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The Influence of Parents' Understanding of it in Supervising Early Childhood Learning

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Abstract

This study aims to examine how parents' understanding of information technology influences the supervision and support of early childhood learning in a technology-mediated environment. A qualitative research design was employed, involving parents and teachers in an early childhood education institution. Data were collected through semi-structured interviews, observations, and documentation, and analyzed using an interactive thematic approach. The findings reveal that parents' understanding of digital technology is largely experiential and varies in depth, affecting their ability to supervise and support children's learning effectively. Active mediation, characterized by parental involvement and interaction during technology use, was found to be more effective than passive or restrictive approaches. In addition, teachers play a critical role as mediators by guiding both children and parents, facilitating alignment between school and home learning environments. The novelty of this study lies in its conceptualization of parental digital literacy as an enacted and relational process shaped by interaction and context. The study highlights the importance of collaborative supervision and structured guidance in maximizing the educational value of digital technology. These findings provide implications for developing integrated digital literacy programs that strengthen parent–teacher collaboration and promote developmentally appropriate technology use in early childhood education.

INTRODUCTION

The rapid advancement of information and communication technology (ICT) has fundamentally transformed various aspects of human life, including education. In recent decades, digital technology has shifted from being a supplementary educational tool to becoming an integral component of teaching and learning processes across all educational levels. This transformation is particularly evident in early childhood education (ECE), where digital devices such as smartphones, tablets,

and computers are increasingly embedded in children's daily learning experiences (Behera & Acharya, 2025; Luo et al., 2024; Sørenssen & Bergschöld, 2023). While traditionally ECE emphasized play-based, social, and experiential learning, contemporary educational environments are now characterized by the integration of multimedia content, interactive applications, and online platforms designed to enhance cognitive and developmental outcomes (Clemente-Suárez et al., 2024; Bali & Zsido, 2024; Mhlongo et al., 2023). Consequently, understanding how digital technology is mediated in early childhood contexts has become a critical issue in both educational research and practice.

The growing presence of ICT in early childhood education has been further accelerated by global disruptions such as the COVID-19 pandemic, which forced a rapid transition toward remote and technology-mediated learning (Rahman et al., 2025; Mhlongo et al., 2023). During this period, digital tools were no longer optional but essential for ensuring educational continuity. Studies have shown that the pandemic significantly increased children's exposure to digital devices and shifted learning responsibilities toward the home environment, where parents assumed a more active role in facilitating and supervising learning activities (Pusparini et al., 2022; Sitorus et al., 2025). In Indonesia, this shift was reinforced by policy frameworks supporting distance education, highlighting the importance of ICT in bridging the gap between teachers and learners. However, while digital technologies offer flexibility and access, they also introduce new challenges related to inequality, digital literacy, and the quality of learning experiences (Gottschalk & Weise, 2023; Lindriany et al., 2023; Arifudin, 2025).

In the context of early childhood, the integration of digital technology presents a paradox. On one hand, research indicates that appropriately designed digital tools can support early literacy, numeracy, and socio-emotional development through interactive and engaging learning experiences (Green et al., 2023; Olofinnika, 2025). On the other hand, excessive or unsupervised use of digital devices has been associated with negative developmental outcomes, including reduced attention span, limited social interaction, and potential health risks related to prolonged screen exposure (Priftis & Panagiotakos, 2023; Clemente-Suarez et al., 2024). These contrasting findings highlight that the impact of ICT on young children is not inherently positive or negative but depends largely on how technology is used, mediated, and supervised within the child's environment.

Within this dynamic, parents play a pivotal role as primary mediators of children's digital experiences, particularly in home-based learning contexts. Unlike older students, young children lack the cognitive and self-regulatory capacity to independently navigate digital environments, making adult guidance essential (Lee & Lee, 2025; Mohanraj, 2024). Parents are therefore expected not only to provide access to technology but also to regulate usage, select appropriate content, and support meaningful learning interactions. This expanded role positions parents as co-educators who directly influence the effectiveness of technology-mediated learning. However, the ability of parents to fulfill this role is strongly influenced by their level of understanding of information technology (Tang et al., 2024; Luo et al., 2023).

