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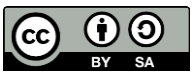

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The Impact of Augmented Reality (AR) Applications in English Language Learning for Children with Autism: A Systematic Literature Review

Lenny Solo[1], Ifan Iskandar[2], Ratna Dewanti[3]
[1,2,3]Department of Applied Linguistics, Pascasarjana Universitas Negeri Jakarta
Corresponding E-Mail: lenny.solo@mhs.unj.ac.id

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Abstract
This study aims to explore the use of Augmented Reality (AR) in English language learning for children with autism spectrum disorder (ASD) through a systematic literature review. The main objective of this research is to assess how AR can enhance the English language skills of children with ASD, evaluate its effectiveness in increasing student motivation and engagement in learning, and identify the challenges encountered in its implementation. The population studied consists of research that discusses the use of AR in educational contexts for children with ASD, while the research sample includes articles published within the last five years that are relevant to this topic. The methodology employed is a systematic literature review, with data collected through a search of relevant articles from various academic databases, including Google Scholar, PubMed, ScienceDirect, and JSTOR. The collected data were then analyzed using a thematic analysis approach to identify emerging patterns related to the use of AR in English language learning, its benefits, the challenges encountered, and its impact on language skills and social interaction in children with ASD. The findings reveal that AR applications have significant potential to improve the English language skills of children with ASD, particularly in speaking, listening, and vocabulary. Furthermore, AR is also effective in increasing student motivation and engagement by providing an enjoyable and interactive learning experience. However, the challenges identified include hardware limitations, children's difficulty in adapting to new technologies, and the need for teacher training to maximize the effectiveness of AR use. Therefore, the successful implementation of AR in education for children with ASD heavily depends on infrastructure readiness and appropriate training.

Keywords: *Augmented reality, English Learning, Autism Spectrum Disordes, Technology Education, English Language.*

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Introduction

The rapid development of technology has had a significant impact on various fields, including education. Specifically, digital technologies, including Augmented Reality (AR), have introduced innovative new approaches to learning. Augmented Reality (AR) is a technology that overlays digital information, such as images or sounds, onto the physical world in real-time, providing an immersive learning experience. This technology is gaining increasing attention in educational environments, particularly in teaching students with Autism Spectrum Disorder (ASD), who often face challenges in communication and social interaction (Department of Educational Sciences, King Juan Carlos University, Madrid, Spain & López-Díaz, 2024).

Children with ASD often struggle to acquire language, including understanding instructions, responding to conversations, and expressing their thoughts and feelings verbally (Paul & Fahim, 2014). Traditional teaching methods may not always be effective for them, as they often require a more personalized and flexible approach to learning. This is where AR can play a crucial role by offering an interactive, visual, and immersive learning environment that can be more engaging and accessible for children with ASD (Carneiro et al., 2024)

In recent years, AR applications have been integrated into language learning, including English language acquisition, offering unique opportunities for children with ASD to engage in meaningful and direct learning experiences. Studies show that AR can enhance motivation, engagement, and understanding of complex concepts (Khoirunnisa et al., 2025). For children with ASD, AR not only provides an engaging way to learn but also creates a structured environment that can help them improve their language skills while overcoming communication barriers (El Shemy, 2022).

However, despite the growing interest in AR-based education for children with ASD, a comprehensive evaluation of the effectiveness of AR applications in English language learning is still needed. This systematic literature review aims to explore the existing body of research on the use of AR in enhancing English language skills for children with ASD, by identifying the benefits and challenges of using this technology. This review will analyze the results of previous studies, focusing on the impact of AR on language development, student engagement, and social interaction among children with ASD, ultimately providing insights for further applications in education.

Relevant research questions related to the title "The Influence of Augmented Reality (AR) Applications in English Language Learning for Children with Autism: A Systematic Literature Review":

1. How can Augmented Reality (AR) applications improve English language skills in children with autism spectrum disorder (ASD)?
2. What is the effectiveness of AR applications in increasing motivation and engagement in children with ASD in English language learning?
3. What challenges are faced in the implementation of AR applications for

English language learning in children with ASD?

