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Meta-thematic analysis of quality in early childhood education and care

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Quality in early childhood education and care (ECEC) has drawn the attention of researchers and practitioners due to its correlation with positive individual, societal, and economic results. In ECEC, however, there is no consensus on quality metrics. This meta-thematic study seeks to provide a framework for quality indicators in ECEC and to identify the contextual factors that influence the perception of quality. The study's data source comprises 14 published papers conducted in 11 countries using qualitative or mixed methods on quality in ECEC. As a consequence of the analysis, 16 early childhood education and care quality indicators were identified. As a result of the second-level studies, the underlying or associated syntheses in the ECEC quality indicators were uncovered. These include child-centeredness, teacher qualifications, culture and atmosphere of the ECEC center, holistic development, and leadership. In addition, it was concluded that cultural values and beliefs, the centralization degree of the education system, and the expectations of stakeholders are contextual elements that influence the quality and perceptions of quality in ECEC.

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Introduction

The first years of a child's life are crucial for the development of cognitive, social-emotional, and physical skills. Intervention programs, a supportive environment, and quality education improve children's short- and long-term development (Brodin et al., 2015; Davis et al., 2021; UNICEF, 2017; Vandebroek et al., 2018). Early childhood education and care (ECEC), which involves planned and programmed procedures consistent with the policy objectives of countries, aims to achieve positive results for children, families, and society. Quality ECEC has significant effects on children from disadvantaged areas to achieve high occupational status and attend school (Ishimine, 2011; Kagitcibasi et al., 2009), support children's learning and development (Eadie et al., 2022; Wysłowska and Slot, 2020), and prepare them for the next level of education (Karademir et al., 2017). Additionally, ECEC advantages are not limited to children. ECEC helps to the labor force participation of women, a reduction in crime rates, and a more harmonious social structure (Vandebroek et al., 2018). Due to these advantages, the problem of quality in ECEC has rightfully attracted the attention of scholars, many nations, and international organizations like UNESCO and OECD.

Previous studies have demonstrated that high-quality early childhood education influences the well-being and academic success of children. This has generated international interest in measuring the quality of early childhood education and creating policy goals for education and care services (Ishimine and Tayler, 2014). The principle of "providing that all girls and boys have access to quality early childhood development, care, and services" has been added to the global development agenda of the United Nations (UN) member states by the 2030 Sustainable Development Goals (SDGs), which came into effect in 2015 (UNICEF, 2017). Today, most communities are searching for methods to provide a qualified education for their children (Rosenthal, 2003). However, there is no consensus on how to accomplish this. Countries seek to attain quality education and care service quality standards, sometimes by modifying national policies and sometimes by enhancing the quality of institutions and procedures (Eadie et al., 2022; Rosenthal, 2003). However, the answers to the questions below are still being sought: "What is quality in early childhood education and care? Which elements comprise quality? What are the most crucial quality factors affecting children's learning and development?"

To attain quality ECEC services, it is necessary to define quality factors from the viewpoints of all stakeholders and establish how these elements interact and how they mediate quality services (Sollars, 2020a). Numerous qualitative and quantitative studies examine the quality of ECEC services from the viewpoints of a variety of stakeholders (Caublot and Blicharski, 2016; Grammatikopoulos et al., 2014; Hu et al., 2017). Despite the fact that there is consensus on a number of quality factors in ECEC services, such as educational curriculum, quality of teacher-child interactions, and physical conditions, a common understanding of quality has not yet been established. It is believed that contextual conditions and their influence on quality elements make it challenging to objectively evaluate quality in early childhood education (Brodin et al., 2015; Eadie et al., 2022). Although cultural values, norms, and beliefs influence the meaning assigned to quality in ECEC, it is necessary to construct models that incorporate quality factors and their interactions with contextual conditions. In this context, the purpose of this study is to synthesize the findings of research on quality in ECEC based on stakeholder perspectives in order to comprehend the quality elements by taking context into consideration.

Quality in early childhood education and care

There are several interpretations of the term quality. According to Sallis there are four fundamental definitions of quality (cited in Şimşek, 2018). Initially, the first definition identifies quality with the adjectives "expensive" and "luxury." The second definition defines quality as a relative characteristic. According to this viewpoint, quality is a characteristic attributed to a product or service based on specified criteria. While the third viewpoint evaluates whether the manufacturing procedures of the product or service adhere to particular criteria, the fourth perspective prioritizes the customer's values and opinions with regard to quality. When the last three perspectives are evaluated in terms of ECEC, the variety of customers (child, family, society, and state), the value-laden character of educational processes and the difficulty in establishing the quality of educational outputs make it challenging to define quality. In addition, efforts are continuing to define quality in ECEC from several viewpoints.

Numerous research studies have attempted to develop a framework for defining quality in ECEC based on the basic elements influencing quality. Components of quality evaluated in these studies include student ratios, class size, teacher behavior, collaboration with parents, teacher quality, leadership and administration, physical environment, and curriculum (Sewagegn et al., 2022; Sheridan, 2007; Textor, 1998). Nevertheless, it is also possible to articulate multidimensional approaches to quality in ECEC using more comprehensive models. These models are based on ecological theory, learning theory, attachment theory, the sociocultural approach, the systems approach, and structure and process approaches that emphasize on quality features (Burchinal, 2018; Caublot and Blicharski, 2016; Eadie et al., 2022; Vandell and Wolfe, 2000). Ecological theory (Bronfenbrenner and Morris, 2006) places the child at the center and examines the influence of many systems and their interaction on the quality of life (Burchinal, 2018; Davis et al., 2021). Consequently, it offers information on the location of quality inputs to prioritize. Attachment theory and sociocultural approach (Vygotsky, 1978) attempt to explain the quality of ECEC within the context of children's interactions with their immediate surroundings. Torii et al. (2017), while defining quality in ECEC, describe system quality as a different area. System quality includes elements such as funding, service standards, governance, and regulatory standards.

