http://jurnaltarbiyah.uinsu.ac.id/index.php/raudhah
e-mail: jurnalraudhah@uinsu.ac.id
p-ISSN: 2338-2163
e-ISSN: 2716-2435

The Influence of Television-Assisted Digital Literacy on Early Childhood Science Development at RA Al-Munawwarah

Pengaruh Literasi Digital Berbantuan Media Televisi Terhadap Perkembangan Sains Anak Usia Dini di RA Al-Munawwarah

✉[1]**Trisya Firdausil Jennah,** [2]**Nurul Ismaiyah,** [3]**Hamiduddin,** [4]**Nurul Qomariyah MW,** [5]**Fina Fitriyah,** [6]**Prasthy Widhyasmara Putri**
[1,2,3,4,5] Universitas Islam Madura, Jalan Pondok Pesantren Miftahul Ulum Bettet, Jawa Timur, Indonesia
[6] Pacific National University, 136 Tikhookeanskaya Street, Khabarovsk, Rusia
✉[1]trisyafirdausiljannah@gmail.com, [2]nurulismaiyah@uim.ac.id, [3]udinmardan99@gmail.com, [4]nurulqomariyahmw@gmail.com, [5]finafitriyah50@gmail.com, [6]prasthywp@gmail.com

Article submitted: 20 March 2026 ***Review process: 7 April 2026***
Article accepted: 21 April 2026 ***Article published: 26 April 2026***

Abstract

Early childhood science development needs to be stimulated through engaging learning that is concrete, visual, and based on direct experience, thus requiring appropriate media to support conceptual understanding. Digital literacy can help children understand scientific concepts through visual displays, but its utilization is still less than optimal. The purpose of this study was to determine the effect of digital literacy assisted by television media on early childhood science development at RA Al-Munawwarah. This study used a quantitative approach with a pre-experimental model, a one-group pretest-posttest design. The entire group B consisted of 40 children as the population in the study, the research sample amounted to 40 children determined using the total sampling technique. The instrument was an observation sheet. Data analysis used descriptive statistics and the Wilcoxon Signed Rank Test. The results showed an increase in the average value from 51.13 to 72.38, thus having a significant effect. The results of the study are expected to be a reference for educators in utilizing television media as a means of digital literacy.
Keywords: early childhood; digital literacy; instructional media; science development; television

Abstrak

Perkembangan sains pada anak usia dini perlu distimulasi melalui pembelajaran yang menarik dan sesuai karakteristik konkret, visual, dan berbasis pengalaman langsung sehingga memerlukan media yang sesuai untuk mendukung pemahaman konsep. Literasi digital dapat membantu anak memahami konsep sains dengan tampilan visual, namun pemanfaatannya masih kurang optimal. Tujuan dari penelitian ini adalah untuk mengetahui pengaruh literasi digital berbantuan media televisi terhadap perkembangan sains anak usia dini di RA Al-Munawwarah. Penelitian ini menggunakan pendekatan kuantitatif dengan model pre-experimental, desain one group pretest-posttest. Seluruh kelompok B berjumlah 40 anak sebagai populasi dalam penelitian, sampel penelitian berjumlah 40 anak yang ditentukan menggunakan teknik total sampling. Instrumen berupa lembar observasi. Analisis data menggunakan statistik deskriptif dan uji Wilcoxon Signed Rank Test. Hasil penelitian menunjukkan peningkatan nilai rerata dari 51,13 menjadi 72,38, sehingga berpengaruh signifikan. Hasil penelitian diharapkan menjadi referensi bagi pendidik dalam memanfaatkan media televisi sebagai literasi digital.
Kata kunci: *anak usia dini; literasi digital; media pembelajaran; perkembangan sains; televisi*

http://jurnaltarbiyah.uinsu.ac.id/index.php/raudhah
e-mail: jurnalraudhah@uinsu.ac.id
p-ISSN: 2338-2163
e-ISSN: 2716-2435

A. INTRODUCTION

Early childhood science development at RA Al-Munawwarah is a crucial aspect in enhancing analytical skills, enthusiasm for learning, and problem-solving skills from an early age. However, in today's digital age, children are increasingly exposed to various digital devices and media that are not necessarily optimally utilized to support science learning. The extent to which teachers and parents' digital literacy is able to guide the use of technology as an educational tool, not merely entertainment, is also questionable (Monika et al., 2024). Early childhood learning emphasizes direct, real-life, and exploratory experiences so that children learn through direct interaction with their environment. Furthermore, digital literacy serves as a tool, not a substitute for such experiences.

