

Collaboration Between Parents and Teachers in Building a Learning Ecosystem in the Digital Era

Hubbil Khair

Sekolah Tinggi Ilmu Tarbiyah Darul Ulum Kotabaru, Indonesia

*Corresponding Author: mwereriam@gmail.com

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Abstract:

The rapid growth of digital technology in the 21st century has transformed education into a more flexible, interactive, and sustainable learning ecosystem. This study explores the collaboration between parents and teachers in supporting digital-based learning in madrasahs, the challenges faced, and the strategies to overcome them. Using a qualitative case study design, data were collected through interviews, observations, and documentation involving teachers, parents, and school administrators. The findings show that teachers serve as learning designers, facilitators, evaluators, and role models, while parents act as companions, motivators, and supervisors who ensure the responsible use of technology. Challenges include limited parental digital literacy, unequal access to devices and internet, and ineffective communication. Solutions involve digital literacy training, the use of accessible communication platforms, and the development of collaborative programs between schools and parents. The study concludes that the success of digital learning depends not only on technology but also on human collaboration based on trust and shared responsibility, offering both theoretical and practical contributions to educational transformation in the digital era.

Key Words: Collaboration, Parents, Teachers, Learning Ecosystem, Digital era

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INTRODUCTION

The development of digital technology in the 21st century has had a significant impact on all aspects of life, including education. Digitization has transformed the way we learn, communicate, and interact within the education system (Shatunova et al., 2021). Platforms such as Learning Management Systems (LMS), online conferencing applications, educational social media, and open learning resources have created a more flexible and collaborative learning ecosystem (Munna & Hossain, 2024; Shurygin et al., 2021). However, the key challenge is how society, particularly the education sector, can adapt to these changes without losing human values and character (Taufik, 2020).

Although digital transformation has opened up significant opportunities in education, not everyone is prepared for these changes. Many teachers still struggle to adapt to digital learning, due to limited infrastructure and a lack of technological training (Kundu & Bej, 2021; Safta-Zecheria et al., 2020).

Additionally, most parents lack sufficient digital literacy to support their children's learning at home (Ayesha Afzal, Fariha Gul, 2024; Ellen Johanna Helsper, n.d.). Consequently, a gap exists between schools and homes in supporting effective technology-based learning.

The main problem facing the community is the lack of coordination between teachers and parents in establishing an effective learning ecosystem (Benoliel & Schechter, 2023). Without strong synergy, children tend to use technology solely for entertainment, rather than for learning. This research is important to explore collaborative strategies that can bridge this gap and ensure that digital education is aligned between the roles of schools and families.

Initial observations show that the implementation of digital learning in schools is often not accompanied by active parental involvement at home. Teachers use digital tools such as Google Classroom, Zoom, and WhatsApp Groups, but many parents remain passive, with communication between teachers and parents often limited to technical notifications rather than discussions of students' academic progress and character. Socioeconomic factors also worsen this situation, as not all families have access to adequate devices or internet connections.

Previous studies have highlighted the importance of collaboration in digital education. For example, Burhan Nudin et al. (2024) explained that synergy between parents and teachers can enhance children's character development in the technological era, while Yu (2022) emphasized the importance of digital literacy in supporting online learning effectiveness. However, most research has focused on the roles of teachers or parents individually, with little attention to the dynamics of collaboration between the two in building an integrated learning ecosystem.

This research addresses the gap in the literature by exploring how collaboration between parents and teachers can be effectively implemented in religious-based school environments, such as madrasas. These institutions have distinct social characteristics and religious values that require a different approach. This study contributes by offering a model of collaboration that is aligned with the needs of Indonesia's digital learning ecosystem, characterized by religious and humanistic values. The research also integrates digital literacy and social collaboration within the context of Islamic education, positioning parent-teacher collaboration as key to building a sustainable digital learning ecosystem.