4. What are the latest research trends related to the use of Augmented Reality (AR) applications in English language learning for children with autism spectrum disorder (ASD)?

Method

This study uses a systematic literature review approach, which allows the researcher to collect, analyze, and synthesize the results of previous research relevant to the topic. The systematic review will identify, evaluate, and analyze published articles on Augmented Reality (AR) in the context of English language learning for children with ASD.

The data used in this study are sourced from academic journals, books, conference papers, research reports, and previous studies relevant to the use of AR in education for children with ASD. Several databases will be used to search for literature, including Google Scholar, PubMed, ScienceDirect, JSTOR, and other accessible academic databases.

Inclusion and Exclusion Criteria

Inclusion Criteria:

1. Articles that discuss the use of AR in English language learning for children with ASD.
2. Studies focused on the application of AR technology in education and language skill development for children with autism spectrum disorder.
3. Research published in the last 5 years.
4. Articles providing empirical data, either through experiments, case studies, or systematic reviews.

Exclusion Criteria:

1. Articles unrelated to the use of AR in the context of English language learning for children with ASD.
2. Studies that do not use empirical data or experiments.
3. Articles that are not available in an accessible or verifiable format.

Data Collection Procedure

The data collection process involves searching for literature using keywords such as "Augmented Reality in English language learning," "AR in autism education," "AR for children with ASD," and "language acquisition in children with autism." The researcher will filter the articles based on inclusion and exclusion criteria, then organize them according to thematic areas and sub-topics of the research.

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Data Analysis Techniques

In this study, the analysis is conducted using a thematic analysis approach to identify emerging patterns from the existing literature. Several themes to be analyzed include:

1. Improvement in English language skills**:** How AR helps children with ASD improve speaking, listening, and vocabulary skills.
2. Motivation and engagement**:** An analysis of how AR can enhance students' motivation and engagement in English language learning.
3. Challenges and barriers: Identifying the challenges faced in implementing AR in the context of English education for children with ASD, including technical issues, limitations of the applications, or psychological and social barriers. The researcher will group relevant articles based on the emerging themes, analyze the findings, and draw conclusions regarding the effectiveness of AR in English language learning for children with ASD.

Synthesis and Discussion

The researcher will synthesize the findings from various relevant articles and then link them to existing research results. This synthesis will provide a comprehensive view of the impact of AR on language skills, motivation, and engagement of children with ASD in English language learning, as well as the challenges faced in its implementation. The researcher will also identify potential areas for the development of AR applications in the education of children with ASD and offer recommendations for further research.

Success Indicators

The success indicators of this study will be based on:

1. Effectiveness of AR in improving language skills**:** This will be measured by analyzing the results of studies that assess improvements in speaking, listening, and vocabulary proficiency in children with ASD using AR.
2. Increase in motivation and student engagement**:** Referring to findings on how AR can enhance interest and participation of children in English language learning activities.
3. Challenges faced in implementing AR**:** Including technical aspects, challenges in adopting applications by children with ASD, and barriers related to social interaction or support from educators.

Result

How can Augmented Reality (AR) applications improve English language skills in children with autism spectrum disorder (ASD)?

Several reviewed articles indicate that AR applications have great potential in enhancing English language skills in children with ASD through more immersive and interactive learning experiences. Lian et al. (2025) state that AR technology can

improve basic communication skills, such as speaking and listening, by using visualizations that help children with ASD understand and remember vocabulary more easily. Berenger et al. (2025) found that the use of AR in language learning contexts optimizes verbal and social interactions for children with ASD, enhancing their ability to communicate in structured and engaging environments. Additionally, Mamat et al. (2025) reveal that AR allows children to practice speaking skills in more natural and relevant contexts, improving their vocabulary and pronunciation.

How effective is AR in increasing motivation and engagement in children with ASD in English language learning?