Digital literacy in early childhood education is the process of recognizing and using technology to help children obtain information, interact, and actively improve their learning skills (Aisyah, 2024). In early childhood education (PAUD), digital literacy can be used as an engaging learning tool to stimulate aspects of early childhood development, including science. Integrating digital media with hands-on learning experiences is crucial to make the learning process more meaningful and appropriate for early childhood development.. By utilizing digital media such as video learning materials, interactive images, and technology-assisted educational games, children can gain a more realistic, engaging, and easy-to-understand learning experience (Rusdawati & Eliza, 2022).

Children's limited understanding of how to use digital media wisely can impact the quality of cognitive stimulation they receive (Watini, 2019). A problem that arises in learning at RA Al-Munawwarah is the suboptimal use of digital media as a digital literacy medium to support children's science development. The use of digital television tends to be limited to entertainment or general viewing, not fully directed at educational content relevant to science learning (Yunita & Watini, 2022).

The lack of integrated learning planning with educational programs and limited teacher support while children watch can lead to passive behavior and a lack of critical thinking stimulation (Judijanto et al., 2025). Although television is one-way, its use can still be optimized through play and exploration activities designed by teachers, so that children are

http://jurnaltarbiyah.uinsu.ac.id/index.php/raudhah
e-mail: jurnalraudhah@uinsu.ac.id
p-ISSN: 2338-2163
e-ISSN: 2716-2435

not merely passive viewers but also active participants in the learning process.. Teachers act as facilitators to create active and meaningful learning for early childhood (Hayatinnufus et al., 2023).

This situation has the potential to prevent digital television from significantly contributing to children's understanding of basic science concepts such as nature, living things, weather, and simple phenomena around them. Therefore, it is necessary to examine how digital television can be optimized as part of digital literacy to truly impact children's science development at RA Al-Munawwarah. Therefore, it is crucial to ensure that television is not merely a passive viewing activity but is truly directed as an educational and interactive digital literacy medium to support children's science development (Lesmana et al., 2023).

Ideally, Jean Piaget proposed that, according to cognitive development theory, early childhood is in the preoperational phase (ages 1 to 6 years), where they learn through concrete experiences, exploration, and direct interaction with the environment (Ibda, 2015). In this context, digital literacy should function as a tool that enriches the science learning experience, not replace real-life experiences (Yuliarini & Harun, 2025). Interactive digital media that is appropriate to the developmental stage can help children observe, categorize, and understand simple science concepts such as color, shape, weather, and living things through engaging and contextual visualizations (Maku et al., 2024).

Previous studies have highlighted the use of digital media in early childhood education institutions, such as research conducted by Mala (2022), which examined improving digital ethics in early childhood education using digital literacy education. Another study by Sipahutar (2023) examined aspects that could influence digital literacy education for early childhood. Mauluddia & Yulindrasari's research (2024) examining the role of literacy in supporting early childhood development. Yunita & Watini's (2022) research examining the development of digital literacy using school television. Febriani et al.'s (2023) research on the impact of inquiry-based learning methods using reality media on children's literacy aged 4 to 5 years. Although various studies have discussed the application of digital literacy in early childhood education (PAUD), most researchers have focused more on developing reading literacy, digital ethics, and the use of digital media in general. This study is unique in that it

http://jurnaltarbiyah.uinsu.ac.id/index.php/raudhah
e-mail: jurnalraudhah@uinsu.ac.id
p-ISSN: 2338-2163
e-ISSN: 2716-2435

emphasizes the use of television as an element of digital literacy integrated with learning activities to support science development in early childhood at Raudhatul Athfal (preschool). However, research specifically examining the relationship between television-assisted digital literacy and early childhood science development is still relatively limited, particularly in Raudhatul Athfal.

Therefore, this study presents an innovation by analyzing the influence of television-assisted digital literacy on the development of early childhood science at RA Al-Munawwarah. Based on this description, the research problem is formulated as follows: Is there an influence of television-assisted digital literacy on the development of early childhood science at RA Al-Munawwarah?

