhood education through EAG and Eurydice, many countries are still concerned about enrolment (Table 3). Belgium, Flemish Community and Brussels-Wallonia Federation, Croatia, Hungary, Norway, and the Slovak Republic further indicate an interest in seeking more comprehensive data on enrolment as well as effective policy interventions to increase enrolment. In addition to these general questions about mainstream provision, Hungary and Ireland wish to seek further information about the number of children with special needs and from disadvantaged backgrounds and the policies in place to include and support them.

22. Information such as legal entitlements on access is currently being updated in part through the current survey on monitoring quality of the OECD ECEC network, the results of which will be published in 2014. Data about de-facto (not legislated) intensity and duration of children's attendance is currently lacking. Such data need to be provided by parents and thus require long-term endeavour. Questions in this regard are being tested currently in the parent survey of the field trial for PISA 2015.

Table 3. Policy questions and indicators on "Access and participation"

Question	Level	Priority	Feasibility	Area of indicators	Data status
What share of children attends ECEC and what prevents children from attending? What measures are in place to increase enrolment? (Belgium, Flemish Community and Brussels- Wallonia Federation, Croatia, Hungary, Norway, Slovak)	System			Enrolment	OECD/Eurydice
				Legal entitlements	To update from unpublished data collected for SSIII
				Policy interventions	To update SSIII
	Child/parent			Demanded intensity of participation	New (Long term)
				Intensity of participation	New – currently in field trial for PISA 2015 (Long term plan)
What is the share of children with special needs and from disadvantaged backgrounds and how are they being included and supported (Hungary Ireland)?	System			Legal entitlements	To update from unpublished data collected for SSIII
				Enrolment	OECD/Eurydice
	Child/parent			Enrolment by background	New (Long term)
				Intensity of participation	New – currently in field trial for PISA 2015 (Long term plan)

2.4 Learning/well-being environments and organisation

23. Many countries expressed the need to answer questions about the quality of learning and well-being environments for children and the organisation of such environments (Table 4).

Learning and well-being environments

24. Learning and well-being environments include what actually happens in the playroom/classroom and the quality of interactions between educators and children which is also described as *process quality*. Research has suggested that *process quality* has been positively related to child outcomes in cognitive and linguistic abilities at different ages (NICHD, 2002); less aggressive behaviour towards adults and peers (NICHD, 1998); enduring influence on young children's social and emotional development not only between staff members and children but also with parents and peers (Shonkoff and Philips 2000; Kagan and Kauerz, 2006) and better outcomes in cognitive, linguistic, health and social development (Elliott, 2006; Bowman *et al.*, 2001).

25. At the heart of appropriate pedagogies is the ability of practitioners to structure environments and plan activities that promote optimum engagement for children (Wylie, 2004). A guiding curriculum framework can provide support for staff in their daily practice and pedagogical experiences, inform them on what is expected and needed and facilitate communication between staff and parents (OECD 2001, 2006).

26. Belgium, Germany and the United Kingdom have expressed specific interest in better understanding of pedagogical practice and curriculum implementation. Germany, Norway, and the Slovak Republic seek to gain a better understanding of the de-facto standards in ECEC settings, for instance how many children one teacher/pedagogue has responsibility for in practice and how large the groups in centres and family day care are. Concerned about the quality of teaching and caring, Norway, the Netherlands and the United States also highlight the need to better understand the qualifications and skills held by ECEC staff and how these relate to minimum requirements. With the expansion of ECEC provision, recruiting and maintaining highly qualified staff is a key challenge for many economies, which is why Ireland, Sweden, the United Kingdom and the United States are extremely interested in learning more about good practice elsewhere and raised questions concerning staff qualifications and skills.

27. To address these country needs and concerns, the data and policy information in Starting Strong III (SSIII) needs updating. The OECD ECEC team is currently working, in collaboration with OECD INES and Eurydice, on improving the quality of data on staff qualifications. New information on curriculum implementation will be developed concerning 'monitoring practices on curriculum implementation' with the current OECD project. Data on pedagogy are not well covered by currently available international data and an investment in the development of staff surveys or staff observational studies is needed to better assess the quality of interactions and pedagogy children experience. The ECEC team is in dialogue with the IEA on the development of new data on *process quality* [[EDU/EDPC/ECEC/RD\(2013\)1](#)].