Structural and process approaches are the most prevalent methods of measuring quality in ECEC. Structural factors include more readily measured qualities including the physical environment of ECEC, teacher-child ratios, safety, staff qualifications, and curriculum (Bennett and Tayler, 2006; Ishimine and Tayler, 2014; Pihlainen et al., 2022). Interactions between children, staff, and families, pedagogical techniques, and children's experiences in ECEC settings are process factors (Burchinal, 2018; Pihlainen et al., 2022). As they consist of visible components, structural characteristics are very simple to measure. However, process factors are difficult to measure since they comprise dispersed and comparatively more subjective factors. Indeed, Ishimine (2011) claimed that more in-depth observations are required to evaluate the quality of a process. Although structural and process factors have a symbiotic relationship (Sollars, 2020a), the links between structure and process quality have not always been strong and consistent (Slot et al., 2015). In general, ECEC quality models are limited in their ability to comprehend structural quality and system-level practices since they focus primarily on the quality of process components. Moreover, contextual conditions have been neglected in several approaches.

Contextual conditions are an essential component of quality discussions in ECEC. Context may include cultural variations,

child-rearing values, country-specific policy objectives, and stakeholder priorities. Ikegami and Agbenyega (2014) argue that a monolithic approach to quality in ECEC fails to respond to the needs of children in different contexts and does not provide a comprehensive understanding of quality, whereas Zaslow et al. (2011) argue that quality is value-laden because it is based on the perspective of researchers and practitioners. The notion of quality care or education is derived from each cultural community's cultural values and developmental goals (Rosenthal, 2003). In other words, cultural values and beliefs influence the expected objectives of education and care, the methods used to achieve these objectives, and the interactions that occur during the process. Consequently, the conception of quality is likewise shaped by the values that are given priority. In support of this approach, research from the United Kingdom, Germany, and New Zealand indicates that parents and preschool teachers have a basic understanding of quality child care, despite varying emphases (Textor, 1998). Fenech et al. (2020) revealed that quality is complex, multidimensional, and value-laden, whereas Caublot and Blicharski (2016) proved that quality in ECEC is not a generally applicable concept.

Although research that emphasizes contextual conditions indicates the difficulty of evaluating quality in ECEC, attempts to create assessment tools for quality measurement in ECEC have continued for decades. Several quality observation metrics have been created in the previous two decades, particularly in the United States (for measurement tools, see Ishimine, and Tayler, 2014). However, due to cultural bias, it is emphasized that the validity of measurement tools established in various nations should be questioned when used on a different population (Ishimine and Tayler, 2014; Rosenthal, 1999). In 2014, UNESCO, UNICEF, the World Bank, and the Centre for Universal Education at the Brookings Institution began to develop a quality measurement tool for early childhood education and care (ECEC) in order to develop measures with scientifically based elements that would allow both individual assessment and global monitoring for each country. The developed Measuring Early Learning Quality and Outcomes (MELQO) includes two dimensions, child development and learning, the early learning environment, and sub-dimensions within these dimensions. The child development and learning dimension comprises executive function, social and emotional development, early math and reading abilities, and early social and emotional development. The early learning environment consists of environment and materials, interactions, pedagogy, family and community participation, inclusivity, play, and personnel (UNESCO, UNICEF, Brookings Institution & the World Bank, 2017). Despite continuous research on the validity and reliability of the MELQO, further evidence is required at the national and international levels.

Purpose and importance

There are many arguments in favor of a consensus-based definition of quality in ECEC and the identification of critical features. First, defining quality-based feedback metrics at the system level is important. Second, establishing policy objectives through national assessments and international comparisons requires comparable criteria. In reality, OECD efforts to evaluate ECEC services in several countries (TALIS Starting Strong) have gained momentum (OECD, 2019). Thirdly, establishing the right quality criteria results in focusing on these criteria and, consequently, quality outcomes.

Katz (1993) suggested four perspectives for evaluating quality. The perspectives include those of the parent, the child, the professional and researcher, and ultimately, the staff. On the basis of these viewpoints, several research on the definitions and

components of quality have been conducted. This research has shown the challenge of establishing a standardized framework for quality, particularly owing to contextual factors. However, despite the fact that quality is a very subjective notion, certain factors may be more important for good quality (Brodin et al., 2015). In addition, although there are cultural and national expectations for which method should be used and what children should know, this does not imply that ECEC would promote norms that violate children's rights (Banu, 2014) and characteristics and practices with little impact. Instead, we believe that it would be more practical to identify quality characteristics in ECEC by taking the context into account. Within this framework, we sought answers to the following questions by synthesizing qualitative studies on quality in ECEC.

- Which quality characteristics are most commonly emphasized by various stakeholder perspectives?
- What contextual factors influence the perception of quality in ECEC?

Method

Numerous qualitative studies have addressed the topic of quality in ECEC based on the perspectives of various stakeholders. In order to provide a holistic view by analyzing the outcomes of these studies in depth, we used a qualitative research strategy in this study. In this context, we conducted a meta-thematic analysis of a few qualitative research addressing the topic of quality in ECEC. Meta-thematic analysis is the reinterpretation of the findings and conclusions of qualitative investigations done on a particular issue using raw data (participant views), developing new codes and themes, and achieving more complete and holistic knowledge (Batdi, 2019). In other words, the purpose of meta-thematic analysis is to generate new hypotheses by combining the results of qualitative research on a particular issue. The purpose of this paper is to present a holistic viewpoint by compiling research results focusing on a certain question or practice.

Determination of studies and collection of data. The process stages described in the literature (Konan et al., 2018; Noblitt and Hare, 1988) were followed in order to determine the studies to be included in the meta-thematic analysis (see Fig. 1). Depending on the topic and objective of the research, studies addressing quality in ECEC were focussed. Before determining the keywords for the search, a researcher analyzed and identified the keywords of 20 relevant papers, and the researchers then determined the most suitable search terms together. In this context, the keywords "quality in early childhood education," "quality in early childhood education and care," "quality in preschool education," "structural quality in early childhood education," and "process quality in early childhood education" were searched on the Web of Science, ERIC, Scopus, and EBSCO databases. As a result of this search, 332 studies were identified. A set of inclusion criteria was established for the selection of research-relevant papers. (1) The studies should focus on the quality of early childhood education. (2) The studies should be published in English or Turkish in peer-reviewed international publications. (3) The studies should employ qualitative or mixed approaches. (4) The study findings must be supported by raw data.

