Al-Ishlah: Jurnal Pendidikan
Vol.18, 2 (June, 2025), pp. 2294-2307
ISSN: 2087-9490 EISSN: 2597-940X, DOI: 10.35445/alishlah.v18i2.9343

Managing Digital Innovations in Parenting: A Case Study of Kinedu's Role in Children's Development

Ruhanatul Hasanah[1], Abu Hasan Agus R[2]

[1] Universitas Nurul Jadid, Probolinggo, Indonesia ;ruhanatulhsnh12@gmail.com
[2] Universitas Nurul Jadid, Probolinggo, Indonesia; masagusrm@unuja.ac.id

ARTICLE INFO

Keywords:

digital parenting;
childcare management;
Kinedu application;
community based innovation;
rural families

Article history:

Received 2026-01-07
Revised 2026-03-29
Accepted 2026-06-22

ABSTRACT

Digital parenting has become increasingly important in supporting early childhood development, particularly in rural communities where access to parenting information and digital literacy remains limited. This study examines the use of the Kinedu application as a form of informal educational management in supporting parents' roles in child-rearing. A qualitative case study design was employed in Gilang Village. The participants consisted of 10 young parents with children aged 0–7 years who had used Kinedu for more than three months. Data were collected through semi-structured interviews, field observations of parent–child interactions, and document review. The data were analyzed thematically by focusing on parenting planning, activity organization, stimulation implementation, developmental evaluation, digital literacy challenges, internet access, cultural acceptance, and community support. Data credibility was strengthened through triangulation of interviews, observations, and documentation. The findings show that Kinedu helped parents make parenting practices more structured, developmentally oriented, and confidence-building. Parents used the application to plan daily activities, select age-appropriate stimulation, accompany children during activities, and informally evaluate children's responses. However, its use was limited by low digital literacy, unstable internet connectivity, partial use of application features, and cultural hesitation toward technology-based parenting. Kinedu functioned as a supportive parenting guide rather than a replacement for parental roles. The study suggests that digital parenting innovations in rural communities require contextual adaptation, community-based mentoring, and digital literacy support. Future research should involve larger samples, multiple settings, and longitudinal designs to examine long-term impacts on parenting practices and child development.

This is an open access article under the CC BY-NC-SA license.

Corresponding Author:
Ruhanatul Hasanah
Universitas Nurul Jadid, Probolinggo, Indonesia ;ruhanatulhsnh12@gmail.com

1. INTRODUCTION

Parenting during the golden age is not just about caring for children, but also encompasses everything that supports their physical, mental, emotional, and social growth and development (R Agus Hasan Abu , Bali Iq El Mushfi Muhammad, 2020; Yulianingsih et al., 2020). The role of parents in

a child's life greatly influences the child's overall development, so innovation in parenting is urgently needed, especially in today's digital era (Rochmawan et al., 2024; Saleha et al., 2022). The quality of care provided by parents shapes children's future mental health, social intelligence, and cognitive skills. Good parenting will provide a solid foundation (Shofiah et al., 2024). Children who grow up in an environment rich in attention and affection are more likely to develop critical thinking skills, problem-solving abilities, and healthy social interactions (Mundiri et al., 2022). In addition, the active role of responsive parents can strengthen emotional bonds and help build children's self-confidence and emotional regulation skills (Istianti et al., 2023; Yaksa et al., 2024).

Digital technology, such as the Kinedu app, offers innovative solutions that enable parents to be more involved in parenting in a more structured, interactive, and educational way (Saputra & Fatkhurohman, 2023). Digital parenting refers to the use of digital technology to support child-rearing, enabling parents to provide appropriate developmental stimulation in an interactive manner (Maysara & Yuliani, 2024). Digital platforms such as Kinedu, which provide activity guides tailored to children's developmental stages, enable parents to provide appropriate stimuli for their children's motor, language, and social-emotional development (Nilapancuran et al., 2025). This research is based on preliminary studies indicating that parenting styles shape a child's character, and that character is not formed instantly but rather through a consistent, ongoing process within family, school, and community environments (Hefniy et al., 2022; Musonda et al., 2025). The role of parents is crucial in optimizing development and strengthening the emotional bond between parents and children (Agus R et al., 2022).

In Gilang Village, many young parents face significant challenges in raising children, especially in dealing with the rapid development of digital technology. Parents in this village are often confused about determining the right parenting style, caught between traditional approaches and the demands of technology use. Meanwhile, the Zone of Proximal Development theory explains that children need appropriate support from adults to achieve development that cannot yet be reached independently, as discussed by (Anshoriningsih et al., 2025). Therefore, technology-based support is needed to ensure children's stimulation remains in line with their developmental stage. In line with Elizabeth B. Hurlock's psychosocial development theory, children from early childhood though school age need parental guidance to build self-confidence and a sense of competence rather than inferiority (Ambarwati & Yuliantika, 2020; Nasution et al., 2024). However, in practice, some parents misunderstand digital parenting. Instead of using it as digital scaffolding, they give children unrestricted access to explore the digital world without proper guidance. As a result, stimulation does not occur optimally, even though this period is crucial for physical, cognitive, social, and emotional development (Survia, Desty, 2024). Limited digital literacy and internet access in Gilang Village further widen the gap between available technology and parents' ability to utilize it for parenting.

