



European Foundation for the Improvement of Living and Working Conditions

---

## **Early childhood care: working conditions, training and quality of services – A systematic review**

**References of the studies included in mapping but excluded from in-depth synthesis**

This report is available in electronic format only.

Wyattville Road, Loughlinstown, Dublin 18, Ireland – Tel: (+353 1) 203 31 00 – Fax: 282 64 56

Email: [information@eurofound.europa.eu](mailto:information@eurofound.europa.eu) – website: [www.eurofound.europa.eu](http://www.eurofound.europa.eu)

**Disclaimer: This document has not been subject to the normal Eurofound editorial procedures.**

## Early childhood care: working conditions, training and quality of services – A systematic review

Ahsam, S. Shepherd, J. Warren-Adamson, C. (2006). Working with Pre-School Practitioners to Improve Interactions. *Child Language Teaching and Therapy*. 22(2): 197-217.

Almeida, A. Aguiar, C. Pinto, A. (2012). 'Teachers interactive behaviours in day-care for toddlers in relations with the type of activity and the structural characteristics of the settings' [translation from Portuguese], *Da Investigação às Práticas*, Vol. 2, No. 1, pp. 94-117.

Alsina, Á., Palacios, C. (2010). ¿Cómo mejorar la educación matemática del profesorado en activo? Experiencia de formación a través del andamiaje colectivo. Aula de innovación educativa. Barcelona, 2010, n. 196, noviembre ; p. 61-66

Andrzejewska, J. (2011). 'Cognitive competences of the 5-year olds' [translation from Polish], in Sowińska, H. (ed.), *Dziecko w szkolnej rzeczywistości. Założony a rzeczywisty obraz edukacji elementarnej [The child in the school reality. Planned versus real picture of elementary education]*, Poland.

Cryer, D. Tietze, W. Burchinal, M. Leal, T. Palacios, J. (1999). Predicting process quality from structural quality in preschool programs: a cross-country comparison. *Early Childhood Research Quarterly*. 14(3): 339-361.

de Roos, Simone A. , van der Heijden, Monique H. R. M. A. and Gorter, Ruud J. (2010) Professional development schools and early childhood education: interactive skills of students, playgroup and kindergarten teachers. *European Early Childhood Education Research Journal*, 18 (1), 15-28.

Duffy, I. (2007). Developing Quality in Early Childhood Care and Education Services: The Impact of a Continuing Professional Development Programme.

Glavina, E. Sindik, J. (2012). 'Does teachers' education about social competence influence the frequency of pro-social and aggressive behaviour in preschool children?' [translation from Croatian], *Zbornik Instituta za Pedagoska Istrazivanja*, 44(1), pp. 180-195.

Happo, I. Määttä, K. Uusiautti, S. (2012). Experts or good educators - or both? The development of early childhood educators' expertise in Finland. *Early Child Development and Care*. 182(3-4): 487-504.

Happo, I. Määttä, K. Uusiautti, S. (2013). How do early childhood education teachers perceive their expertise? A qualitative study of child care providers in Lapland, Finland. *Early Childhood Education Journal*. 41(4): 273-281.

Lera, M. (1996). Education under five in Spain: A study of preschool classes in Seville. *European Journal of Psychology of Education*. 11(2): 139-150.

Montie, J. E. Et al. (2006). Preschool experience in 10 countries: Cognitive and language performance at age 7', *Early Childhood Research Quarterly*, 21, 2006.

O'Kane, M. (2005). The effect of regulation on the quality of early childhood services in Ireland. *Child Care in Practice*, 231-251.

Annex 2: References of the studies included in mapping but excluded from in-depth synthesis

Oliveira-Formosinho, J., Araújo, S. (2004). O envolvimento da criança na aprendizagem: Construindo o direito de participação. Análise psicológica *Experiência social, educação e desenvolvimento (Revista do Instituto Superior de Psicologia Aplicada)*, 1(XXII): 81-94.

Pačnik, M. (2009). 'Encouraging child's language development' [translation from Slovenian], *Spodbujanje razvoja otrokovega govora*, Vol. 24, No. 1, pp. 16-35.

Pineda, P. Ucar, X. Moreno, V. Belvis, E. (2011). Evaluation of teachers' continuing training in the early childhood education sector in Spain. *Teacher Development: An international journal of teachers' professional development*, (15)2: 205-218.

Pugnaghi, A. (2014). 'Valutare la relazione educativa nella scuola dell'infanzia: una ricerca in Provincia di Modena' ['Evaluating the quality of teacher-child interactions in pre-school. A research carried out in Modena province'], *Orientamenti Pedagogici*, Vol. 61, No. 1.

