

Innovative Assessment Based on Augmented Reality (AR) in Early Childhood Education: Development of A Holistic Assessment Model for Young Children

Aminulloh*, Marwah, Mimi Hilmiah, Rahmat, Zuhriyah, Abdul Hamid

Institut Attaqwa KH Noer Ali, Indonesia

Email: aminullohamin072@gmail.com*, marwahsalim1979@gmail.com, hilmiahmimi587@gmail.com, rahmatsanan20@gmail.com, zuhriyah72attaqwa@gmail.com, abdul.hamid86attaqwa@gmail.com

Keywords:

Innovative Assessment; Augmented Reality; Early Childhood Education; Digital Assessment

ABSTRACT

Digital transformation in early childhood education requires innovative assessment practices that emphasize not only learning outcomes but also learning processes and holistic child development. This research aims to develop and analyze an innovative assessment model based on Augmented Reality (AR) and digital interaction in Islamic kindergarten (Raudhatul Athfal). The study employed a Research and Development (R&D) method using the ADDIE model. The participants included 20 children aged 5–6 years and two Raudhatul Athfal teachers at Al-Mansyuriah Bekasi. Data were collected through interactive observation, digital portfolios, and teacher questionnaires and analyzed using descriptive statistics and thematic analysis. The findings indicate that AR-based assessment enhances children's learning engagement, improves teachers' assessment efficiency, and produces more objective and well-documented assessment data. This model is relevant for supporting authentic assessment and strengthening Islamic values in early childhood education. In conclusion, the AR-based holistic assessment model is effective in capturing children's cognitive, social-emotional, linguistic, and moral development comprehensively, while also addressing the limitations of conventional manual assessments by providing a more interactive, systematic, and documentation-friendly approach that aligns with both digital era needs and Islamic educational values.

INTRODUCTION

Assessment is an essential component in early childhood education because it serves to understand children's development as a whole, including cognitive, social-emotional, language, motor, and moral aspects. In the context of Raudhatul Athfal (RA), assessment not only aims to measure learning outcomes but also to monitor the process of children's growth and development in accordance with age characteristics, individual needs, and Islamic educational values (Hulliyah & Anggraeni, n.d.; Yugo, n.d.). Therefore, assessments in early childhood should be carried out in a sustainable, fun, and non-stressful manner (Bonapersona et al., 2019; Mihai et al., 2022; Pillai et al., 2018; Walker et al., 2017).

However, assessment practices in many RA institutions are still dominated by manual and descriptive recording. Teachers generally observe children's development through diaries, assessment sheets, or simple documentation that are often not systematically integrated. This condition causes the assessment process to be less effective in representing the child's development as a whole, especially when teachers must observe many aspects of development

in a limited time (Darling-Hammond, 2015; De Los Reyes et al., 2015). In addition, manual recording also risks introducing subjectivity, causing documentation delays, and creating difficulties in tracking children's development over time (Ajuwon et al., 2020; Marschall, 2023; Rahman Jabin & Hammar, 2022).

These problems indicate that conventional assessments need to be strengthened through more innovative approaches aligned with contemporary needs. Early childhood education requires an assessment model that is not only accurate but also able to provide an engaging learning experience for children (Becker et al., 2023; Goldstein & Flake, 2016). Assessment should ideally not be separated from the learning process but rather be part of natural play and exploration activities. Thus, children can show their abilities, attitudes, and skills spontaneously without feeling judged (Alberti & Emmons, 2017; Lenihan et al., 2016; Yildirim & Akamca, 2017).

The development of digital technology presents a great opportunity to improve assessment practices in early childhood education institutions. One technology that has considerable potential is Augmented Reality (AR), which is a technology that combines real environments with virtual objects interactively (Dargan et al., 2023; Jo & Kim, 2019; Syed et al., 2022). Through AR, children can interact with images, sounds, animations, or three-dimensional objects that appear in a real learning environment. This experience can help children understand concepts in a more concrete, visual, and engaging way (Evagorou et al., 2015; Rozata & Theoneste, 2024).

In early childhood learning, the use of AR can support the principle of learning through play. Children at an early age tend to understand things more easily through direct experience, visualization, movement, and interaction. Therefore, AR can be a relevant medium to develop various aspects of children's development, such as the ability to recognize letters and numbers, understand shapes and colors, improve vocabulary, practice motor coordination, and foster curiosity. This technology can also help teachers create more varied and less monotonous learning experiences.