Two researchers individually reviewed each study based on the inclusion criteria. In addition, the researchers documented the criteria by which the excluded studies were eliminated. All researchers then assessed the notes of two researchers. In cases where there was a disagreement of opinion, the studies were reexamined, and a consensus was reached on whether or not to include them. At the end of the evaluation process, it was

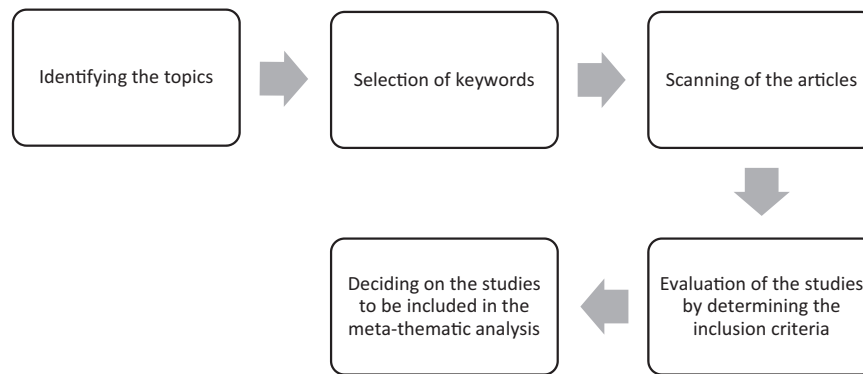


Fig. 1 Meta thematic process stages. Procedure steps for studies to be included in meta-thematic analysis.

determined to include 14 research (see Table 1) in the meta-thematic analysis. However, due to the fact that meta-thematic analysis needs in-depth re-examination and combining of current studies, it is advised to perform such research with a small number of studies (Batdi, 2019; Bondas and Hall, 2007).

Summary of studies included in the meta-thematic analysis. In this section, information on the included studies is presented. The meta-thematic study includes fourteen studies published between 2014 and 2022 and conducted in different regions of the world (see Table 1). The research was done in eleven distinct countries. Two articles were conducted in Malta, two in Australia, two in the United States of America, two in Turkey, two in Finland, one in Japan, one in Bangladesh, one in Tanzania, one in Lesotho, one in Ghana, and one in Spain. Ten studies focused directly on the quality of early childhood education based on the perspectives of stakeholders; one study focused on the negative experiences of children (Pihlainen et al., 2022), one study focused on the problems experienced by stakeholders (Çobanoğlu et al., 2020), one study focused on educational philosophy (Ikegami and Agbbenyega, 2014), and one study focused on quality through children's happy experiences (Rodríguez-Carrillo et al., 2020). The included studies examined early childhood education quality from a variety of angles. Six studies assessed the quality of early childhood education from the framework of structure and process, three from the framework of ecological systems, four from the framework of socio-cultural, and one from the framework of the process.

In thirteen of the fourteen studies included in the meta-thematic analysis, qualitative research methods were employed, while one study employed a mixed methodology. Seven of these articles were case studies, four were phenomenological, one was comparative, and two were interpretive. Teachers, parents, school administrators, center owners, caregivers, supervisors, government stakeholders, and children comprised the study participants.

Data analysis. The most significant element of qualitative research is qualitative data (Korkmazyürek, 2020). This study's qualitative data consists of participant comments, findings, and outcomes from the included studies. For the study of qualitative data, we adopted an inductive analysis strategy that allows the formation of significant structures from small data samples (Strauss and Corbin, 1990).

In the first stage, the included studies were analyzed using the content analysis method by two researchers independently reviewing each study in depth. Content analysis requires an in-depth investigation of the acquired data and permits the development of themes and dimensions that were not previously apparent (Yıldırım and Şimşek, 2021). Content analysis was performed manually, and new codes were developed. Due to the

cyclical nature of the coding procedure (Saldana, 2011), the included papers were reviewed three times by two researchers to prevent data loss. In order to generate a whole from the codes, syntheses and themes were created in the second stage. The procedure of developing themes was also separately conducted by two researchers. In the last stage, a meeting was organized with the involvement of all researchers to compare and assess the themes and codes. In situations where there was disagreement over themes and codes, a consensus was obtained by soliciting the input of all scholars. As a consequence of the examination of the themes and codes at this stage, researchers developed an abstract generalization and second-level syntheses.

Despite the fact that there is no consensus among researchers on the validity and reliability in qualitative research (Çelik and Kahraman, 2021), some measures were taken as a requirement of the procedures that assure the validity and reliability of qualitative research. Initially, the study selection, coding, and theme generation methods were documented in detail, and the included papers were made publicly available (see Table 1). Second, researcher triangulation was performed, and coding and thematization were conducted by various researchers and assessed and determined with the involvement of all researchers. Thirdly, in order to assure interpretative validity, the research's syntheses were supported by other research findings in the literature. To establish plausibility of the research, the meta-thematic analysis' resulting syntheses were supported with direct quotations from the relevant papers.

Findings. In this section, the findings related to the first research question are given first. Table 2 displays the codes produced from the research included in the meta-thematic analysis, the themes derived from these codes, and the second-level interpretations/syntheses.

Elements of quality (Themes). The study themes identify the characteristics of quality that should be prioritized in early childhood education. In addition, the codes associated with the themes indicate how the content of quality elements should be constructed. In addition, the themes are associated with the studies included in the research in Appendix A.