The articles discussed indicate that AR can significantly enhance motivation and engagement in children with ASD in language learning. (Quintero et al., 2019) emphasize that AR provides a more enjoyable learning experience and reduces the social anxiety often experienced by children with ASD. With the visual and interactive elements offered by AR, children are more motivated to participate in learning because they can directly interact with more engaging and relevant content. (Mahayuddin & Mamat, 2019) show that AR reduces the boredom often experienced by children in traditional learning settings because this technology allows them to learn while playing in a more dynamic environment.

What challenges are faced in the implementation of AR applications for English language learning in children with ASD?

Despite the many benefits, the implementation of AR for English language learning in children with ASD also faces several challenges. Tarsidi et al. (2025) identify that a major challenge in using AR is hardware limitations, which may not always accommodate complex AR applications. Additionally, Fuentes et al. (2025) mention that some children with ASD may have difficulty adapting to new technologies, as they often prefer routines that are stable and consistent. Furthermore, Santos et al. (2025) highlight the importance of proper training for educators to maximize the effectiveness of AR in language learning, as using this technology requires both technical and pedagogical skills.

Discussion

Research Questions	**The Answer Based on Articles**
How can Augmented Reality (AR applications improve Englis language skills in children wit autism spectrum disorder (ASD)?	• Lian et al. (2025): AR enhances bas communication skills, such as speaking ar listening, with visualizations that he children with ASD understand and reta vocabulary. • Berenger et al. (2025): AR optimizes verb and social interactions for children with AS

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Research Questions	**The Answer Based on Articles**
	improving communication abilities in structured and engaging environment. • Mamat et al. (2025): AR helps childre practice speaking in natural and releva contexts, improving their vocabulary maste and pronunciation.
How effective is AR in increasir motivation and engagement children with ASD in Englis language learning?	• Quinterol et al. (2025): AR provides a enjoyable learning experience and reduc social anxiety, increasing motivation ar engagement. • Mahayuddin & Mamat (2025): AR reduc boredom in traditional learning, creating dynamic and engaging learning environmen
What challenges are faced in th implementation of AR applicatior for English language learning children with ASD?	• Tarsidi et al. (2025) (Tarsidi et al., 2024): Th main challenge is hardware limitations, whic may not support complex AR applications. • Fuentes et al. (2025) (Fuentes et al., 2025 Children with ASD may struggle to adapt new technology because they pref consistent routines. • Santoso et al. (2025) (Santoso et al., 2024 Proper training for educators is necessary t maximize the use of AR in learning, as th technology requires both technical ar pedagogical skills.

Based on the table and the articles listed, here are the research trends that can be identified in the use of Augmented Reality (AR) for English language learning in children with Autism Spectrum Disorder (ASD):

1. Use of AR to Improve Communication Skills
    - Many studies focus on using AR to improve basic communication skills, such as speaking, listening, and vocabulary acquisition in children with ASD. This trend shows how AR can provide a visual and interactive learning experience, which is highly beneficial for children with ASD who often struggle with verbal communication.
    - Research such as (Lian & Sunar, 2021) and (Berenguer et al., 2020)emphasize the importance of AR in enhancing verbal and social interactions, allowing children with ASD to practice communication skills in a more enjoyable and non-intimidating environment.