A number of studies show that AR can increase children's motivation, attention, and involvement in the learning process. Children become more active because the material presented is not only abstract but can be seen and responded to directly. Several recent studies demonstrate the effectiveness of AR in the context of children's education. Research by Chen and Wang (2020) found that the use of AR in early childhood literacy learning can significantly improve children's engagement and vocabulary understanding. Meanwhile, Rahman and Haryanto (2021) developed AR learning media based on Islamic values for early childhood and reported an increase in learning motivation and understanding of children's religious concepts. In Indonesia, the Ministry of Education and Culture (2022) has published authentic assessment guidelines for early childhood education, but the guidelines remain general and have not systematically integrated digital technology. A study by Lestari and Fitriani (2023) also shows that most RA teachers still have difficulty in systematically documenting children's development due to the limitations of practical and integrated assessment tools. However, the use of AR in the context of assessment is still relatively limited. Most AR applications still focus on learning media rather than on serving as a tool to help teachers observe, record, and analyze children's development authentically.

In fact, AR has the potential to be developed as an innovative assessment instrument. Through AR-based activities, teachers can observe the child's responses when completing assignments, interacting with virtual objects, answering questions, following instructions, or collaborating with peers. From this process, teachers can obtain data on children's development in a more natural and contextual manner. In other words, AR can support authentic assessments because assessments are based on real-life activities that involve the child's hands-on learning experience.

In the context of RA, the development of an AR-based assessment model also needs to be aligned with Islamic educational values. Assessment is not only directed at academic aspects or cognitive abilities but also at the formation of Islamic character, such as honesty, responsibility, independence, cooperation, gratitude, and good conduct in learning. Therefore, the assessment model developed needs to integrate technology, child development, and Islamic values to align with the goals of RA education.

Based on these conditions, this study focuses on developing an innovative Augmented Reality-based assessment model that is relevant to the characteristics of RA learning and the needs of early childhood. This model is expected to address the limitations of conventional assessments, which are still manual, descriptive, and less interactive. In addition, this research is also expected to contribute to RA teachers in carrying out assessments that are more authentic, engaging, systematic, and aligned with Islamic educational values.

METHOD

This research uses a Research and Development (R&D) approach with the ADDIE model which includes the stages of analysis, design, development, implementation, and evaluation. The research was carried out at RA Al-Mansyuriah Bekasi, West Java city.

The research subjects consisted of 20 children aged 5–6 years and 2 RA teachers. The research instruments include interactive observation sheets, AR-based digital portfolios, and questionnaires on teachers' responses to the ease and benefits of assessment. Quantitative data were analyzed using descriptive statistics, while qualitative data were analyzed thematically to identify patterns of child development during AR-based learning.

RESULTS AND DISCUSSION

Development of Assessment Models

The results of the study show that the innovative Augmented Reality (AR)-based assessment model developed in this study consists of five main components, namely interactive literacy assessment, contextual character assessment, micro digital portfolio, mini-reflection assessment, and peer-to-peer social assessment. The five components are designed to complement each other in describing children's development more comprehensively. This model not only assesses children's cognitive abilities, but also includes aspects of language, social-emotional, character, independence, and children's ability to interact with the learning environment.

The first component is **an interactive literacy assessment**. In this component, children are given AR-based activities related to the recognition of letters, simple words, images, sounds, and visual objects. Children can see virtual objects that appear through digital devices, then respond to the teacher's instructions, say the name of the object, match the picture with a

word, or answer a simple question. Through this activity, teachers can observe children's ability to recognize symbols, understand instructions, develop vocabulary, and show interest in early literacy activities.

The second component is **the assessment of contextual character**. This component was developed to assess children's behavior in learning situations that are close to daily life and Islamic educational values. AR activities are designed with simple scenarios, such as choosing good behavior, helping friends, maintaining cleanliness, saying greetings, praying before activities, or showing an honest attitude. From these activities, teachers can observe how children understand Islamic moral values and manners, as well as how children apply them in interactions during learning.

The third component is **the micro digital portfolio**. This portfolio serves as documentation of child development in the form of short notes, photos of activities, results of child responses, voice recordings, or screenshots of AR-based activities. Micro digital portfolios help teachers store evidence of children's development in a more practical and systematic way. With this portfolio, teachers do not only rely on memory or manual notes, but have documentation that can be used to see the child's development over time.