Professional competence of teachers. In twelve of the included studies, teachers' professional competence was addressed directly or indirectly as an important component of quality factor impacting quality when the themes were analyzed. According to an analysis of the codes, the desired characteristics of practitioners within the scope of competence include pedagogical competence, communication skills, qualification certificates, and other certifications.

Table 1 Studies included in the research.

No.	Author (s)	Country	Article title	Purpose	Approach to quality	Method	Study group
1	Sollars (2020a)	Malta	Defining quality in early childhood education: Parents' perspectives	To determine which factors are identified by parents as indicators of quality in childcare and pre-school settings in Malta.	Structure and process quality	Qualitative case study	1975 parents with children in private and public pre-schools
2	Fenech et al. (2020)	Australia	Using metaphor to illuminate quality in early childhood education	To reveal the understanding of quality in early childhood education and care through metaphors.	Structure and process quality	Qualitative case study	4 center leaders 2 room leaders 32 instructors
3	Sollars (2022b)	Malta	Reflecting on 'quality' in early childhood education: Practitioners' perspectives and voices	To identify practitioners' views on quality factors in childcare centers and pre-schools in Malta.	Ecological system approach	Qualitative case study	436 participants (teachers, carers, administrators)
4	Pihlainen et al.(2022)	Finland	Children's negative experiences as a part of quality evaluation in early childhood education and care	To identify children's negative experiences on quality in early childhood education and care.	Structure and process quality	Qualitative case study	2500 children
5	Çobanoğlu et al. (2020)	Türkiye	Quality of early childhood education at a glance: Problems related to families, teachers, and working conditions	To reveal the problems related to the structural features and qualifications of educational processes in pre-school education.	Structure and process quality	Qualitative phenomenological approach	7 pre-school teachers
6	Chappell and Szenteb (2019)	USA and Finland	International teacher perspectives on quality in ece: A case study	To investigate the components of high quality in early childhood education and care from the perspectives of teachers in the United States and Finland; to present how these perspectives differ or resemble according to culture.	Socio-cultural perspective	Qualitative comparative case study	3 Finn and 2 American teachers
7	Karademir et al.(2017)	Türkiye	Quality in preschool education: The views of teachers and assistant teachers	To determine the views of teachers and teachers' aides about quality in preschool education and effect of teachers' aides on quality.	Structure and process quality	Qualitative phenomenological approach	6 teachers' aides and 6 pre-school teachers

Table 1 (continued)

No.	Author (s)	Country	Article title	Purpose	Approach to quality	Method	Study group
8	Ikegami and Agbenyega (2014)	Japan	Exploring educators' perspectives: How does learning through 'happiness' promote quality early childhood education?	To investigate six early childhood educators' understandings of early childhood quality.	Socio-cultural perspective	Qualitative interpretive case approach	2 principals and 4 teachers
9	Banu (2014)	Bangladesh	Teachers' beliefs and perceptions of quality preschool education in Bangladesh: A postcolonial analysis	To explore teachers' beliefs and perceptions of quality preschool education in Bangladesh.	Socio-cultural perspective	Qualitative interpretive (post-colonial approach)	9 pre-school teachers
10	Davis et al. (2021)	Tanzania and Lesotho	Understanding perceptions of quality among early childhood education stakeholders in Tanzania and Lesotho: A multiple qualitative case study	To define quality within the contexts of different stakeholders and gathering their perspectives on quality.	Ecological system approach	Qualitative multiple-case study	Only government stakeholders from Tanzania (6 people) and Lesotho (3 teachers, 3 school administrators and 4 government stakeholders)
11	Bamezor et al. (2021)	Ghana	Exploring Stakeholder Perceptions of Quality Early Childhood Education in Private Day Care Centers in Ghana: A Qualitative Approach	To determine stakeholders' perceptions of quality in early childhood education.	Socio-cultural perspective	Qualitative phenomenological approach	30 people (parents, carers and property owners)
12	Sewagegn et al.(2022)	Ethiopia	The status of early childhood care and education in northwest Ethiopia: an investigation from quality perspective	To examine quality in early childhood education and care.	Structure and process quality	Mixed method, qualitative phenomenological approach	161 teachers, 35 principals and 4 inspectors
13	Ishimine (2011)	Australia	Quality in early childhood education and care: A case study of disadvantage	To examine the relationship between childcare centre quality and disadvantages in the urban context in Australia.	Ecological system approach	Qualitative multiple-case study	1 centre director and 2 teachers
14	Rodriguez-Carrillo et al. (2020)	USA and Spain	A teacher's hug can make you feel better': listening to US children's voices on high-quality early childhood teaching	To determine the knowledge, skills, and attitudes that qualified early childhood education and care instructors must possess from the perspective of 4-6-year-old children.	Process quality	Qualitative phenomenological approach	30 pre-school students aged four to five years and 12 first-grade students

Table 2 Codes, themes and syntheses.