Quaresma, A. Dias, I. Correia, S. (2011). Desenvolvimento Profissional Docente: o (s) contributo (s) do Projecto Creche. *Atas do XI Congresso da Sociedade Portuguesa de Ciências da Educação*, (2): 139-142.

Rentzou, K. Sakellariou, M. (2011). The Quality of Early Childhood Educators: Children's Interaction in Greek Child Care Centres. *Early Childhood Education Journal*. 38(5): 367-376.

Ruíz de Miguel, C. García García, M. (2004). 'Explanatory model of quality-related factors in early childhood education', *Revista de Investigación Educativa*, Vol. 22, No. 2, pp. 497-518.

Tietze, W. et al. (2013). *National study on education, care and upbringing in early childhood*. [Translation from German]. Berlin: verlag das netz.

Venninen, T. (2007). *"I have started to think and say aloud what I think": professional development and community feedback in day care teams* [translation from Finnish], Diss. Helsinki: Helsingin yliopisto, Finland.

Wächter, I. Laubenstein, D. (2013) Marte Meo as method for professional supervision: Experiences of educational personnel in a child day-care centre. [Translation from German]. *Zeitschrift für Heilpädagogik*, 4: 165–17.

## Early childhood care: working conditions, training and quality of services – A systematic review

Author + Year	Country	Aims and objectives of study	Settings	Details of CPD programme and/or WC studied	Sample	Data collection and analysis methods
Ahsam et al. (2006)	United Kingdom	Evaluate the effectiveness of onsite speech and language training for Preschool Practitioners (PSPs). The aim of the evaluation was to discover whether onsite training could significantly improve PSPs' practice and confidence in working with speech and language with all children (not just those with identified significant speech and language difficulties) in pre-school settings and to evaluate whether this improvement could be measured in changes in the children's interaction.	Sure Start Hailsham Local Programme settings (a charitably-run pre-school situated in the centre of town has been chosen as research site)	All PSPs were asked to complete the offsite training course using the principles of Adult-Child Interaction (Ahsam and Craig, 2000) to give PSPs a basic understanding of language acquisition and strategies to facilitate language in pre-schools. The onsite training was carried out by a Speech Language Therapist (SLT) or appropriately trained speech and language therapy assistant (SLTA). The length of the training period had some flexibility depending on the needs of the pre-school but generally took place for one session per week over a period of one, to one-and-a-half terms.	- 3 adults and 12 children. One adult and three children took part in each language activity. The same group of children took part in the post-training data collection as the pre-training data collection, with the exception of three children who were unavailable. These children were replaced by other three children from the pre-school who were matched for age and general sociability. - 14 PSPs from the seven settings who had taken part in the training were interviewed (including the three PSPs from the research site).	<b>Study design:</b> mixed-method <b>Quantitative part</b> Language activities session carried out by PSPs were video-taped before and after the training intervention. Data collection was carried out through video-analysis of language activities sessions: - rating (1-5) and counting PSPs communication behaviours - rating (1-5) and counting children's verbal and non-verbal responses. The data collected were analysed for statistical significance (p-value) by using the 'Statistical Software Package for the Social Sciences' (SPSS). <b>Qualitative part</b> PSPs were asked the same questions, using a semi-structured interview schedule. There was a combination of quantitative and qualitative questions and a range of scale questions. In particular four key research themes were explored through the interviews: * Training content * Potential benefits to PSPs * Potential benefits to children * Issues affecting implementation of language activities.
Almeida et al. (2012)	Portugal	This study aims to investigate the quality, quantity, and appropriateness of early childhood teachers' interactive behaviours in toddler child care classrooms, during free play and structured activities, while also analysing its relationship with classroom structural features.	Crèches (attended by children aged 0 to 3):11 private non-profit settings, 4 private for profit settings	Structural quality features: - teachers' qualification - working hours - wages - staff-child ratio - group size	- 30 ECEC professionals: 25 teachers and 5 auxiliary staff. - 472 children from 30 classrooms in 15 ECEC institutions (15 groups of 1-2 years olds and 15 groups of 2-3 years olds).	<b>Study design:</b> quantitative (correlation study) Data on teachers' interactive behaviours were collected through the Portuguese translated version of the Teacher-Child Interaction Scale (CIS). Data on settings structural characteristics were collected through the Structural Characteristics Assessment Questionnaire (QSC-T), adapted from the original by the international study Early Childhood Care and Education (ECCE Study Group 1997). Information is collected through an interview to the teacher, which characterizes him/her at personal (i.e. age, number of children) and professional level (i.e. qualifications,