B. RESEARCH METHODS

This research method uses a quantitative approach, the method used is the methodpre-experimental, because this study did not use a control group as a comparison. This research design usesone group pretest-posttest, namely research involving one group of subjects who are givenpretest before treatment andposstestafter treatment to determine the changes that occurred (Siregar et al., 2024). This design was chosen based on the limitations of field conditions, where the study could only be conducted in one class, thus precluding a control group. However, it could still be used to observe the effects of the treatment through a before-and-after comparison (Sari & Hermawan, 2023). This research design can be described as $O_1 \rightarrow X \rightarrow O_2$ where O_1 is pretest, X is a treatment in the form of digital literacy learning assisted by television media, and O_2 isposttest.

Figure 1. Research DesignOne Group Pretest-Posttest

http://jurnaltarbiyah.uinsu.ac.id/index.php/raudhah
e-mail: jurnalraudhah@uinsu.ac.id
p-ISSN: 2338-2163
e-ISSN: 2716-2435

The treatment in this study was implemented through a learning method focused on digital literacy, using television to display educational videos relevant to basic science concepts, such as observing various scientific phenomena, introducing them to life, the environment, and simple changes in their surroundings. The study was conducted over three weeks, with the learning process tailored to several sessions tailored to early childhood.

The research was conducted at RA Al-Munawwarah. The population studied was all of Group B (children aged 5-6 years) at RA Al-Munawwarah, totaling 40 children divided into one class. The sampling technique used wastotal sampling, so that the entire population was used as a sample in the study, totaling 40 children as research subjects. The object of this study was early childhood science development, while television-assisted digital literacy served as the independent variable.

The treatment was carried out in three phases, namely before, during, and after television use. In the pre-phase(pre-activity), The teacher carries out apperception, introduces the material, and providespretest to assess the child's abilities at the beginning. In the phase during(while-activity), Children watch educational videos about simple science concepts under teacher guidance. The teacher focuses the children's attention and asks questions throughout the activity. In the post-activity phase(post-activity), child discussing, carrying out real activities such as observing and grouping objects, and being givenposttest to measure the improvement of their scientific development.

Data collection in this study was conducted through observation techniques. Observation is a technique for collecting data using direct observation of the behavior of research subjects during a specific activity (Anik et al., 2025). Observation techniques were used to observe children's scientific development during the learning process and to evaluate the extent to which children achieved the desired developmental indicators. The results of observations for each child were recorded on an evaluation instrument, consisting of an observation sheet compiled based on early childhood science development criteria. The instrument was tested for validity and approved by early childhood education experts and PGPAUD lecturers before being used in the study to ensure the suitability of the indicators with the developmental aspects being measured. In addition, a reliability test was conducted to determine the level of

http://jurnaltarbiyah.uinsu.ac.id/index.php/raudhah
e-mail: jurnalraudhah@uinsu.ac.id
p-ISSN: 2338-2163
e-ISSN: 2716-2435

consistency of the instrument, thus declaring the instrument suitable for use in the study. Assessment was carried out by placing a check mark in the evaluation column, according to the level of progress achieved by the child.

Table 1. Research Instrument Grid

No	Aspects / Indicators	Number	Number of Grains
1	Showing flavor want to know towards scientific phenomena through digital media	1	1
2	Identifying simple science concepts	2	1
3	Using digital media for science exploration activities	3	1
4	Showing ability simple thinking in science activities	4	1
	Amount		4

Source: Data processed by researchers (Jennah et al., 2026)

The next stage is analyzing the data obtained from the pretest and posttest results using descriptive and inferential statistical analysis methods. Descriptive statistical analysis aims to find the lowest, highest, average (mean), as well as the standard deviation of the research results. Before conducting the hypothesis test, a prerequisite analysis test was carried out, namely the normality test using Shapiro-Wilk to determine the similarity of data variance. Based on the results of the normality test, the data is not distributed normal, then the inferential analysis is continued using a non-parametric test, namely Wilcoxon Signed Rank Test to find out the difference between the resultspretest And posttest. Next, the program Statistical Program for Social Science (SPSS) to analyze the results of the data that has been obtained.

http://jurnaltarbiyah.uinsu.ac.id/index.php/raudhah
e-mail: jurnalraudhah@uinsu.ac.id
p-ISSN: 2338-2163
e-ISSN: 2716-2435