Previous research by Fajria emphasizes content monitoring, time restrictions, and digital ethics education in parenting and reveals the importance of digital literacy for parents (Fajria et al., 2025). Arif states that social media has become a primary tool for some mothers to seek information, share experiences, and obtain support related to parenting, and that is also impacts parenting in the modern world (Hasnida et al., 2024). This study continues and deepens the findings, focusing on the benefits, use processes, and challenges encountered during the implementation of digital parenting. From an education management perspective, the use of the Kinedu application is not only seen as an educational medium but also as a form of digital innovation that changes how parents manage information, plan stimulation, and make childcare decisions in a more structured way. This platform functions as a digital knowledge management system that organizes information on child development into easy-to-apply guidelines. Therefore, this study is also important for examining how digital innovation adoption occurs in rural environments, how parents use digital features in their daily activities, and the obstacles to its implementation. In contrast to earlier research, which has mostly focused on digital literacy and parental supervision, this study provides a new perspective by examining how digital parenting

innovation through the Kinedu application can be contextually implemented within rural communities with limited access to technology.

This study was conducted to identify how the Kinedu app is used in managing parenting, especially in rural contexts where access to technology is limited. Currently, many parents feel torn between traditional parenting and the use of technology in their daily lives. On the one hand, digital technology offers various educational benefits, but on the other hand, a lack of understanding and limited access to technology often become obstacles maximizing its potential for parenting (Ulfa Masfufah & Naila Naswa Salsabila, 2024). The main question this paper addresses is: How can the use of the Kinedu application help parents manage their parenting to support their children's development? Is this application effective in advancing effective parenting management? Through this paper, it is hoped that concrete solutions can be found to help parents utilize technology wisely and effectively while strengthening Digital-based educational management innovation in rural communities.

2. METHODS

2.1 Research Design

This study employed a qualitative case study design to examine how parents in Gilang Village use the Kinedu application to manage child-rearing practices during early childhood. A qualitative approach was considered appropriate because the study aimed to explore parents' experiences, perceptions, challenges, and adaptations in using digital technology for parenting within a rural community context. The case study design enabled an in-depth investigation of digital parenting as a form of informal educational management in a real-life setting, particularly in relation to the managerial functions of planning, organizing, implementing, and evaluating children's developmental stimulation.

2.2 Research Setting and Participants

The study was conducted in Gilang Village, a rural community where parents experience varying levels of access to digital technology, internet connectivity, and parenting information. The participants consisted of 10 young parents who had children aged 0–7 years and had actively used the Kinedu application for at least three months. Participants were selected purposively based on the following criteria: they were parents or primary caregivers of young children, had experience using Kinedu in daily parenting activities, were willing to participate in interviews and observations, and lived in Gilang Village.

The selection of participants was guided by the principle of information richness rather than statistical representation. Data collection continued until the information obtained from interviews and observations showed repeated patterns and no substantially new themes emerged.

2.3 Data Collection Techniques

Data were collected through semi-structured interviews, field observations, and document review. Semi-structured interviews were conducted to explore parents' experiences in using Kinedu, including how they planned daily activities, selected developmental stimulation, accompanied children during activities, monitored children's responses, and evaluated developmental progress. The interviews also examined parents' perceived benefits, barriers, digital literacy challenges, internet access, cultural acceptance, and community support.

Field observations were conducted in participants' home or community environments to examine parent–child interactions during Kinedu-based parenting activities. The observations focused on how parents selected activities from the application, guided their children, responded to children's reactions, modified activities according to children's needs, and integrated application-based guidance with existing parenting habits.

Document review was used to complement interview and observation data. The documents included parents' activity notes, screenshots or records of Kinedu-based activities where available, and relevant community materials related to parenting education. These documents helped verify how parents used the application in their daily parenting routines.

2.4 Research Instruments

The main instrument in this study was the researcher, supported by interview guidelines, observation sheets, and document review notes. The interview guidelines were developed based on the research focus, namely digital parenting, informal educational management, and the adoption of digital innovation in rural communities. The observation sheet was used to record parent–child interaction patterns, the use of Kinedu features, parental assistance, and children's responses during activities.

2.5 Data Analysis

The data were analyzed using thematic analysis. The analysis began with data familiarization by repeatedly reading interview transcripts, observation notes, and supporting documents. The next stage involved initial coding to identify meaningful units related to parenting planning, organization of activities, implementation of stimulation, evaluation of children's development, parental confidence, digital literacy, internet access, cultural acceptance, and community support.

After coding, similar codes were grouped into broader themes. The themes were then reviewed and refined to ensure that they reflected the research focus and were supported by sufficient data. The final themes were interpreted through the perspectives of informal educational management and digital innovation adoption. This process enabled the study to explain how Kinedu supported parents in managing child development stimulation and what contextual factors influenced its use in a rural community.

2.6 Trustworthiness of the Data

Several strategies were applied to enhance the trustworthiness of the findings. First, data triangulation was conducted by comparing information from interviews, field observations, and document review. Second, source triangulation was used by comparing responses across participants with different backgrounds and parenting experiences. Third, member checking was conducted by confirming key interview interpretations with selected participants to ensure that the researcher's interpretation accurately reflected their experiences. Fourth, an audit trail was maintained by documenting the stages of data collection, coding, theme development, and interpretation.

2.7 Ethical Considerations

Before data collection, participants were informed about the purpose of the study, the voluntary nature of their participation, and their right to withdraw at any stage. Informed consent was obtained from all participants. Because the study involved observations of parent–child interactions, special attention was given to protecting the privacy and comfort of both parents and children. Participants' identities were anonymized using codes, and all data were used only for research purposes. No real names of parents, children, or families were disclosed in the reporting of findings.