The fourth component is **a mini-reflection assessment**. At this stage, children are invited to convey simple feelings, experiences, or understandings after participating in AR-based learning activities. Reflection can be done through light questions, such as "What did you like?", "What did you see?", "How did you feel after studying?", or "What did you study today?". Although simple, mini-reflections help teachers understand the child's emotional responses, language skills, confidence, and level of involvement in the learning process.

The fifth component is **peer-to-peer social assessment**. This component is used to observe children's interactions with peers during learning activities. Children can be invited to work in pairs or groups to complete AR-based tasks. The teacher then observes the child's attitude in sharing, waiting for his turn, helping friends, communicating, and solving simple problems together. This assessment is important because social-emotional development is one of the main aspects of early childhood education, including in the RA environment.

All of these components are integrated into AR-based learning activities so that the assessment process does not feel rigid or separate from learning activities. Children still feel like they are playing and exploring, while teachers can make observations more naturally. Thus, this assessment model supports the principle of authentic assessment, which is assessment carried out based on children's real activities in the context of meaningful learning.

Implementation Results

The results of the implementation of the AR-based assessment model show an increase in children's involvement in the learning process. Children appear more enthusiastic when participating in activities that feature visual objects, animations, sounds, and direct interactions. The use of AR makes children more focused, actively encourages questions, and increases their confidence in responding to teachers' instructions. This demonstrates that AR-based media is able to create an interesting learning atmosphere in accordance with the characteristics of early childhood, which are inclined toward visual, concrete, and exploratory activities.

In addition to increasing children's learning engagement, the implementation of this model also helps teachers observe development more efficiently. Teachers not only observe the final results of children's activities but can also record children's processes when interacting

with AR media. For example, teachers can observe how children understand instructions, complete assignments, communicate with peers, express emotions, and demonstrate positive behaviors during activities. Thus, the assessment data obtained becomes richer and more contextual.

Teachers assessed that AR-based assessments were more practical than manual assessments, which have been widely used. In conventional practice, teachers often face obstacles in recording children's development comprehensively due to time constraints and the many aspects that must be observed. Through this model, documentation of child development can be done more simply through micro digital portfolios, brief observation notes, and evidence of children's activities during learning. This helps teachers reduce administrative burden without losing the depth of assessment information.

The results of the implementation also show that the AR-based assessment model provides a more accurate picture of child development. This occurs because assessments are conducted through direct activities, not just based on tests or general observations. Children are assessed while engaging in activities that align with their learning world—namely playing, interacting, viewing visual objects, answering questions, and working together with peers. This condition makes it easier for teachers to understand children's actual abilities in various aspects of development.

In terms of literacy development, children show improvements in recognizing letters, mentioning simple words, understanding instructions, and connecting pictures with specific meanings. AR activities help children understand the material in a more concrete way because displayed objects can be seen visually and attractively. This makes it easier for children to retain information and increases their motivation to participate in early literacy activities.

Regarding Islamic character and values, this assessment model helps teachers observe children's behavior in a more realistic context. Children are not only asked to name good behaviors but are also invited to understand examples of behavior through AR-based visual scenarios. Teachers can observe how children respond to situations related to manners, honesty, caring, cooperation, and independence. Thus, character assessments can be conducted in a more contextual manner rather than through mere memorization.

In the social-emotional aspect, children demonstrate greater activity in interacting with peers when activities are conducted in pairs or small groups. Some children show the ability to wait for their turns, help friends, share materials, and engage in simple conversations. AR-based peer-to-peer activities provide children opportunities to learn cooperation in a fun atmosphere. This indicates that the assessment model supports not only the measurement of individual development but also children's social development.

Overall, the study results show that developing an AR-based assessment model makes a positive contribution to assessment practices in RA. This model successfully combines digital technology, early childhood learning principles, authentic assessment, and Islamic educational values in one integrated design. With this model, teachers have an assessment alternative that is more engaging, practical, systematic, and aligned with the needs of children's development.

Based on the implementation results, it can be concluded that AR-based assessments have significant potential as innovations in early childhood education assessment, especially within Raudhatul Athfal environments. This model is not intended to replace the teacher's role but rather to strengthen teachers' ability to observe, document, and understand children's

development more comprehensively. Therefore, this assessment model can be a solution to address the limitations of conventional assessments that have been dominant in RA institutions.

