

The Effectiveness of Using Kahoot-Based Digital Media in Enhancing Children's Social-Emotional Skills

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ABSTRACT

This research aims to assess the effectiveness of Kahoot-based digital media in enhancing the social-emotional abilities of early childhood children. Social-emotional abilities examined include emotional recognition and regulation, cooperative skills, empathy development, and positive social relationship formation. The study employed a quantitative approach using a quasi-experimental design with pre-test and post-test measurements. The research was conducted at TK Aulia Rahma in Takalar, involving 16 children aged 5-6 years from Group B, divided into two groups: the experimental group (8 children) who received learning through Kahoot digital media, and the control group (8 children) who participated in conventional learning methods. Data collection utilized structured observation sheets and social-emotional assessment tools validated by experts. Data analysis employed the Wilcoxon Signed Rank Test to examine the significance of differences between pre-test and post-test results. The findings revealed significant improvements in the experimental group's social-emotional abilities ($p = 0.011 < 0.05$), with 62.5% of children achieving the "Very Good" category compared to only 12.5% in the control group. Children exposed to Kahoot demonstrated superior progress in teamwork, peer communication, emotional regulation, and empathy skills. These results indicate that Kahoot, with its interactive and gamified features, can effectively support the development of social-emotional skills in young children. The study recommends that educators integrate digital tools like Kahoot in early childhood classrooms to facilitate enjoyable learning experiences that promote emotional awareness and positive social interactions.

1. INTRODUCTION

The period from birth to six years old is often referred to as the golden age, a critical phase characterized by rapid growth and development. This stage plays a vital role in shaping a child's subsequent developmental milestones and is believed to contribute up to 80% of intelligence in adulthood (Putri et al., 2023). Early childhood education services function as a platform that provides stimulation, guidance, and enriching activities aimed at enhancing children's abilities and skills (Lubis et al., 2022). In this context, educators are required to design engaging and age-appropriate learning experiences to motivate young learners. The use of media has become an inseparable

element in the learning process (Islami et al., 2020). Fun and interactive learning tools are among the key strategies to support early learning (Islami, 2025).

As technology evolves, teaching methods have advanced through the use of digital media that facilitate more engaging and effective learning experiences (Norita & Hadiyanto, 2021; Putra, 2020). The growth of digital technology in education has significantly influenced instructional practices at all levels, including early childhood education. Over time, the expansion of both knowledge and technology has made it easier to support various aspects of life, including the education sector (Norita & Hadiyanto, 2021). Nevertheless, many kindergartens in Indonesia still face limitations in accessing interactive multimedia learning software. Technological media in education is becoming increasingly popular, with platforms such as Kahoot gaining traction (Octafany, 2022).

Kahoot, as a game-based digital platform, presents an innovative option that supports the creation of learning environments that are fun, interactive, engaging, and meaningful for young learners (Hadijah et al., 2025). It allows real-time, two-way interaction between teachers and students, encouraging active participation and healthy competition. The use of Kahoot enables children to learn actively and interact with their classmates, thus fostering a healthy competitive spirit in the learning process (Perdana et al., 2020). Through its visually appealing features and gamified structure, Kahoot holds great potential for supporting various developmental domains in children, including their social-emotional growth.

Despite the growing interest in digital tools for learning, limited studies have examined their impact on young children's social and emotional development. This lack of attention forms a research gap that this study intends to address. Social-emotional skills in early childhood are essential for school readiness and long-term educational success. Children who demonstrate well-developed social-emotional abilities are more capable of forming positive relationships, recognizing and managing their emotions, and showing empathy toward others. Conversely, delays in these areas may hinder a child's ability to adapt to social environments and school learning contexts (Tazkia & Darmiyanti, 2024). Social-emotional development includes skills such as emotional recognition, cooperation, conflict resolution, and concern for others.