RESEARCH METHOD

This research adopts a qualitative approach with a case study design, chosen to explore the subjective meanings and experiences of participants—teachers, parents, and students—regarding digital-based educational collaborations. This approach enables an in-depth examination of the complex social realities in their natural context, without manipulating variables. The case

study design is particularly suitable for understanding the "how" and "why" of a social phenomenon within a limited context, focusing on the collaboration between teachers and parents within a specific educational institution. This design allows the researcher to capture a detailed understanding of the forms of collaboration, obstacles, and strategies used to develop an effective digital learning ecosystem.

The study was conducted at Darul Ulum Kotabaru Islamic Junior High School (MTs), Bangkalan Regency, East Java, chosen for its religious-based approach to education and its integration of digital learning in response to the COVID-19 pandemic. This context offers a valuable opportunity to explore the dynamics of teacher-parent collaboration in the digitalization process. Additionally, the school serves a socioeconomically diverse community, allowing the researcher to examine variations in digital literacy levels among parents. Data collection involved in-depth semi-structured interviews with teachers, school principals, and parents, participant observation of teacher-parent interactions during digital learning activities, and a documentation study of school records and digital communications. These methods provided triangulated data to ensure a comprehensive and unbiased understanding of the collaborative practices in place.

For data analysis, the study employed the interactive model by Miles, Huberman, and Saldaña, which includes data condensation, data presentation, and drawing/verifying conclusions. The analysis involved filtering data from interviews, observations, and documents to identify patterns related to teacher-parent collaboration. To ensure the validity and reliability of the findings, the study used four strategies from Lincoln and Guba (1985): credibility (via triangulation and member checking), transferability (through thick descriptions of context), dependability (through systematic recording of the research process), and confirmability (by reflecting on the analysis process and consulting with academic advisors). These strategies helped maintain the trustworthiness of the research and provided an authentic picture of teacher-parent collaboration in digital learning contexts.

RESULT AND DISCUSSION

Result

The Role of Parents in the Digital Learning Ecosystem

In this research, the role of parents in the digital learning ecosystem is defined as their active involvement in supporting their children's learning through digital technology. This role includes four key dimensions: mentoring (guiding, monitoring, and assisting during online learning), motivation (providing emotional and moral support), facilitation (ensuring access to digital resources and a conducive learning environment), and teaching digital values and ethics. Indicators of successful parental involvement include daily

mentoring, participation in school communications, providing learning motivation, and instilling digital literacy and character at home.

Interviews with parents revealed various forms of involvement. One parent of an eighth-grade student described their role as both a companion and a technical facilitator, indicating that even with limited digital literacy, they are committed to monitoring their child's learning. Another parent of a seventh-grade student, while not directly involved in learning, focused on providing resources and motivational support. This suggests that parental involvement can vary based on time, skills, and availability, but still has a significant impact on children's learning progress.

Observation of class WhatsApp groups revealed that most parents read messages but only a small percentage actively responded or engaged in discussions. The level of participation increased when the topics were practical and relevant to the parents, such as managing study time or ensuring children's safety online. This indicates that simple communication tools like WhatsApp can serve as effective channels for parent-teacher collaboration, but active participation depends on the relevance of the content and the technical skills of the parents.

Overall, parents' roles in the digital learning ecosystem vary in form and depth of involvement, from active companions and facilitators to remote motivators and resource providers. Despite challenges like limited digital literacy and time constraints, parents remain committed to supporting their children's education. The study highlights the importance of empowering parents' digital literacy and fostering two-way communication between teachers and parents to create an effective and supportive digital learning environment.