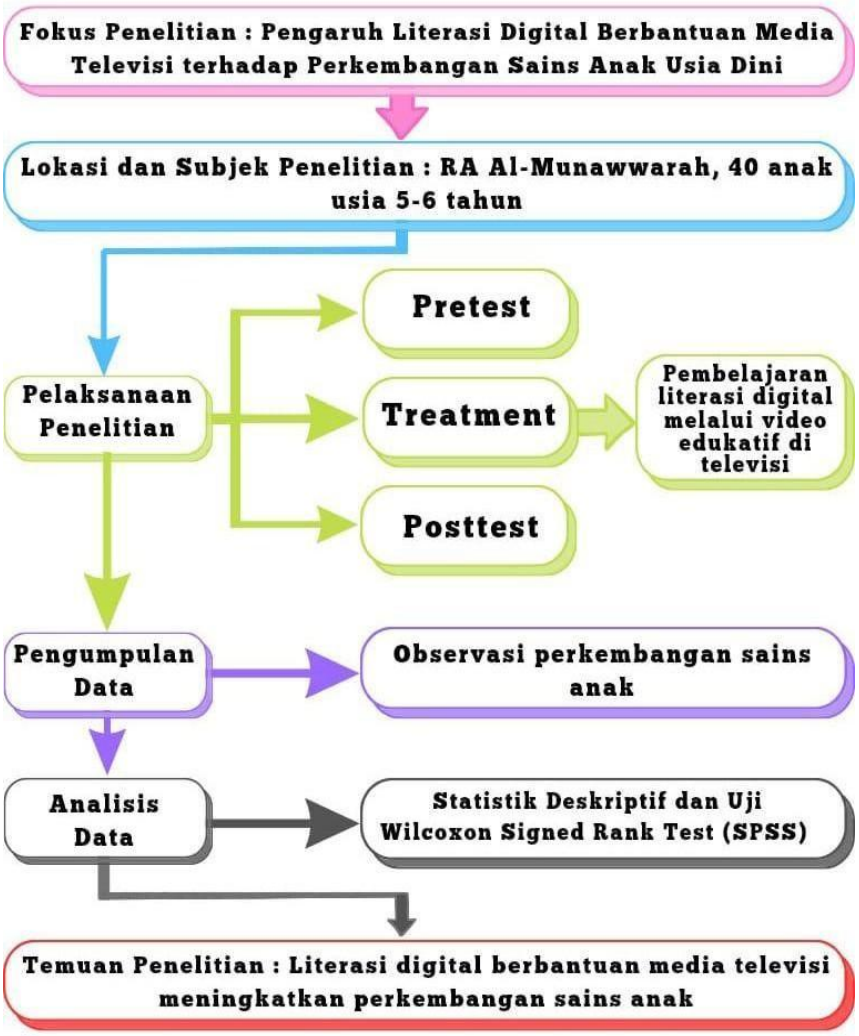

Figure 2. Research Implementation Flow

C. FINDINGS AND DISCUSSION

Based on research findings regarding the influence of digital literacy assisted by television media on the development of early childhood science at RA Al-Munawwarah, the results obtained were:pretest And posttest. Before treatment (treatment) implemented,pretest was conducted to measure children's science development. After the treatment,posttest was conducted to evaluate changes in children's scientific development after they learned to use digital literacy through television media. Based on the analysis results frompretest

http://jurnaltarbiyah.uinsu.ac.id/index.php/raudhah
e-mail: jurnalraudhah@uinsu.ac.id
p-ISSN: 2338-2163
e-ISSN: 2716-2435

And posttest, the scientific development of children aged 5-6 years with a sample of 40 people can be known.

Table 2. Descriptive Statistics of ResultsPretest And Posttest

Variables	Amount of Data	Lowest Score	Highest Score	Rerata	Standard Deviation
Before Treatment	40	40	60	51,13	5,00
After Treatment	40	65	85	72,38	5,48

Based on table 2, the valuepretest the lowest is 40 and the highest is 60. Meanwhile, after treatment (posttest), the lowest value is 65 and the highest is 85. The average atpretest which is 51.13 and the average after treatment is 72.38. The standard deviation atpretest which is 5.00 and the standard deviation atposttest was recorded at 5.48. These results indicate that children's scientific development improved after the implementation of television-assisted digital literacy in the learning process. Before testing the hypothesis, a normality test was first conducted using the t-test method.Shapiro-Wilk.