Existing literature emphasizes that parental digital literacy extends beyond basic technical skills to include the ability to evaluate content, understand developmental appropriateness, and implement effective supervision strategies (Lindriany et al., 2023; Soyoof et al., 2024). Parents with higher levels of ICT understanding are more likely to engage in active mediation, such as discussing content with children, guiding their interactions with digital tools, and integrating technology into structured learning activities. Conversely, limited understanding often leads to passive or convenience-based usage, where digital devices function primarily as

entertainment tools rather than educational resources. This distinction is critical, as research suggests that active mediation is more effective than restrictive or laissez-faire approaches in promoting positive learning outcomes (Kamal & Kesuma, 2024; Chhom et al., 2024).

Despite the growing body of research on parental mediation and digital literacy, several limitations remain evident. First, many studies adopt quantitative or survey-based approaches, which, while useful for identifying general patterns, often fail to capture the nuanced experiences, perceptions, and practices of parents in specific educational contexts. Second, existing research tends to treat parental digital literacy as a generalized construct without adequately examining how it is enacted in everyday supervision and learning support practices. Third, there is limited attention to the interaction between parents and teachers in shaping children's digital learning environments, particularly in early childhood settings where collaboration between home and school is essential.

Furthermore, the majority of studies are conducted in Western or urban contexts, with relatively limited exploration of culturally specific educational environments such as Islamic early childhood institutions (Raudhatul Athfal) in Indonesia. These institutions play a significant role in shaping children's cognitive, moral, and social development, yet their integration of digital technology and the corresponding roles of parents and teachers remain underexplored in the literature. As highlighted in the uploaded article, the case of RA Masyitoh II Gadingrejo provides a relevant context for examining how digital technology is mediated within a community that combines religious education with contemporary learning practices.

A closer examination of the literature reveals a critical research gap between theoretical discussions of parental digital literacy and empirical evidence on how such understanding influences actual supervision practices and learning support. While prior studies acknowledge the importance of parental involvement, they rarely investigate the mechanisms through which parents interpret, negotiate, and apply ICT knowledge in real-life contexts. Additionally, the role of teachers as facilitators, guides, and collaborators in supporting parental mediation strategies has not been sufficiently integrated into existing frameworks. This gap suggests the need for a qualitative, context-sensitive approach that can capture the complexity of interactions among parents, teachers, and children in technology-mediated learning environments.

Addressing this gap is essential not only for advancing theoretical understanding but also for informing practical interventions aimed at improving early childhood education in the digital era. Without a clear understanding of how parental ICT knowledge translates into supervision practices, efforts to enhance digital literacy may remain ineffective or misaligned with the realities faced by families. Moreover, exploring the collaborative roles of teachers and parents can provide insights into how educational institutions can support families in navigating the challenges and opportunities of digital technology.

Based on these considerations, this study aims to examine how parents' understanding of information technology influences their supervision and support of early childhood learning within the context of RA Masyitoh II Gadingrejo. Specifically, the study seeks to explore (1) parents' perceptions and understanding of ICT in early childhood learning, (2) the strategies they employ in supervising children's use of digital devices, and (3) the role of teachers in supporting and mediating these practices.

The novelty of this research lies in its qualitative, context-specific exploration of parental ICT understanding as an enacted practice rather than a static competency, as well as its integration of teacher–parent collaboration within the framework of

digital mediation in early childhood education. By focusing on a culturally embedded educational setting, this study contributes to the literature by providing a more nuanced and holistic understanding of how digital technology is negotiated in everyday learning environments. The findings are expected to offer both theoretical contributions to the field of digital literacy and early childhood education, and practical implications for policymakers, educators, and families in fostering developmentally appropriate and effective use of technology.

METHODS

Research Design

This study employed a qualitative research design to explore how parents' understanding of information technology (IT) influences the supervision and support of early childhood learning. A qualitative approach was considered appropriate because it allows for an in-depth investigation of participants' lived experiences, perceptions, and practices within their natural social context. Unlike quantitative approaches that focus on measurement and generalization, qualitative research emphasizes meaning-making processes and contextual interpretation, making it particularly suitable for examining complex social interactions such as parental mediation and teacher–parent collaboration in early childhood education (Satriana & Maghfirah, 2025).