Codes	Created theme	Sample citations	Second-level interpretations/ syntheses
<p>Certification and training for ECEC, experience, getting to know the child, planning appropriate activities for children, guiding social and emotional learning, using learning time effectively, establishing good relationships with families, having knowledge about children's development, being skilled in developing materials, being open to communication, behavior management, effective use of space, and effective use of time.</p>	<p>Professional competence of teachers f(12)</p>	<p><i>"The activities being prepared should be meaningful; they (referring to carers/practitioners) should know what they are tackling with the specific activities and that they are age-appropriate for that particular group. ... they give children space to explore the environment ... to play together ... give children the freedom to choose what to play with or what activities they'd like to do ... even how they accomplish certain activities. That they allow leeway, the freedom for children to express themselves and develop."</i> (Sollars, 2022b).</p>	<p>Teacher qualifications</p>
<p>Individual value, recognizing the child and his or her feelings, supporting and valuing children, respect for the child, tolerance, encouraging the child to take initiative, assisting children in developing a positive self-image, spending individual time with children, using appropriate language, being kind to children, and valuing individual diversity.</p>	<p>Interaction with children f(9)</p>	<p><i>"Typical was staff member A, who commented: ... (we) just sit them down, one to one, and we ease the mental activities, speak slowly to them, asking questions such as how are you feeling today?.... To do this we have to find enough time for the individual child."</i> (Ishimine, 2011).</p>	<p>Child-centredness, Teacher qualifications</p>
<p>Natural and esthetic structure, simplicity, ample space, classroom sizes, visually appealing environment, playgrounds, library, learning corners, various activity areas, toys that reflect the diversity, age-appropriate resources, and materials, child-friendly furniture, a layout where the child can comfortably reach what he wants, a classroom environment full of rich stimuli.</p>	<p>Physical conditions and opportunities f(9)</p>	<p><i>"Parents identified bright, airy, welcoming, colorful and joyful environments as hallmarks of quality. They appreciated large outdoor spaces or play areas where children do not have to spend the entire day within a room or indoors. Clean, modern, well-equipped classrooms of adequate size were also referred to."</i> (Sollars, 2020a).</p>	<p>Child-centredness</p>
<p>Supportive relationships, team spirit, unity, relations founded on healthy communication, family atmosphere, nurturing environment, valuing every child, sensitivity to individual differences, loving each other, valuing each other, having common thoughts and values, dedication to common beliefs, mutual respect, belonging to the school, sincerity, synergy, harmony among employees, warm and supportive relationships between parents and personnel, colleague solidarity, teamwork, administrative support, information sharing with colleagues</p>	<p>In-school relationships and shared values f(8)</p>	<p><i>"You know, the most important thing for us is happiness. It does not mean when children are running around or laughing then they are happy. Some children can fake their happiness just to please educators (Educator 3). A Soka educator should know this ... we are talking about the happiness that comes from the inside of the children. You see this in their work habit in the centre, their posture, their determination show this."</i> (Ikegami and Agbenyega, 2014)</p>	<p>Culture and atmosphere of ECEC centre</p>
<p>Lunch breaks, communication, and information-sharing protocols, entry and exit regulations, disciplinary policies, regular meetings, staff recruitment in accordance with the institution's philosophy, security, cleaning, guidelines, and teacher break time</p>	<p>In-school policies and procedures f(8)</p>	<p><i>"To me, it is the environment of the school, including the security measures in place and how well the teachers take care of the children. At this center, whenever I am unable to pick up my child and I do not call ahead, they would not let whomever I send to pick my ward up do so unless I have been contacted, and that is very good to me."</i> (Bamezor et al., 2021).</p>	<p>Child-centredness</p>
<p>Parent information meetings, prompt and attentive communication, cooperation with families, empathy, open communication based on trust, mutual respect, development of a common language, expectation and participation of the family, practices that encourage families in the classroom, commitment to school, awareness of ECEC</p>	<p>Family support and communication f(7)</p>	<p><i>"If a child is told to read, then a parent must also read with that child in order to create an interest in reading."</i> (Davis et al. 2021)</p>	<p>Culture and atmosphere of ECEC centre</p>
<p>Academic achievement, self-confidence, learning to cooperate and share, character development, socialization, independence, self-confidence, self-regulation, self-awareness, social-emotional skills, meeting parents' expectations, a positive attitude towards learning, love for school and teachers, determination, adaptability, courage, risk-taking, placement in good schools, spiritual education, physical skills, preparation for the next level of education, development of leadership skills, language and speaking skills, and taking initiative.</p>	<p>Educational outcomes f(7)</p>	<p><i>"As the interviewees representing Finland discussed aspects of quality that were easily coded into the theme of environment, the participants also explored the ideas of supporting the child's entire well-being with areas for rest and food, cleanliness and safety. The terms "nurture" and "wellbeing" and "emotion were mentioned in discussing the teacher's interactions with children, and that "the care has always been more important than the education of the teaching aspect of early childhood education."</i> (Chappell and Szenteb, 2019).</p>	<p>Holistic development</p>
<p>Continuous professional growth, expert networking, a learning community, mentorship, applied professional development, acquiring and using new pedagogical knowledge, and lifelong learning.</p>	<p>Professional development of teachers f(6)</p>	<p><i>"The teacher should] be trained and should regularly attend training workshops whenever they are available."</i> (Davis et al., 2021)</p>	<p>Teacher qualifications</p>

Table 2 (continued)

