

EARLY CHILDHOOD LEARNING TRANSFORMATION METHODOLOGY: A SYSTEMATIC REVIEW OF THE LITERATURE ON RECENT INNOVATIONS AND TRENDS

Dina Khairiah¹, Liah Rosdiani Nasution²

UIN Syekh Ali Hasan Ahmad Addary Padangsidimpuan^{1,2}.

e-mail: adinnakhair@uinsyahada.ac.id¹, liahnasution@uinsyahada.ac.id²

Abstract

This systematic literature review investigates methodological transformations in early childhood education (ECE) with a focus on the integration of innovative practices and current trends. The study aims to understand how these methodologies adapt to emerging technological advances, cultural values, and evolving educational needs in the Indonesian context. Using a Systematic Literature Review (SLR) approach, this study analyzes articles published between 2020 and 2023 from ScienceDirect. Key findings indicate four dominant trends: (1) increased integration of digital technologies, (2) the prevalence of child-centered pedagogical approaches, (3) strengthening social-emotional learning, and (4) increased collaboration between educators, families, and learning environments. The uniqueness of this study lies in the development of an integrated methodological framework that synthesizes diverse transformation approaches, offering theoretical and practical contributions to the advancement of adaptive and sustainable early childhood education practices. This research contributes by presenting a comprehensive synthesis of early childhood learning methodological transformations based on current trends and innovations. Unlike previous studies that were fragmented, this study identifies common patterns, research gaps, and future directions for the development of learning methodologies. The results of this study provide a conceptual basis for further research as well as a practical reference for the development of adaptive and sustainable early childhood education policies and practices.

Keywords: Learning, transformation, early childhood education.

INTRODUCTION

Early childhood education (ECE) is crucial in shaping children's cognitive, social, and emotional development. In Indonesia, ECE must adapt to evolving societal needs, technological advancements, and global educational shifts (Veerman, 2023; Akbar, 2020). Transforming learning methodologies in early childhood involves not only technical adjustments but also cultural, social, and psychological considerations (Mutiah, 2015).

The emergence of the Fourth Industrial Revolution emphasizes the need for children to develop not only academic skills but also emotional, social, and

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spiritual intelligence. Therefore, innovations in ECE must integrate technology, cultural diversity, and moral values, while fostering collaboration among teachers, parents, and communities (Putri, 2021).

Although previous studies have explored ECE methodologies (Pertiwi, Rahmawati, & Hafidah, 2021; Rahiem & Novi, 2022; Utami, 2020), gaps remain in understanding: (1) the integration of Islamic values into learning methods, (2) stakeholder collaboration models, (3) effective use of technology aligned with religious and developmental needs, (4) evaluation of the impact of methodological transformations, and (5) recent trends and innovations in ECE.

This study aims to conduct a systematic literature review to examine innovations and current trends in Indonesian ECE. It seeks to provide a comprehensive understanding of evolving learning approaches, guide policymakers and educators, and explore the integration of moral values, technology, and developmental principles to prepare children for future challenges. Special attention is given to educational technology, STEM integration, play-based learning, and innovative feedback strategies, which can inspire more effective and contextually relevant learning models.

Literature Review

Early childhood, in the context of human development, refers to the age range from birth to six years old. At this stage, children's development encompasses various aspects, including physical, cognitive, social, and emotional growth. Early Childhood Education (ECE) is a specific educational approach designed to meet the needs and characteristics of children within this age range. According to the Indonesian Ministry of National Education, the primary goal of ECE is to stimulate holistic development, covering aspects such as physical, cognitive, social, and emotional growth (Depdiknas, 2003).

The methodology of ECE emphasizes play and exploration as the primary means of learning. Gardner (1983) highlights the importance of a holistic approach in ECE, recognizing the diversity of children's intelligences and

stressing the use of methods that encompass various developmental aspects. Katz (2008) further states that this approach prioritizes direct experiences with learning materials, actively involving children in the learning process. By focusing on direct experiences, this approach creates a learning environment that allows children to develop their understanding through active interaction with learning materials.