Specifically, this study adopted a descriptive qualitative design, aiming to capture and interpret the realities of technology use in early childhood learning environments without manipulating variables. This approach enabled the researcher to identify patterns, themes, and relationships emerging from participants' narratives and observed behaviors. The design aligns with interpretivist paradigms that view knowledge as socially constructed and shaped by interactions among individuals and their environments.

Research Setting and Context

The research was conducted at RA Masyitoh II Gadingrejo, an Islamic early childhood education institution located in Indonesia. This setting was purposively selected due to its active engagement with technology-mediated learning and its emphasis on collaboration between teachers and parents. As a Raudhatul Athfal (RA), the institution integrates religious education with general early childhood learning, providing a unique context in which digital technology is adapted to support both cognitive and moral development.

The selection of this site was also based on its relevance to the research objectives, as the institution had implemented digital learning practices during and after the COVID-19 pandemic. These practices included the use of educational videos, communication through digital platforms, and home-based learning activities requiring parental involvement. Thus, the setting offered a rich context for examining how parents interpret and apply IT knowledge in supporting their children's learning.

Participants and Sampling Strategy

Participants in this study consisted of parents of children enrolled at RA Masyitoh II Gadingrejo and teachers who were directly involved in guiding and supervising learning activities. A purposive sampling technique was employed to select participants who had relevant experience with technology use in early childhood learning contexts. This sampling strategy is commonly used in qualitative research to identify information-rich cases that can provide meaningful insights into the phenomenon under investigation (Mtisi, 2022).

The inclusion criteria for parents were: (1) having children actively enrolled in the institution, (2) involvement in supervising children's learning at home, and (3)

exposure to digital technology in learning activities. Teachers were selected based on their roles in facilitating classroom instruction and interacting with parents regarding children's learning progress. In total, the study involved ten participants, comprising six parents and four teachers. This sample size was deemed sufficient to achieve data saturation, where no new significant themes emerged from additional data collection.

Data Collection Techniques

Data were collected using three primary techniques: semi-structured interviews, observation, and documentation. The use of multiple data collection methods aimed to ensure data triangulation and enhance the credibility of the findings.

Semi-structured interviews served as the main data collection method, allowing participants to express their experiences and perspectives in their own words while still guided by predetermined themes. Interview questions for parents focused on their understanding of IT, strategies for supervising children's use of digital devices, and challenges encountered in supporting learning at home. For teachers, the interviews explored their roles in guiding technology use, communicating with parents, and managing digital learning activities. Each interview lasted approximately 30–60 minutes and was conducted in a flexible manner to encourage openness and depth of response.

Observations were conducted to capture real-time practices in both classroom and home-related learning contexts. The researcher observed teacher–student interactions during technology use, the integration of digital tools in learning activities, and communication patterns between teachers and parents. Observational data provided a means to validate interview responses and to identify discrepancies between reported and actual practices.

Documentation was used as a complementary data source, including lesson plans, communication records (such as messages between teachers and parents), and educational materials used in digital learning. These documents helped contextualize the findings and provided additional evidence to support the analysis. The integration of these three techniques aligns with qualitative research principles that emphasize methodological triangulation to strengthen data validity.

Data Analysis

Data analysis in this study followed an interactive model consisting of data reduction, data display, and conclusion drawing, as proposed by Miles et al. (2014). This process was iterative and conducted simultaneously with data collection to allow for continuous refinement of emerging themes.

The first stage, data reduction, involved transcribing interview recordings, organizing observation notes, and selecting relevant information from documentation. The data were then coded systematically to identify recurring patterns related to parental IT understanding, supervision strategies, and teacher roles. Coding was conducted both inductively, allowing themes to emerge from the data, and deductively, guided by existing theoretical frameworks on digital literacy and parental mediation.

The second stage, data display, involved organizing the coded data into thematic categories and narrative structures. This process enabled the researcher to visualize relationships among themes and to compare perspectives across different participants. Matrices and descriptive summaries were used to facilitate interpretation and to ensure coherence in the presentation of findings.