Today, educational media for children comes in various appealing formats tailored to their imaginative world. This encourages educators to be more creative and innovative in selecting and using different types of learning tools that match the needs of their students (Nurhasanah et al., 2021). However, in this digital era, children's exposure to technology is often passive and individualistic. Many digital applications do not inherently promote social interaction or emotional engagement. Without thoughtful use, this may even hinder social-emotional development. Hence, there is a need for digital media that not only captivates visually but also fosters active participation, collaboration, and emotional reflection. Kahoot, as an interactive game-based platform, addresses this need by promoting curiosity and motivation while helping children better understand lesson content presented

in video format (Harefa et al., 2022). Previous studies have shown that Kahoot can boost learning motivation, engagement, and classroom participation (Hadijah et al., 2025; Perdana et al., 2020; Harefa et al., 2022; Madina et al., 2023). However, these studies primarily focus on cognitive development, leaving social-emotional outcomes less explored. Studies exploring the role of media like Kahoot in fostering social and emotional growth-particularly in early childhood-remain limited. This reveals a gap in the literature and presents an opportunity for further academic contributions toward the development of more holistic digital learning models.

Based on the above background, this study aims to evaluate the effectiveness of the Kahoot digital platform in supporting the social and emotional development of young children. The research focuses on identifying improvements in emotional recognition, cooperation, empathy, and conflict resolution through game-based learning activities. This study was conducted at Aulia Rahma Kindergarten in Takalar Regency, an institution that has incorporated technology into its teaching practices. A quantitative approach was applied using a quasi-experimental design, involving both experimental and control groups composed of children aged 5 to 6 years from Group B. Data collection instruments included observation sheets and social-emotional assessment tools. The core focus of this research is to assess how Kahoot-based game learning can support the development of children's emotional awareness, empathy, cooperation, and conflict resolution skills.

The results of the study revealed a significant difference between children who engaged in learning through Kahoot and those who participated in conventional learning methods. Children exposed to Kahoot showed greater progress in areas such as collaboration, peer communication, and emotional regulation. These findings reinforce the idea that digital media should not solely focus on cognitive skills, but also play a role in nurturing children's social and emotional development. The significance of this study lies in its potential to guide educators and curriculum developers in utilizing game-based digital media not only for academic growth, but also to support holistic development aligned with early childhood needs. Therefore, this research is expected to contribute to the design of digital learning approaches that are more human-centered and aligned with the developmental world of early childhood.

2. METHODS

This study employed a quantitative approach using non-parametric methods. The non-parametric technique was selected because it does not require the data to follow a normal distribution, making it suitable for data with non-normal distribution patterns or ordinal scales (Sugiyono, 2019). The primary aim of this research was to assess the influence and effectiveness of using Kahoot-based digital media in enhancing the social-emotional skills of young children.

The research was conducted at TK Aulia Rahma in Takalar, involving children aged 5 to 6 years from Group B. The participants were divided into two groups: the experimental group, which received instruction through Kahoot digital media, and the control group, which engaged in learning through conventional methods. Both groups consisted of children with comparable developmental levels, as confirmed through initial observations. A variety of instruments were utilized in this study, including observation sheets, social-emotional assessment tools, learning outcome tests (pretest and posttest), and documentation. The observation sheets served to record the level of children's engagement during learning sessions, while the social-emotional assessment tools were developed based on early childhood developmental indicators and were validated by relevant experts.

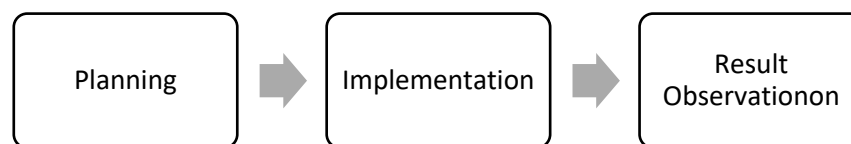


Figure 1. Research Implementation Procedure

In the planning stage, the researcher designed the learning framework and prepared the instruments to be used. During the implementation stage, the control group received conventional learning instruction over four sessions, followed by a posttest. Meanwhile, the experimental group participated in learning activities using Kahoot-based digital media for three sessions, also followed by a posttest. Observations were conducted throughout the learning process to evaluate children's active participation and emotional responses. This study collected two types of data: primary and secondary. The primary data were obtained through observation results and tests of children's social-emotional abilities. The secondary data, serving as supporting information, included curriculum documents, learning records, and activity documentation. The use of both types of data was carried out complementarily to produce a comprehensive and in-depth analysis.

The data analysis technique employed was inferential analysis using the Wilcoxon Signed Rank Test, which is appropriate for comparing pretest and posttest results within the experimental group. This test was conducted to determine whether the differences observed before and after treatment were statistically significant. The decision-making criteria were based on the significance value (Sig. 2-tailed) ≤ 0.05 . If the significance value is below 0.05, the null hypothesis (H_0) is rejected, indicating that there is a significant influence of Kahoot-based digital media on improving young children's social-emotional skills.