3. FINDINGS AND DISCUSSION

3.1. Findings

This study examined how parents in Gilang Village used the Kinedu application to support child-rearing practices and manage children's developmental stimulation. The findings show that Kinedu functioned not merely as a source of parenting information, but also as a practical tool that helped parents organize daily parenting activities. However, the effectiveness of its use was shaped by parents' digital literacy, internet access, cultural acceptance, and community support. Three major themes

emerged from the data: structured parenting management, challenges in digital parenting adoption, and community-based support for sustainable use.

3.1.1 Kinedu as a Tool for Managing Parenting Activities

The first finding indicates that Kinedu helped parents make their parenting practices more structured and developmentally oriented. Before using the application, several parents relied mainly on inherited family habits, personal intuition, or informal advice from relatives. Parenting activities were often spontaneous and were not always connected to children's developmental stages. After using Kinedu, parents reported that they became more aware of age-appropriate activities and more confident in selecting stimulation for their children. One parent explained:

> "*Before using Kinedu, I usually followed the parenting habits used in my family. After using the application, I became more aware of which activities were suitable for my child's age."* (Parent 1, interview)

This statement illustrates a shift from routine-based parenting to more planned parenting. Parents began to use the application to identify daily activities, such as language games, fine motor exercises, social interaction tasks, and simple physical stimulation. Another parent stated that the application helped her avoid confusion when deciding what activity to do with her child:

> *"Previously, I often did not know what activities were appropriate for my child. Sometimes I only asked my parents or followed what I usually saw at home. After using Kinedu, I could choose activities according to my child's age, so I felt more directed."*(Parent 2, interview)

The quotation shows that Kinedu supported the planning function in informal educational management because it helped parents decide what activities should be carried out, when they should be conducted, and how they should be adapted to children's developmental needs. In this sense, the application provided parents with practical guidance that transformed general parenting knowledge into more concrete daily actions.

The findings also show that Kinedu supported the organizing function of parenting. Parents used the application to arrange activities according to children's age, available time, and household conditions. Some parents explained that the application helped them organize simple activities that could be done at home without requiring expensive materials. One participant stated:

> *"The activities in Kinedu are not too difficult. I can adjust them to the situation at home. If I am busy, I choose a simple activity. If there is more time, I follow activities that need more guidance."*(Parent 3, interview)

This statement indicates that parents did not use Kinedu rigidly. Instead, they adapted the application's recommendations to their daily routines and family conditions. Such adaptation is important in rural parenting contexts, where time, facilities, and access to learning resources may be limited. Therefore, Kinedu functioned as a flexible tool that helped parents organize child stimulation activities in a manageable way.

In addition to planning and organizing, Kinedu also supported the implementation function of parenting. Parents reported that the application encouraged them to accompany their children more actively during activities. Rather than replacing parental roles, the application provided guidance that enabled parents to become more involved facilitators of their children's development. One parent explained:

> *"When I follow the activities from Kinedu, I do not just give the phone to my child. I read the instructions first, then I guide my child. Sometimes I show the example, then my child follows."*(Parent 4, interview)

This statement is important because it shows that Kinedu was not used as a tool for passive screen exposure. Instead, parents used it as a source of guidance for direct parent-child interaction. In practice, parents still played the central role in explaining, modeling, accompanying, and responding to children during the activities. Another participant similarly emphasized the importance of parental presence:

"The application gives the activity, but I still have to accompany my child. If I only let my child do it alone, the activity does not work well. My child needs me to explain and encourage him."(Parent 5, interview)

From the perspective of Vygotsky's Zone of Proximal Development, the application can be understood as a form of digital scaffolding for parents. Kinedu did not directly teach the child; rather, it helped parents provide appropriate assistance so that children could engage in activities slightly beyond what they could do independently. The application guided parents in selecting activities, while the parents provided emotional support, explanation, and encouragement during the process. This finding suggests that digital parenting tools may strengthen parental capacity when they are used as supportive instruments rather than substitutes for direct parent-child interaction.

Another important finding concerns parental confidence. Parents who previously felt unsure about how to stimulate their children reported that they became more confident after receiving structured guidance from the application. This confidence encouraged more consistent involvement in parenting activities. One parent stated:

I used to worry whether the way I played with my child was useful or not. After using Kinedu, I felt more confident because the activities were explained clearly and matched my child's age."
(Parent 6, interview)

Another parent expressed a similar experience:

"Kinedu makes me feel that I can do something for my child's development at home. I do not have to wait for school or teachers. As a parent, I can also help my child learn through simple activities."
(Parent 7, interview)

These statements suggest that Kinedu increased parents' sense of agency in child-rearing. Parents began to see themselves not only as caregivers but also as active facilitators of their children's development. Such involvement is important because early childhood development depends not only on the availability of learning materials but also on the quality of interaction between children and adults.

The use of Kinedu also helped parents evaluate children's responses after activities, although this evaluation was often informal. Parents observed whether children were interested, able to follow instructions, or needed additional support. One participant explained:

"After doing the activity, I usually see whether my child enjoys it or finds it difficult. If my child still cannot do it, I try again another time or choose an easier activity."
(Parent 8, interview)

This finding shows that parents began to practice simple evaluation in parenting management. Even when they did not use the application's monitoring features fully, they still observed children's responses and adjusted the next activity accordingly. Therefore, the contribution of Kinedu lies in its ability to help parents translate general parenting knowledge into concrete daily practices involving planning, organizing, implementing, and evaluating developmental stimulation.