Table 1. Interview Excerpts and Indicators of Parental Roles

Informant Position	Interview Excerpt	Parental Role Indicators
Parent of a Grade VIII Student	"I usually accompany my children during Zoom sessions... I also help check WhatsApp groups and their data quota."	Situational support; Technical facilitator; Limited digital literacy
Parent of a Grade VII Student	"I make sure my children have data quota and always encourage them every night."	Resource facilitator; Moral motivator; Distance communication
Grade VIII Homeroom Teacher	"Parents who participate in parenting classes are more active in WhatsApp groups and often ask about their children's progress."	Digital training effects; Increased participation; Collaborative communication

Table 1 illustrates how parental involvement, roles, conditions, and impacts are interrelated. Parents of eighth-grade students serve as situational facilitators, actively supporting their children despite limited devices and digital skills. In contrast, parents of seventh-grade students act as moral facilitators, offering motivational support without direct involvement but still having a

strong psychological impact. Teacher observations indicate that parenting classes can improve parents' digital participation. The key factors influencing effective collaboration are digital literacy, time availability, and emotional support.

The data shows that higher digital literacy and better communication between schools and parents result in stronger involvement in the digital learning ecosystem. However, for parents with limited resources, moral support becomes their primary form of contribution. To enhance collaboration, madrasas should implement needs-based programs, such as digital literacy training, shared devices, and accessible online communication platforms.

Overall, the dominant collaboration pattern is adaptive and values-based, where parents play diverse roles but aim to support their children's success in digital learning. Successful collaboration hinges on three aspects: effective two-way communication between teachers and parents, improving digital literacy, and incorporating Islamic values into online learning. Strengthening these aspects will create a digital learning ecosystem that fosters both academic growth and moral integrity in children.

The Role of Teachers in the Digital Learning Ecosystem

The role of teachers in the digital learning ecosystem is defined by their involvement in managing and developing technology-based learning processes to ensure they remain meaningful, effective, and inclusive. This role is reflected in four main aspects: digital learning designer, interaction facilitator, digital evaluator, and inspirator/role model. These roles are essential in creating a participatory and sustainable digital learning environment, with teachers not only delivering knowledge but also fostering innovation, collaboration, and ethical behavior in technology use.

Teachers act as digital learning designers, adapting to technological changes to create engaging and interactive learning materials, such as videos and quizzes. Despite initial challenges in mastering these technologies, teachers show a strong commitment to innovation and improving the quality of learning. Their adaptability to new digital tools illustrates a shift in teacher professionalism, from traditional teaching to becoming creative learning media developers.

As facilitators and evaluators, teachers use digital platforms like LMS and WhatsApp to connect with students and parents. They have managed to streamline communication with parents, although challenges such as time management and creating diverse digital assessments remain. Observations confirm that teachers actively use platforms like Google Classroom and Zoom, not only for teaching but also to promote ethical behavior and instill values such as academic integrity in students.

Overall, the data shows that teachers' roles in the digital learning ecosystem are multifaceted, encompassing pedagogical creativity, social connectivity, evaluative adaptation, and digital role modeling. These qualities enable teachers to not only deliver content but also guide students and parents

through the digital learning process, while maintaining ethical standards. The success of teachers in this digital transformation is rooted in their ability to adapt to technology, collaborate effectively, and instill moral values in students.

Table 2. Interview Excerpts and Indicators of Teacher Roles in Digital Learning

Informant Position	Interview Excerpt	Teacher Role Indicators
Indonesian Language Teacher	"I create materials through short videos and interactive quizzes to keep the kids engaged."	Digital learning designer; Innovative and adaptive; Developing technological literacy
Deputy Curriculum Head	"Teachers actively use the LMS and frequently communicate with parents through digital media."	Interaction facilitator; Digital evaluator; Collaboration enhancer
Teacher Observation Results (Field)	Teachers emphasize digital etiquette and create a regular Zoom schedule.	Digital inspirator and role model; Strengtheners of student character values

Table 2 highlights the strong connection between teachers' pedagogical roles and the success of the digital learning ecosystem. The Indonesian language teacher demonstrated the role of a creative and adaptive learning designer, showing that innovation involves more than just using digital tools, but also delivering meaningful learning experiences. The Vice Principal of Curriculum emphasized teachers' roles as interaction facilitators, building collaboration through digital communication. Observations confirmed that teachers also serve as inspirators, instilling moral values and promoting digital ethics, guiding students in their online behavior. This suggests that teachers' technological competence is closely tied to their professionalism and humanism, balancing technological advancements with character development.