## Annex 2: References of the studies included in mapping but excluded from in-depth synthesis

						CPD, professional experiences) and characterizes the educational context in which he/she is working (working conditions, number of children and adults in classroom, working schedule, salary).
Alsina and Palacios (2010)	Spain	Identify relevant features of the training offered by the CEP of Cuenca developed between 2000 and 2005 in successive plans of CDP Ministry of Education and Science of Castilla La Mancha, in particular: - analysing the status of the training supply-demand from the perspective of teachers - assess the extent to which the characteristics of the training offered are related to teachers' professional development and school improvement.	Pre-school settings	The training activities were implemented through the 'tracked course' mode: teachers were provided with lectures and ongoing advice over the first two quarters the school year. This training structure was designed to facilitate participants' transfer of acquired knowledge to their daily practices. The course was organized into four modules based on the principle of context-based professional learning as a process which actively promote the agency of teachers in linking theory and classroom practice.	Early childhood teachers (no further specified)	<b>Study design:</b> mixed-method This evaluation research was structured in three stages: a) documentary analysis of the regulatory framework for ongoing teacher training and the characteristics of the training offered; b) a qualitative study using in-depth interviews of key reporting agents and discussion groups with management teams and pre-school and primary school teachers and c) on-site observation in four schools that provide training programmes. For each of these stages, different evaluation instruments were designed and quantitative and qualitative data analysis techniques were applied.
Andrzejewska (2011)	Poland	The goal of this study was to examine cognitive skills of children at the age of 5 that were attending kindergarten/pre-school education and to possibly link the results to the type of preschool centre, its location and the pedagogical practice/the teacher's employment record and career progress.	Pre-school (kindergartens)	- Staff-child ratio - teachers' career progress - type of the pre-school centre (kindergarten or pre-school unit at the primary school, as usually displaying lower quality in terms of higher staff ratio)	- 1470 children (51% boys, 49% girls)	<b>Study design:</b> quantitative Children's cognitive competences were tested with the use of sequences of pictures comprising a story (noticing details on the pictures, problem solving, reasoning, capacity to generalize, abstract thinking). The data collected were analysed statistically: chi-squared test, statistical significance (p-value), df test.
Cryer et al. (1999)	Germany, Portugal, Spain, United States	This cross-national study aims to: a) examine the relations between structural and process quality in preschool classrooms b) to investigate whether the impact of structural features on process quality is consistent across countries or differs.	Preschool classrooms (attended by children aged 3 to 5)	- Wages; - staff: child ratio; - leadership/management (lead teacher's education, tenure, experience, age, and wage); - operating hours of the setting.	Combination of purposive sampling (based on the selection of regions and sites within the regions) and random sampling (selection of centres and classrooms): - 82 settings in Germany; - 80 settings in Portugal; - 55 settings in Spain; - 288 settings in U.S.	<b>Study design:</b> quantitative Data on all structural quality variables - except staff: child ratios - were collected through teacher and director interviews and surveys. Standardised/ validated measurement tools were used to measure process quality: - Early Childhood Environment Rating Scale (ECER) - Caregiver Interaction Scale (CIS). The data were analysed through Multivariate Analysis of Variance (MANOVA) and hierarchical regressions.
de Roos et al. (2010)	The Netherlands	- Examine professional development activities for students and teachers in 2	2 Dutch urban elementary	The main subject of professional development in one PDS was on the stimulation of reasoning skills, i.e.,	Playgroup teachers, kindergarten teachers and students of two Dutch	<b>Study design:</b> mixed-method <b>Quantitative part:</b> to measure interactive skills of students and