28. Staff-level data could be collected either through self-reporting or observational studies. Self-reporting could be similar to TALIS, possibly as a 'pre-school TALIS' if the TALIS Governing Board adopts such an approach or a distinct TALIS-like survey specific for ECEC. Such surveys could contribute much on how staff spend their time, namely on activities in the playroom, administrative or preparatory work and the quality of learning/well-being environments as suggested by the *WG on Data* [[EDU/EDPC/ECEC\(2012\)4](#)]. A review of this type of staff-level survey has been commissioned from Dr. Thomas Bäumer of the University of Bamberg in the PWB 2013/14 [[EDU/EDPC/ECEC\(2013\)14](#)].

29. To increase the objectivity of such assessment, the secretariat will also explore whether it would be technically and financially feasible to conduct an observational study on staff quality. The Network's *WG on Workforce Quality* has started to identify existing instruments [[EDU/EDPC/ECEC\(2013\)13](#)]. A proposal on staff-level data development is planned to be presented by the end of 2014. As stated earlier, the Education Policy Committee stressed the importance of measuring not only quality of child outcomes but also quality of provision.

Organisation

30. Striving for efficiency, countries also express a desire to compare management and governance systems in ECEC with those of their peers. One of the main questions, brought up by Italy, Germany and Spain, concerned the monitoring of systems in place across the OECD and their impact on quality in ECEC. Regular monitoring is critical in identifying and rectifying problems. Systematic attention to monitoring and data collection is a key contributor to provision of equitable access to high quality ECEC (OECD, 2001). Although the monitoring instrument itself does not affect quality or a child's development, data collection and monitoring scan possible issues and struggles within the sector concerning accountability and effectiveness.

31. The information on monitoring is currently being collected by the OECD project on ECEC (2013/14) as well as Eurydice. The OECD survey results are intended to provide a comprehensive overview of monitoring systems, their purpose, instruments and performance. This is a system-level online survey on monitoring quality in ECEC, with responses to be collected by December 2013.

32. The impact such monitoring systems may have on quality, however, can only be thoroughly assessed with data on staff performance, quality of pedagogy and an assessment of child outcomes. As discussed above, the development of child outcomes data would require significant conceptual work and is therefore a long-term objective while the implementation of a staff-level survey or an observational study is a medium-term goal.

33. In addition to monitoring, Belgium (Brussels-Wallonia Federation) and the United Kingdom (England) have questions about system management and concerns about the way policies are being implemented at the local level and how responsibilities are being divided between different levels of governance, such as the municipal, state and national/federal levels.

34. The transition from pre-school to primary school is high on the agenda and Israel and Slovenia seek to identify further information about good practices in managing the transition stage at which children change institutions.

Table 4. Policy questions and indicators on “Learning/ well-being environments and organisation”