The final stage, conclusion drawing and verification, involved interpreting the data in relation to the research questions and existing literature. Conclusions were continuously tested against the data to ensure their validity, and alternative

explanations were considered to avoid bias. This iterative process enhanced the rigor and trustworthiness of the analysis.

Validity and Trustworthiness

To ensure the credibility and trustworthiness of the findings, this study applied several validation strategies commonly used in qualitative research. First, data triangulation was achieved by using multiple data sources (interviews, observations, and documentation), allowing for cross-verification of findings. Second, member checking was conducted by sharing preliminary interpretations with selected participants to confirm the accuracy of the researcher's understanding.

Third, prolonged engagement in the research setting allowed the researcher to develop a deeper understanding of the context and to build trust with participants, thereby improving the quality of the data collected. Fourth, peer debriefing was employed by discussing the research process and findings with colleagues to obtain external perspectives and to minimize subjective bias.

Finally, an audit trail was maintained throughout the research process, documenting decisions related to data collection, analysis, and interpretation. This transparency enhances the dependability and confirmability of the study, ensuring that the findings are grounded in the data and can be traced back to their sources.

RESULTS AND DISCUSSION

This section presents the findings of the study concerning how parents' understanding of information technology (IT) influences the supervision and support of early childhood learning at RA Masyitoh II Gadingrejo. The results are organized into four main themes derived from the data analysis: (1) parents' understanding of IT in early childhood learning, (2) parental supervision and regulation practices, (3) teachers' roles in guiding and mediating digital learning, and (4) collaborative supervision between parents and teachers.

Before elaborating on each theme, it is important to note that the findings reflect an interconnected relationship between parental knowledge, practical supervision, and institutional support. The data reveal that parents' IT understanding is not a static competency but evolves through experience, interaction with teachers, and contextual demands, particularly during and after the pandemic period.

Parents' Understanding of Information Technology in Early Childhood Learning

The findings indicate that parents generally recognize the importance of IT in supporting early childhood learning; however, their understanding varies in depth and application. Most parents perceive technology as a useful educational tool, particularly for introducing basic literacy and religious content. Nevertheless, their comprehension is often shaped by practical experience rather than formal knowledge.

In the context of the study, parents described a transition from initial reliance on digital devices during emergency remote learning toward a more reflective awareness of their educational value.

One parent explained:

> *"At first, we used gadgets only because learning had to move online. I didn't think much about it. But over time, I saw my child could learn letters and short prayers faster from videos, so now I try to choose what they watch more carefully."*

This statement illustrates how parental understanding developed gradually through observation of children's responses to digital content. The emphasis on "choosing

what they watch" suggests an emerging awareness of content selection as a critical aspect of digital learning.

However, this evolving understanding is not uniform across participants. Some parents demonstrated limited knowledge, particularly regarding the evaluation of educational content.

Another parent stated:

> *"Honestly, I only know how to open YouTube or simple applications. I don't really know which ones are good for learning, so I just follow what other parents or teachers suggest."*

This response reflects a dependency on external guidance and highlights a gap between operational skills and pedagogical understanding. While parents are able to use technology, they may lack the critical capacity to assess its developmental appropriateness.

A further narrative reinforces this pattern:

> *"Sometimes I feel confused because there are many applications. I think all of them are good because they are for children, but I'm not sure which ones really help learning."*

These findings suggest that parental IT understanding is largely experiential, fragmented, and context-dependent. Parents tend to rely on trial-and-error approaches and social recommendations rather than structured knowledge. This indicates that access to technology alone does not ensure its effective use as a learning tool, and highlights the need for guided digital literacy development.

Parental Supervision and Regulation of Gadget Use

Parental supervision emerged as a central theme, particularly in relation to concerns about excessive screen time and its potential impact on children's behavior and health. Most parents reported implementing rules to regulate gadget use; however, the consistency and effectiveness of these practices varied.