2. AR as an Immersive and Engaging Learning Tool
    - (Mahayuddin & Mamat, 2019) highlight how AR can increase motivation and engagement in children by creating a more dynamic and enjoyable learning environment. This trend shows that AR reduces the boredom often experienced by children with ASD in traditional learning methods.
    - AR is used to make learning more engaging and reduce anxiety often faced by children with ASD, thereby improving their participation in the learning process.
3. Challenges in AR Technology Implementation
    - Despite the potential of AR, there are challenges that need to be addressed, such as hardware limitations that may not always support complex AR applications (Tarsidi et al., 2024) and the difficulty children with ASD face in adapting to new technology (Fuentes et al., 2025).
    - Furthermore, the need for adequate training for educators to effectively utilize AR has become a focus for future research (Santoso et al., 2024) This trend highlights the importance of infrastructure readiness and training in implementing AR in the classroom.
4. AR for Enhancing Social Interaction and Self-confidence
    - Many studies highlight that AR not only serves as a tool for language learning but also supports the development of social interaction and self-confidence in children with ASD. AR technology can create a structured environment that allows children to practice interacting with social situations in a safer and more controlled context.
5. Integration of AR with Therapeutic and Learning Approaches
    - The latest research trends also show that AR can be used as part of a therapeutic approach for children with ASD. Several studies, such as those by (Quintero et al., 2019) , demonstrate how AR can optimize teaching and therapy methods to help children with ASD overcome communication barriers and social development challenges.

Artikel	**How AR Improves English Language Learning**	**Challenges**	**Effectiveness/Trends**
Xiaojie Lian, Mohd Shahrizal Sunar (Lian & Sunar, 2021)	AR helps children with ASD improve basic communication skills like speaking, listening, and vocabulary through visualization and interaction.	Hardware limitations; children with ASD may struggle with adapting to new technology.	Positive impact on communication skills; immersive learning experiences increase engagement.

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Artikel	How AR Improves English Language Learning	Challenges	Effectiveness/Trends
Tania Carneiro, Antonio Carvalho, Sonia Frota, Marisa G. Filipe (Carneiro et al., 2024)	AR creates engaging and interactive learning environments that enhance social skills, which are critical in language learning.	Difficulty in adapting to new tech and the need for consistency in routines for children with ASD.	AR proves effective in developing social skills and increasing engagement in language learning.
Azizah Nurul Khoirunnisa, Munir, Faaizah Shahbodin, Laksmi Dewi, Yoga Budhi Santoso, Lia Susanti (Khoirunnisa et al., 2025)	AR enhances basic communication skills by creating realistic and interactive situations to practice language skills.	Technological adaptation challenges; lack of training for educators to use AR effectively.	AR increases basic communication skills and enhances vocabulary retention in children with ASD.
Ibrahim El Shemy (El Shemy, 2022)	Combines mobile AR with AI to create interactive language learning experiences tailored to the needs of children with ASD.	Requires specialized devices that can support AR and AI applications.	Effective in creating personalized learning experiences, fostering language acquisition.
Siti Norzaimalina Abd Majid, Abdul Rahim Salam (Majid & Salam, 2021)	Systematic review of AR applications in language learning, indicating AR's role in enhancing visual and auditory input for language development.	Infrastructure limitations; inconsistent access to AR technologies.	AR is a promising tool for improving engagement in language learning, though infrastructure readiness is key.
Marian-Vladut Toma, Cristina Elena Turcu, Corneliu Octavian Turcu, Sorin Vlad, Doru Eugen Tiliute, Paul Pascu (Toma et al., 2024)	AR applications are increasingly used in therapeutic settings to support children with ASD in learning languages by simulating real-world interactions.	Challenges related to teacher training and device compatibility.	Effective in therapeutic applications, promoting language learning through real-world simulations.
Jairo Quintero, Silvia	AR provides	Adapting to new	AR significantly