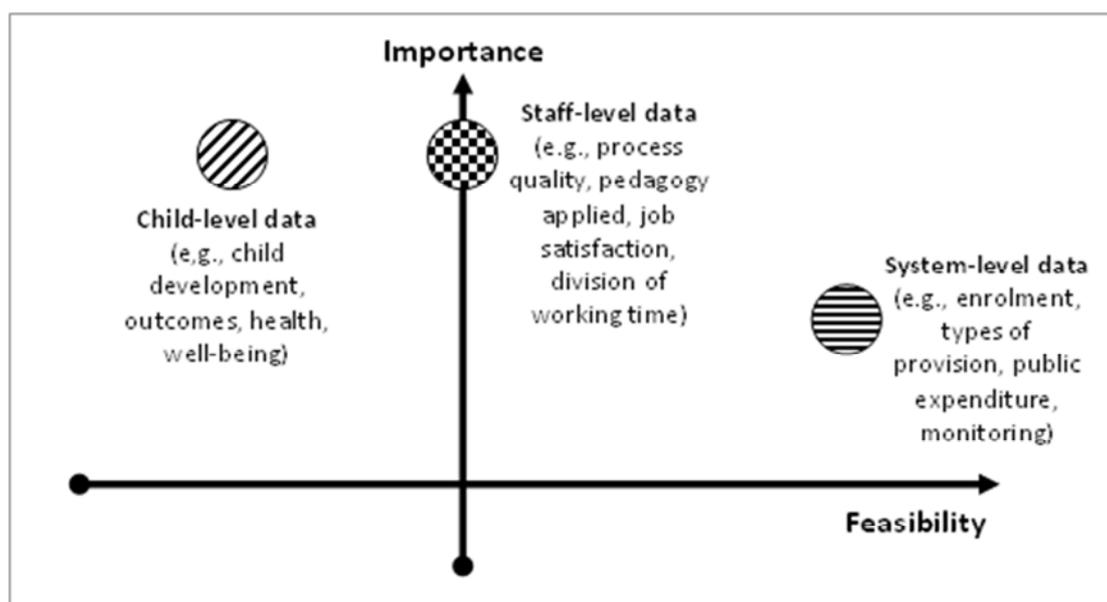
Question	Level	Priority	Feasibility	Area of indicators	Data status
How does pedagogical practice differ across countries and is the implementation of the curriculum mandatory? (Belgium, Germany, UK)	System			Curriculum implementation	<u>New</u> , in collaboration with Eurydice
	Staff			Staff performance and quality of pedagogy	<u>New & To update/improve</u> Table 5.2 of SSIII (Strand 2 of the PWB 2013/14, PWB 2015/2016); data on monitoring staff performance monitored being collected by OECD (Strand 1 of PWB 2013/14) and Eurydice
What are the (empirically calculated) staff-child ratios and group sizes in centre-based ECEC settings and in family day care? (Germany, Norway, Slovak Republic)	Staff			De-facto standards (cf. regulated)	<u>New</u> and <u>For improvement</u> from SSIII and EAG 2013
What qualifications and skills do staff have and what are minimum requirements? (Norway, Netherlands, USA)	System			Staff qualifications	<u>To update</u> Figure 3.1 of SSIII and <u>for improvement</u> from Table D5.4 of EAG 2013; <u>new</u> , in collaboration with Eurydice
	Staff			Staff performance and quality of pedagogy	<u>New & to update/improve</u> Table 5.2 of SSIII (Strand 2 of the PWB 2013/14, PWB 2015/2016); data on monitoring staff performance monitored being collected by OECD (Strand 1 of PWB 2013/14) and Eurydice
What measures are in place to recruit and maintain a highly qualified workforce? (Ireland, UK, USA, Sweden)	System			Staff qualifications	<u>To update</u> Figure 3.1 of SSIII and <u>For improvement</u> from Table D5.4 of EAG 2013; <u>new</u> , in collaboration with Eurydice
				Professional development	<u>New</u> and <u>for improvement</u> from Table 3.9 of SSIII
			Staff remuneration	<u>For improvement</u> from Figure 3.7 of SSIII OR Table D.3.1 of EAG 2013	
	System /staff			Turnover rates of staff	<u>To update</u> and <u>for improvement</u> Figure 3.8 of SSIII
	Staff			Staff skills	<u>New</u> (Strand 2 of PWB 2013/14, PWB 2015/16)
			Staff job satisfaction (self-reported)	<u>New</u> to be collected through staff survey (Long term plan)	

Question	Level	Priority	Feasibility	Area of indicators	Data status
What monitoring practices are in place and how do they contribute to improving quality of ECEC (Italy, Germany, Spain, Norway)?	System			Monitoring to support informed decisions	<u>For improvement</u> and <u>To update</u> Tables 5.2-5.8 of SSIII; being collected in “Monitoring quality in early learning and development: Strand 1” of the PWB 2013/14)
	Staff			De-facto standards	<u>New</u> and <u>For improvement</u> from SSIII and EAG 2013
				Staff performance and quality of pedagogy	<u>New & To update/improve</u> Table 5.2 of SSIII (Strand 2 of the PWB 2013/14, PWB 2015/2016); data on monitoring staff performance monitored being collected by OECD (Strand 1 of PWB 2013/14) and Eurydice
Child			Early year’s cognitive, non-cognitive and well-being outcomes	<u>New</u> to be defined by the working group on outcomes (Long term plan, PWB 2013/14, 2015/16)	
What measures are in place to ensure a smooth transition from ECEC to primary school and how do child outcomes compare at this point? (Brussels-Belgium, UK-England)	System			Interventions for transition from ECEC to primary schooling	Eurydice_ and <u>New</u> (Medium-term) (Strand 1 and 2 of the PWB 2013/14, PWB 2015/2016)
	Child			Early year’s cognitive, non-cognitive and well-being outcomes	<u>New</u> to be defined by the working group on outcomes (Long term plan)
How are ECEC policies implemented at the local level and how are responsibilities shared between different levels of governance (Slovenia, Israel)?	System			ECEC governance	<u>To update</u> from unpublished data collected for SSIII as well as Table C1.1 of EAG 2013

3. Looking ahead: collecting and improving data to inform policymakers

35. Figure 1 below underlines that collecting child-level data would be of invaluable importance for policy makers but it remains a very time-consuming and costly exercise. However, new data on process quality could already significantly inform policymakers in the medium term as it could be collected through conceptually less challenging staff-level surveys or observational studies, which are already undertaken by many OECD countries within their own borders. Lastly, some needs in the area of system-level data have yet to be met and could give a new impetus without requiring major resources. The following paragraphs will discuss issues concerning data development separately for each of those three levels.