The research reveals that teachers' roles in the digital learning ecosystem are evolving and multidimensional. Teachers are transitioning from traditional information transmitters to facilitators, designers, evaluators, and inspirators, blending technological skills with human values. Three key trends emerged: teachers' increasing ability to integrate learning technology creatively, the growth of collaborative communication among teachers, students, and parents, and the promotion of digital ethics through teacher role models. This transformation underscores that the digitalization of education requires competent, character-driven teachers who inspire both academically and ethically, ensuring a balanced and meaningful learning experience.

Parent-Teacher Collaboration

Parent-teacher collaboration in the digital learning ecosystem is defined as a planned, sustainable partnership that utilizes technology to support both academic and character development. This collaboration is built on three main aspects: intensive communication, clear role division, and collaborative

programs. Teachers manage academics, while parents act as mentors, reinforcing moral values at home. In the madrasah context, this partnership also focuses on reinforcing Islamic values and digital ethics, crucial for character education in the modern era.

Interviews with teachers and parents reveal that digital collaboration has become more interactive and responsive. For example, a Grade VIII teacher noted how using WhatsApp groups for communication made it easier to share student progress and address learning difficulties. A parent also mentioned increased involvement through online meetings and digital literacy programs, which allowed them to better supervise their children's use of technology. This shows that collaboration is no longer a one-way communication but a participatory process where both teachers and parents contribute to the child's development.

Observations at MTs Darul Ulum highlighted the effectiveness of digital communication in fostering teacher-parent collaboration. Teachers regularly use WhatsApp groups to share assignments and schedules, and the school organizes bi-monthly Zoom meetings to discuss student progress. Additionally, parents actively participate in parenting classes, which provide guidance on using monitoring devices and reinforcing Islamic values. These activities have fostered high engagement among parents, creating a supportive environment for students both at school and home.

Based on the data, a key pattern of Digital Synergy Based on Educational Partnerships has emerged. This pattern features three characteristics: ongoing two-way communication through digital platforms, balanced roles where teachers focus on academics and parents on character development, and active participation in collaborative activities. While challenges such as varying digital literacy and time constraints remain, the overall success of this collaboration relies on shared responsibility, trust, and a commitment to guiding students together.

Table 3. Parent-Teacher Collaboration Indicators in Digital Learning

Informant Position	Interview Excerpt	Collaboration Indicators
Grade VIII Teacher	"Communication with parents is easier through WhatsApp groups. We find solutions together if our children are having difficulty learning."	Intensive digital-based communication; Two-way collaboration; High responsiveness
Parent	"The school holds online meetings, and we are taught how to assist our children using their phones."	Active parental participation; Family digital literacy; Emotional and moral support
Field Observation	The school regularly holds parenting classes and virtual meetings to discuss child development.	Collaborative programs; Educational synergy between home and school; Sustainable collaboration

The data in the Table shows that parent-teacher collaboration is evolving from traditional patterns to adaptive digital partnerships. Ms. Rina exemplifies the effectiveness of two-way communication, which enables the rapid and collaborative resolution of learning problems. Parents emphasized the active role of parents, who are now more involved in their children's digital learning through training and mentoring. Field observations demonstrate the sustainability of collaboration through concrete programs that strengthen emotional and professional relationships.

This interpretation confirms that digital technology has shifted the paradigm of the relationship between schools and families. Teachers no longer merely "teach," but also become communication facilitators and coordinators of collaborative activities. Conversely, parents are not merely supervisors but also actively involved in the educational process. This synergy creates a more egalitarian, participatory, and transparent relationship, which has a direct impact on improving student motivation and character.