Overall, this finding demonstrates that Kinedu supported more structured parenting management in Gilang Village. The application helped parents move from spontaneous and tradition-based parenting toward more intentional, age-appropriate, and reflective child-rearing practices. However, the role of Kinedu remained supportive rather than substitutive. The most important element in the parenting process continued to be the active involvement of parents in guiding, accompanying, and responding to their children during daily developmental activities.

3.1.2 Challenges in the Adoption of Digital Parenting

Although Kinedu provided practical benefits for parents in managing child-rearing activities, its use was not free from challenges. The most prominent challenge was limited digital literacy. Some

parents were able to access basic activity recommendations but had difficulty using more advanced features, such as developmental monitoring or progress evaluation. As a result, the use of the application remained partial. Parents tended to use features that were easy to understand while ignoring features that required greater technical familiarity. One parent explained:

> *"I usually only open the daily activity section because it is the easiest for me to follow. For the child development report or progress monitoring, I am still confused about how to read it. Sometimes I am afraid of misunderstanding the result."* (Parent 2, interview)

A similar concern was expressed by another participant, who stated that the application would be more useful if parents received technical guidance on how to use its features more comprehensively:

> *"The application is actually helpful, but I do not understand all of the menus. If someone explained how to see my child's development or evaluate the activities, maybe I could use it more regularly."* (Parent 4, interview)

These statements indicate that the success of digital parenting does not depend solely on the availability of digital applications. It also depends on whether parents have the skills, confidence, and support needed to use the technology effectively. In this study, parents did not reject the application; rather, they needed assistance in understanding how to integrate its features into daily parenting routines. This suggests that digital parenting in rural communities should not be treated merely as an individual practice, but as a process of technology adoption that requires guidance, literacy support, and continuous assistance.

Limited digital literacy also affected parents' consistency in using Kinedu. Some parents used the application only when they remembered or when their children were ready to engage in play activities. They had not yet developed the habit of checking the application regularly or using it as a structured parenting schedule. One participant stated:

> *"I use Kinedu when I remember or when my child wants to play. I am not used to checking the application every day because I still do not really understand how to make a schedule from it."* (Parent 6, interview)

This finding shows that digital parenting requires habit formation. Parents need time and support to move from occasional application use to more systematic use. Without adequate support, Kinedu may only function as an additional source of activity ideas rather than as a comprehensive parenting management tool.

Internet connectivity also influenced the consistency of Kinedu use. Some parents experienced difficulties accessing the application regularly because of unstable network conditions in the village. This affected the implementation and evaluation stages of parenting management. When parents could not access the application, they were less able to follow planned activities or monitor developmental progress consistently. One parent described this difficulty as follows:

> *"Sometimes the signal at home is unstable. When I want to open a video or see a new activity, the application takes a long time to load. In the end, I only use the activities that I already remember and do not always follow the application."* (Parent 3, interview)

Another participant also explained that unstable internet access affected her ability to record and monitor her child's development:

> *"When the internet connection is poor, I cannot immediately see the guidance or record my child's progress. The activity is still done, but I do not always monitor it through the application."* (Parent 7, interview)

These findings indicate that digital parenting programs in rural areas must consider infrastructure limitations. Even when parents are willing to use technology, unstable internet access may prevent consistent and meaningful application use. Therefore, the effectiveness of digital parenting is closely related to the availability of supporting infrastructure, particularly internet connectivity and accessible digital devices.

Cultural factors also shaped parents' responses to digital parenting. Some parents were initially hesitant to rely on applications because they believed that parenting should be based on direct emotional closeness, family habits, and traditional caregiving values. Their concern was not simply resistance to technology, but fear that digital tools might reduce natural parent-child interaction. One participant stated:

> *"At first, I was hesitant to use the application because I was afraid of depending too much on the phone. I feel that children still need to be talked to directly, hugged, and accompanied, not only guided by an application."* (Parent 5, interview)

This statement shows that parents' hesitation was rooted in their understanding of parenting as an emotional and relational practice. In this context, digital parenting must be positioned carefully. Kinedu should not be presented as a replacement for parental affection, local wisdom, or family-based caregiving practices. Instead, it should be introduced as a complementary tool that supports parents in selecting appropriate activities while maintaining direct interaction with children.

After using the application, some parents began to understand that Kinedu could be used as a guide rather than as a substitute for parental roles. One parent explained:

> *"Now I see Kinedu not as something that replaces the way parents care for their children. The application only gives examples of activities. What remains important is how I accompany my child while playing and learning."*(Parent 1, interview)

This finding highlights the importance of framing digital parenting as a supportive practice. When parents understand that technology strengthens rather than replaces their role, they are more likely to accept and use the application. Thus, the adoption of Kinedu depends not only on technological design but also on parents' cultural interpretation of its role in child-rearing.