Figure 1. Feasibility and importance of data development in different areas



3.1 System-level survey

36. Currently available data on ECEC from EAG 2013 are collated in a briefing note [[EDU/EDPC/ECEC\(2013\)10](#)]. In the short-term, existing system-level data can be further refined. For example, data on curriculum frameworks, professional development and minimum standards, such as those published in SSIII and EAG 2013 can be further improved and thus provide a more accurate picture of quality regulations. Also, enrolment data on ECEC could be broken down by socio-economic status, native language and so on, all of which already represent important indicators for policymakers concerned with equity of access.

37. As mentioned earlier, new system-level data are now being collected through the current OECD ECEC project that is surveying countries on their monitoring systems in ECEC. This project is expected to not only draw conclusions about monitoring policies and practices but also reveal countries' concepts of quality in ECEC and provide updated information on governance structure. This means that new and updated system-level data will be available for key governance information by the end of 2014.

38. The system-level data, however, does not permit in and of itself to establish a clear link between policy inputs (e.g. expenditure) and policy outcomes (e.g. child outcomes).

39. A preliminary roadmap of system-level survey could cover:

2014

- Legal entitlements to ECEC (by updating data in SSIII)
- ECEC governance (by updating data in SSIII and in EAG)
- Quality monitoring policies and practices (from the “Monitoring quality in early learning and development” project of the PWB 2013/14)

2015/16

- Enrolment rates (by improving the quality of OECD/Eurydice data)
- Expenditure by government, parents, employers and other institutions (by adapting the ISCED 2011 definition, in collaboration with INES and ELS).
- Public spending per child (by updating data in collaboration with INES (% of DGP) and ELS (by age of children).
- Fees for accredited ECEC services to participation (by updating and improving the quality of data in SSIII and the ELS Family Database)
- Spending by staff (by developing new data).
- Staff qualifications (by updating data in SSIII and EAG, in collaboration with Eurydice).
- Professional development, staff remuneration and staff turnover (by updating and improving the quality of data in SSIII and expanding the scope of EAG).
- Policy interventions to scale up participation and also to ensure smooth transition from ECEC to primary schooling (by updating SSIII).

3.2 Staff-level data

40. Staff-level data is key for achieving a better understanding of process quality and quality of pedagogy, which is one of the areas frequently cited as important by country representatives. A staff-level survey would give insights not only into the skills, experience and working conditions of ECEC staff but also establish a link between process quality, expenditure and ECEC governance. It would therefore represent an important contribution to the discussion on improving the effectiveness of ECEC systems. In comparison, an observational study could help better understand actual teaching and caring practices in greater detail, provide rich qualitative information on pedagogical practices and could reveal the relationship between staff qualifications and actual staff quality. To ensure validity, findings could be triangulated with system-level data and child outcomes data, if technically and financially viable.

41. Recognising the time needed to acquire knowledge on pedagogy through “staff-level data”, the *WG on Data* is considering the suggestion of a quick survey to acquire “system-level data on pedagogy” in 2014; the list of preliminary questions will be discussed in the small group discussions of the *WG on Data* at the 14th network meeting. In the meantime, as mentioned earlier, a study on staff-level surveys is underway to review its feasibility and merits; a review of staff observational studies is being planned in

2014. Comparing the conclusions of the reviewers and the conclusions within the network, a proposal for staff-level data collection will be prepared by the end of 2014. The PWB 2015/16 aims to define the scope of an international study on ECEC staff and settings, to develop instruments for a study of this type, and to pilot the instruments towards the full implementation in PBW 2017/18.

42. A preliminary roadmap of staff-level data development could to cover:

2014

- Dependent on the suggestions by the *WG on Data* at 14th meeting, a system level survey on:
 - Predominant pedagogical approach in different settings (teacher-initiated, child-centred etc.)
 - Existing studies on the impact of pedagogical differences in practice (children's experiences, cognitive, non-cognitive and well-being outcomes by pedagogy applied)
 - Existing studies on the impact of pedagogical differences on learning styles over lifecycle (existing information on the way students learn during their educational career, by pedagogy applied)
 - Existing studies on the impact of different ECEC settings on long-term outcomes (cognitive, non-cognitive, well-being etc.)
- A proposal for an international staff-level data collection; an instrument (*i.e.* a staff survey or an observation study) is to be determined by the end of 2014, based on the scoping of staff-level data collection (by updating existing data and working in cooperation with OECD experts and IEA)

2015/16 – Scoping, Development of instruments, and Piloting

- Development of instruments
- Initial piloting of the instruments

2017/2018 – Full implementation

- Staff characteristics, staff attitudes, expectations and perceptions, and job satisfaction (by developing new data if a staff survey is conducted).
- Staff performance, staff skills and quality of pedagogy (by developing new data if an observational study is conducted).
- Staff teaching time, de-facto minimum standards and other working conditions (by improving the quality of data in SSIII and EAG).