## Early childhood care: working conditions, training and quality of services – A systematic review

		<p>Dutch professional development schools (PDSs). - Investigate whether the students, playgroup and kindergarten teachers of the two PDSs grow in their interactive skills over time. In addition, participants' evaluation of the interventions used are explored.</p>	<p>schools (including playgroups) whose children predominantly came from low-income and ethnic minority families.</p>	<p>discovering children's ideas and thought processes, extending children's ideas, enhancing the use of different problem solving strategies, etc. The other PDS mainly addressed interactive reading, vocabulary and communication skills. In the present study the training sessions were designed by educational advisers, in collaboration with the researchers and college teachers, and given by educational advisers of the local educational service centres. Videotapes of adult-child interactions were produced during instruction and daily routine and used for coaching by an educational adviser, internal coach from the school or college teacher. The coaching took place soon after the tapes were made. Somewhat later, the tapes were also used as training material for the training sessions.</p>	<p>urban elementary schools (including playgroups) participated in the research project (not further specified).</p>	<p>teachers, quantitative data were collected through the analysis of videotapes by using an 18-item questionnaire (a four-point Likert scale). The questionnaire was filled in twice during the year by the persons involved, a colleague and two observers (items were based on a Dutch scale for teacher skills at stimulating children's language development). Quantitative data were analysed through Multivariate Analysis of Variance (MANOVA). <b>Qualitative part:</b> to determine students' and teachers' reactions to the training interventions used and to grasp their reflections on what they had learned they were asked to fill in two evaluation forms, one directly after and one six to eight weeks after the training. In addition, the educational adviser and internal coach were asked to write on an intervention form what the effects of the trainings were on the participants' knowledge and skills. Qualitative data were analysed thematically.</p>
Duffy (2007)	Ireland	<p>The aim of the study is to evaluate the effects of a Continuing Professional Development Programme carried out by 3 large community ECCE providers who had identified a need to establish a cohesive focus, vision and framework within their services in order to further the development of quality.</p>	<p>3 large community ECCE providers</p>	<p>The CPD programme began with a High/Scope Curriculum Implementation Course (CIC): practitioners attended one full-day workshop a month where a particular aspect of the curriculum was explored. Throughout the course, practitioners were required to examine attitudes, perceptions and beliefs relating to their own practice with the aim of supporting them to become reflective about their practice. The course ended with a site visit during which the High/Scope Programme Quality Assessment (PQA) tool (High/Scope, 2003) was used to assess the level of implementation and quality of service provided. Practitioners who had completed their CIC continued to meet as a cluster group up to six times a year to continue to explore aspects of the curriculum and their practice with their colleagues and the High/Scope trainer. These groups were regarded as</p>	<p>11 practitioners</p>	<p><b>Study design:</b> mixed-method <b>Quantitative part:</b> The impact of CPD on the quality of ECEC settings was measured by using the environmental rating scale 'High/Scope - PQA tool' (High/Scope, 2003). In the PQA a broad array of programme characteristics are scored on a 5-point scale. This study used the first three sections of the baseline PQA, completed before the CPD programme began, and at the end of course. These sections cover Learning Environment, Daily Routine and Adult-Child Interaction and contain thirty-four items in all. <b>Qualitative part:</b> This quantitative data was combined with qualitative data derived from a focus group interview. All 11 practitioners working in the preschool services, who had completed the CPD programme, were invited to take part and six participated. The interview style most fitting for this was semi-</p>

## Annex 2: References of the studies included in mapping but excluded from in-depth synthesis

				Discourse Communities where practitioners could draw on the trainer as a resource, and through questioning, dialogue and discussion, develop shared ways of thinking about their practice.		structured with emphasis on the practitioners' perceptions of the development of quality and their personal practice within the context of the CPD programme.
Glavina & Sindik (2012)	Croatia	The general aim of the study was to determine whether an additional education of ECEC educators on social competences, intended to promote their skills in stimulating children's social competences, can lead to reduction of the frequency of children's aggressive behaviors and increase in the number of prosocial behaviors.	One kindergarten	The overall aim of the programme was to train practitioners to encourage the development of children's social competences. The training programme consisted in a combination of workshops and lectures activities (group based): - 3 sessions during 3 months - Themes: diversity, safeness and trust, cooperation	- 49 ECEC practitioners - 466 children	<b>Study design:</b> quantitative (pre-test and post-test design without control group) Data were collected by using the Scale for Assessment of Children's Aggressive and Prosocial Behavior (Zuzul & Vlahovic-Stetic, 1989). T-tests were used to analyze the differences in prosocial and aggressive behavior before and after the intervention, as well as to analyze the differences in aggressive and prosocial behavior between the boys and girls before and after the intervention.
Happo et al. (2012) & (2013)	Finland	The aim of the study is to clarify the expertise of those early childhood education teachers, who have the competence of kindergarten teachers and discuss how the development of early childhood education teachers' expertise could be supported in a small country like Finland, and more specifically, in its northernmost part, the province of Lapland.	Child care and kindergarten settings	Exploratory study: the research participants wrote about their own expertise and its development in a free form and defined those variables that related to expertise in their own action (such as education, work experience, personal background)	The target group comprised the early childhood education teachers who worked with children in child care and had at least a post-secondary degree from the field. The questionnaire was sent to the whole target group (n = 346) of which eventually 80 early childhood education teachers participated in the study and sent their story by mail (response rate being 23.12 %).	<b>Study design:</b> qualitative. The participants were asked to complete a questionnaire giving background information about themselves. In addition, the questionnaire included a composition assignment about 'The story of my growth toward expertise in early childhood education'. Participants were asked to share their story of how they developed their expertise as an early childhood professional in essay form. Qualitative data were analysed through content analysis. The analysis proceeded in a data-driven or inductive manner: first with the reduction of data and next by clustering. The analysis units were selected according to the purpose of the research and research questions. At the first phase of analysis, quotations that described the development of expertise were selected from the participants' stories. This data reduction meant dividing the data into pieces. The second phase of analysis was clustering the quotation by common nominators (Guba and Lincoln 1981; Holloway 2011).
Lera (1996)	Spain	The study aims to analyse the quality of preschool classrooms	59 preschool classrooms	Structural variables: - Ratio	Teachers and children (5 year olds) from 59 pre-	<b>Study design:</b> quantitative. Data were collected by using both