The holistic approach in early childhood learning methodologies also reflects efforts to acknowledge and understand the diversity of children's intelligence. Considering this diversity, learning methods can be designed to address various aspects of a child's development, ensuring that each child has the opportunity to grow according to their potential. This awareness of diversity forms the basis for creating an inclusive learning environment that supports the overall growth of young children.

A fundamental difference is evident in early childhood learning methodologies compared to those used in higher educational levels, such as elementary, middle, and high school. At these levels, learning approaches tend to focus more on academic aspects and mastery of specific knowledge (Katz, 2008). In contrast, early childhood education emphasizes holistic and enjoyable development.

While learning methods in higher education are often more academic and structured, early childhood learning methodologies are designed to create environments that stimulate physical growth, cognitive skills, social abilities, and emotional management. The goal of early childhood learning is to accommodate the comprehensive developmental needs of children, building a strong foundation for lifelong learning. This more holistic approach also emphasizes enjoyable learning experiences, making the learning process an exciting adventure for children at this developmental stage.

The dimensions of early childhood learning methodologies include physical, cognitive, social, and emotional aspects. Berk (2008) emphasizes that

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early childhood learning should stimulate physical growth, develop cognitive skills, shape social abilities, and help manage children's emotions. This approach contrasts significantly with methods used at higher education levels, which tend to focus more on academic aspects without always addressing the holistic development of children.

Child development theories serve as the foundation for understanding early childhood learning methodologies. Piaget (1952) asserts that children actively construct knowledge through interactions with their environment. Emphasizing the stages of cognitive development is crucial for early childhood educators to design appropriate approaches. Meanwhile, Vygotsky's (1978) theory highlights the role of social interaction and adult guidance in shaping child development, emphasizing the importance of a supportive social environment.

The significance of play in early childhood learning is emphasized by Erikson (1985), who views play as an effective way for children to navigate developmental tasks. Play is not only seen as an enjoyable activity but also as a crucial means of learning. During play, children can develop motor and cognitive skills while gaining an understanding of the world around them. Overall, this literature review provides a comprehensive overview of the concepts of early childhood, ECE, and early childhood learning methodologies. Additionally, it explains the differences between early childhood learning methods and those used in higher education, the dimensions of early childhood learning methodologies, and a foundational understanding of relevant theories and previous studies, forming a robust basis for the development of effective early childhood education.

Previous studies on ECE have highlighted the importance of understanding child development during the age range of birth to six years. The Indonesian Ministry of National Education (Depdiknas, 2003) emphasizes that ECE aims to stimulate holistic development, including physical, cognitive, social, and emotional aspects. The philosophy of ECE stresses the importance of learning

through play, with Gardner (1983) emphasizing the diversity of children's intelligence and the need for a holistic approach in learning. Katz (2008) confirms that early childhood learning methodologies focus on play and exploration, where children's direct experiences with learning materials are prioritized.

In the context of differences with learning methods at higher education levels, such as elementary, middle, and high school, Katz (2008) notes that early childhood learning methods emphasize holistic and enjoyable development, in contrast to the more academically focused approaches at higher education levels. Berk (2008) adds that early childhood learning methodologies include physical, cognitive, social, and emotional aspects. Saracho and Spodek (2007) highlight the critical role of parents and family environments in ECE, stressing the need for collaboration to create an optimal learning environment. Theories of child development by Piaget (1952) and Vygotsky (1978) provide the foundation for understanding ECE methodologies, while Erikson (1985) emphasizes the importance of play as an effective means for children to address their developmental tasks.

Several studies explore various aspects of ECE, including physical, cognitive, social, and emotional dimensions. For instance, research by Widyawati (2021) and Hidayat, Nurfadilah, Khoerussaadah, & Fauziyyah (2021) highlights the importance of integrating technology into early childhood learning, while Tanjung (2020) focuses on the role of parents and family environments in creating an optimal learning environment.

Additionally, Hamdayama (2022) reviews the fundamental differences between early childhood learning methodologies and those at higher education levels. These findings provide a better understanding of the holistic approach and meaningfulness of learning for young children. Several of these studies also link child development theories, as outlined by Isna (2019) and Andayani (2021), to support effective learning approaches.