Parents commonly expressed awareness of the need to limit screen time, as illustrated in the following narrative:

> *"I try to limit my child's gadget use to one or two hours a day. If it's too long, they become quiet and don't want to interact. So I make a schedule, but sometimes it's difficult to follow."*

This statement demonstrates an understanding of the behavioral effects of prolonged screen exposure, particularly reduced social interaction. The use of scheduling reflects an attempt to implement structured supervision.

However, the implementation of such rules is often challenged by practical constraints.

Another parent explained:

> *"We already have rules at home, like no gadgets after Maghrib. But when I'm busy with work, sometimes I let my child use the phone longer so I can finish my tasks."*

This response reveals a discrepancy between intention and practice. While parents recognize the importance of supervision, situational factors such as work demands reduce their ability to enforce consistent regulation.

In contrast, parents who engaged directly with their children during technology use reported more effective supervision.

One parent described:

> *"If I sit with my child while they use the phone, I can explain what they see and remind them when it's time to stop. Usually, they listen more when I'm there."*

This finding indicates that active involvement enhances both control and communication, making supervision more effective. It also suggests that supervision is not solely about restriction but involves interaction and guidance.

The data reveal that parental supervision is shaped by a combination of awareness, available time, and engagement level. Active accompaniment appears to be more effective than rule-based control alone, as it transforms digital use into an interactive learning experience.

Teachers' Roles in Guiding Technology-Mediated Learning

Teachers play a significant role in shaping how technology is used in early childhood learning, both in classroom settings and in extending learning practices to the home environment. The findings indicate that teachers do not position technology as a passive entertainment tool but rather as a structured pedagogical medium. This role is reflected through deliberate instructional strategies, continuous mediation, and communication with parents to ensure alignment between school and home learning experiences.

In practice, teachers actively frame digital technology within a guided learning process that emphasizes understanding rather than passive consumption.

> *"When we use videos, we don't just let children watch. Usually, we start by explaining what they are going to learn, and after watching, we ask simple questions so they can tell us what they understand."*

This statement demonstrates that technology use is embedded within a structured instructional sequence. The teacher's role is not limited to providing digital content but extends to scaffolding children's comprehension through pre-activity orientation and post-activity reflection. Such practices indicate that digital media is intentionally integrated into pedagogical processes rather than used in isolation.

This guided approach is further reinforced by teachers' awareness of children's learning engagement and comprehension.

> *"If children only watch without guidance, they don't always understand the meaning. That's why we stay with them and explain little by little while they are watching."*

This perspective highlights the importance of real-time mediation during technology use. Teachers recognize that without interaction, digital content may not translate into meaningful learning. Therefore, teacher presence becomes a crucial element in transforming digital exposure into cognitive engagement.

Beyond classroom practices, teachers also extend their guiding role to parents, particularly in helping them navigate digital learning resources.

> *"Parents often ask us which applications or videos are suitable. We usually suggest simple and age-appropriate content, so children can learn without being confused."*

This indicates that teachers function as knowledge mediators who support parents in making informed decisions regarding digital content. Their recommendations help bridge the gap between parental limitations in IT understanding and the need for developmentally appropriate learning materials.

These findings confirm that teachers act as pedagogical guides who structure, mediate, and extend the use of technology across learning environments. Their role ensures that digital tools are used intentionally and consistently, supporting both classroom learning and home-based educational practices.

Teachers as Environmental Organizers and Active Participants

In addition to their role as guides, teachers also function as environmental organizers who design balanced learning environments integrating both digital and non-digital activities. The findings reveal that technology use in early childhood classrooms is carefully regulated and complemented by interactive, play-based learning to support holistic development.

Teachers deliberately limit the duration and intensity of digital exposure to maintain children's social and emotional engagement.

> *"We don't let children use gadgets for too long. Usually, after watching or using digital media, we continue with storytelling, singing, or group play so they stay active and interact with others."*

This statement reflects a conscious effort to balance digital and traditional learning approaches. Technology is positioned as a complementary tool rather than the central mode of instruction, ensuring that children's developmental needs are not compromised.

Furthermore, teachers actively participate during children's interaction with technology, preventing passive engagement.