## Early childhood care: working conditions, training and quality of services – A systematic review

		attended by 5-years old children in Seville. Quality was defined in terms of the two variables: structural and process. The relationship between structural and process variables were analysed as well.		<ul style="list-style-type: none"> <li>- group size</li> <li>- initial teacher training (specific training in Infant Education)</li> </ul>	school classrooms.	<p>standardised/ validated measurement tools:</p> <ul style="list-style-type: none"> <li>- Early Childhood Environment Rating Scale (ECERS);</li> <li>- Observation of the Activities in Pre-school (OAP).</li> </ul> <p>and observed/self-reported measures:</p> <ul style="list-style-type: none"> <li>- observed ratio and group size</li> <li>- initial training as reported by teachers.</li> </ul> <p>Data were collected by visiting the classes during a typical day, when the ECER scale and the OAP observational grid were simultaneously administered. Data were analysed statistically through Analysis of Variance (ANOVA).</p>
Montie et al. (2006)	<p>Finland (Greece)* Hong Kong (Indonesia)* Ireland Italy Poland (Spain)* Thailand United States</p> <p>*data for settings structural features were not available</p>	The IEA pre-primary Project is a longitudinal, cross-national study of pre-primary care and education designed to identify how process and structural characteristics of the settings children attended at age 4 are related to their age-7 cognitive and language performance. Investigators collaborated to develop common instruments to measure family background, teachers' characteristics, setting structural characteristics, experiences of children in settings, and children's developmental status.	Pre-school settings attended by children at age 4	The structural characteristics of settings were represented by 4 variables: <ul style="list-style-type: none"> <li>- group size,</li> <li>- adult-child ratio,</li> <li>- number of years of teacher's education,</li> <li>- materials available in the setting, and mean years of parents' education, used as an indicator of the general resources of a setting and generated from child-level data averaged for each setting.</li> </ul>	In most countries where the study was conducted, the sample of settings is representative of pre-primary settings in that country.	<p><b>Study design:</b> quantitative (longitudinal study)</p> <p>The data collected derived from:</p> <ul style="list-style-type: none"> <li>- direct observation of children's and teachers' behaviours and activities in preschool (Child Activity – Adult Behaviour – Management of Time observation instruments),</li> <li>- questionnaire gathering information on setting structural characteristics (Provider Survey), target child's family background (Family Background Interview), expectation of teachers and parents on what is important to learn in pre-primary school (Expectation Questionnaire)</li> <li>- developmental status measures (standardised tool assessing language and cognitive development at age 4-7)</li> </ul> <p>For the analysis, a 3-level hierarchical linear model (HLM) was employed that allowed decomposition of variation of child outcomes into 3 parts—variation among children within settings, among settings within countries, and among countries.</p>
O' Kane (2005)	Ireland	In the context of the introduction of legislative control over early education services in Ireland (which came into place in 1996), the aim of this study was to investigate whether the implementation of the	Early childhood care and education services	<ul style="list-style-type: none"> <li>- Staff: child ratio;</li> <li>- group size;</li> <li>- teacher training;</li> <li>- separate room for adult use only;</li> <li>- materials and equipment available.</li> </ul>	The sample of settings for the present study represented a subset of the original IEA/PPP study conducted in Ireland: 10 settings randomly selected out of those 54 that were	<p><b>Study design:</b> quantitative</p> <p>The study used the measurement instruments developed for the IEA/PPP; these reflect the emphasis on both types of variables:</p> <ul style="list-style-type: none"> <li>- direct observation of children's and teachers' behaviours and activities in</li> </ul>



Annex 2: References of the studies included in mapping but excluded from in-depth synthesis