Artikel	How AR Improves English Language Learning	Challenges	Effectiveness/Trends
Baldiris, Rainer Rubira, Jhoni Cerón, Gloria Velez (Quintero et al., 2019)	immersive environments that help ASD children develop social and language skills through games and interactive lessons.	technologies; lack of teacher readiness in using AR for educational purposes.	supports the development of social and language skills through interactive experiences.
Carmen Berenguer, Inmaculada Baixauli, Soledad Gómez, María de El Puig Andrés, Simona De Stasio (Berenguer et al., 2020)	AR helps ASD children practice language skills by offering a structured and visual method for communication.	Lack of specialized training for educators; issues with long-term adaptation of technology.	Demonstrates effectiveness in improving social communication skills and increasing engagement in structured learning environments.
Zainal Rasyid Mahayuddin, Najmiah Mamat (Mahayuddin & Mamat, 2019)	AR supports phonics-based literacy training, which helps children with ASD learn vocabulary and pronunciation through interactive games and exercises.	Technical issues with hardware, and the need for ongoing support for children's tech adaptation.	Enhances literacy by providing dynamic and engaging phonics-based learning activities.
Tiffany Y. Tang, Jiasheng Xu, Pinata Winoto (Tang et al., 2019)	Uses AR for word-learning applications, enabling children to learn vocabulary through object recognition and interaction, enhancing language retention.	Children with ASD may resist the novelty of AR-based learning, and device limitations may reduce effectiveness.	Effective in language learning through object recognition, improving both vocabulary and social engagement.
A.B.M.S.U. Douglah, Mirza Rasheduzzaman, Faed Ahmed Arnob, Farhana Sarker, Nipa Roy, Md. Anwar	AR interventions for ASD help improve vocabulary and communication skills by creating a more interactive	Limited access to necessary technology; need for customized applications to fit individual needs of	AR shows effectiveness in creating an engaging and interactive learning environment,

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Artikel	How AR Improves English Language Learning	Challenges	Effectiveness/Trends
Ullah, Khondaker A. Mamun (Douglah et al., 2023)	and engaging learning environment.	children with ASD.	increasing language retention and social skills.
Ibrahim El Shemy, Letizia Jaccheri, Michail Giannakos, Mila Vulchanova (El Shemy, 2022)	AR, combined with language learning methods, helps children with ASD practice language skills in dynamic, engaging, and socially inclusive environments.	Technical limitations; teacher preparation and ongoing use of AR applications are critical for long-term effectiveness.	AR enhances language learning through dynamic, inclusive environments that foster better social and language outcomes.
Eri Sasmita Susanto, Herfandi, Fahri Hamdani, Fikri Nuryansah, Nabila Oper (Susanto et al., 2022)	Development of an AR-based smart-book for learning English, which helps children with ASD engage with language content more actively and in an enjoyable way.	Need for continuous device compatibility checks and user-friendly interfaces.	Highly effective in motivating children with ASD to engage with language learning materials through an interactive approach.
Rina Husnaini Febriyanti, Hanna Sundar (Febriyanti & Sundari, 2024)	Training for educators on using AR for teaching English to children with special needs, including ASD, improving their understanding and implementation of AR in the classroom.	Lack of training for teachers on how to integrate AR technology effectively into existing curricula.	Teacher training proves critical for effective AR implementation, and it enhances language learning engagement.
Georgios Lampropoulos, Euclid Keramopoulos, Konstantinos Diamantaras, Georgios Evangelidis (Lampropoulos et al., 2024)	A systematic review highlighting how AR and gamification together can enhance language learning outcomes for children with ASD.	Game-based AR learning may not be suitable for all students; technical issues may disrupt learning.	AR and gamification combine to improve language learning and social interactions, enhancing engagement and motivation.
Yulaikha	AR-based learning	Challenges in	Demonstrates