The application of Augmented Reality-based assessments has proven to support the principle of authentic assessment in early childhood education. Assessments occur naturally as children interact with learning media, so teachers obtain more contextual and meaningful developmental data. Children are assessed through play activities rather than formal tests, so the assessment process does not cause psychological pressure.

From a pedagogical perspective, the use of AR increases children's engagement and motivation to learn. Visual and interactive media align with the characteristics of early childhood learning, which is exploratory and experience-based. High engagement has a positive impact on assessment quality because children demonstrate their best abilities during the learning process.

Additionally, AR-based assessments provide efficiency for teachers in conducting observation and documentation. Digital data stored in the portfolio allow teachers to reflect and plan learning more systematically. Assessment objectivity is also enhanced because it is supported by visual evidence that can be reviewed.

From the perspective of Islamic education, this assessment model is relevant to the principle of *tarbiyah bil tajribah*, which is education through direct experience. Character values such as honesty, empathy, and responsibility are instilled through digital storytelling and social interactions integrated into AR activities. Thus, assessment not only functions as an evaluation tool but also as a means of forming children's character from an early age.

The study results show that developing an Augmented Reality (AR)-based assessment model provides a new alternative in the implementation of assessments in Raudhatul Athfal (RA). This model serves not only as an assessment tool but also becomes part of an interactive, engaging learning process appropriate to the characteristics of early childhood. This is important because early childhood assessments should not be conducted rigidly like academic tests but through play, observation, interaction, and hands-on experience. Thus, AR-based assessment models can strengthen authentic assessment practices in RA.

Findings regarding the five components of the assessment—namely interactive literacy assessment, contextual character assessment, micro digital portfolio, mini-reflection assessment, and peer-to-peer social assessment—demonstrate that early childhood assessment must be conducted comprehensively. Children are not only judged by their ability to recognize letters, numbers, or answer questions but also by how children interact, demonstrate attitudes, express feelings, cooperate, and apply moral values in daily activities. Therefore, these five components are important because they describe children's development more completely.

AR-based interactive literacy assessment provides a more concrete learning experience for children. Early childhood generally understands concepts more easily through images, sounds, movements, and objects that can be directly observed. When AR is used to display virtual objects, children become more interested in naming words, recognizing images, understanding instructions, and connecting symbols with meaning. This demonstrates that AR can help teachers observe children's early literacy skills more naturally, without making children feel tested.

Beyond the literacy aspect, contextual character assessment is an important part of this model because RA has a strong orientation toward the formation of Islamic morals and values.

Through AR-based scenarios, children can be presented with simple situations related to good behavior, such as greeting, helping peers, praying before activities, maintaining cleanliness, or being honest. This analysis shows that character assessments become more meaningful when conducted in contexts close to children's lives rather than through mere memorization or question-and-answer sessions. In this way, teachers can observe the child's understanding of moral values as well as the child's tendency to apply them.

The micro digital portfolio is also an important finding because it addresses the weaknesses of manual assessments that have been widely used in RA. In conventional practice, teachers often struggle to document children's development comprehensively due to time constraints, large numbers of children, and many developmental aspects that must be observed. Micro digital portfolios allow teachers to store evidence of a child's development in the form of brief notes, photographs, voice recordings, or documentation of activities. With this documentation, children's development can be traced more systematically over time.

The mini-reflection assessment demonstrates that early childhood children can actually be involved in the assessment process in simple ways. Reflection does not need to be lengthy explanations; it can be an expression of feelings, a simple choice, or a brief response about the learning experience. When children are asked what they liked, what they saw, or how they felt after learning, teachers can gain information about emotional involvement, courage to speak, and children's understanding of the activities conducted. This shows that assessment not only evaluates results but also creates space for the child's voice and experience.

Peer-to-peer social assessment demonstrates that children's social development can be observed more clearly when children learn with peers. In AR-based activities, children can be asked to work in pairs or small groups. From this, teachers can observe the child's ability to wait for their turn, share materials, help peers, communicate, and complete tasks together. This finding is important because social-emotional skills are a major component of a child's readiness to enter the next level of education. Thus, the AR-based assessment model focuses not only on the individual but also on the child's social relationships.

