Education and Sociedad Journal
Vol. 1 No. 2 (2024) : 53-61
Available online at https://serambi.org/index.php/esj

The Role of Technology in Improving Early Childhood Social Skills

Suryaningsih[1]✉, Eny Nur Aisyah[2]
[1,2]Universitas Negeri Malang, East Java, Indonesia

Abstract

This study aims to analyze the role of technology in improving early childhood social skills in Early Childhood Education. This study departs from the increasing use of technology in early childhood education and the debate about its impact on children's social interactions. Although technology has great potential in supporting collaborative learning, its effectiveness in building children's social skills still needs further research. This study uses a qualitative approach with a descriptive research type, with data collection techniques carried out through interviews with teachers, parents, and children, as well as direct observation in the classroom and documentation related to the use of technology in learning. The results of the study indicate that the application of technology in collaborative learning can improve children's communication, cooperation, and social interaction skills. The findings also reveal that the role of parents and teachers is crucial in directing the use of technology to continue to support healthy social interactions. This study is expected to provide a deeper understanding of how technology can be optimized in early childhood education to strengthen their social skills.

Keywords: Technology, Social Skills, Early Childhood Education, Collaborative Learning, Parental Role

Article History:
Received: January 2024; Revised: March 2024; Accepted: May 2024
✉**Correspondence Author:** suryaningsih.2401548@students.um.ac.id
DOI: https://doi.org/10.61987/edsojou.v1i2.598
How to Cite:
Suryaningsih, S., & Aisyah, E. N. (2024). The Role of Technology in Improving Early Childhood Social Skills. *Education and Sociedad Journal, 1*(2), 53-61.

INTRODUCTION

Technological developments have brought significant changes to various aspects of life, including early childhood education(Szymkowiak et al., 2021). The use of technology in education is increasing, especially in supporting children's social development(Haleem et al., 2022; Zhang & Chen, 2024). Digital technologies such as interactive applications, digital books, and online learning platforms have been used to improve early childhood social skills through group collaboration, communication, and emotional management(Damayanti et al., 2023). However, there is still debate about the effectiveness of technology in building healthy social interactions for children. With the rapid development of technology, early childhood education must adapt to these changes in order to remain relevant and effective.

Digital applications can improve children's communication and collaboration skills in groups(Agustina et al., 2023; Su & Yang, 2023). Sari et al. (2024) highlighted that children who use interaction-based learning applications are better able to develop listening skills and share roles in discussions. Technology can strengthen social skills if applied in project-based learning methods(Laakso et al., 2021; Papadakis, 2022). A study by Xiong et al. (2022) showed that the use of online learning platforms increases children's confidence in speaking and expressing opinions. Technology supported by the right pedagogical approach can increase positive interactions in the classroom(Lee et al., 2022; Trost & Brookes, 2021). Booton et al. (2023) emphasized that digital-

based learning can encourage children to show empathy and social sensitivity. Morris et al. (2021) showed that parental involvement in the use of technology improves children's understanding of social norms and healthy interactions.

The use of technology to improve the social skills of early childhood, there is still a gap in understanding how technological interactions in collaborative learning can be optimally applied in the school environment. Most previous studies have focused on the use of technology in individual learning, while the impact of technology on group interactions of early childhood has not been sufficiently explored. This study attempts to fill this gap by examining how the use of technology in group-based learning can contribute to improving children's social skills in early childhood education. This study also presents a new perspective by examining the role of teachers and parents in supporting the implementation of technology in early childhood education environments.

This study aims to analyze how technology can be used to improve the social skills of early childhood in the school environment, especially in Plus Wahidiyah, Banjarsari-Dangangan, Madiun. The main focus of this study is to explore how technology helps children communicate and work together in group assignments; second, how the role of parents and teachers in guiding children to use technology effectively; and third, how technology can be used to create a learning environment that supports the development of children's social interactions. By exploring these aspects, this study is expected to provide more concrete recommendations in the use of technology to improve early childhood social skills.

The importance of this study lies in its contribution to understanding how technology can be an effective tool in developing early childhood social skills in the school environment. However, uncontrolled use of technology can also have a negative impact on children's social interactions. Therefore, this study provides guidance for educators and parents in utilizing technology optimally to support children's social development. By combining the right technological and pedagogical approaches, it is hoped that children can gain maximum benefits from technology, both in academic and social aspects. The results of this study are also expected to provide insight for education policy makers in designing effective technology-based learning strategies for early childhood.