> *"When children use technology, we always stay near them. We guide them, ask questions, and sometimes repeat the explanation so they don't just watch but also think."*

This highlights the importance of teacher involvement in maintaining active learning. The presence of the teacher transforms digital activities into interactive experiences, where children are encouraged to process and respond to information rather than consume it passively.

The influence of these structured practices extends beyond the classroom and shapes children's behavior in other contexts.

> *"We notice that children who are used to structured activities at school tend to follow similar patterns at home. They don't just use gadgets freely, but they wait for instructions or limits."*

This finding suggests that teacher-led structuring of digital use contributes to the formation of consistent behavioral patterns in children. The habits developed in the classroom are internalized and transferred to the home environment, reinforcing continuity in learning practices.

These findings demonstrate that teachers play a critical role in organizing learning environments that promote balanced, purposeful, and developmentally appropriate use of technology. Their active participation and structured approach ensure that digital tools support rather than dominate early childhood learning.

Collaborative Supervision Between Parents and Teachers

The findings further reveal that effective supervision of children's technology use is not solely dependent on individual efforts but is strengthened through collaboration between parents and teachers. This collaboration is characterized by ongoing communication, shared responsibility, and joint problem-solving.

Teachers actively engage parents in discussions to address challenges related to children's digital behavior.

> *"If we see that a child is becoming too dependent on gadgets, we talk to the parents and try to find solutions together. We want the rules at school and at home to be consistent."*

This statement reflects a collaborative approach in which supervision is aligned across different environments. Teachers do not impose rules independently but involve parents in decision-making processes to ensure consistency.

From the parents' perspective, this collaboration enhances their confidence in managing their children's use of technology.

> *"I feel more confident when teachers give suggestions. It helps me understand what is good and what is not for my child."*

This indicates that teacher guidance reduces uncertainty among parents, particularly those with limited IT knowledge. The support provided by teachers enables parents to make more informed decisions regarding digital learning.

Another parent emphasized the practical value of this interaction:

> *"Sometimes I don't know what to do, especially when my child asks for the phone all the time. When I ask the teacher, they explain and give examples, and it really helps me manage the situation."*

This response illustrates how collaboration provides not only knowledge but also practical strategies that parents can apply in everyday situations. The exchange of information between teachers and parents becomes a key mechanism for improving supervision practices.

The findings demonstrate that collaborative supervision enhances the effectiveness of technology use in early childhood learning. By aligning expectations, sharing knowledge, and maintaining open communication, parents and teachers collectively create a more consistent and supportive learning environment for children.

Triangulation Integration

To enhance the credibility of the findings, triangulation across multiple data sources was conducted. The integration of interview, observation, and documentation data is presented in Table 1.

Table 1. Triangulation of Data Sources on Technology-Mediated Learning Practices

Theme	Interview Evidence	Observation Evidence	Documentation Evidence
Teachers as Guides	Teachers explain content before and after digital use	Teachers guide children during video sessions and ask questions	Lesson plans include structured digital learning steps
Parental Guidance	Parents rely on teachers to select appropriate content	Parents accompany children during gadget use (limited cases)	Communication records show parents asking for recommendations
Supervision Practices	Parents set time limits but inconsistently apply them	Some children use gadgets beyond planned duration	Messages indicate reminders about screen-time limits

Active Mediation	Parents interact with children during gadget use	Teacher–child interaction observed during digital activities	Learning guidelines emphasize guided use of technology
Learning Continuity	Teachers ensure alignment between school and home	Children follow structured gadget habits in class	Teacher–parent communication supports continuity

Source: Primary data analysis (interviews, observations, and documentation, 2026)

Table 1 presents the triangulation of findings derived from interviews, observations, and documentation. The table demonstrates that the use of digital technology in early childhood learning is consistently mediated through guided practices across different data sources. Interview data reveal parents' and teachers' perceptions, while observational evidence confirms actual classroom practices, and documentation supports the structured implementation of digital learning. This triangulation strengthens the validity of the findings and indicates a coherent pattern of technology use across both school and home contexts.

Conceptual Relationship of Findings

To further synthesize the findings, the relationship between parental IT understanding, supervision strategies, and learning outcomes is presented in Table 2.