Codes	Created theme	Sample citations	Second-level interpretations/syntheses
Learning through play, multi-sensory learning, show-and-tell practices, hands-on activities, routines, taking into account individual needs, peer support, participation in joint activities, involving children in the process, sensitivity to individual differences, unstructured activities, learning by experience, age-appropriateness, revealing discovery and creativity skills, allowing the child to move freely, recognizing nature, expressing thoughts, learning by having fun, appropriateness to the level, involving all students in the process, feedback.	Learning-Teaching process f(6)	<i>"In my opinion, children can learn only when they have fun. If we talk about quality, then it means that we want children to learn. Quality education can be achieved only if we can provide the education suitable for children's developmental levels by making them enjoy themselves. Here we have a big responsibility."</i> (Karademir et al., 2017).	Child-centredness, Teacher qualifications
Flexibility, unitized plan, delivering diverse and rich experiences, supporting diverse learning methods, play-based, active learning, organized and unstructured activities, holistic development-based goals, and sensitivity to individual requirements.	Curriculum f(6)	<i>"Our curriculum is play-based... children develop their skills through play. Also we have a written document, [for example] learning behavior plan, how we manage behavior, how we get children to speak to each other to respect individuals. Those things we talk about with children and evaluate the program and we may also tell the parents."</i> (Ishimine, 2011).	Child-centredness
Specialization, supporting employees, friendliness, hospitality, behaving ethically, having a vision, extroversion, being a facilitator, sharing power and authority, trust, understanding, empathy, and openness to development.	Professional competence of school administrators f(5)	<i>"As to whether something is more important than another, I would have to say that for me (the director) is so crucial ... the crucial leadership that the boss, as it were, the visionary nature of (the director's) leadership is... the most important thing ...I actually don't think the other ribbons make any sense without (the director's) vision and leadership."</i> (Fenech et al. 2020).	Leadership
Friendly, understanding, warm, caring, patient, kind, hardworking, sensitive to children's needs, compassionate, dependable, responsible, unselfish, active listener, good attitude toward the child, healthy, proactive, temperament, committed to the profession.	Personal characteristics of teachers f(4)	<i>"Parents believe that staff should be 'friendly and understanding', 'warm and caring', 'patient and kind'; 'have academic knowledge', are 'trained' and 'qualified'; have 'experience'; are 'committed', 'dedicated', 'organized', 'professional', 'hardworking', 'welcoming, friendly and accessible'; get along well with all children and are capable of addressing children's needs."</i> (Sollars, 2020a).	Teacher qualifications
Classroom assistants, branch instructors and specialists (speech therapist, dietician, etc.), and ratios of students and teachers.	Personnel f(3)	<i>"Something which I believe is important both for the children and the carers who are with them is adhering to the ratios. When you have a situation where you are over the ratio, the carer cannot give as much attention to every boy and girl she has with her..."</i> (Sollars, 2022b).	
Positive learning environment, classroom rules, friendly interaction, active participation of children in decision-making, supportive relationships, respect for children's learning efforts, children who feel loved, and positive peer relationships.	Classroom atmosphere f(3)	<i>"Parents reckoned that quality services are those which contributed to the child becoming independent; where children are cut off from the family routines or ties; overcome shyness and gain confidence even as they mingle with other children their age; where children learn to share or collaborate when they work/play in a group, and even empathize with and care for others."</i> (Sollars, 2020a).	Child-centredness
Children as active participant citizens, understanding children's rights and duties, affection, children making their own decisions, the child's best interests in all matters, faith in children, respect for children, the child's happiness and liberalization.	Philosophy of education f(2)	<i>"The activities being prepared should be meaningful; they (referring to carers/practitioners) should know what they are tackling with the specific activities and that they are age-appropriate for that particular group... they give children space to explore the environment ... to play together ... give children the freedom to choose what to play with or what activities they'd like to do ... even how they accomplish certain activities. That they allow leeway, the freedom for children to express themselves and develop."</i> (Sollars, 2022b).	Child-centredness
Teacher pay, frequent training for teachers, financial support for ECEC, informing the public about ECEC, a national curriculum, and regular data collection and feedback.	Central policies and practices f(2)	<i>"Human resources were also identified as indicators of quality. Reference was made to the need for in-class support through class assistants, learning support educators and professionals such as speech therapists and specialist teachers who should visit KG classrooms for PE, Drama, Music, and Art."</i> (Sollars, 2022b)	

Interaction with children. In nine included research, interaction with children as a quality component of early childhood education was examined. In this research, the importance of valuing, appreciating, respecting, and encouraging children as indicators

of quality interaction was emphasized. Not only teachers are required to engage in such interactions, but also the qualified interaction of school administrators, specialists, and all personnel with students is deemed to be an indicator of quality.

Physical conditions and opportunities. Physical conditions and opportunities were evaluated as quality criteria in nine included studies. In terms of the physical conditions, different activity areas, structures that would draw the child's interest and attention, and their being practical for the child were emphasized.

In-school relationships and shared values. This theme refers to the values, beliefs and behaviors shared by all stakeholders in the school, including teachers, administrators, children, families and other employees in their interactions with each other. Eight codes and findings directly or indirectly belonging to this theme were included in the study. While the theme of interaction with children refers only to the quality of interaction between children and other employees, this theme emphasizes the shared values between all stakeholders and how relationships should be.

In-school policies and procedures. As quality indicators, procedures and practices inside of the school, such as lunch break, hygiene, school entrance and exit rules, communication and information sharing procedures, and security, were examined in the studies included in the research. Indicators related to this theme were included in eight research studies.

Family support and communication. As quality indicators, the studies included in the analysis examined the quality of communication with families, communication procedures, family participation and practices supporting family participation, and ECEC awareness. In seven research studies, family support and communication behaviors were included as indicators of quality ECEC.

Educational outcomes. Indicators for educational outcomes in the context of quality ECEC were highlighted in seven of the included research. Educational outcomes refer to the development of children in several areas following ECEC. The expectations for educational results are not affected by stakeholder perspectives. Although diverse developmental areas of children, such as cognitive, linguistic, and psychomotor development, are emphasized, studies mostly highlight outcomes for social and emotional development.

Professional development of teachers. Professional development was another important theme stated in the analyzed papers pertaining to teachers. In six research, cooperation networks, mentorship, and continuous professional development were included in the definition of teacher professional development.

Teaching-learning process. Six studies included quality elements pertaining to how the teaching-learning process should be in a quality ECEC. Indicators of a successful ECEC teaching-learning process include sensory-appropriate activities, child-centered activities, teaching through play, learning by doing, activities that will expose children's creativity, and approaches appropriate to children's interests and abilities.

Curriculum. Six studies directly included curriculum features for quality in ECEC. In general, the features sought in the curriculum for a quality ECEC are as follows: flexible, play-based, consisting of structured and unstructured activities, taking into account individual needs, and being designed based on holistic development.

Qualifications of school administrators. Five studies highlighted the qualifications of school administrators as an indicator of ECEC quality. The study identified the most desired attributes for school administrators as sharing, staff support, and leadership.

Personal characteristics of teachers. In the studies included in the study, the personal characteristics of teachers were also identified as a quality element associated with teachers. Teachers' personal characteristics have been examined in four studies. These are the characteristics that can impact the quality of teacher-child relationships. Attitudes, sensitivity, compassion, friendliness, caring, and their belief in education are some of the personal characteristics of teachers.

Personnel. This theme relates to the diverse staff qualities and student-teacher ratios that should be present in ECEC. In three research, these theme-related findings were included within the scope of quality. Personnel indicators for a qualified ECEC include the presence of classroom aides, branch teachers, and specialists, and adequate teacher-to-student ratios.