RESEARCH METHOD

This research was conducted at Early Childhood Education (PAUD) Plus Wahidiyah, Banjarsari Dangangan Village, Madiun, with a focus on the use of technology in improving children's social skills. The approach used in this study is a qualitative approach with a descriptive research type(Pregoner, 2024). This method was chosen to gain an in-depth understanding of how technology is applied in learning and how it impacts children's social development. With a descriptive method, this study observes natural phenomena and documents how children's social interactions develop through the use of technology in the school environment.

Data collection techniques in this study were carried out through three main methods: interviews, observations, and documentation. Interviews were conducted with teachers, parents, and children to understand their experiences in using technology as part of social learning. Observations were conducted directly in the classroom to see how children interact when using technology, both in individual and group tasks. Documentation includes data collection from class notes, video recordings of learning, and child development reports collected by teachers and staff of PAUD Plus Wahidiyah.

Data analysis in this study uses the Miles and Huberman interactive model, which consists of

three main stages: data reduction, data presentation, and drawing conclusions. In the data reduction stage, information that has been collected from interviews, observations, and documentation is selected, categorized, and simplified to find patterns that are relevant to the research objectives. Furthermore, the data is presented in the form of descriptive narratives, tables, and other visualizations to assist in understanding the research findings. Finally, conclusions are drawn based on the results of the analysis, by identifying the relationship between the use of technology and the improvement of children's social skills(Taherdoost, 2022). With this approach, research can provide a clear and comprehensive picture of the implications of technology in the social development of early childhood.

FINDINGS AND DISCUSSION

Technology for Language and Communication Development

Language and communication development is an important aspect of early childhood education. Technological advancements offer a variety of innovations in learning, including storytelling apps and interactive digital books that can enrich vocabulary and improve speaking and listening skills. This research was conducted at Early Childhood Education (PAUD) Plus Wahidiyah, Banjarsari Dangangan Village, Madiun, with the aim of analyzing the impact of using technology in early childhood language learning. The findings show that the use of digital applications has a positive impact on children's communication skills, especially in terms of improving vocabulary, understanding social situations, and speaking more fluently.

Children exposed to storytelling-based apps and interactive digital books had significant improvements in speaking skills and understanding social contexts in communication. Teachers at PAUD Plus Wahidiyah use tablet devices and projectors to display interactive digital stories. The use of this app provides a more engaging learning experience and increases children's active participation in group discussions. In addition, children also showed improvement in the ability to connect words with pictures and understand intonation and expressions in conversation.

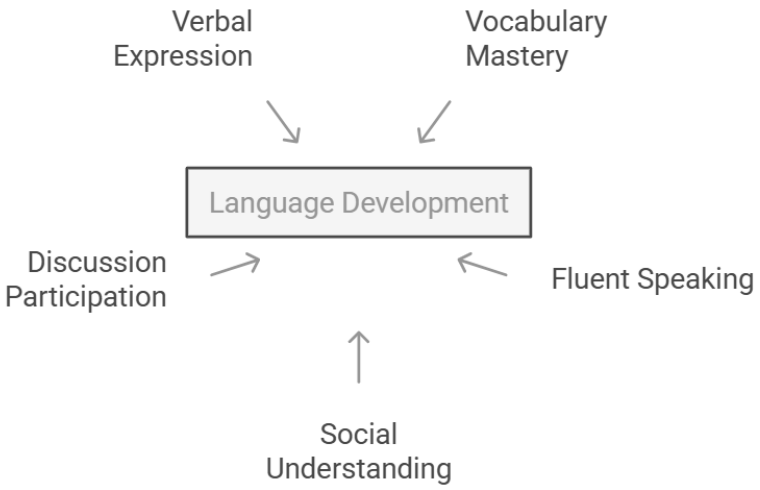

Figure 1. Aspects of Language Development

Figure 1 illustrates the development of language including several important aspects that are interrelated. The mastery of the new vocabulary allows one to express ideas more precisely and richly. The ability to speak fluently reflects the skill of stringing words and conveying messages effectively. Understanding social situations helps individuals adjust their language style according to the context and the interlocutor. Participation in discussions shows the ability to express opinions

and understand the views of others. In addition, verbal expressions and intonation play a role in adding meaning and emotion in communication, so that the message conveyed is clearer and more interesting.

Digital technology can contribute positively to improving language and communication skills in early childhood. The improvement in these indicators shows that children who use storytelling apps and interactive digital books benefit more than conventional methods. This interpretation shows that technology-based learning can be used as a complement to traditional learning methods to improve the effectiveness of early childhood education.