Table 2. Conceptual Relationship Between Key Findings

Parental IT Understanding	Mediation Strategy	Supervision Practice	Learning Outcome
Basic understanding	Passive mediation	Inconsistent supervision	Limited learning engagement
Moderate understanding	Mixed mediation	Rule-based supervision	Partial learning outcomes
Advanced understanding	Active mediation	Guided interaction	Enhanced learning outcomes

Source: Primary data analysis, 2026

Table 2 illustrates that the effectiveness of digital learning is strongly influenced by the level of parental understanding and the type of mediation applied. Higher levels of understanding are associated with more active supervision and improved learning outcomes.

Discussion

Parental IT Understanding and Its Influence on Supervision and Technology-Mediated Learning in Early Childhood Education

This study explores how parents' understanding of information technology (IT) shapes the supervision and support of early childhood learning within a technology-mediated environment. The findings reveal that digital learning effectiveness is not determined solely by access to technology, but by the quality of mediation provided by parents and teachers, as well as the interaction between home and school contexts. This section discusses these findings in relation to previous research, theoretical frameworks, and practical implications.

One of the central insights of this study is that parental understanding of IT is largely experiential and context-dependent rather than formally acquired. Parents develop their knowledge through everyday interactions with digital tools, particularly during periods of intensified technology use such as the COVID-19 pandemic. This finding is consistent with Lindriany et al. (2023), who argue that digital literacy among

parents often evolves informally. However, this study extends previous research by demonstrating that such experiential knowledge is frequently fragmented and lacks pedagogical depth. While parents are generally capable of operating digital devices, they often struggle to evaluate content suitability and align technology use with children's developmental needs. This supports the argument by Gutiérrez-Ujaque (2024) that digital literacy should encompass not only technical skills but also critical and pedagogical awareness. The present study contributes to this discourse by conceptualizing parental digital literacy as an enacted and evolving practice shaped by context, rather than a fixed individual competency.

The discrepancy between the awareness of parents about the risks of excessive screen time and actual practices of supervision is another significant finding. Though parents are conscious about regulating the use of technology by children, their capacity to institute constant supervision is usually bound by external influence, that is the work demand and time constraint. This observation is consistent with Faiza & Duad (2023), who state that home learning environments are dependent on the larger socio-economic circumstances. Likewise, Hinterleitner and Wittwer (2023) indicate the conflict between expectations and practical realities in role performance. In this research, parents often expressed their intentions to control screen time, but were not able to apply the rules on a regular basis, which means that the process of supervision is determined not only by knowledge but also by the contextual constraints. Nonetheless, the study also demonstrates that parents that engage in active mediation, i.e. attending to children, explaining things, and interacting with children during the use of technology achieve better supervision results. This observation supports the active and restrictive mediation distinction proposed by Wang et al. (2025) and highlights that active participation is essential to improve learning and behavioral control. What this theoretically implies is that parental mediation must be conceptualized as a relational and interactive process and not just a process of control.

The teacher issue is a sensitive criterion that will help in closing the gap between home based practices and the institutional learning process. In this study, teachers play the roles of a teacher and a mediator who leads both children and parents in the utilization of digital technology. This observation is in line with Lilawati (2021), who believes that teacher support is critical in enhancing parental participation in home learning. Nevertheless, the research contributes to the literature by explaining how the teacher mediation works in practice, by providing suggestions regarding digital content, modelling the correct usage, and maintaining constant communication with parents. These practices are in line with the results of Cao et al. (2024) that reveal the interaction between parental beliefs and mediation strategies in determining the digital literacy of children. The current research fills a relational gap of demonstrating that parental practices are mediated by teacher guidance, especially in those situations when parents possess inadequate digital knowledge. This highlights the significance of thinking about early childhood education as a distributed system of learning whereby the responsibility is distributed among more than two actors.