3.3 Individual-level data

43. Internationally comparable data on child outcomes would first require a common understanding of what outcomes actually mean in the area of ECEC. This is one of the key issues currently under discussion by the OECD ECEC Network. The following priority developmental areas for monitoring child development were proposed by the members of the group: communication, cooperation and collaboration,

critical thinking and problem solving, creativity and imagination, character, community and citizenship ([EDU/EDPC/ECEC\(2013\)8/REV1](#)).

44. This kind of data collection on child development and outcomes remains a long-term objective, but as discussed above, understanding how children benefit from and develop in ECEC settings is key for making informed policy decisions and prioritising which areas of quality should receive the highest attention. Therefore countries' interest is high across regional borders and pedagogical traditions despite the practical and conceptual challenges involved.

45. The Secretariat will work with the ECEC Network as well as the international researchers in PWB 2013-14 and 2015-16 to collect and discuss existing instruments and practices in the measurement of child outcomes; and develop a conceptual framework for child outcomes data collection. As mentioned earlier, the *WG on Outcomes* has already started to take stock of existing instruments currently used by governments to measure and monitor child outcomes [[EDU/EDPC/ECEC\(2013\)12](#)].

46. In order to identify instruments suitable for international comparison, an in-depth study could be conducted to review the selected instruments for validity, reliability, appropriateness of use and financial and technical feasibility in an international implementation. If relevant, it would need to explore the development of new instruments applicable for international comparison.

47. Current international debates and concerns include, for example, what developmental areas should be assessed; whether to assess by age or grade and at what age/grade; how to mix instruments (*e.g.* observation by staff and direct assessment); whether to assess as part of recurring, value-added assessments like an international longitudinal study or as a distinct assessment at a point in time; and how to avoid the media attention of country comparison with league tables.

48. A longitudinal study following the same children over time would deliver new insights into the impact of ECEC over the life cycle, for instance in compulsory school, post-secondary education, professional life and regarding health and well-being indicators. Such a longitudinal study could thus provide valuable insights into the long-term outcomes of quality ECEC, however, it requires political will and financial commitment as well as technical expertise within countries. Currently, the OECD CERI is planning to conduct an international longitudinal study of skill dynamics [[EDU/CERI/CD\(2013\)3](#)] and cooperation is being planned between the Network's work and the study.

49. A preliminary roadmap of individual-level data could cover:

2014 – Definition and mapping

- Definition of expected child outcomes in early years
- Mapping of existing instruments of assessment of child outcomes in countries

2015/16 - Conceptual framework

- A review of the existing instruments for validity, reliability, validity, reliability, appropriateness of use in an international context and financial and technical feasibility for international implementation.
- Conceptual framework and scoping for the assessment of child outcomes in early years (by working in cooperation with IEA and academic research groups who are making similar explorations).

- Intensity of participation (hours of participation, half/full-day) by developing new data or findings from a parental survey currently in field trial for PISA 2015.

2017/18 – Development of instruments, Piloting

- Development of instruments
- Initial piloting of the instruments and full implementation of the instruments Family background information by collecting data on socio-economic and cultural background associated with child outcomes data.

4. Conclusion

50. This paper has illustrated that there is a significant need for better and new data on ECEC in particular on **process quality** and **child outcomes** to address policymakers' key questions. Improving and developing indicators in this area are thus of major importance to allow well-informed policy choices. The development of process quality requires significant conceptual work and piloting which needs to be done in 2015/16. While process quality measurement would allow policymakers to better understand how their expenditure and regulations translate into learning and well-being environments, it would not fully answer the questions about the cost-effectiveness of ECEC systems or the quality of child outcomes. This last step would require data on child development and outcomes. The full set of data will allow thorough analysis as suggested in the analytical framework for the network's data development strategy [[EDU/EDPC/ECEC\(2013\)1/ANN2](#)]. Since both policymakers and researchers are yet to agree on which developmental areas are to be assessed and through which instruments, this type of data collection will be a longer-term project. Nonetheless, policymakers' great interest in effectiveness and outcomes suggests that it is worth embarking on the conceptual development of international outcome measures in 2015/16.

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