The results of this study are expected to serve as concrete evidence supporting the development of child-friendly digital learning media that fosters social interaction. Furthermore, this research can be a useful reference for educators in selecting and utilizing appropriate digital media to help enhance the social and emotional abilities of early childhood learners.

3. RESULTS AND DISCUSSION

3.1 Results

The Distribution of Social Emotional Ability Categorization for Experimental Group (Kahoot Digital Media) and Control Group (Conventional Media) can be seen in the following tables.

Table 1. Distribution of Social Emotional Ability Categorization in the Experimental Group

Skor Interval	Frequency	Category	Percentage (%)
76-100	5	Very Good	62,5
61-75	2	Good	25.0
46-60	1	Adequate	12.5
31-45	0	Poor	0.0
16-30	0	Very Poor	0.0
Total	8	-	100.0

Table 2. Distribution of Social Emotional Ability Categorization in the Control Group

Score Interval	Frequency	Category	Percentage(%)
76-100	1	Very Good	12.5
61-75	3	Good	37.5
46-60	3	Adequate	37.5
31-45	1	Poor	12.5
16-30	0	Very Poor	0.0
Total	8	-	100.0

Based on the distribution data in the previous tables, it can be seen that children in the experimental group who learned using Kahoot digital media showed higher social emotional abilities compared to children in the control group. In the experimental group, 5 children (62.5%) successfully achieved the "Very Good" category in social emotional ability, while in the control group only 1 child (12.5%) reached this category.

Furthermore, for the "Good" category, the experimental group had 2 children (25.0%) while the control group had 3 children (37.5%). A quite significant difference was seen in the "Adequate" category, where the experimental group only had 1 child (12.5%) while the control group had 3 children (37.5%) in this category. Interestingly, in the control group there was one child (12.5%) who fell into the 'Poor' category, while all children in the experimental group were above this category.

These findings prove that Kahoot digital media can effectively improve the social emotional abilities of early childhood children. In the experimental group, 7 out of 8 children (87.5%) were in the 'Very Good' and 'Good' categories. Conversely, only 4 out of 8 children (50%) in the control group achieved the same level. These findings indicate that interactive digital game-based learning media can provide more optimal stimulation for the development of children's social emotional aspects, particularly in terms of cooperation, emotion management, and empathy abilities.

Subsequently, a Wilcoxon test was conducted using SPSS on the experimental group to observe the effect of the treatment given in the form of playing games or quizzes through the difference in pretest and posttest data results. The criteria for the occurrence of a difference is if the sig. (2-tailed) value < 0.05 , and if sig. (2-tailed) > 0.05 then no difference occurs after treatment is given. The following are the results of the Wilcoxon test for social emotional ability in the experimental group.

Table 3. Wilcoxon Test Results for Social Emotional Ability in the Experimental Group
Test Statistics^a

	Posttest – Pretest
Z	-2.552 ^b
Asymp. Sig. (2-tailed)	.011

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

From the table above, it is shown that the Wilcoxon test results on the experimental group showed a Z value of -2.552 with a significance level (Asymp. Sig. 2-tailed) of 0.011. Because the significance value is smaller than 0.05, it can be known that there is a significant difference between children's social emotional abilities before and after being given learning with Kahoot digital media. This means that the use of Kahoot has been proven to have a significant positive effect on improving children's social emotional abilities. Meanwhile, the Wilcoxon test on the control group was used to determine the effect of learning using conventional media, namely quiz playing activities without interactive digital features. This test was conducted by comparing pretest and posttest scores to see if there were significant changes in children's social emotional abilities.

Table 4. Wilcoxon Test Results for Children's Social Emotional Ability in the Control Group
Test Statistics^a

	Posttest – Pretest
Z	-2.565 ^b
Asymp. Sig. (2-tailed)	.010

From the table results above, the Wilcoxon test on the control group produced a Z value of -2.565 with a significance value (Asymp. Sig. 2-tailed) of 0.010. Although statistically this value is smaller than 0.05, the research document states that there was no significant difference in the control group. This finding implies that the use of conventional learning media does not provide a meaningful impact or influence on improving children's social emotional abilities.