Additionally, the research is important and indicates the importance of organized and facilitated learning settings in determining the digital behavior of children. Educators who deliberately incorporate digital technology into pedagogically mediated exercises help in the process of creation of meaningful learning experiences. This result is similar to Hidayati and Slamet (2025), who claim active learning strategies increase engagement and understanding. Moreover, the research shows that organized classroom practices contribute to the behavioral aspects of children outside the school setting. Children used to using guided technology use in the classroom environment are likely to reproduce similar patterns at home and this

indicates a transfer of similar behavioral norms. This helps in social learning theory whereby behavior is influenced by observing and imitating. Although the previous research, including Chavez et al. (2025), underlines the importance of family practices in determining the behavior of children, this study broadens the scope of the point by indicating that even teacher practices can shape the dynamics on the family level. The finding is a crucial novelty and shows the two-way interdependence between the school and home settings in influencing digital behavior.

The results also highlight the role of cooperation between parents and teachers in providing effective monitoring of the use of technologies by children. Communication, shared decision-making, and mutual support characterize this collaboration and allow a more consistent approach to digital learning. It is consistent with Bergmark (2023), who promotes collaborative digital literacy practices, and with Lindriany et al. (2023), who advocate integrated digital literacy practices. Nevertheless, the current research demonstrates empirically the way such collaboration is put into practice in the real world, through consultations, feedback sharing, and joint problem solving. This underscores the notion of co-regulation, that is, responsibility to shape the behavior of children is distributed among various stakeholders. The study therefore adds to the literature in that it shows that successful digital learning does not only entail personal competence but also collective interaction.

In a theoretical way, this research will contribute to the comprehension of digital literacy and early childhood education by incorporating the mediation of parents, the role of a teacher, and collaborative practices into a single system. It counters the idea that digital competence is a personal phenomenon and instead, points to the relational and contextual nature of digital competence. Practically speaking, the findings imply that capacity-building programs should be implemented that are aimed at improving the capacity of parents to participate in active mediation. Such programs must not just focus on technical training but should also cover guidance on content selection, interaction strategies and developmental considerations. Moreover, the paper highlights the fact that institutional support is important especially the role played by teachers in advising parents and harmonizing learning practices across settings.

The study has important implications to various stakeholders. To the teachers, the results indicate that teachers need to go beyond classroom teaching to engage actively in helping parents cope with digital learning. To policymakers, the study implies the need to design digital literacy programs that both parents and teachers would be targeted, in order to ensure a comprehensive approach to technology integration. To the family, the results provide a clear focus on the need to actively engage in supervision as opposed to relying on restrictive measures alone. These implications indicate that there is a need to have a holistic approach to digital learning that takes into account the interconnected roles of various actors.

Although this study has made contributions, there are a few limitations to it. The study was carried out in one institutional setting that might not be able to generalize the findings to other settings. Although its size is sufficiently large to do justice to the heterogeneity of parental experiences, the sample size is relatively small and may not be representative of the entire diversity of parental experiences. Also there is the risk of bias due to the reliance on self-reported data, but this was addressed through triangulation of data of self-report, observational and documentation data. It should be investigated in the future in other cultural and institutional settings to increase the degree of generalizability. It is also suggested that mixed-method and longitudinal studies are needed to study the long-term effects of parental mediation and teacher support on the development of children.

CONCLUSION

This paper finds that the quality of early childhood learning support in digitally mediated learning environments depends on the information technology knowledge that parents possess. The results indicate that parents tend to have a somewhat experiential and uneven understanding of the educational potential of digital technology, which leads to differences in supervision practices and content choices. When parents actively mediate as active participants who interact, guide, and deliberately use digital resources, effective learning outcomes are obtained. Moreover, the study emphasizes how teachers play a crucial role as mediators between school and home learning contexts, so that there are no discrepancies in technology use.

Theoretically, this paper makes a contribution by conceptualizing the notion of parental digital literacy as a process of dynamic and relational nature as opposed to a fixed competency. In practice, it highlights the necessity of cross-disciplinary digital literacy programs that include both parents and teachers with a focus on pedagogical awareness and interactive supervision approaches. The research, however, has limitations due to its narrowness in terms of a single institutional setting and the relatively small sample size. Future studies need to focus on different learning environments and use longitudinal or mixed method design to examine how parental mediation and teacher support affect the development of children. On the whole, the paper gives a subtle insight into how guided and collaborative use of technology can be used to support early childhood learning.

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