		Regulations would have had an impact on quality of early childhood care and education (ECCE) services in Ireland. The specific objectives of the study were: to examine a sample of pre-schools to investigate both structural and process aspects of quality; to examine the possible relationship between these elements of quality and to interview both Supervisors of these pre-schools and a small sample of Pre-school Officers to investigate their attitudes towards the Regulations.			in the original IEA/PPP sample. In particular: - Supervisors of 10 pre-school facilities; - 23 teachers; - 40 children (3 years and 6 months to four years and 11 months).	preschool (Child Activity – Adult Behaviour – Management of Time observation instruments), - questionnaire gathering information on setting structural characteristics (adapted version of the Provider Survey). Using the same measurement instruments allowed for direct comparison of data (mean scores).
Oliveira-Formosinho and Araújo (2004)	Portugal	This paper aims to reflect and to investigate the power and validity of the Child Involvement Scale, adapted from the original scale "The Leuven Involvement Scale for Young Children (LIS-YC) (Laevers, 1994). Within this main goal, the authors present four studies, which try to show particular qualities of this scale and concept and how it relates with ECEC quality and children's learning. However as study 1** and study 2*** were out of the scope of the research, only study 3 and 4 will be described.  **Study 1 - aimed at verifying if the professionals perceive this instrument as a significant one for their practice and if it was practicable. ***Study 2 - aimed at verifying the involvement characteristics in two different contexts: a traditional one (adult centred) and a constructivist one.	Preschool settings	Study 3 – aimed at analysing if the transformation in the quality levels of ECEC contexts is reflected in the child involvement. The CPD consisted in support newly trained teachers in the first three years of practice, thought training in context. The training in context themes were: the pedagogical organization of a constructive educational environment, the reconstruction of the image of the child and the teacher, observation, planning and assessment in ECE, educative interactions, the educational team and collaboration with family and community.  Study 4 – This study aim was to see if the CPD based in constructivists' approaches had impact in the child involvement. The levels of involvement were also analysed in relation to the number of children per group in both groups of teachers. The CPD intervention had two components: an advanced diploma in Methodologies and Supervision in ECE, and training in context within the Project Infância (aiming at the implementation of constructivists pedagogical approaches).	Study 3: Participants were a group of nine pre-school teachers, in the first years of their career who were supported (1:1 context-based training) by the research team (Associação Criança) during three years; the number of children observed is not stated.  Study 4: 14 pre-school teachers in the intervention study and 13 in the control group; the number of children observed is not stated.	<b>Study design:</b> quantitative.  The studies used the Child involvement scale and the High-scope "Program Implementation Profile" (PIP) as a measure of quality.  Study 3 - no statistical analysis. Only the presentation of results in three observation times (the observations took place three times along the supportive process.)  Study 4 - t-test of Child Involvement values to look for differences between intervention and control group. Means of Child Involvement values within four group sizes (1-10; 11-15; 16-20; 21-25 children in the group) in intervention and control group.
Pačnik (2009)	Slovenia	The study analyses the efficacy of an interventional program for encouraging children's language	Kindergarten classes attended by	A 6-months interventional program was carried out for supporting children's language development within the	The study followed the experimental research design with one	<b>Study design:</b> quantitative (experimental design) Pre-test and post-test measures (story-

## Early childhood care: working conditions, training and quality of services – A systematic review

		competence. The interventional program had been conducted by the pre-school teacher in the experimental group in the period of six months. The aim of the study was to analyse the efficiency of the experimental (interventional) program for promoting preschool teacher's support of children's language development as measured by child's storytelling ability. It was hypothesised that the intervention program should have several effects on children's word production, number of sentence in the storytelling, the amount of emotional verbal expressions and general storytelling ability.	children aged 5 to 6.	preschool setting. Several additional language activities (e.g. shared reading, book corner, morning circle, storytelling, verbal descriptions of pictures) were carried out by preschool teacher and his assistant in the experimental group. The program was developed on the basis of theoretical and empirical knowledge on the importance of supporting early language development and on the basis of the analysis of preschool teacher's planning of language activities. On the basis of preschool teacher's everyday work with children, the researcher developed a program which aimed to improve the quality of preschool teacher's encouragement of children's language development during different preschool activities.	experimental group (EG) and one control group (CG) of pre-school children. The sample included 2 preschool teachers and their assistants and 31 pre-school children from two kindergarten classes in the year before entering primary school (between 5 and 6 years of age).	telling abilities based on the series of pictures) were applied in both groups (experimental and control).
Pineda et al (2011)	Spain	The study aims to evaluate the continuing training received by teachers in the preschool educational sector in Spain, and discusses the level of implementation. The authors examine factors such as culture and motivation, and look into the initiatives taken with respect to training. They evaluate the results of training, focussing on satisfaction, learning, pedagogical suitability and the transfer of training.	ECEC settings attended by children aged 0 to 3 and 3 to 6	Exploratory study, that allowed to gather relevant information in regard to: <ul style="list-style-type: none"> <li>- the profile of the participants in continuing training in early childhood education;</li> <li>- the situation of continuing training in early childhood education (participation rates, range of training initiatives available in the early childhood education sector, financing and costs, factors that are facilitating or hindering the participation in continuing training)</li> <li>- teachers' satisfaction with the typology of training initiative offered and its suitability (including the impact on everyday practices and on teachers' professional career).</li> </ul>	<ul style="list-style-type: none"> <li>- questionnaire was administered to 1500 teachers and managers</li> <li>- interviews and discussion groups were carried out with 70 teachers.</li> </ul>	<p><b>Study design:</b> mixed-method</p> <p><b>Quantitative part:</b> Quantitative data were collected using two types of surveys:</p> <ul style="list-style-type: none"> <li>- the Survey of Directors or Co-ordinators – Management – of the childhood education sector;</li> <li>- the Survey of Teachers or Educators – Education Staff – in the childhood education sector.</li> </ul> <p><b>Qualitative part:</b> The instruments to collect qualitative data were interviews and discussion groups. Three types of interviews were defined according to the interviewees. These were:</p> <ul style="list-style-type: none"> <li>- in-depth interviews with key agents – representatives of the trade unions connected to continuing training in the sector and other experienced experts in the sector;</li> <li>- a semi-structured interview with the managers of early childhood education centres – publicly and privately owned centres;</li> <li>- a semi-structured interview with institutions offering training – managers of continuing training at a public</li> </ul>