Classroom atmosphere. In the three studies included in the analysis, classroom atmosphere-related findings were present. The classroom atmosphere theme contains indicators of how the classroom environment should influence student relationships with their peers and the teacher. Positive learning environment and peer interactions, classroom rules, and warm relationships indicate an open, friendly, and supportive classroom atmosphere for a qualified ECEC.

Philosophy of education. Educational philosophy is another factor that affects ECEC quality. Indirectly or directly, indicators relevant to this theme were included in two studies. Although educational philosophy is described as a quality factor in two studies, it is also a crucial factor in determining the curriculum, children's learning outcomes, and the fundamental structure of educational processes. Child's liberation, a strategy based on love, and child welfare characterize the educational philosophy of a quality ECEC.

Central policies and practices. In addition, central policies and practices play a significant effect in the quality of ECEC. The outcomes associated with these policies and practices are included in two studies. In this context, it was established that teacher salaries appropriate to the conditions of the age, professional development practices, informing the public, and establishing and adhering to a national curriculum are quality indicators in the framework of central policies and practices.

Second-level interpretations/syntheses. This section contains the syntheses derived by reinterpreting the codes and themes. These interpretations contain both syntheses of the fundamental characteristics of the themes and syntheses of other themes. In this context, the following five syntheses were identified: qualified teacher, child-centredness, culture and atmosphere of ECEC center, holistic development, and leadership.

Teacher qualifications. Teacher qualifications refer to the attributes that ECEC teachers should possess. In this context, the professional competency, personal characteristics, and professional development efforts of teachers stand out as significant factors of teacher qualifications. Professional competency affects the extent to which teachers support teaching practices and learning opportunities for children (Burchinal, 2018). Teachers' personal characteristics are more related to the quality of teacher-child interactions and emotional support. These characteristics are also important in establishing and maintaining warm, supportive relationships (Fenech et al., 2020), which are important for children's well-being and the development of positive emotions (Sollars, 2020a, 2022b). Professional development is another factor associated with teacher qualifications. The impact of teachers' professional development on ECEC quality is indirect (Pihlainen et al., 2022). Teachers' awareness of current research,

ideas, and methods enhances the quality of the process (Chappell and Szenteb, 2019). Participation in professional development activities by teachers is a structural factor that substantially predicts the quality of the educational process (Slot et al., 2015).

Child-centredness. Child-centredness suggests a method embedded in the vast majority of quality components. Child-centredness emphasizes a child-centered approach in interactions with children, the setup of physical conditions, school policies and practices, the teaching-learning process, and the creation of a positive classroom environment based on the curriculum and educational philosophy. Context mostly affects which topics will be child-centered. In Chappell and Szente's (2019) study, American teachers emphasized the significance of listening to children's interests to guide the activities and encourage learning themes, whereas Finnish teachers viewed child-centredness as allowing children to make their own choices. In contrast, studies conducted in countries with a high degree of centralization in education (Banu, 2014) emphasized memorization of course material and a teacher-centered approach rather than child-centered activities.

Culture and atmosphere of ECEC. ECEC culture and atmosphere refers to all stakeholders' common values, beliefs, norms, and rules that direct their interactions. Relationships with families and intra-school relationships as quality indicators are closely associated with ECEC culture and atmosphere. The development of collaborative practices between parents and educators is dependent on a culture that has been built and developed over time. Quality ECEC has been related to an ECEC culture and atmosphere that encourages positive interactions and assures parents' sense of school affiliation (Clarke-Stewart and Allhusen, 2005; Ishimine, 2011). A positive ECEC culture and atmosphere also allow children to feel safe and comfortable (Chappell and Szente, 2019; Rodriguez-Carrillo et al., 2020).

Holistic development. The outcomes of ECEC in terms of child development are referred to as holistic development. Holistic development refers to the growth of a child in all aspects, including social, emotional, mental, physical, language and speech, and character, but the emphasis varies depending on the context. Indeed, quality early childhood care and education is holistic, as it is not confined to teaching children merely literacy and numeracy (Sewagegn et al., 2022). While considering the overall development of the child at a quality ECEC, it is crucial to organize appropriate educational programs and activities for each child based on his or her interests and talents (Chappell and Szenteb, 2019; Fenech et al., 2020; Ishimine, 2011; Karademir et al., 2017).

Leadership. Leadership is a synthesis based on the attributed ECEC management characteristics. The desired qualities of ECEC leaders, such as vision, facilitation, and support, as well as understanding, highlight the significance of leadership for quality. Although leadership is not discussed as a theme in the included research articles, it is seen as a significant factor in the desired quality of other quality factors (Sollars, 2022b; Karademir et al., 2017). In addition, Fenech et al. (2020) claim that ECEC leaders enhance staff leadership by creating microatmospheres (Table 3).

Contextual factors. This section presents syntheses of contextual factors influencing quality and perceptions of quality in ECEC. These are cultural values and beliefs, the degree of centralization of the education system, and the expectations of stakeholders. The explanations for these syntheses are provided below.

Cultural values and beliefs. The importance of cultural values and beliefs in affecting the perceptions and assessments of people and

Table 3 Themes and related studies.