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However, it is important to note that literature specifically addressing early childhood learning methodologies within the context of Islamic Higher Education institutions remains limited. Therefore, this study aims to make a significant contribution by detailing recent findings from relevant literature, particularly those published between 2019 and 2023, to enrich our understanding of the transformation of ECE methodologies in Islamic Higher Education contexts.

Theoretical Framework

This study is based on several relevant theories that provide a conceptual foundation for an in-depth understanding of the transformation of early childhood learning methodologies. Constructivism theory, which emphasizes knowledge construction through learning experiences, helps explain how innovations in learning methodologies reflect constructivist principles and support children's cognitive development (Sivan, 1986). In the context of child-centered learning, this theory provides a foundation for evaluating the extent to which innovations support each child's unique needs and stimulate active engagement in the learning process (Asbari & Chiam, 2023).

Social constructivism, which emphasizes the role of social interaction in learning, guides the analysis of how social aspects and interactions among children and with educators contribute to the formation of knowledge and skills. Additionally, educational technology theory offers insights into the integration of Information and Communication Technology (ICT) in ECE methodologies, providing a perspective on how technology can serve as an effective tool in enhancing children's learning experiences (Sipayung & Sihotang, 2022).

From an inclusivity perspective, the theory of inclusive education provides a framework for evaluating the extent to which innovations in learning methodologies support the participation and development of all children, including those with special needs (Sudarto, 2016). The combination of these

theories provides a solid foundation for examining the transformation of ECE methodologies from multiple perspectives.

This research employs a systematic literature review, which aligns with a critical analysis approach to scientific literature. By embracing this theoretical framework, the study aims to provide contextual and in-depth insights into the transformation of early childhood learning methodologies, contributing significantly to our understanding of this field.

RESEARCH METHODOLOGY

This study adopts a Systematic Literature Review (SLR) design, a systematic and comprehensive research method for organizing, evaluating, and synthesizing relevant scientific literature in a particular field of knowledge (Okoli & Schabram, 2015). This study design provides a structured and documented approach to gather information from various sources, enabling an in-depth analysis of the transformation of early childhood education (ECE) methodologies.

While some SLRs include a larger number of studies, the present review prioritizes thematic relevance and methodological quality over volume, in line with recent best practices in systematic qualitative reviews.

The SLR design involves the following systematic steps (Okoli & Schabram, 2015):

1. Identification of Literature Scope:

Identifying the scope of scientific literature relevant to the transformation of early childhood learning methodologies, including the latest innovations and trends in the context of early childhood education.

2. Selection of Literature Sources:

Establishing clear inclusion and exclusion criteria to select literature sources aligned with the research objectives. This involves selecting relevant, high-quality, and significant literature for investigation.

3. Data Extraction:

Collecting and compiling data from selected literature, focusing on innovative aspects of early childhood learning methodologies, their impact

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on child development, integration of ICT (Information and Communication Technology), and the role of parental involvement.

4. Analysis and Synthesis:

Analyzing extracted information, identifying patterns, trends, differences, and connections between concepts. This analysis process supports the construction of a solid synthesis and provides a holistic overview.

5. Presentation of Findings:

Presenting study findings in a clear and systematic format, outlining identified innovations, trends, and the implications of early childhood learning methodologies.

Through this systematic literature review design, the study aims to provide a comprehensive and in-depth perspective on the transformation of early childhood learning methodologies. This method ensures that the research is grounded in a solid knowledge base and offers valuable insights to support the development of improved learning approaches for young children.

Data Sources and Selection Criteria

This study employs multiple reputable academic databases to ensure comprehensive coverage and minimize publication bias. The primary data sources include ScienceDirect, Scopus, Web of Science (WoS), and the Directory of Open Access Journals (DOAJ).

ScienceDirect was used to obtain peer-reviewed articles with strong relevance to early childhood education and pedagogical transformation. Scopus and Web of Science were included to ensure broader international coverage and access to high-impact, indexed journals. Meanwhile, DOAJ was utilized to capture high-quality open-access publications that may not be indexed in subscription-based databases.