Artikel	How AR Improves English Language Learning	Challenges	Effectiveness/Trends
Mar'atullatifah, Nimas Ratnasari (Mar'atullatifah & Ratnasari, 2023)	media help ASD children engage with language learning content more effectively, creating a fun and educational environment.	creating AR content that suits the diverse needs of children with ASD.	effectiveness in creating a more engaging learning environment through AR-based media.
Ronald Fransyaiku, Inge Ayudia, Rapite Arpilia, Bunga Mulyahati, Ary Kiswanto (Fransyaigu et al., 2024)	Innovation in AR media optimizes inclusive education for children with ASD, helping them access language learning in a more engaging and interactive manner.	Accessibility of AR tools in inclusive educational settings; overcoming resistance to new learning methods.	AR optimizes inclusive learning environments, increasing engagement and improving language learning outcomes for children with ASD.
Erlinda Shirlem Antoso, I Gede Bendesa Subawa, Ida Bagus Nyoman Pascima (Santoso et al., 2024)	AR is used in special education to help children with ASD recognize school supplies through a PECS-based flashcard system.	Limited access to AR technology in schools; need for customization to fit specific educational contexts.	AR proves effective in improving object recognition and communication skills for children with ASD.
Cristina Fuentes, Soledad Gomez, Simona De Stasio, Carmen Berenguer (Fuentes et al., 2025)	AR helps children with ASD improve cognitive and learning outcomes, especially in language acquisition and social skills.	Challenges in teacher implementation; technical limitations in devices.	Shows effectiveness in improving cognitive and language outcomes for children with ASD, enhancing engagement in structured learning environments.
Iding Tarsidi, Endang Rochyadi, Budi Susetyo, Sunardi, Hendriano Meggy, Dira Rosalia Nurkholifah, Anira Zakiyyah Febrianti, Elvina Hapsari, Naila	AR-based training enhances teacher knowledge on reproductive health for special needs students, providing better educational tools for children	Teachers' lack of readiness in using technology effectively; need for continuous professional development.	Increases teacher preparedness and enhances the quality of learning for children with special needs, including those with ASD.

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Artikel	How AR Improves English Language Learning	Challenges	Effectiveness/Trends
Cynthia Fajrin (Tarsidi et al., 2024)	with ASD.		

Conclusion

Based on the literature review conducted, the use of Augmented Reality (AR) in English language learning for children with autism spectrum disorder (ASD) shows significant potential in improving communication skills, motivation, and student engagement. AR applications provide an immersive and interactive learning experience, which can help children with ASD enhance their speaking, listening, and vocabulary skills. This technology has also been shown to increase student engagement in learning, reduce social anxiety, and create a more enjoyable and structured environment.

However, despite the many benefits AR offers, there are several challenges that need to be addressed, such as hardware limitations that may not always support complex AR applications, as well as the need for more in-depth training for educators to maximize the use of this technology. Children with ASD may also face difficulties in adapting to new technology, which requires a more careful and sustained approach.

Overall, this research shows that AR can be an effective tool in improving the quality of English language learning for children with ASD. However, to achieve optimal results, adequate infrastructure readiness and training for educators are necessary. By addressing these challenges, AR holds great potential to become a learning technology that can have a positive impact on the language development of children with ASD.

References

Asri, A. N., & Rochmawati, D. (2017). Innovative Teaching Of English Idiomatic Expressions For EFL Learners. Journal Of English Teaching Adi Buana, 02(01), 47–58.

Berenguer, C., Baixauli, I., Gómez, S., Andrés, M. D. E. P., & De Stasio, S. (2020). Exploring The Impact Of Augmented Reality In Children And Adolescents With Autism Spectrum Disorder: A Systematic Review. International Journal Of Environmental Research And Public Health, 17(17), 6143. Https://Doi.Org/10.3390/Ijerph17176143

Burgers, C., Konijn, E. A., & Steen, G. J. (2016). Figurative Framing: Shaping Public Discourse Through Metaphor, Hyperbole, And Irony. Communication Theory, 26(4), 410–430. Https://Doi.Org/10.1111/Comt.12096

Carneiro, T., Carvalho, A., Frota, S., & G. Filipe, M. (2024). Serious Games For Developing Social Skills In Children And Adolescents With Autism Spectrum Disorder: A Systemic Review. Healthcare.

Clark, B. (2021). Pragmatics: The Basics. In Pragmatics: The Basics. Https://Doi.Org/10.4324/9781003197263

Dancygier, B., & Sweetser, E. (2014). Figurative Language. Cambridge Textbook In Linguistics.