Künye	Physical conditions and opportunities	Professional competence of teachers	Personal characteristics of teachers	Professional development of teachers	Professional competence of school administrators	Personnel	Interaction with children	Curriculum	Family support and communication	School relationships and shared values	In-school policies and practices	Philosophy of education	Learning-teaching process	Classroom atmosphere	Education outcomes	Central policies and practices
Sollars (2020a)	x	x	x	x	x	x			x	x	x				x	
Fenech et al. (2020)	x	x		x	x	x	x	x		x	x	x	x	x		
Sollars (2022b)	x	x	x	x	x					x	x				x	
Pihlainen et al. (2022)	x					x	x		x	x	x					
Cobanoglu et al. (2020)	x	x		x				x	x	x			x	x		
Chappell and Szenteb (2019)	x	x		x				x	x	x			x	x		
Karademir et al. (2017)	x				x	x	x			x					x	
Ikezami and Aghenyega (2014)							x					x				
Banu (2014)			x				x		x	x				x		
Davis et al. (2021)	x	x		x			x									x
Bakozor et al. (2021)	x	x													x	
Sewagegn et al. (2022)	x	x			x			x	x	x			x		x	
Ishimine (2011)	x	x	x				x	x	x	x			x		x	
Rodriguez-Carrillo et al. (2020)		x					x								x	

shaping the social structure cannot be underestimated. Since social structures and institutions are embedded in a system surrounded by culture, the quality and quality elements of the Early Childhood Education and Care (ECEC) environment influence the expected goals of education and care, the methods for achieving these goals, and the interactions involved in the process based on cultural values and beliefs. In other words, culture contributes to the formation of high-quality discourses, and quality is shaped by the values that are given importance (Davis et al., 2021; Rosenthal, 2003; Tobin, 2005). In collectivist civilizations, values relating to solidarity, social cohesiveness, and sharing are prioritized, whereas, in individualist societies, competition and self-actualization are prioritized.

In the studies we included in the analysis, the points emphasized in the quality discourses in ECEC vary depending on cultural values. In the study by Bamezor et al. (2021), the duty of a good parent is defined by society as protecting their children from harm and ensuring their safety. Similarly, a quality ECEC was associated with keeping children safe and protecting them. Banu's (2014) study also confirmed the impact of post-colonial cultural changes on the perception of quality in ECEC. Brodin et al. (2015) investigated ECEC quality in Austria, Bulgaria, and Sweden and found that although there were similarities, there were also differences in practitioners' interpretation of quality. In conclusion, cultural values and beliefs are important factors to influence what should be given importance and how tasks should be fulfilled in ECEC.

Degree of centralization in the educational system. Despite the fact that the education system is related to cultural values and beliefs, the centralization of the education system can influence a variety of factors, including educational goals and teaching techniques. Centralized education systems are associated with excessive control, standardization, and uniformity (Erdoğan, 2014).

In Banu's (2014) study, teachers in Bangladesh described the quality of ECEC as increased academic performance, enrollment in better schools, and a teacher-centered teaching technique owing to the centralized education system. Moreover, in centralized education systems, rather than flexible curricula, there is a strict curriculum with clear boundaries, and teachers are required to conduct standard activities and teach standard materials in accordance with this curriculum. In a research conducted by Ishimine (2011) in Australia, where there is less centralization, it was found that the curriculum's adaptability allows instructors to make modifications according to the needs of students. Consequently, the degree of centralization in the education systems influences the curriculum's flexibility and the degree to which education procedures are structured.

Expectations of stakeholders. What makes quality in ECEC varies based on many stakeholders' personal values, objectives, and perspectives. From the teacher's perspective, teacher salaries, society's view of ECEC and teachers (Chappelle and Szenteb, 2019; Sewagegn et al., 2022), regular feedback to families (Sollars, 2020a), a teacher who respects children and children's culture (Rodríguez-Carrillo et al., 2020), and age-appropriate fun activities for school leaders (Sollars, 2022b) can be considered as indicators of a quality ECEC. Consequently, it may be stated that quality evaluation in ECEC differs based on its stakeholders' needs, beliefs, and priorities.

Conclusion and discussion

The study aimed to synthesize prior qualitative studies on quality in early childhood care and education (ECEC), to identify the most important quality characteristics, and to determine which contextual factors influence ECEC quality. The study established

16 quality factors for early childhood care and education. These include the following: professional competence of teachers, interaction with children, physical conditions and opportunities, in-school relationships and shared values, in-school policies and practices, family support and communication, educational outcomes, professional development of teachers, teaching-learning process, curriculum, quality of school administrators, personal characteristics of teachers, personnel, classroom atmosphere, educational philosophy, central policies, and practices. These variables are consistent with the quality standards established in the literature for ECEC centers (NAEYC, 2019; Torii et al., 2017; UNESCO, UNICEF, Brookings Institution, and the World Bank, 2017). This research provides a complete framework for the quality factors in ECEC since it comprises a synthesis of studies that analyze the perspectives of many stakeholders.

Another outcome of the research is the synthesis of several quality elements. Five syntheses were discovered in this context: child-centeredness, teacher qualifications, culture and atmosphere of the ECEC center, holistic development, and leadership. These syntheses are related directly or indirectly to one or more ECEC quality factors. Child-centeredness, for instance, implies that the physical environment, interaction with children, and in-school policies and practices are child-centered, whereas teacher qualifications are a synthesis referring to teachers' professional competence, personal characteristics, and professional development efforts. The study indicated that cultural values and beliefs, the degree of centralization of the education system, and stakeholder expectations are contextual elements that impact quality and perceptions of quality in early childhood education and care (ECEC). Although stakeholders' expectations influence the social and cultural framework and the perception of quality, this does not mean that these viewpoints or societal expectations are always accurate. Therefore, objectives and practices that violate children's rights (Banu, 2014), do not consider child welfare, or do not contribute to quality outcomes cannot be considered quality elements.

Limitations. As with every research, this study has some limitations. In this connection, the limitation of our research is that the meta-thematic analysis only included publications written in English or Turkish. In addition, there is a lack of qualitative or mixed-methods research on quality with some stakeholders, such as ECEC leaders, so these studies were not included.

Data availability

Information about the data used is given in the article

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Author contributions

MS: Literature review, writing the introduction, formal organization of the article, following the publication process, OTÇ: Data analysis, methodology, organization of findings. YT: Creation of a data pool, discussion of the findings obtained. ÜK: Organization and discussion of findings. DA: Literature review, writing the results. BC: Literature review, writing the results.

Competing interests

The authors declare no competing interests.

Ethical approval

Ethical approval was not required as the study did not involve human participants.

Informed consent

Informed consent was not required as the study did not involve human participants.

Additional information

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