The use of multiple databases allows this SLR to integrate diverse perspectives, enhance the robustness of findings, and improve the reliability and validity of the reviewed literature. Articles were selected based on predefined

inclusion and exclusion criteria, including relevance to the research topic, publication type, language, and publication year.

PICOC Framework

The study employs the PICOC framework (Population, Intervention, Comparison, Outcome, and Context) to define the scope and focus of the research:

PICOC Component	Description
Population (P)	Articles on early childhood education (0-6 years)
Intervention (I)	Transformation of learning methodologies, including innovations in teaching approaches for early childhood education
Comparison (C)	Traditional or conventional learning methodologies
Outcome (O)	Improvement in learning quality, effectiveness of innovations, and progress in children's development and learning outcomes
Context (C)	Context of early childhood education, focusing on current trends and innovations in the field

- Population (P):** The focus population of this study includes research on early childhood learning, specifically targeting children aged 0 to 6 years. The study examines how the transformation of learning methodologies impacts this age group.
- Intervention (I):** The intervention studied is the transformation of learning methodologies, including recent innovations in educational approaches for early childhood education. This may encompass the use of technology, new teaching methods, and other innovative strategies.
- Comparison (C):** Comparisons will be made with traditional or conventional learning methodologies that have been previously used. This aims to assess the differences and advantages of innovative methodologies compared to conventional ones.
- Outcome (O):** The expected outcomes of this study include improvements in the quality of early childhood education, the effectiveness of implemented innovations, and their impact on children's development and learning progress.

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5. Context (C): The study is conducted in the context of early childhood education, focusing on current trends and innovations in this field. The systematic literature review aims to identify and evaluate various transformations in learning methodologies.

Inclusion and Exclusion Criteria

Category	Inclusion Criteria	Exclusion Criteria
Publication Year	2020-2023	Before or after 2023
Type of Publication	Peer-reviewed; articles published in reputable journals	Non-peer-reviewed articles; articles published in non-reputable journals or not indexed in ScienceDirect
Language	English	Languages other than English
Type of Literature	Excludes gray literature (technical reports, theses, dissertations, conference posters, etc.)	Includes gray literature such as technical reports, theses, dissertations, conference posters, etc.
Accessibility	Full-text must be available	Articles without accessible full text

Search Strategy

To facilitate the development of relevant keywords, the study uses phrases to ensure the sensitivity of search algorithms to articles closely aligned with the research objectives. The keyword phrases are as follows:

1. Technology Integration in Early Childhood Education:

- *"early childhood education technology integration"*
- *"impact of technology on early childhood cognitive and social development"*
- *"challenges in educational technology access in early childhood Indonesia"*
- *"teacher readiness for technology in early childhood education"*

2. Values-Based Education in Early Childhood:

- *"Islamic values in early childhood education"*
- *"culturally relevant pedagogy in early childhood Indonesia"*
- *"moral and emotional development through Islamic education"*
- *"integration of religious values in early childhood learning"*

3. Parental Involvement in Early Childhood Education:

- *"parental involvement in early childhood education social-emotional development"*
- *"family engagement strategies in early childhood education Indonesia"*
- *"impact of socioeconomic factors on parental involvement in early childhood"*
- *"inclusive approaches for family engagement in early learning"*

Using predefined and stringent inclusion and exclusion criteria, the literature search initially identified a large pool of studies from multiple reputable databases, including ScienceDirect, Scopus, Web of Science, and DOAJ. However, after removing duplicates and excluding studies that did not directly address innovations in early childhood education within a child-centered and socio-emotional framework, only 16 articles met all eligibility requirements.

These selected articles were then subjected to an in-depth thematic analysis, resulting in three dominant themes: child-centered social-emotional learning (8 articles), social support for optimizing child development (4 articles), and culturally responsive education (4 articles). Although the number of included studies is relatively limited, this reflects the specificity of the research focus and the rigorous selection process rather than a lack of available literature. This approach ensures analytical depth and thematic coherence, allowing the study to provide meaningful insights into contemporary innovations, the role of social support systems, and culturally responsive practices in early childhood education.