3.2. Discussion

Based on the findings, the results of this study are discussed and compared with previous theories and studies as outlined in the literature review. Research findings indicate that the use of Kahoot-based digital media significantly enhances the social-emotional abilities of early childhood students. Children involved in learning using Kahoot demonstrated higher improvements in aspects of cooperation, ability to recognize and manage emotions, and empathy toward peers. Data analysis using the Wilcoxon Signed Rank test showed significant improvement in the experimental group, with significance values below 0.05. This provides evidence that digital media use has a real impact on children's social-emotional abilities.

These findings confirm that children's social-emotional development is closely related to learning experiences that encourage active engagement and interaction with others. Digital media like Kahoot provides an interactive learning environment where children are not only asked to answer questions but also engage in an atmosphere that is both competitive and collaborative. This aligns with Sari (2024) opinion, which emphasizes that the use of AI-based digital storytelling in 3D video format can enhance children's social-emotional abilities through enjoyable and interactive learning experiences.

Children's social-emotional abilities are closely related to sensitivity in understanding others' feelings and how they build social relationships in daily life. In this regard, interactive digital media has great potential because it provides visual and auditory stimulation that promotes emotion recognition, teaches children to cooperate, and introduces social values within a gaming context. This experience differs from passive technologies like watching television, as children in interactive media become active subjects who participate directly in learning activities. This research also supports previous studies by Madina et al., (2023), which stated that interactive digital media triggers children's interest and encourages them to participate more actively in the learning process. However, the fundamental difference of this research lies in its focus on social-emotional aspects, not just

cognitive aspects. In many cases, digital media is still primarily used to improve children's literacy and numeracy, so this research's contribution lies in filling the research gap regarding technology-based social-emotional development.

Furthermore, digital game-based learning approaches like Kahoot can also encourage children to think creatively, express their emotions, and practice resolving conflicts healthily through interactive simulations. This proves that technology integration in early childhood learning processes can be directed toward more humanistic and comprehensive goals, with the caveat of maintaining attention to content, context, and guidance from teachers or parents. Thus, these findings contribute to expanding the scope of digital media use in early childhood education beyond merely supporting children's thinking abilities, but can also be strategically utilized to build their social and emotional skills. Moving forward, digital-based learning approaches need to be continuously developed to become increasingly adaptive to children's needs, aligned with technological developments, while maintaining educational principles oriented toward children's holistic growth and development needs.

4. CONCLUSION

Based on research problem, which aimed to investigate how Kahoot-based digital media influences early childhood social-emotional development, the findings provide a clear answer: Kahoot has a significant and positive impact on children's social-emotional abilities. As an interactive learning medium, Kahoot is able to create an exciting learning environment that actively involves children and strengthens social interaction in an enjoyable, participatory, and communicative learning process, which strongly supports the development of important aspects in the social-emotional domain such as cooperation, emotion management, self-confidence, and empathy skills.

Through game-based quiz activities, children actively engage in the learning process, learn to recognize their own and others' feelings, and build positive social interactions with their peers. These findings indicate that digital media not only functions as a means of knowledge transfer but can also be optimized to shape character and children's social competencies holistically. Thus, the results of this study clearly answer the research question and confirm that Kahoot is an effective tool to foster social-emotional development in early childhood learning. Therefore, this study highlights the potential of integrating game-based digital tools like Kahoot into early childhood education to intentionally support emotional and social skill development in a structured and engaging way.