The research results reveal a general pattern that indicates parent-teacher collaboration in the digital era is integrative, communicative, and sustainable. Integrative because it unites academic, moral, and technological roles within a unified educational system. Communicative because interactions are intensive and open through various digital media. Sustainable because collaboration does not stop at formal activities, but instead becomes a shared culture between schools and families. Through this collaboration, the digital learning ecosystem in madrasas becomes more vibrant, responsive, and humane. Education is no longer viewed as a one-sided responsibility, but rather the result of a collaborative effort between teachers, parents, and the community. Thus, digital collaboration not only enhances learning effectiveness but also strengthens students' character and spirituality amidst the tide of technological modernization.

Challenges in Collaboration

Challenges in parent-teacher collaboration in the digital learning ecosystem are primarily caused by limited parental digital literacy, unequal access to technology, and ineffective communication. Many parents struggle to understand and use online learning tools, and the lack of sufficient internet access further complicates their involvement. These issues are interrelated and have a significant impact on the success of educational collaboration in madrasahs, creating barriers not only in technical aspects but also in cultural and social dimensions that affect the participation of both parents and teachers in supporting children's education.

Interviews with teachers and parents reveal how these challenges manifest in everyday interactions. Teachers often encounter difficulties when parents are unfamiliar with learning platforms like Google Classroom or struggle to access the internet, resulting in administrative burdens such as sending

assignments individually. Additionally, busy work schedules lead to communication gaps, with parents unable to respond promptly to teacher messages, causing misunderstandings. These issues emphasize the need for a more flexible, transparent, and empathetic communication system that accounts for both parents' time constraints and the necessity of their involvement in their children's education.

Observations at MTs Darul Ulum confirm the presence of a digital divide, with some parents actively participating while others remain passive or struggle with technical issues. Despite schools' efforts to utilize digital media for communication, the unequal participation highlights the need for better parental empowerment through digital literacy training and improved infrastructure. The overall findings reveal a pattern of Digital Asymmetry in Educational Collaboration, where schools are advancing in digital transformation, but families are still adapting. To address these challenges, schools must bridge the gap by helping parents become equal partners in the digital learning process, fostering a more collaborative and adaptive approach.

Table 4. Interview Excerpts and Indicators of Challenges to Parent-Teacher Collaboration

Informant Position	Interview Excerpt	Challenge Indicators
Grade IX Teacher	“Many parents still don't understand how to use Google Classroom. Sometimes I help them send assignments via WhatsApp.”	Digital literacy limitations; Technology gap; Teacher administrative burden
Parent	“I work all day, and sometimes I only see messages at night, and teachers think I don't care.”	Time constraints; Ineffective communication; Negative perceptions between parties
Field Observation	Some parents are inactive in WhatsApp groups and online meetings due to limited signal and time.	Uneven involvement; Participation gap; Structural barriers

Table 4 highlights the multidimensional challenges of parent-teacher collaboration, including technical, social, and structural factors. A ninth-grade teacher emphasized that low digital literacy forces teachers to take on extra technical assistance, while parents mentioned the impact of busy schedules and delayed responses on communication. Field observations revealed unequal participation due to economic and network disparities. This suggests that resolving collaboration challenges requires a balanced approach, combining technical solutions like digital training with social strategies such as empathy-based communication and flexible scheduling. Additionally, school policies and government support are crucial to addressing digital infrastructure gaps.

The general pattern emerging from the research shows an imbalance in readiness and adaptation to digital collaboration, with teachers more advanced in digital learning than some parents. While this creates communication and participation challenges, it also presents an opportunity to strengthen

collaboration between schools and families. Teachers are becoming more willing to assist parents, and parents are increasingly open to learning. By focusing on digital literacy training, improving two-way communication, and ensuring inclusive facilities, the digital learning ecosystem in madrasahs can become more equitable, participatory, and empowering for all involved.