## Annex 2: References of the studies included in mapping but excluded from in-depth synthesis

						administration level and other important private institutions in the various Autonomous Regions.
Pugnaghi ( <i>in press</i> )	Italy	The study aims at examining the relationship between structural features of pre-school settings and process quality. Quality of the educational interaction was measured through the average CLASS scores across three dimensions: 1) Emotional Support, 2) Organisation of classroom environment, 3) Instructional support.	Pre-school attended by children aged 3 to 6.	Structural quality characteristics: - staff turn-over, - number of hours of co-presence (in which both class teachers are simultaneously working with the same group of children), - hours of CPD provided by the ECEC management.	The purposive sample consisted of 20 municipal (M), state (S) and private NFP (P) pre-schools that reflect the diversity of Modena province's pre-schools in terms of management and geographical location.	<b>Study design:</b> quantitative. Within each setting the entire school day was videotaped and subsequently two observers analysed independently the collected material according to the CLASS (inter-rate agreement = alfa Cronbach .988 ). Information regarding each pre-school institution's organizational features and the characteristics of its personnel were gathered through questionnaires sent out to pedagogical coordinators and school directors. In order to identify educational pattern profiles (related to the quality of staff-child interaction as well as pre-school organizational features) explorative statistical analysis were carried out (cluster analysis). Through the cluster analysis a dendrogram using average linkage between each group of pre-schools was generated by referring to CLASS average scores obtained by each institution across the three domains identified (emotional support, classroom organisation, instructional support). Such clustering procedures allowed to outline four teacher-child interaction profiles that were related to pre-schools' structural features.
Quaresma et al. (2011)	Portugal	The aim of the study was to evaluate the implications of participation in the project 'Creche' for the two pre-school teachers.	ECEC setting attended by children aged 0 to 6	The project adopted an action-research approach and consisted in providing monthly meetings where teachers shared reflections about their practices, experiences, materials and information and tried to engage in action-research processes.	Two teachers working in a private non-profit ECEC setting with children from 0 to 6	<b>Study design:</b> qualitative. In order to evaluate the implications of participation in the project 'Creche' for the two pre-school teachers a semi-structured interview took place. The interview framework included questions related with: teachers' academic and professional experiences; teaching practices with 0-3 years old children; integration and permanence in the project 'Creche'; project monthly meetings; relationship between the project and research; the project related with the teachers personal, social and professional lives.