The Role of Parents and Caregivers in Facilitating the Use of Technology

The role of parents and caregivers in accompanying children using technology is crucial in shaping children's understanding and attitudes towards the digital world. This research was conducted at Early Childhood Education (PAUD) Plus Wahidiyah, Banjarsari Dangangan Village, Madiun, to examine the extent of the involvement of parents and caregivers in the use of technology by children. Preliminary findings show that children who receive guidance from parents in using technology are better able to understand and utilize digital devices positively compared to those who receive less assistance.

The results of the study revealed that parents and caregivers who actively assist children in using technology provide significant benefits in the development of children's digital literacy. Parent involvement includes discussions about digital content, monitoring the time of use of technology, and explanations of internet etiquette. In many cases, children who receive good assistance are able to distinguish educational content from entertainment content alone and understand the risks of using the internet independently. In addition, parental participation in technology-based activities also strengthens the emotional bond between children and families.

Table 1. The Role of Parents in Facilitating the Use of Technology

Indicators of the Role of Parents	Description
Supervision of the use of technology	Parents set the duration and type of content that children consume.
Discussion about digital content	Parents actively explain and discuss the content of the media consumed by their children.
Assistance in the use of educational applications	Parents are involved in the use of education-based apps to maximize the benefits of learning.
Restrict access to inappropriate content	Parents apply controls on children's access to content that is not appropriate for their age.
Introduction to digital ethics and cybersecurity	Children are given a basic understanding of digital security and appropriate behavior in cyberspace.

Table 1 shows that the role of parents in accompanying children is very broad and covers various important aspects in the use of technology. Not only limiting screen time, but also playing a role in guiding children in choosing and understanding digital content. In addition, parents who actively accompany their children in using educational applications have a greater impact on children's cognitive and social development. Supervision and restriction of access to inappropriate content also play a role in protecting children from the negative impact of the digital world.

The role of parents in accompanying children in the use of technology is very important to build healthy digital literacy. Children who receive parental assistance are more able to optimize technology for educational purposes than children who receive less guidance. With parental involvement, children better understand the importance of limitations in the use of technology and are able to adopt more responsible digital habits.

Implications of Technology on Social Skills in the School Environment

Technology is playing an increasingly important role in early childhood education, especially in supporting the development of social skills in school settings. Technology-based collaborative learning has been implemented in various educational institutions, including PAUD Plus Wahidiyah, Banjarsari Dangangan Village, Madiun. This study examines how the application of technology, such as learning applications and communication platforms, contributes to the improvement of children's cooperation, communication, and social interaction skills. Early findings suggest that technology can strengthen children's social skills by encouraging group work and improving their ability to share, communicate, and solve problems together.

Children who use technology in group learning activities have an easier time understanding the concept of cooperation and effective communication. Teachers at PAUD Plus Wahidiyah apply the use of digital devices, such as tablets and interactive projectors, to teach social skills in the context of educational games and joint projects. Children who participated in this activity showed improvement in interacting with peers, sharing roles in group tasks, and understanding the importance of coordination in completing tasks together. In addition, technology also provides opportunities for children to interact with more friends through online learning platforms that allow them to speak and share ideas more widely.

The findings of interviews with teachers stated, "we see that the use of technology in collaborative learning is very helpful for children in developing social skills. They learn how to work in a team, discuss ideas, and understand their friend's point of view. For example, in an educational app-based project, they have to share tasks and communicate to solve challenges." One of the parents of the child's guardian said, "I was initially worried that the children would only focus on gadgets without any direct interaction. However, after seeing how teachers are leveraging technology for group projects, I realized that my child is learning how to communicate better and becoming more confident in speaking in front of his peers."

Interview data and observations in the classroom show that technology has facilitated various aspects of children's social skills, especially in cooperation, communication, and interpersonal interaction. Children are more active in group discussions when using interaction-based apps, such as educational games or joint project simulations. They learn to listen, give their opinions, and adjust to their friends in achieving common goals. In addition, teachers act as facilitators who guide children to use technology wisely to support the development of interpersonal skills.

Technology can be an effective tool in developing early childhood social skills if applied in the right way. Digital devices not only function as a learning medium, but also as a means of interaction that allows children to be more active in participating in groups. With the guidance of teachers and parents, technology can help children understand the importance of cooperation, communication, and empathy in interacting with peers.