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RESULTS AND DISCUSSION

Results

This systematic review of recent literature on early childhood education reveals several critical findings across three main themes: the role of social-emotional learning (SEL), the importance of support systems, and the integration of culturally responsive educational practices, as highlighted in the following table:

1. Contextual-Structural Variables as Determinants of Children's Social-Emotional Development

Several studies (Finster & Buccelli; Balogun-Katung et al.; Betancur et al.; Perrigo et al.) consistently demonstrate that structural context—poverty, homelessness, social service systems, and linguistic status—plays a powerful role in shaping access, quality, and outcomes of children's social-emotional development. These findings reinforce the notion that children's social-emotional problems are not simply individual or family issues, but are instead produced and reproduced by fragmented and unresponsive service systems.

Interpretive Insight:

Context variables function as both enabling and constraining factors. When the system fails to provide integrated services, families are forced to rely on individual resilience (e.g., homeless parents or families of children with disabilities), which risks widening disparities in children's development.

2. Parental Variables: Critical Mediators in Children's Social-Emotional Development

Quantitative studies (Raouna et al.; Mayrand et al.) deepen our understanding of internal family mechanisms by demonstrating that parental mental health, attachment, and reflective functioning serve as important mediators between psychological risk and children's social-emotional outcomes. These findings complement the qualitative results of Finster & Buccelli and Lakhani et al., which emphasize the role of resilience and informal support.

Interpretive Insight:

There is converging evidence that child-centered interventions alone are inadequate. Parental variables should be positioned as an active pathway, not a passive backdrop. This marks a shift from a child-centered approach to a family-systems-oriented one.

3. Pedagogical Variables and Learning Environments as Protective Factors

Research on physical activity (Zhang et al.), creativity (Nikkola et al.), emotional language (Bell et al.), and play-based learning (Flink et al.) shows that learning environments rich in interaction, play, and emotional expression consistently correlate with improved social-emotional and 21st-century skills.

Interpretive Insight:

Pedagogical variables function as ecological buffers that can partially compensate for structural and family risks. This means that schools and ECEC have the potential to act as equalizing spaces, especially for children from vulnerable backgrounds.

4. Cultural Variables and Local Wisdom as Strengtheners of Intervention Relevance

Studies based in non-Western contexts (Asmayawati et al.; Sakti et al.; Flink et al.; Wambua et al.) confirm that local wisdom, cultural values, and social context are not merely complementary, but mediate the effectiveness of educational interventions and resilience.

Interpretive Insight:

Interventions that fail to consider cultural variables tend to be unsustainable. Conversely, when local values are integrated, cultural legitimacy emerges, strengthening the internalization of children's socio-emotional values and character.

5. Digitalization Variables: Opportunities and Risks

Studies on digital literacy and digital play (Asmayawati et al.; Ploog & Wiktorski; Chu et al.) reveal ambivalence: technology can strengthen 21st-century skills, but its effectiveness depends heavily on design intent, accompanying pedagogy, and the child's social context.

Interpretive Insight:

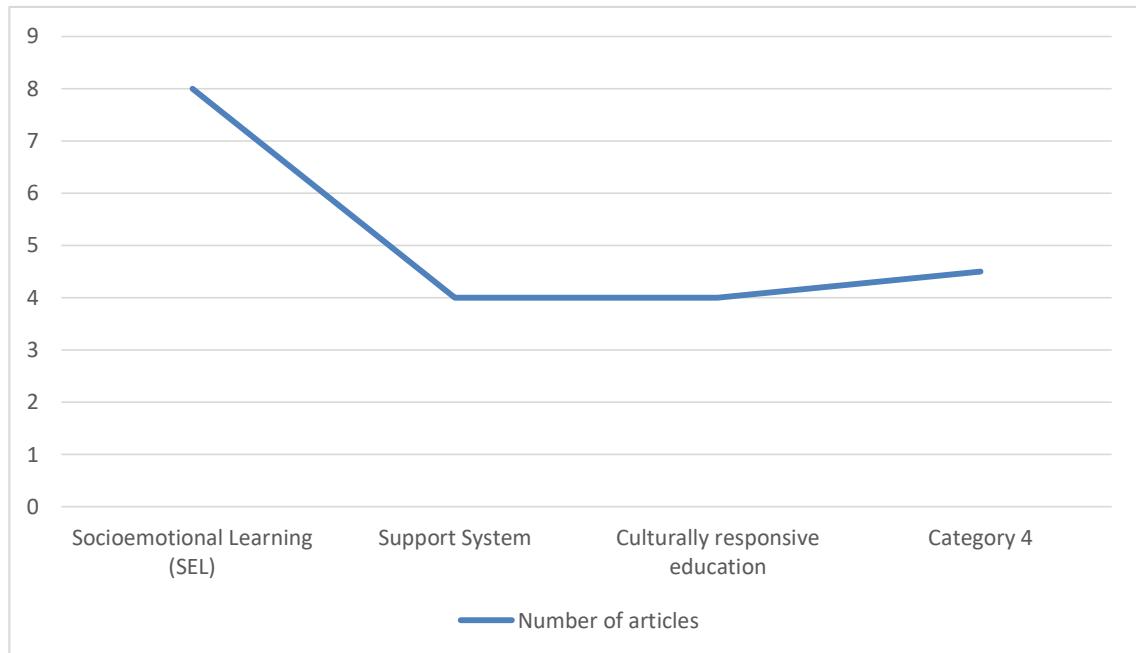
Digital variables are not neutral. Without a pedagogical framework and cultural values, digitalization risks weakening the socio-emotional dimension. Thus, technology should be positioned as a mediated tool, not an end in itself.

Table 2 below illustrates that out of the 16 studies analyzed, 8 focus on SEL, 4 on support systems, and 4 on culturally responsive education, indicating the thematic distribution of research in recent literature:

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Table 2: Theme distribution amongst the articles



One of the key themes is the role of language and physical activity in enhancing SEL. Bell et al. (2024) highlight the importance of using emotionally focused language in helping children develop social-emotional skills. Educators and parents can support children's ability to understand and manage their emotions by using language rich in emotional descriptions, ultimately strengthening their social interactions. This focus on language is further reinforced by the findings of Zhang et al. (2024), which show that structured physical activities in early childhood education and care (ECEC) settings are positively correlated with SEL development. Their research indicates that regular exercise not only benefits physical health but also facilitates emotional regulation and social skills, suggesting that an approach integrating language and physical activities can optimize SEL outcomes for children.

The second significant theme is the role of both formal and informal support systems in assisting families and children facing challenges. Lakhani et al. (2024) highlight the reliance of families with children with intellectual disabilities in Karachi, Pakistan, on informal support systems, such as religious communities

and extended family networks. These families often depend on their communities for emotional and practical support, helping them cope with challenges due to the lack of formal services. Similarly, a study by Wambua et al. (2024) in Kenya emphasizes the importance of accessible support systems in building resilience among individuals with a history of childhood adversity. Their findings indicate that the presence of a supportive microsystem, including family and social networks, significantly mitigates the negative impacts of early life challenges, offering protection against potential mental health issues later in life. These findings suggest that improving the availability and quality of formal services and community-based support can play a critical role in improving outcomes for vulnerable populations.

The third theme emphasizes the importance of culturally responsive educational practices, particularly in early childhood settings located in culturally diverse or multilingual contexts. From a constructivist perspective, these practices acknowledge children's cultural backgrounds and lived experiences as foundational knowledge that supports the construction of new learning. Learning is therefore not viewed as a neutral process, but as one that is deeply embedded in cultural meaning-making. This theme also aligns with social learning theory, which highlights the role of language, social interaction, and cultural tools in cognitive development. In multilingual and culturally diverse early childhood environments, culturally responsive approaches function as mediating tools that facilitate meaningful interaction between children and educators, thereby supporting learning within the child's zone of proximal development. Furthermore, the prominence of culturally responsive practices reflects principles of inclusive education, as these approaches aim to accommodate diverse linguistic, cultural, and social identities. By valuing children's cultural heritage and home languages, early childhood learning transformation moves beyond uniform pedagogical models and promotes equity and participation for all learners.