Department Of Educational Sciences, King Juan Carlos University, Madrid, Spain, & López-Díaz, J. M. (2024). Analysis Of The Impact Of ICT Through Apps On Students With Autism Spectrum Disorder: A Systematic Review Of The Literature. International Journal Of Information And Education Technology, 14(6), 785–790. Https://Doi.Org/10.18178/Ijiet.2024.14.6.2103

Douglah, A. B. M. S. U., Rasheduzzaman, M., Arnob, F. A., Sarker, F., Roy, N., Ullah, Md. A., & Mamun, K. A. (2023). Application Of Augmented Reality Interventios For Children With Autism Spectrum Disorder (ASD): A Systematic Review.

El Shemy, I. (2022). Language Learning With Mobile Augmented Reality And Artificial Intelligence For Children With Autism Spectrum Disorder. Interaction Design And Children, 658–661. Https://Doi.Org/10.1145/3501712.3538827

Febriyanti, R. H., & Sundari, H. (2024). Pelatihan Pemanfaatan Media Instruksional Berbasis Augmented Reality Pada Pembelajaran Bahasa Inggris Untuk Para Guru Sekolah Luar Biasa. Jurnal Pkm (Pengabdian Kepada Masyarakat), 7(3), 356. Https://Doi.Org/10.30998/Jurnalpkm.V7i3.22371

Forgács, B. (2022). The Pragmatic Functions Of Metaphorical Language. In Language, Cognition, And Mind (Vol. 11). Https://Doi.Org/10.1007/978-3-030-66175-5_4

Fransyaigu, R., Ayudia, I., Arpilia, R., Mulyahati, B., & Kiswanto, A. (2024). Inovasi Media Augmented Reality Dalam Mengoptimalkan Pendidikan Inklusi Di Sekolah Dasar.

Fuentes, C., Gómez, S., De Stasio, S., & Berenguer, C. (2025). Augmented Reality And Learning-Cognitive Outcomes In Autism Spectrum Disorder: A Systematic Review. Children, 12(4), 493. Https://Doi.Org/10.3390/Children12040493

Giora, R., & Filik, R. (2018). Introduction: Defaultness, Affect, And Figurative Language. Metaphor And Symbol, 33(3). Https://Doi.Org/10.1080/10926488.2018.1481260

Hussain, R. (2014). Metaphors And Similes In Literature. International Journal Of Humanities And Social Science Invention ISSN (Online, 3(9), 2319–7722.

Jogezai, F. (2020). Film Theory And Its Application. International Islamic University, Islamabad, November. Https://Doi.Org/10.7312/Colm16973

Khoirunnisa, A. N., Munir, M., Shahbodin, F., Dewi, L., Santoso, Y. B., & Susanti, L. (2025). The Effect Of Augmented Reality In Enhancing Basic Communication Skills In Children With Autism Spectrum Disorder. European Journal Of Educational Research, 14(2), 615–626. Https://Doi.Org/10.12973/Eu-Jer.14.2.615

ISSN 2338-4778 (Print)
ISSN 2548-4192 (Online)

Lampropoulos, G., Keramopoulos, E., Diamantaras, K., & Evangelidis, G. (2024). Augmented Rreality And Gamification In Education: A Systtematic Literature Review Of Research, Applications, And Empirical Studies. Inovasi Kurikulum.

Lian, X., & Sunar, M. S. (2021). Mobile Augmented Reality Technologies For Autism Spectrum Disorder Intervensions: A Systematic Literature Review.

Mackey, A., & Gass, S. M. (2022). Second Language Research Methodology And Design Third Edition (Third Ed). Routledge. Https://Doi.Org/DOI:%252010.4324/9781003188414

Mahayuddin, Z. R., & Mamat, N. (2019). Implementing Augmented Reality (AR) On Phonics-Based Literacy Among Children With Autism. International Journal On Advanced Science, Engineering And Information Technology, 9(6), 2176–2181. Https://Doi.Org/10.18517/Ijaseit.9.6.6833

Majid, S. N. A., & Salam, A. R. (2021). A Systematic Review Of Augmented Reality Applications In Language Learning. International Journal Of Emerging Technologies In Learning (Ijet), 16(10), 18. Https://Doi.Org/10.3991/Ijet.V16i10.17273