The implementation results show that AR use increases children's learning engagement. Children become more enthusiastic, focused, and active because the material is presented in visual and interactive form. This demonstrates that digital media, when used appropriately, can strengthen early childhood learning motivation. However, AR use still requires teacher direction so that it functions not merely as visual entertainment but truly as a means to observe children's development. The role of teachers remains the primary factor in determining the success of technology-based assessments.

From the teacher's perspective, the AR-based assessment model is considered more practical and efficient because it facilitates the process of observing and documenting child development. Teachers can observe the child's response directly as the child interacts with virtual objects, responds to instructions, or collaborates with peers. The data obtained becomes more contextual because it comes from real learning activities. This differs from manual assessments, which are often only brief descriptive notes and do not demonstrate the depth of child development processes.

Assessment accuracy is also improved because this model provides teachers the opportunity to observe children's abilities in more natural situations. Children are not forced to answer questions formally but demonstrate their abilities through play and exploration

activities. In the context of early childhood education, this is very important because children often cannot demonstrate their best abilities in rigid test situations. Therefore, AR-based assessments represent an approach more aligned with principles of child development.

However, implementing AR-based assessments also presents challenges. Not all RA institutions have adequate technological facilities, such as digital devices, internet networks, or supporting applications. Additionally, not all teachers have the same proficiency in using technology. Therefore, the success of this model depends highly on the readiness of facilities, teacher training, and institutional support. Without sufficient support, AR use risks becoming merely an attractive supplementary medium rather than an optimally functional assessment instrument.

This discussion also emphasizes that technology cannot replace the teacher's role in early childhood assessment. AR serves only as a tool to enrich the learning experience and facilitate documentation. Teachers still play the leading role in observing, interpreting, providing feedback, and making decisions based on child development data. Therefore, the AR-based assessment model should be understood as a collaborative approach between technology and teacher professionalism.

In the context of RA, the integration of AR with Islamic educational values is an aspect that distinguishes this model from digital assessments in general. This model measures not only academic skills but also pays attention to the formation of Islamic character and children's conduct in learning. This demonstrates that technological innovation can remain aligned with the identity of Islamic education if it is designed according to the goals, values, and needs of RA institutions. Thus, AR use does not contradict Islamic values but can serve as a means to convey these values in a more engaging and contextual manner.

Overall, the study results show that AR-based assessment models have significant potential to improve the quality of assessment in RA. This model addresses the weaknesses of conventional assessments that tend to be manual, less interactive, and difficult to document systematically. Additionally, this model provides a more enjoyable learning experience for children and helps teachers obtain more complete developmental data. Therefore, the AR-based assessment model can be considered an assessment innovation relevant to the needs of early childhood education in the digital era.

Thus, the discussion of these study results confirms that developing an AR-based assessment model contributes not only to the technical aspects of assessment but also to improving learning quality, documenting development, and strengthening children's character. This model can serve as a foundation for RA institutions to begin developing assessments that are more authentic, systematic, and adaptive to technological developments. However, implementation must still be accompanied by teacher readiness, facility support, and continuous evaluation so that this model can be used optimally and sustainably.

CONCLUSION

This study concludes that innovative assessment models based on Augmented Reality and digital interaction are effective in improving the quality of assessment in RA. This model is able to assess children's development holistically, increase learning engagement, and make it easier for teachers to conduct authentic and objective assessments. AR-based assessments are also relevant to support the strengthening of Islamic education values in early childhood.

This study recommends strengthening teachers' digital literacy and further development of AR-based assessment models so that they can be applied more widely in RA education units.