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Overall, the findings of this systematic review demonstrate that recent innovations in early childhood learning transformation are strongly underpinned by constructivist, social, and inclusive education theories, particularly through the adoption of culturally responsive pedagogical practices.

Discussion

- 1. How is the transformation of early childhood learning methodologies reflected in scientific literature, particularly in the innovation of emotional language use, physical activity integration, and culturally-based approaches, through a systematic literature review?**

The transformation of early childhood learning methodologies is strongly reflected in recent literature through several innovations that align with the evolving needs of children. One key innovation is the use of emotionally focused language to support children's social-emotional development (SEL). The study by Bell et al. (2024) emphasizes that emotionally rich language can help children understand their feelings and those of others, ultimately improving their self-regulation and social interaction skills. This shift highlights a movement from traditional approaches toward methods that are more interpersonal and centered on children's emotional growth.

Additionally, the integration of physical activity into the learning process has emerged as a significant trend in the literature. Zhang et al. (2024) found that structured physical activities in early childhood education settings play a crucial role in supporting SEL development. This indicates that current learning methods focus not only on cognitive aspects but also give greater attention to children's physical and emotional well-being. This approach underscores the importance of balancing physical activity with interaction-based learning, aiming to create a more holistic learning environment.

Another area of transformation is the implementation of culturally-based approaches, such as the ethnopedagogical methods highlighted by Sakti et al. (2024). Their study shows that incorporating local cultural values into the

curriculum can strengthen character education for young children, fostering a sense of cultural identity and developing social values like empathy and discipline. This shift reflects an adaptation of learning methodologies to be more relevant to local contexts and community needs, making education more inclusive and meaningful for children.

Overall, the literature shows that the transformation of early childhood learning methodologies occurs through the development of more emotionally and physically focused approaches, along with stronger connections to local culture. This suggests that early childhood education is increasingly moving toward holistic and adaptive approaches (Bell et al., 2024; Flink et al., 2024; Mayrand et al., 2024; Perrigo et al., 2024; Raouna et al., 2024; Zhang et al., 2024).

2. To what extent does the literature reflect the impact of early childhood learning methods, such as the use of emotional language and the integration of physical activity, on children's cognitive, social, and emotional development, with a focus on identified innovations and trends?

The literature indicates that learning methods that combine emotional language and physical activities have a significantly positive impact on the social-emotional development of young children. The use of emotionally focused language, as described by Bell et al. (2024), gives children the ability to better recognize and manage their emotions. This not only aids children in interacting effectively with peers but also builds a strong foundation for self-regulation and adaptability to social environments. This shows that learning methods utilizing emotional language can enhance social-emotional development, equipping children with the skills needed for success in social relationships and daily life.

The integration of physical activity also has a considerable impact on children's development, especially in improving their emotional balance and social abilities. Zhang et al. (2024) show that participation in structured physical activities helps children develop social skills such as cooperation and communication while also aiding in managing stress and anxiety. Physical activity in the learning context contributes to physical health and creates opportunities for

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children to learn through play and interaction with peers, which is essential for their social development.

Overall, the literature suggests that innovations in the use of emotional language and the integration of physical activities make a significant contribution to enhancing children's social and emotional well-being. This trend underscores the importance of a comprehensive approach to early childhood education, which considers social and emotional aspects alongside cognitive development (Lakhani et al., 2024; Raouna et al., 2024; Wambua et al., 2024).

3. How are technology integration, culturally-based approaches, and other innovations reflected in the literature as part of the transformation of early childhood learning methodologies?

The literature shows that the integration of Information and Communication Technology (ICT) in early childhood education has become an essential aspect of transforming learning methodologies. The study by Ploog and Wiktorski (2024) highlights how designers of digital learning tools for early childhood education create technology that supports computational thinking skills and 21st-century readiness. Digital tools such as educational robots are designed to facilitate interactive and collaborative learning, creating technology-rich learning environments that align with children's needs in the digital age. However, this also requires educators to be prepared to integrate technology effectively into the curriculum.