Discussion

The analysis of this study shows that technology is not only a learning aid, but also a facilitator of more effective interactions in early childhood education. Significant improvements in vocabulary and communication show that digital applications are able to overcome obstacles in conventional learning, such as limited teaching materials and lack of variety in teaching methods(Dias & Victor, 2022; Kaimara et al., 2021). In addition, children are more enthusiastic about learning when they are provided with interactive and fun experiences through technology. The findings of this study are supported by various previous studies. Research Sundqvist et al.

(2021) shows that children exposed to digital applications have faster language development compared to traditional methods. Research by Şimşek and Erdoğan (2021) also found that the use of technology in early childhood learning can increase learning participation and motivation.

Digital storytelling can improve children's narrative comprehension and verbal expression. Research by Biynazarova et al. (2024) also confirms that interactive applications can help children understand social contexts through digital role-playing experiences. Digital technology can help children develop better listening skills(Alrehaili & Al Osman, 2022). A study by Su and Zhong (2022) confirms that education-based technology can be an effective tool to improve early literacy if applied with the assistance of parents or teachers. Technology plays a crucial role in improving early childhood language and communication skills. However, its effectiveness depends largely on how the technology is used and the involvement of educators in the learning process.

The effectiveness of technology use in early childhood is greatly influenced by parental involvement. If parents only provide access without assistance, children tend to use technology for entertainment alone without considering the educational benefits. However, when parents are active in guiding, limiting, and discussing with children about technology, children have a more critical and ethical understanding of its use. Therefore, education policies for parents regarding digital literacy need to be implemented so that children can grow up in a healthy digital environment(Al-Hail et al., 2021; Syakhrani & Aslan, 2024). A study by Furusa et al. (2021) shows that parental involvement in the use of technology helps children understand the digital world more responsibly. Parental interaction in the use of technology has a positive impact on children's communication skills. A study from Xiong et al. (2022) shows that children who get parental assistance in digital activities tend to be more creative and able to think critically.

Parents who adopt a positive approach to the use of technology help children understand the limitations of using digital devices. The results of research by Martzoukou (2022) show that parents who guide children in reading digital books can improve children's narrative comprehension better compared to printed books. A study by Gür and Türel (2022) shows that children who use educational apps with their parents experience more improvements in cognitive skills than those who use technology alone. The role of parents in accompanying children in the use of technology not only functions as a supervisor, but also as an effective learning facilitator(Rahimah & Koto, 2022). So, parental involvement needs to be strengthened to ensure that children can access technology in a positive and educational way.

The success of technology in improving social skills is highly dependent on the method of its application. If technology is used as a tool to support interaction between individuals and cooperation in group tasks, then the impact will be very positive. However, if technology is only used individually without direct interaction, then children are at risk of experiencing limitations in their social development. Thus, the active involvement of teachers and parents is very important in ensuring that technology is used appropriately(Nurani et al., 2022; Yang et al., 2022). Research by Madsen et al. (2023) shows that the use of technology in collaborative learning improves communication and cooperation skills in early childhood. A study by Martzoukou (2022) found that children who used group-based interactive apps showed improvements in listening skills and shared roles in discussions.

Research by Agustina et al. (2023) confirms that technology can strengthen social skills when combined with project-based learning methods. Children who are used to using digital learning platforms are more confident in expressing opinions and providing solutions to group problems(Sari et al., 2024). A study by Xiong et al. (2022) also shows that technology applied with an appropriate pedagogical approach can increase positive interactions in the classroom. Research by Nurani et al. (2022) revealed that children who learn in digital-based groups show better

empathy and social sensitivity compared to those who learn individually. Technology can be an effective tool in improving early childhood social skills when its use is supported by good social interaction, appropriate learning methods, and teacher and parent involvement in the learning process. The results of the study are expected to provide a reference for findings both practically and theoretically about the role of technological advances as part of children's growth and development.

CONCLUSION

Technology plays a significant role in supporting language and communication development, parental and caregiver involvement, and improving early childhood social skills in the school environment. The findings show that the use of storytelling-based applications and interactive digital books can improve vocabulary mastery, speaking fluency, and understanding of social situations in children at Wahidiyah Early Childhood Education Plus. The active role of parents and caregivers in assisting children in using technology contributes positively to forming healthy digital literacy. The application of technology in collaborative learning has been shown to strengthen children's cooperation, communication, and social interaction skills. However, this study has several limitations, including the limited number of respondents analyzed, and has not considered external factors such as the socio-economic background of children in utilizing technology. Therefore, further research is recommended to further explore the long-term impact of technology use on children's social and cognitive development, expand the scope of respondents, and develop more specific intervention strategies in the use of technology for early childhood.

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