Mar'atullatifah, Y., & Ratnasari, N. (2023). Penerapan Media Pembelajaran Untuk Anak Penderita Autisme Menggunakan Teknologi Augmented Reality. Jurnal Informasi Dan Teknologi, 39–52. Https://Doi.Org/10.60083/Jidt.V5i4.413

Melion, W. S., & Ramakers, B. (2016). Personification: An Introduction. In Personification. Https://Doi.Org/10.1163/9789004310438_002

Mukti, B. R., Novan, D., & Nugraha, S. (2022). Figurative Language Analysis In "Sing 2" Movie By Garth Jennings: A Semantics Study. Ethical Lingua, 9(2), 2022. Https://Doi.Org/10.30605/25409190.485

Padillah, E. N., Firmawan, H., & Purwaningsih, E. (2016). Simile, Hyperbole, Personification And Metaphor Used In Gayle Forman's If I Stay. Jurnal Ilmiah Sastra, 4(1).

Paul, R., & Fahim, D. (2014). Assessing Communication In Autism Spectrum Disorders. In F. R. Volkmar, R. Paul, S. J. Rogers, & K. A. Pelphrey, Handbook Of Autism And Pervasive Developmental Disorders, Fourth Edition (1st Ed.). Wiley. Https://Doi.Org/10.1002/9781118911389.Hautc27

Putra, G. A. B. S., Sudana, G. P., & Maharani, S. A. I. (2016). The Figurative Language In "Twilight" Movie Script. Jurnal Humanis, 16(3), 100–108.

Quintero, J., Baldiris, S., Rubira, R., Cerón, J., & Velez, G. (2019). Augmented Reality In Educational Inclusion. A Systematic Review On The Last Decade. Frontiers In Psychology, 10, 1835. Https://Doi.Org/10.3389/Fpsyg.2019.01835

Santoso, E. S., Subawa, I. G. B., & Pascima, I. B. N. (2024). PENGEMBANGAN AUGMENTED REALITY PENGENALAN PERLENGKAPAN SEKOLAH DALAM PENERAPAN FLAHSCARD DENGAN METODE PECS (PICTURE EXCHANGE COMMUNICATION SYSTEM) UNTUK ANAK AUTISME DI YAYASAN BALI PERMATA HATI. 13.

Susanto, E. S., Hamdani, F., Nuryansah, F., & Oper, N. (2022). PENGEMBANGAN APLIKASI SMART-BOOK SEBAGAI MEDIA PEMBELAJARAN BAHASA INGGRIS ANAK BERBASIS AUGMENTED REALITY. 5.

Tang, T. Y., Xu, J., & Winoto, P. (2019). An Augmented Reality-Based Word-Learning Mobile Application For Children With Autism To Support Learning Anywhere And Anytime: Object Recognition Based On Deep Learning. Spinger Nature Switzerland, 182–192.

Tarsidi, I., Rochyadi, E., Susetyo, B., Sunardi, S., Meggy, H., Nurkholifah, D. R., Febrianti, A. Z., Hapsari, E., & Fajrin, N. C. (2024). Augmented Reality-Based Training To Enhance Teachers' Knowledge Of Reproductive Health For Special Needs Students. Inovasi Kurikulum, 21(4), 2089–2100. Https://Doi.Org/10.17509/Jik.V21i4.75430

Toma, M.-V., Turcu, C. E., Turcu, C. O., Vlad, S., Tiliute, D. E., & Pascu, P. (2024). Extended Reality–Based Mobile App Solutions For The Therapy Of Children With Autism Spectrum Disorders: Systematic Literature Review. JMIR Serious Games, 12, E49906. Https://Doi.Org/10.2196/49906

Yule, G. (2020). The Study Of Language 7th Edition (7th Ed). Cambridge University Press.

Zaimar, O. K. S. (2002). Majas Dan Pembentukannya. Makara, Sosial Humaniora, 6(2), 45–57.