In addition to ICT integration, the literature emphasizes the importance of culturally-based approaches in early childhood education, such as the ethnopedagogical methods found in Sakti et al. (2024) in Yogyakarta. Incorporating local cultural values into education gives children the opportunity to learn in contexts close to their daily lives, enhancing their engagement and understanding. This shows that the transformation of learning methodologies is influenced not only by technology but also by the ability to adapt teaching with local culture and values.

This approach is also seen in the study by Chu et al. (2024), which explores the role of digital play in early childhood education. Their findings show that digital play can be adapted to various cultural contexts, providing opportunities for children to learn in enjoyable and relevant ways. The integration of ICT and digital play has become a vital part of innovation in learning methodologies, enriching children's learning experiences by providing resources that were previously unavailable in traditional learning settings.

Overall, the literature reflects that the transformation of early childhood learning methodologies involves not only the use of digital technology but also the adaptation of learning methods that consider children's cultural contexts. This integration results in more flexible and inclusive learning methods, capable of accommodating children's learning needs in a constantly evolving world (Asmayawati et al., 2024; Chu et al., 2024; Ploog & Wiktorski, 2024; Sakti et al., 2024).

CONCLUSIONS

Based on the literature review conducted, it can be concluded that effective early childhood education must adopt a holistic approach that integrates social-emotional learning (SEL), social support, and culturally responsive practices. First, SEL is a vital element in early childhood development. Utilizing emotionally enriched language and incorporating structured physical activities have been shown to enhance children's ability to manage their emotions and engage effectively with others. This suggests that combining these elements into early childhood education programs can yield more optimal outcomes in SEL, helping children develop the necessary skills for emotional regulation and social interaction.

Second, social support for vulnerable families is essential, especially for those dealing with challenges like disabilities or adverse childhood experiences. The involvement of local communities and extended family networks can significantly alleviate the negative effects of limited formal services. Policies that

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foster collaboration between formal support services and informal community networks can bolster family resilience, leading to improved well-being for children in these contexts.

Third, culturally responsive education plays a critical role in early learning environments, particularly when it integrates local values and supports the development of multilingual children. Recognizing and respecting children's cultural and linguistic backgrounds enriches the learning process, making it more meaningful while aiding social and cognitive development. This is especially crucial in culturally diverse settings like Indonesia and other multilingual regions, where education tailored to the community's cultural context can strengthen children's sense of identity and social skills.

Overall, the findings highlight the need for a flexible and adaptive approach to early childhood education that balances the emotional, social, and cultural needs of children. With appropriate policy implementation and the creation of responsive educational programs, early childhood education can serve as a strong foundation for balanced and healthy child development, equipping children to thrive in increasingly complex social environments.

Implications

The findings of this study have several important implications for policies and practices in early childhood education, particularly in the contexts of social-emotional learning, social support, and culturally responsive education:

1. Development of Social-Emotional Learning (SEL) Programs:

The results of Bell et al. (2024) and Zhang et al. (2024) emphasize the importance of integrating emotionally focused language and physical activities in SEL programs. This implies that educators and policymakers should develop curricula that combine rich verbal interactions with structured physical activities. This approach will help children develop emotional regulation and social skills more comprehensively. It is crucial to implement this in schools and early childhood education centers to support children's holistic development.

2. Strengthening Support Systems for Vulnerable Families:

Studies by Lakhani et al. (2024) in Pakistan and Wambua et al. (2024) in Kenya show that informal support systems, such as religious communities and social networks, play a critical role in supporting families facing challenges, such as intellectual disabilities and childhood adversity. The implication of these findings is the need for more integrated policies that recognize and support informal support systems while strengthening formal services that families can access. Governments and relevant institutions should collaborate with local communities to create a more supportive environment for children and their families.

3. Culturally Responsive and Multilingual Education:

The findings of Sakti et al. (2024) on the implementation of ethnopedagogy in Yogyakarta and Perrigo et al. (2024) on multilingual kindergarteners in the United States show that educational approaches that consider children's cultural and linguistic backgrounds can enhance learning effectiveness. This suggests that it is important for educators to design curricula that respect local values and language diversity and adapt teaching methods to meet children's specific needs. This will ensure that education is more relevant to children's lives, allowing them to learn better and feel connected to their environment.

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