Community support also emerged as an important factor in helping parents use Kinedu more confidently. Parents reported that support from posyandu cadres, early childhood teachers, or community figures could help them understand the application and reduce uncertainty in using digital parenting tools. One participant stated:

> *"If there is guidance from posyandu cadres or PAUD teachers, I feel more confident using the application. We do not only try it by ourselves, but there is someone who helps explain which activities are suitable for our children."* (Parent 9, interview)

From the perspective of digital innovation management, these challenges show that technology adoption requires contextual adaptation. An application designed with scientific developmental content may still encounter barriers when introduced into communities with limited digital literacy, unstable internet access, and strong traditional parenting norms. Therefore, successful adoption depends on the alignment between technological features, users' capabilities, cultural values, and local support systems. In the case of Gilang Village, Kinedu can be more effectively implemented when supported by community-based mentoring, digital literacy assistance, and culturally sensitive communication that present the application as a complement to traditional parenting rather than a replacement for it.



Figure1. Parenting Education Activities

The documentation in Figure 1 demonstrates community-led efforts to introduce digital parenting to parents. This activity indicates that the adoption of technology in parenting does not solely depend on family readiness but also requires support from *posyandu* cadres and the local social environment. This education is crucial for addressing challenges related to digital literacy and cultural acceptance in adopting technology as part of child-rearing. The digital literacy process conducted by *Posyandu* cadres represents the "unfreezing" phase in Kurt Lewin's theory of change management, aimed at opening parents' minds to shifts from traditional child-rearing practices toward embracing technology. The use of the Kinedu app then enters the change phase, while the habit of engaging in app-based activities demonstrates a "refreeze" process to establish digital parenting practices as a new cultural norm (Mukarromah & Yaqin, 2025). This activity demonstrates that the management of child-rearing in society does not rely solely on the nuclear family but also on the support of the village's social and institutional systems. Therefore, digital parenting must be implemented adaptively and contextually.

3.1.3 Community Support in Strengthening Digital Parenting

The findings also indicate that community involvement played an important role in helping parents understand and accept digital parenting. Support from local actors, such as posyandu cadres, early childhood educators, and community figures, helped reduce parents' hesitation toward technology. Community-based parenting education activities created opportunities for parents to ask questions, share experiences, and learn how digital applications could be used without weakening traditional parenting values. One parent explained:

> *"At first, I was not sure whether using an application for parenting was appropriate. However, after the posyandu cadre explained that the application was only a guide and that parents still had to accompany their children, I became more willing to try it."* (Parent 10, interview)

This statement shows that parents' acceptance of Kinedu was influenced not only by the application itself but also by explanations from trusted community members. In rural communities, parents often rely on familiar local networks when making decisions about child-rearing. Therefore, when digital parenting is introduced through community institutions that parents already trust, it becomes easier for them to perceive the application as useful and acceptable.

Community-based parenting education also helped parents clarify misunderstandings about digital parenting. Some parents initially assumed that using Kinedu meant allowing children to interact directly with digital devices. However, after receiving guidance from local actors, they began to understand that the application was intended to support parents in selecting activities, not to replace parent-child interaction. One participant stated:

> *"I used to think that digital parenting meant giving the phone to the child. After joining the parenting activity, I understood that the application is used by parents to find activity ideas, while the child still plays and learns with us."* (Parent 4, interview)

This finding suggests that community support helped reframe the meaning of digital parenting. Instead of being understood as screen exposure for children, Kinedu was gradually perceived as a parenting support tool. This shift in understanding was important because some parents were concerned that digital technology might reduce emotional closeness or weaken traditional parenting practices. Through community-based explanation, parents began to see that Kinedu could be integrated into existing caregiving habits without replacing affection, direct communication, and family-based values.

The role of posyandu cadres and early childhood educators was particularly important in supporting parents' digital literacy. Several parents reported that they felt more confident using Kinedu when someone from the community explained how to access the features and choose suitable activities. One parent said:

> *"When I tried to use the application by myself, I was confused. But after the PAUD teacher showed us how to open the activity menu and choose activities based on the child's age, I felt more confident using it at home."* (Parent 5, interview)

Another parent expressed a similar experience:

> *"I feel more comfortable when there is someone who can guide us. If I do not understand a feature, I can ask the cadre or other parents who have already tried it."* (Parent 6, interview)

These statements show that the adoption of Kinedu should not be promoted only through individual download and use. Parents need social support, practical demonstration, and opportunities to ask questions. In this study, community-based digital literacy activities helped parents understand the purpose, features, and limitations of the application. Such support was especially important because not all parents had equal levels of digital confidence or experience in using parenting applications.

The involvement of community actors also reflects the principle of participatory management. Parenting innovation becomes more sustainable when it is supported not only by individual families but also by the surrounding social environment. In Gilang Village, community support helped bridge the gap between digital innovation and local parenting culture. Parents did not feel that Kinedu was imposed on them as an external technology; instead, they began to view it as a practical guide that could be adapted to their daily routines. One participant explained:

> *"If the application is introduced together in the community, it feels easier to accept. We can discuss it with other parents, share which activities work, and learn from each other."* (Parent 7, interview)

This statement indicates that peer interaction among parents also contributed to the acceptance of digital parenting. Parents became more open to using Kinedu when they saw that other parents in the village were also trying similar activities. Shared experiences reduced hesitation and created a sense of collective learning. In this way, digital parenting became not only an individual practice but also a community-supported process.

Community figures also played a role in legitimizing the use of technology in parenting. In communities where traditional values remain strong, approval or encouragement from respected local actors may influence parents' willingness to adopt new practices. One parent stated:

> *"When the community leader and posyandu cadre supported the activity, I felt that using the application was not against our way of raising children. It was just a new tool to help parents."* (Parent 8, interview)

This quotation suggests that cultural acceptance can be strengthened when digital innovation is introduced through socially trusted channels. Parents were more likely to accept Kinedu when it was presented as a complement to traditional parenting rather than as a replacement for existing caregiving values.