## Early childhood care: working conditions, training and quality of services – A systematic review

						Data were transcribed and analysed using qualitative content analysis.
Rentzou and Sakellariou, (2011)	Greece	The purpose of this research study was twofold: (1) to explore the quality of interaction between Greek early childhood educators and children; and (2) to record the structural characteristics of Greek child care centres. Correlations among structural characteristics and type of interaction were also examined.	27 class rooms: 17 were pre-school (11 public, 4 private, 2 non-profit) and 10 were infant/toddler classrooms (4 public, 3 private, 3 non-profit)	<ul style="list-style-type: none"> <li>- Group size;</li> <li>- staff: child ratio;</li> <li>- early childhood educators' level of education and training.</li> </ul>	40 early childhood educators (Education: 23 have graduated from a TEI, department of early childhood education and care, 8 from AEI, department of early childhood education and 7 from TEE or IEK, department of early childhood education and care)	<p><b>Study design:</b> quantitative.</p> <p>Data were collected by two observers visiting the ECEC settings during a typical day (8.30 am - 13 pm). Measurement tools used:</p> <ul style="list-style-type: none"> <li>- Caregiver Interaction Scale (CIS),</li> <li>- observed ratios and group size were recorded independently every 30 min.</li> </ul> <p>In order to examine correlations among the type of interaction and the structural characteristics CrossTab and multiple regression analyses were employed.</p>
Ruiz de Miguel and García García (2004)	Spain	The aim of the study is to examine the relations among variables that are constituting the 'quality model' theorised by the authors. In particular, the study aims to investigate the relations between adult-child ratio, group size, staff-child interactions and children's development.	19 preschool classrooms (18 public settings, 1 private setting) attended by children aged 4 to 5	<ul style="list-style-type: none"> <li>- adult-child ratio</li> <li>- group size</li> </ul>	<ul style="list-style-type: none"> <li>- 28 teachers</li> <li>- 338 children and their families</li> </ul>	<p><b>Study design:</b> quantitative</p> <p>Three questionnaires were prepared for the purpose of this survey: one for the teacher, one for families and a third party to collect the information on student (the teacher decided to whom the role of assessing the development achieved by the student should be assigned). Before determining the final structure, the questionnaires were subjected to a validation of 8 experts.</p> <p>In regard to the formulation of questions and answers the authors used a Likert-scale type response with 6 alternatives. Statistical analysis was carried out with the support of the SPSS software.</p>
Tietze et al. (2013)	Germany	The study examines how personal and structural quality indicators as well as pedagogical orientations impact on process quality. In addition, it analyses the effects of the quality experienced by children in ECEC settings and in the family on child outcomes.	centre-based and home-based settings	<ul style="list-style-type: none"> <li>- staff-child ratio</li> <li>- group size</li> </ul>	1.956 children (2 and 4 years old)	<p><b>Study design:</b> quantitative (cross-sectional national survey)</p> <p>Measurement tools used for data collection regarding process quality:</p> <ul style="list-style-type: none"> <li>- KES-R, KES-E, KRIPS-R, TAS-R (German adaptations of ECERS-R, ECERS-E, ITERS-R, FCCERS-R);</li> <li>- KES-Z (6 additional items including child observation and documentation, following a written curriculum, communication within the team and with parents);</li> <li>- Caregiver Interaction Scale (CIS).</li> </ul> <p>For assessing children's behaviour and skills:</p> <ul style="list-style-type: none"> <li>- adapted version of the Vineland adaptive behaviour scales II;</li> </ul>

Annex 2: References of the studies included in mapping but excluded from in-depth synthesis

						<ul style="list-style-type: none"> <li>- Child behaviour checklist;</li> <li>- Infant-Toddler Social Emotional Assessment;</li> <li>- Social Skills Improvement System;</li> <li>- Peabody Picture Vocabulary Test IV;</li> <li>- Kaufman Assessment Battery for Children.</li> </ul> <p>For assessment of the home environment: HOME (Bradley and Caldwell 1981, Totsika &amp; Sylva 2007) and others.</p> <p>Self-reported measures:</p> <ul style="list-style-type: none"> <li>- AKFRA for measuring teachers' activities with children.</li> </ul> <p>Quantitative data were analysed statistically through stepwise multiple regressions.</p>
Venninen (2007)	Finland	The aim of this study is to investigate the practical training process of collegial feedback and also the opportunities for feedback as a means of supporting professional development in the context of kindergarten.	one kindergarten	The development project involving the entire kindergarten community was implemented through three developing cycles. The intervention – aimed to improve the professionals' feedback skills and the feedback practices in the ECEC centre – was carried out as a practical training in natural working environment (kindergarten classroom), by developing a working culture of feedback practices.	ECEC professionals (n=21)	<p><b>Study design:</b> mixed-method</p> <p><b>Quantitative part:</b> a questionnaire was administered before and after the training period; structured evaluation form concerning the feedback experiences were filled out monthly during the action-research period.</p> <p><b>Qualitative part:</b> interviews with professionals related to the feedback experiences; diaries related to the personal experiences, interviews concerning the experiences of the development project and feedback practices in the team and community.</p>
Wächter and Laubenste in (2013)	Germany	The aim of the study was to assess ECEC teachers' experiences with Marte Meo as a method of supervision and how it impacted on their practice.	ECEC centre	The Marte Meo method has been developed as video feedback intervention for parents, but is used for counselling of people in asymmetric relationships in general. In the study the Marte Meo method was used as a method for team supervision. At the time of the study the supervision was in place for 2 years. At each session one staff member raises a question with regard to one of his/her children. Video clips of the child in various situations and interactions with staff are prepared and discussed with team members and the supervisor. The team reflects on what kind of initiatives the child shows, which needs it expresses, and how teachers	12 ECEC professionals working in a setting with a high percentage of children with behaviour problems	<p><b>Study design:</b> qualitative</p> <p>Data were collected through two focus groups and individual semi-structured interviews.</p> <p>The data were analysed thematically (qualitative thematic analysis).</p>

Early childhood care: working conditions, training and quality of services – A systematic review

				respond to them. Video feedback opens the possibility to look at situations from a distance and reflect on them. Watching video clips together with parents provides teachers with a tool to engage in a dialogue with them.		
--	--	--	--	--	--	--