Possible Solutions

Operational solutions for parent-teacher collaboration focus on systematic strategies that aim to overcome barriers within the digital learning ecosystem. These solutions include initiatives such as improving parents' digital literacy through ongoing training and mentoring, optimizing communication platforms like WhatsApp and Telegram, fostering a culture of open communication, and implementing collaborative programs that actively involve both teachers and parents. In the context of madrasahs, these strategies not only address technical barriers but also emphasize Islamic values, togetherness, and moral responsibility in children's education in the digital era.

One of the key strategies discussed is digital literacy training for parents. An interview with a Grade VIII Homeroom Teacher revealed that short training sessions on using platforms like LMS and Zoom led to positive outcomes, as parents became more confident in supporting their children's online learning. This increased digital competency not only enhanced parents' technical skills but also fostered a greater sense of involvement in their children's academic progress.

Additionally, the use of simple communication platforms such as WhatsApp has proven effective in promoting collaboration. A parent of a Grade VIII student shared their satisfaction with the school's frequent online meetings and WhatsApp groups, highlighting the ease of communication and quick access to information. This example underscores that successful digital collaboration does not necessarily require sophisticated technology; rather, it depends on adapting communication media to the capabilities of parents, ensuring inclusivity and timely exchanges of information.

Observations at MTs Darul Ulum further demonstrate how collaborative strategies go beyond technical solutions to include social and emotional aspects. Teachers regularly create video tutorials for parents on using the LMS and Zoom, and parenting classes are held every two months to discuss topics like digital literacy and ethical device usage. These initiatives not only equip parents with technical skills but also create a platform for open discussions between teachers and parents, fostering trust and reducing the psychological distance between both parties.

The research suggests that overcoming collaboration challenges requires a combination of digital literacy training, simple communication tools, open communication practices, and collaborative programs. Empowering parents with digital literacy enables them to actively engage in their children's education, while easy-to-use communication platforms ensure that all parties can share

information effectively. Furthermore, cultivating a culture of open communication and mutual trust strengthens the bond between parents and teachers, creating a collaborative environment that promotes the success of digital learning.

From the findings, a new pattern of collaborative transformation emerges. This pattern shifts the relationship between teachers and parents from a reactive to a proactive one, where digital empowerment and humanistic communication are central. Through digital training, teachers empower parents to become partners in education, while humanistic communication, based on empathy and simplicity, strengthens this partnership. Collaborative programs further bring both parties together in both academic and social contexts, creating a participatory learning environment that extends beyond the classroom.

The overall pattern identified is one of transformative collaboration based on literacy and empathy. Schools empower parents as strategic partners, enhancing their involvement in the educational process. By fostering open communication, providing digital literacy training, and engaging in collaborative programs, schools create a dynamic and supportive network. This approach shows that technology is a tool to facilitate collaboration, not the end goal, and that building a humane, participatory educational culture requires the active involvement of both teachers and parents.

Discussion

The discussion of the results of this study indicates that collaboration between parents and teachers in the digital learning ecosystem is a fundamental element in building an effective, adaptive, and character-based educational process. Based on the research, it was found that the role of parents is no longer limited to providing moral support, but has evolved into facilitators, motivators, and monitors of children's digital ethics. These findings emphasize that parental involvement in the digital era must encompass both technological and emotional support, enabling children to use digital devices productively (Sukisno et al., 2024; Wang et al., 2022). However, this study goes further by emphasizing the spiritual dimension and Islamic character of parents' roles, which have not been widely emphasized in previous research. This means that in the madrasah context, parents' digital literacy encompasses not only technical skills but also the ability to instill moral values in children's digital activities. Theoretically, this expands the concept of digital parenting to digital moral guidance, emphasizing that the digital educational ecosystem needs to be balanced with ethical and spiritual values.