This finding is also relevant to the concept of change management. The introduction of digital parenting requires a gradual process of awareness building, adaptation, and habit formation. At the initial stage, parents need to understand why digital guidance may be useful. In the next stage, they need assistance in using the application and interpreting its features. Finally, digital parenting practices may become part of daily routines when parents experience direct benefits and receive reinforcement from their social environment. One participant described this gradual process as follows:

> *"At first, I only listened when the cadre explained the application. Then I tried one activity at home. After seeing that my child enjoyed it, I started using it more often."* (Parent 3, interview)

This statement shows that parents' adoption of Kinedu developed gradually through exposure, trial, positive experience, and repetition. Therefore, the successful use of Kinedu in rural parenting contexts depends not only on the quality of the application but also on the availability of community-based mentoring and continuous support.

Overall, the findings demonstrate that community involvement strengthened parents' understanding and acceptance of digital parenting. Posyandu cadres, early childhood educators, community figures, and peer groups helped parents interpret Kinedu as a supportive parenting tool rather than a threat to traditional child-rearing values. This indicates that digital parenting innovation in rural communities should be implemented through participatory and culturally sensitive strategies. When digital applications are introduced through trusted community networks, parents are more likely to use them confidently, adapt them to local caregiving practices, and sustain their use in daily parenting routines.

3.2 Discussion

The findings of this study indicate that the Kinedu application supported parents in Gilang Village in managing child-rearing practices more systematically. Parents who previously relied mainly on inherited family habits or informal advice began to plan daily activities based on children's developmental stages. This shift suggests that digital parenting tools can help transform spontaneous parenting practices into more intentional and developmentally responsive forms of care. In this context, Kinedu functioned not as a substitute for parents, but as a guide that helped parents organize stimulation activities, select age-appropriate tasks, and monitor children's responses. This finding is consistent with the view that parents play a central role in optimizing early childhood development through responsive guidance, emotional support, and consistent stimulation (Istianti et al., 2023; Yulianingsih et al., 2020).

The use of Kinedu also strengthened parents' role as managers of informal education within the family. Through the application, parents were able to perform basic managerial functions, including planning activities, organizing learning stimulation, implementing parent-child interaction tasks, and evaluating children's developmental progress. This finding supports the idea that parenting is closely related to educational management because parents are responsible for creating meaningful learning experiences in the home environment. Previous research has emphasized that effective parenting activities contribute to children's character formation and developmental readiness when they are carried out consistently and intentionally (Hefniy et al., 2022; Shofiah et al., 2024). Therefore, the contribution of Kinedu lies in its capacity to help parents translate general parenting knowledge into practical daily activities.

From a developmental perspective, the findings can be understood through Vygotsky's concept of the Zone of Proximal Development, which emphasizes that children develop optimally when adults provide appropriate assistance for tasks they cannot yet complete independently. Kinedu can be interpreted as a form of digital scaffolding because it supports parents in providing activities that match children's developmental needs. However, the application does not directly replace adult support; rather, it enhances parents' ability to provide structured assistance. This is in line with studies that highlight the importance of adult guidance in supporting children's cognitive, language, social, and

emotional development during early childhood (Anshoriningsih et al., 2025; Masrura et al., 2024). Thus, the value of digital parenting depends on how effectively parents use technology to strengthen direct interaction with children.

Another important finding concerns parental confidence and involvement. Parents reported feeling more confident after using Kinedu because the application provided clearer guidance on what activities were suitable for their children's age. This increased confidence encouraged parents to become more actively involved in child-rearing activities. Such involvement is essential because early childhood development is strongly influenced by the quality of interaction between children and caregivers. This finding is consistent with previous studies showing that parental involvement, emotional responsiveness, and guided interaction contribute to children's social-emotional development and learning readiness (Mundiri et al., 2022; Saleha et al., 2022). Therefore, Kinedu's role should be understood as supportive rather than directive: it helps parents make better-informed decisions while preserving the emotional relationship between parents and children.

Despite these benefits, the study also found that the adoption of Kinedu was shaped by several contextual challenges. Limited digital literacy prevented some parents from using all available features, particularly those related to developmental monitoring and progress evaluation. Parents tended to use simple features, such as daily activity recommendations, while more complex features were less frequently used. This finding shows that the availability of digital parenting applications does not automatically guarantee effective use. Parents need adequate digital skills, confidence, and continuous support to integrate technology into daily parenting practices. This supports previous studies indicating that digital parenting requires not only access to technology but also parental literacy, awareness, and guidance in using digital media appropriately (Fajria et al., 2025; Ulfa Masfufah & Salsabila, 2024).

Internet access also emerged as a practical barrier to consistent application use. In rural communities, unstable connectivity may limit parents' ability to access digital resources regularly. This condition indicates that digital innovation in parenting must be understood within the broader context of infrastructure and social readiness. Digital tools may be promising, but their effectiveness depends on whether families have sufficient access, time, and technical ability to use them. In this regard, the findings support the argument that technology-based parenting programs must be adapted to local realities rather than implemented as universal solutions (Rochmawan et al., 2024; Yaksa et al., 2024).