5. REFERENCES

- Hadijah, S., Azis, A., & Afifah, N. (2025). Pemanfaatan Aplikasi Kahoot Sebagai Media Pembelajaran Pada Mata Pelajaran SKI di MA Darul Ulum Palangka Raya. *Jurnal Sosial Humaniora Dan Pendidikan*, 4(2), Article 2. <https://doi.org/10.55606/inovasi.v4i2.4110>
- Harefa, E. H., Tegeh, I. M., & Ujianti, P. R. (2022). Metode Pembelajaran Interaktif Penggolongan Benda pada Anak. *Jurnal Ilmiah Bimbingan Konseling Undiksha*, 13(3), Article 3. <https://doi.org/10.23887/jibk.v13i3.53267>
- Islami, A. N. M. (2025). Implementation of Digital Literacy Learning Media Based on Interactive Video for Children Aged 5–6 Years. *Anakta : Jurnal Pendidikan Islam Anak Usia Dini*, 4(1), Article 1. <https://doi.org/10.35905/anakta.v4i1.13382>
- Islami, A. N. M., Suparno, S., & Makkasau, A. (2020). The Implementation of Education Games Media Applications with Local Culture-Based to Improve the Basic Reading Ability of Students in TK Islam Al-Azhar 34 Makassar. *Proceedings of the 2nd Yogyakarta International Conference on Educational Management/Administration and Pedagogy (YICEMAP 2019)*. 2nd Yogyakarta International Conference on Educational Management/Administration and Pedagogy (Yicemap 2019), Yogyakarta, Indonesia. <https://doi.org/10.2991/assehr.k.201221.005>
- Lubis, S. M., Rangkuti, D., & Rangkuti, D. E. S. (2022). Inovasi Permainan Tebak Bunyi Melalui Media Audio-Visual Untuk Meningkatkan Kemampuan Kognitif Anak Usia 5-6 Tahun Di R.A Al-Amin Medan. *Incrementapedia : Jurnal Pendidikan Anak Usia Dini*, 4(2), Article 2. <https://doi.org/10.36456/incrementapedia.vol4.no2.a6614>
- Madina, N. R., Lamatenggo, N., Husain, R., Rahim, M., & Amali, L. N. (2023). Pengembangan Media Pembelajaran Interaktif untuk Meningkatkan Hasil Belajar Siswa. *Murhum : Jurnal Pendidikan Anak Usia Dini*, 4(2), Article 2. <https://doi.org/10.37985/murhum.v4i2.317>
- Norita, E., & Hadiyanto, H. (2021). Pengembangan Media Pembelajaran Kognitif Berbasis Multimedia di TK Negeri Pembina Padang. *Jurnal Basicedu*, 5(2), Article 2. <https://doi.org/10.31004/basicedu.v5i2.783>
- Nurhasanah, N., Sari, S. L., & Kurniawan, N. A. (2021). Perkembangan Sosial dan Emosional Anak Usia Dini. *Mitra Ash-Shibyan: Jurnal Pendidikan Dan Konseling*, 4(02), 91–102. <https://doi.org/10.46963/mash.v4i02.346>
- Octafany, A. (n.d.). *Program Studi Pendidikan Agama Islam Jurusan Pendidikan Islam Fakultas Tarbiyah Dan Ilmu Keguruan Universitas Islam Negeri Profesor Kiai Haji Saifuddin Zuhri Purwokerto 2022*.
- Perdana, I., Saragi, R. E. S., & Aribowo, E. K. (2020). Persepsi Siswa Terhadap Pemanfaatan Media Kahoot Dalam Pembelajaran Bahasa Indonesia. *Kwangsan: Jurnal Teknologi Pendidikan*, 8(2), Article 2. <https://doi.org/10.31800/jtp.kw.v8n2.p290--306>
- Putra, P. A. (2020). Mengembangkan Kemampuan Membaca Anak Usia Dini Dengan Multimedia Interaktif. *Incrementapedia : Jurnal Pendidikan Anak Usia Dini*, 2(2), Article 2. <https://doi.org/10.36456/incrementapedia.vol2.no02.a3016>
- Putri, H. S., Luthfy, P. A., & Karmila, M. (2023). Pengembangan Video Pembelajaran Interaktif Dengan Tema Hewan Berdasarkan Jenis Makanannya Untuk Anak Usia Dini: Development Of Interactive Learning Videos With Animal Themes Based On Their Food Types For Early

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- Childhood. *Incrementapedia : Jurnal Pendidikan Anak Usia Dini*, 5(2), Article 2. <https://doi.org/10.36456/incrementapedia.vol5.no2.a8229>
- Sari, D. L. (2024). Eksplorasi Cerita Rakyat Bengkulu Dalam Format Video 3d Berbantuan Artificial Intelligence Untuk Meningkatkan Kemampuan Sosial Emosional Anak Usia 5-6 Tahun. *Indonesian Journal of Teaching and Learning*, 3(2), Article 2. <https://doi.org/10.56855/intel.v3i2.1081>
- Sugiyono, P. D. (2019). Metode penelitian pendidikan (kuantitatif, kualitatif, kombinasi, R&D dan penelitian pendidikan). *Metode Penelitian Pendidikan*, 67, 18.
- Tazkia, H. A., & Darmiyanti, A. (2024). Perkembangan sosial emosional anak usia dasar di lingkungan sekolah. *Jurnal Pendidikan Guru Sekolah Dasar*, 1(3), 8–8.