Findings on the role of teachers in the digital learning ecosystem suggest a shift from being information providers to facilitators and inspirers. Teachers act as digital learning designers, interaction facilitators, evaluators, and role models of digital ethics. This aligns with the Technological Pedagogical Content Knowledge (TPACK) theory, which requires teachers to integrate mastery of

technology, pedagogy, and content to ensure meaningful learning (Absari et al., 2020). The research findings also reinforce Prensky's view that teachers must be digital immigrants who actively adapt to technology to effectively reach digital natives, such as today's students (Cahyono, et al., 2022). However, this research finding adds a new context: teachers not only adopt technology but also instill Islamic moral values in its use. The theoretical implications of these results enrich the TPACK model with a dimension of religious character. In contrast, the practical implications require schools to continue training teachers in values-based digital literacy (Afandi, 2024).

In terms of collaboration between parents and teachers, research results indicate that the success of a digital learning ecosystem is achieved through intensive communication, a balanced division of roles, and collaborative programs. These findings confirm that the synergistic relationship between home and school forms a learning ecosystem that supports the holistic growth and development of students (Hasanah, & Supriyanto, 2023; Arbi, & Amrullah, 2024). However, this study differs in that it shows that digital collaboration in madrasas is not only academically oriented but also strengthens religious and social values. The theoretical implications extend Bronfenbrenner's Ecological Systems theory, where interactions between microsystems (such as family and school) in a digital context produce a more dynamic and adaptive learning environment (Sugitanata, 2023). The practical implication is the need for a structured digital-based school-parent partnership model, where teachers act as facilitators and parents as active educational partners.

Challenges to collaboration identified in the field include limited parental digital literacy, gaps in access to technology, and communication barriers. This situation is consistent with the digital divide being a significant hindrance to online education (Hartantio, et al., 2023; Zuhri, et al., 2024). However, this study provides a new perspective, suggesting that these barriers are also influenced by socioeconomic and cultural factors unique to the madrasah context. The theoretical implications suggest that the digital divide theory cannot be understood solely from the perspective of technology access but must also consider the values and communication patterns between schools and families. Practical implications encourage the need for more inclusive education policies, such as digital training programs for parents and equitable support for technology facilities in community-based schools.

As a follow-up, this study provides effective collaborative solutions through digital literacy training for parents, utilizing simple communication media, fostering a culture of open communication, and implementing collaborative school-parent programs. This solution emphasizes the importance of empowering school communities in facing the challenges of educational digitalization (Nasir, et al., 2023; Sepúlveda, 2020). However, this study adds a dimension of empathy and humanization to the implementation of solutions, where technology is positioned not as an end in itself, but as a tool to strengthen

human relationships between teachers, parents, and students. Its theoretical implications confirm the emergence of a new paradigm called digital humanism in education, an approach that balances technological advancements with humanitarian and spiritual values. Practically, this study recommends that schools and Islamic schools (madrasahs) establish a sustainable digital literacy training system and incorporate empathy-based communication into their educational culture. Thus, collaboration between parents and teachers can continue to develop into a strong foundation for a holistic, ethical, and character-based digital learning ecosystem.

CONCLUSION

This study highlights that successful digital learning is rooted in strong collaboration between parents and teachers, rather than the mere availability of technology. The study reveals that while technology plays a significant role, the synergy between home and school—encompassing social, emotional, and spiritual support—is key. Parents serve as companions and motivators, while teachers act as designers and role models of digital ethics. The findings demonstrate that technology is a tool, but educational success is ultimately determined by the quality of relationships that support it, fostering academically intelligent students with Islamic values, digital literacy, and resilience.

From a theoretical standpoint, the research contributes to the understanding of the digital learning ecosystem, enriching the TPACK framework with Islamic moral values. It introduces the concept of Digital Humanism in Education, which integrates technological advancements with humanitarian and spiritual values. Practically, the study provides a model for collaboration between schools and families, advocating for digital literacy programs, inclusive communication, and character-building initiatives. While the study is limited by its location and methodology, it suggests that future research should include diverse settings and employ mixed methods to further explore collaboration patterns and external factors influencing digital learning.

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