Cultural acceptance was another important factor influencing the use of Kinedu. Some parents were hesitant to rely on digital applications because they feared that technology might weaken traditional parenting values or reduce emotional closeness with children. This concern suggests that digital parenting should be introduced as a complement to existing parenting practices, not as a replacement for local wisdom or family-based caregiving. Community support from posyandu cadres, early childhood educators, and local leaders is therefore essential to help parents understand the benefits and limitations of digital parenting. Such community-based support can bridge the gap between digital innovation and traditional parenting culture, making technology adoption more acceptable and sustainable.

Overall, the findings suggest that Kinedu has the potential to support parenting management in rural communities when used appropriately and contextually. The application helped parents become more structured, confident, and involved in providing developmental stimulation. However, its use remains influenced by digital literacy, internet access, cultural beliefs, and community support. Therefore, digital parenting programs in rural areas should be accompanied by parent education, technical assistance, and community-based mentoring. Future studies should involve more participants, multiple village contexts, and longer observation periods to examine whether the use of digital parenting applications leads to sustained changes in parenting practices and child development outcomes.

4. CONCLUSION

This study concludes that the Kinedu application supported parents in Gilang Village in managing digital parenting practices more systematically by helping them plan, organize, implement, and informally evaluate children's developmental stimulation at home. The main finding shows that Kinedu functioned as a supportive parenting guide rather than a substitute for parental roles, enabling parents to become more aware of age-appropriate activities, more confident in accompanying their children, and more structured in providing developmental stimulation. However, the use of Kinedu was influenced by several contextual challenges, including limited digital literacy, unstable internet connectivity, partial use of application features, and cultural hesitation toward technology-based parenting. This study is limited by its small number of participants, single-village setting, qualitative design, and focus on short-term parental experiences rather than long-term child development outcomes. Therefore, future research is recommended to involve larger and more diverse participant groups, apply mixed-methods or longitudinal designs, compare different rural and urban contexts, and examine the long-term effects of digital parenting applications on parenting practices, parent-child interaction, and children's cognitive, social, emotional, and motor development.

REFERENCES

Agus R, A. H., Bali, M. M. E. I., & Amaliyah, E. R. (2022). Parental Assistance Learning (Passing) dalam Mengembangkan Keterampilan Membaca Anak Usia Dini. *Jurnal Basicedu*, *6*(3), 4220–4229. https://doi.org/10.31004/basicedu.v6i3.2801

Amalia, F., Suriansyah, A., & Rafianti, W. R. (2024). Peran Orang Tua dalam Pendidikan Anak : Membangun Kolaborasi Efektif dengan Sekolah. *MARAS: Jurnal Penelitian Multidisplin*, *2*, 2217–2227.

Ambarwati, R., & Yuliantika, R. (2020). Efektivitas Terapi Menggambar Dan Mewarnai Berkelompok Terhadap Perkembangan Psikososial Anak Retardasi Mental. *Jurnal Keperawatan GSH*, *9*(2), 1–6.

Anshoriningsih, T., Taboer, M. A., & Jaya, I. (2025). Intervensi Dini Berbasis Kolaboratif Terhadap Hambatan Komunikasi Anak dengan Celah Bibir dan Langit-Langit: Pendekatan Studi Kasus Dalam Perspektif Vygotsky dan Bronfenbrenner. *Jurnal Locus Penelitian Dan Pengabdian*, *4*(9), 8463–8472. https://doi.org/10.58344/locus.v4i9.4758

Atiqah, N., Sulhan, A., Ardaniah, N. H., & Rahmadi, M. S. (2024). Behavior : Jurnal Pendidikan Bimbingan Konseling dan Psikologi Volume 1 No. 1 Mei 2024 Periodisasi perkembangan anak pada masa remaja : tinjauan psikologi. *Behavior: Jurnal Pendidikan Bimbingan Konseling Dan Psikologi, Volume 1*(1), 9–36.

Fajria, N., Mahendra, A. S., Setiani, M. F., & Roziqi, F. (2025). Digital Parenting Meningkatkan Perkembangan Anak Yang Berkualitas. *Journal of Creative Student Research Volume.3*, *2022*.

Hasnida, S. S., Adrian, R., & Siagian, N. A. (2024). Transformasi Pendidikan di Era Digital. In *Jurnal Bintang Pendidikan Indonesia* (Vol. 1, Issue 1). https://kumparan.com/aan-herdian89/transformasi-pendidikan-di-era-digital-1zG74Ilpzc4/4

Hefniy, H., Dinihari, A. N., Rozi, F., Aini, N., & Tunnaja, A. (2022). Management of Parenting Activities in Forming Character of Early Childhood. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*, *6*(4), 3169–3179. https://doi.org/10.31004/obsesi.v6i4.2065

Istianti, T., Halimah, L., Am, M. A., & Fauziani, L. (2023). Jurnal Pendidikan Progresif The Role of Parents in Improving the Social Emotional Development of Early Childhood : A Systematic Literature Review. *Jurnal Pendidikan Progresif*, *13*(3), 1074–1088. https://doi.org/10.23960/jpp.v13.i3.2023

Masrura, D., Setiyawan, A., & Bangun, K. (2024). Pengkajian pengembangan bahasa anak dengan pendekatan teori Vygotsky dan implikasinya dalam pembelajaran bahasa arab 1. *Jurnal Tarbiyah Islamiyah*, *9*(2), 313–325.