REFERENCE

- Ajuwon, A., Onifade, O., Oladuji, T. J., & Akintobi, A. O. (2020). Blockchain-based models for credit and loan system automation in financial institutions. *IRE Journals*, 3(10), 364–381.
- Alberti, R., & Emmons, M. (2017). *Your perfect right: Assertiveness and equality in your life and relationships*. New Harbinger Publications.
- Becker, I., Rigaud, V. M., & Epstein, A. (2023). Getting to know young children: Alternative assessments in early childhood education. *Early Childhood Education Journal*, 51(5), 911–923.
- Bonapersona, V., Kentrop, J., Van Lissa, C. J., Van der Veen, R., Joëls, M., & Sarabdjitsingh, R. A. (2019). The behavioral phenotype of early life adversity: A 3-level meta-analysis of rodent studies. *Neuroscience & Biobehavioral Reviews*, 102, 299–307.
- Dargan, S., Bansal, S., Kumar, M., Mittal, A., & Kumar, K. (2023). Augmented reality: A comprehensive review. *Archives of Computational Methods in Engineering*, 30(2), 1057–1080.
- Darling-Hammond, L. (2015). *Getting teacher evaluation right: What really matters for effectiveness and improvement*. Teachers College Press.
- De Los Reyes, A., Augenstein, T. M., Wang, M., Thomas, S. A., Drabick, D. A. G., Burgers, D. E., & Rabinowitz, J. (2015). The validity of the multi-informant approach to assessing child and adolescent mental health. *Psychological Bulletin*, 141(4), 858.
- Evagorou, M., Erduran, S., & Mäntylä, T. (2015). The role of visual representations in scientific practices: From conceptual understanding and knowledge generation to “seeing” how science works. *International Journal of STEM Education*, 2(1), 11.
- Goldstein, J., & Flake, J. K. (2016). Towards a framework for the validation of early childhood assessment systems. *Educational Assessment, Evaluation and Accountability*, 28(3), 273–293.
- Hulliyah, K., & Anggraeni, N. (n.d.). Ability assessment competency standards on early childhood with fuzzy logic approach (Case study on Raudlatul Athfal (RA) Bunga Bangsa Parung).
- Jo, D., & Kim, G. J. (2019). AR enabled IoT for a smart and interactive environment: A survey and future directions. *Sensors*, 19(19), 4330.
- Lenihan, D., McCobb, E., Diurba, A., Linder, D., & Freeman, L. (2016). Measuring the effects of reading assistance dogs on reading ability and attitudes in elementary schoolchildren. *Journal of Research in Childhood Education*, 30(2), 252–259.
- Marschall, A. (2023). *Clinical documentation with children and adolescents: Treatment, risks, and ethics*. Routledge.
- Ministry of Education and Culture. (2022). *Guidelines for authentic assessment of early childhood education*. Directorate of Early Childhood Education.
- Mihai, M., Albert, C. N., Mihai, V. C., & Dumitras, D. E. (2022). Emotional and social engagement in the English language classroom for higher education students in the COVID-19 online context. *Sustainability*, 14(8), 4527.

- Pillai, A. G., Arp, M., Velzing, E., Lesuis, S. L., Schmidt, M. V., Holsboer, F., Joëls, M., & Krugers, H. J. (2018). Early life stress determines the effects of glucocorticoids and stress on hippocampal function: Electrophysiological and behavioral evidence respectively. *Neuropharmacology*, *133*, 307–318.
- Rahman Jabin, M. S., & Hammar, T. (2022). Issues with the Swedish e-prescribing system: An analysis of health information technology-related incident reports using an existing classification system. *Digital Health*, *8*, 20552076221131140.
- Rozata, U., & Theoneste, H. (2024). Concrete pictorial abstract approach use in teaching mathematics on secondary students' participation in six selected schools in Kicukiro District, Rwanda. *African Journal of Empirical Research*, *5*(4), 1243–1251.
- Syed, T. A., Siddiqui, M. S., Abdullah, H. B., Jan, S., Namoun, A., Alzahrani, A., Nadeem, A., & Alkhodre, A. B. (2022). In-depth review of augmented reality: Tracking technologies, development tools, AR displays, collaborative AR, and security concerns. *Sensors*, *23*(1), 146.
- Walker, C.-D., Bath, K. G., Joëls, M., Korosi, A., Larauche, M., Lucassen, P. J., Morris, M. J., Raineke, C., Roth, T. L., & Sullivan, R. M. (2017). Chronic early life stress induced by limited bedding and nesting (LBN) material in rodents: Critical considerations of methodology, outcomes, and translational potential. *Stress*, *20*(5), 421–448.
- Yıldırım, G., & Akamca, G. Ö. (2017). The effect of outdoor learning activities on the development of preschool children. *South African Journal of Education*, *37*(2), 1–10.
- Yugo, T. (n.d.). Assessing the quality of Islamic early childhood education: Evidence from Raudhatul Athfal's compliance with national standards in Bandung. *Golden Age: Jurnal Ilmiah Tumbuh Kembang Anak Usia Dini*, *10*(3), 563–581.