Maysara, S. R., & Yuliani. (2024). Pengasuhan Digital: Mengembangkan Nilai-nilai Sosial Anak Usia Dini melalui Penggunaan Media Digital. *Al-Muhadzab*, *01*(02), 114–124. https://www.jurnal.staidaf.ac.id/almuhadzab/article/view/420

Munawwaroh, I., Qushwa, F. G., & R, A. H. A. (2024). Pengembangan Career Adaptability Melalui Inovasi Sumber Daya Manusia. *EDUKASIA: Jurnal Pendidikan dan Pembelajaran*, *5*, 169–178.

Mundiri, A., Hasanah, U., & Baharun, H. (2022). The Mindful Parenting of Kyai in Pesantren. *AL-ISHLAH: Jurnal Pendidikan*, *14*(1), 469–478. https://doi.org/10.35445/alishlah.v14i1.1331

Musonda, P., Siwale, D., & Chibomba, D. K. (2025). Assessing the Effects of Different Parenting Styles . A Case Study of Mulenga Compound in Kitwe. *United International Journal for Research & Technology*, *06*(04), 313–327.

Nasution, F., Nasution, A. H., Utami, C. A., & Ritonga, M. I. (2024). Perkembangan Psikososial Pada Masa Kanak Kanak Awal. *Jurnal Pendidikan Sosial Dan Konseling*, *1*(4), 1117–1123.

Nilapancuran, M., Ruspanah, N., Ratuhanrasa, J., Siahaya, C., Kolatlena, E. P., Agama, I., & Negeri, K. (2025). Konsep Pembelajaran Anak Usia Dini di Era Digital dan Peran Orang Tua dalam Menghadapi Tantangannya. *CARONG Jurnal Pendidikan,Sosial Dan Humairoh*, *1*(4), 880–893.

R Agus Hasan Abu , Bali Iq El Mushfi Muhammad, M. D. (2020). Advertensi Kapabilitas Mengenal Angka Anak Usia Dini melalui Media Cartoon Card Numbering (CARING) Abu. *Jurnal Basicedu*, *5*(5), 3(2), 524–532. https://journal.uii.ac.id/ajie/article/view/971

Rochmawan, A. E., Nashir, M. J., Abbas, N., Hidayah, N., & Amin, L. H. (2024). Panduan Parenting Cerdas Keluarga Harmonis Pada Era Digital Smart Parenting Guide Building A Harmonious Family In The. *Al Basirah Jurnal Pengabdian Masyarakat*, *4*(November), 59–79.

Saleha, L., Baharun, H., & Trimelia Utami, W. (2022). Implementation of Digital Literacy to Develop Social Emotional in Early Childhood. *Indonesian Journal of Early Childhood Educational Research (IJECER)*, *1*(1), 1. https://doi.org/10.31958/ijecer.v1i1.5834

Saputra, W. A., & Fatkhurohman, I. (2023). Inovasi Digital Untuk Membangun keterampilan bahasa pada anak usia dini. *Amerta:Jurnal Ilmu Sosial Dan Humaniora*, *3*(3), 14–20.

Sari, R. P. abdurrahman. (2025). Strategi Hubungan Masyarakat untuk Meningkatkan Citra Lembaga di SMA Tunas Luhur. *Jurnal Educatio*, *11*(1), 143–149.

Shofiah, N., Falqahi A, R., Qodariaha, A., Sukma, A., & Shofiah, N. (2024). Menjadi Orang Tua Cerdas di Era Digital: Membangun Generasi Tangguh Melalui Sosialisasi Pengasuhan Anak. *Literasi Jurnal Pengabdian Masyarakat Dan Inovasi*, *4*(2), 188–195. https://doi.org/10.58466/literasi.v4i2.1591

Survia, Desty, B. R. (2024). Jurnal Magistra Perkembangan Emosional Anak Dalam Lingkungan Keluarga Broken Home : Perspektif Elizabeth B Stit Insida , 2 Tk Tiara School , Jakarta , Indonesia Abstrak Received Reviesed Pendahuluan Masa perkembangannya anak membutuhkan orang lain yang pa. *Jurnal Magistra Media Pengembangan Ilmu Pendidikan Dasar Dan Keislaman*, *15*, 1–10. https://doi.org/10.31942/mgs

Ulfa Masfufah, & Naila Naswa Salsabila. (2024). Memahami Pengasuhan Digital: Faktor Pendukung, dan Tantangan bagi Orang Tua. *Flourishing Journal*, *4*(8), 339–346. https://doi.org/10.17977/um070v4i82024p339-346

Windiasari, K., Rahmatillah, A. N., Rusdiah, N., Hasan, A., & Emi, A. R. (2025). Implementasi Sdm Melalui Program Sekolah Penggerak Dalam Pengembangan Guru Dan Keterlibatan Masyarakat. *AL MIKRAJ Jurnal Studi Islam Dan Humaniora*, *5*(3), 1–11.

Yaksa, R. A., Hamdi, M., Zulfikar, M., Lubis, A., & Ferdiansyah, M. (2024). Parenting Digital : Strategi Efektif Untuk Membimbing Anak Dalam Menggunakan Internet. *Wahana Dedikasi Jurnal Pkm Ilmu Kependidikan*, *7*(2).

Yulianingsih, W., Susilo, H., & Nugroho, R. (2020). Optimizing Golden Age Through Parenting in Saqo Kindegarten. *Atlantis Press*, *405*(Iclles 2019), 187–191.