Table 3. Normality Test Results

	Statistics	Degrees of Freedom	Significance.
Value Before Treatment	.905	40	.003
Post-Treatment Value	.883	40	.001

Table 3 shows the results of the normality test that the significance value of the datapretest of 0.003 andposttest of 0.001, both of which are less than 0.05. This indicates that the data is not normally distributed. Therefore, data analysis cannot use parametric tests, so it is continued with non-parametric tests, namelyWilcoxon Signed Rank Test.

http://jurnaltarbiyah.uinsu.ac.id/index.php/raudhah
e-mail: jurnalraudhah@uinsu.ac.id
p-ISSN: 2338-2163
e-ISSN: 2716-2435

Table 4. Test ResultsWilcoxon Signed Rank Test

Null Hypothesis	Test	Sign.	Result
1 Median	Wilcoxon for Paired Sampel	0,000	Null hypothesis is rejected

The asymptotic significance value is displayed with a significance level of 0.05.

Table 4 shows the test resultsWilcoxon Signed Rank Test and obtained a significance value (Asymp. Sig. 2-tailed) of 0.000 (<0.05), so that H_0 is rejected and H_a is accepted. This indicates that there is a significant influence of the use of digital literacy assisted by television media on the development of children's science given to eachpretest And posttestTherefore, it can be stated that there is an influence of digital literacy on the development of early childhood science at RA Al-Munawwarah.

In addition to hypothesis testing, an improvement analysis was also conducted using N-gain to determine the extent of improvement in early childhood science development. N-gain is calculated by comparing the mean values.pretest-posttest using the N-gain formula. The calculation results show a value of 0.43, which is classified as moderate. This indicates that the use of digital literacy aided by television media not only has a statistically significant impact but is also quite effective in improving early childhood science development.

Based on the results of research conducted at RA Al-Munawwarah, the use of digital literacy such as television in the teaching and learning process has a positive effect on the development of science in early childhood, as evidenced by an increase in the average score.pretest And posttest obtained after participating in learning with a digital literacy approach. Before the treatment was given, children's scientific development was still at a fairly low level, where they were not yet fully able to observe, understand basic concepts, and explain phenomena around them. However, after participating in learning using digital literacy media, children's understanding of basic scientific concepts showed improvement. This occurs because digital television media provides visual and audio stimuli that can improve their concentration and understanding. Technology-assisted learning can help develop children's scientific cognition more optimally (Maisarah et al., 2025). Research by (Simatupang et al.,

http://jurnaltarbiyah.uinsu.ac.id/index.php/raudhah
e-mail: jurnalraudhah@uinsu.ac.id
p-ISSN: 2338-2163
e-ISSN: 2716-2435

2024) stated that the use of technology in early childhood learning can increase children's interest and understanding of material through interactive visual media. This is in line with the findings of (Fitri et al., 2023) who revealed that video-assisted media can provide effective visual and audio stimuli to support child development.

Learning in this research was carried out by providing treatment (treatment) in the form of utilizing digital literacy assisted by television media combined with real activities.

Figure 3. Children Watching Television

Figure 3 shows a child watching a television program with science content, namely natural plants with phenomena displayed related to the concept of plants surviving in the soil with the help of water as energy that helps plants. The educational video shows simple basic science concepts such as plants, the environment, living things, and natural phenomena that occur. During the learning process, early childhood exhibits various reactions such as paying close attention, asking questions in a simple way, pointing to objects on the screen, and retelling the content of the program in easy-to-understand language. Learning activities are not only one-way, but also integrated with practical activities such as simple discussions, grouping objects, and easy-to-do experiments. This shows that the use of television as a means of digital literacy is combined with play and exploration that are appropriate to the characteristics of early childhood.

http://jurnaltarbiyah.uinsu.ac.id/index.php/raudhah
e-mail: jurnalraudhah@uinsu.ac.id
p-ISSN: 2338-2163
e-ISSN: 2716-2435

The use of digital literacy in learning provides children with opportunities to learn through a variety of engaging visual forms, such as moving images, animations, and simple experimental videos (Nazara et al., 2025). These media can support children in understanding scientific concepts in a more concrete way, for example about changes in objects, introduction to living things, or simple natural phenomena. With engaging visual displays, children more easily grasp the learning material and demonstrate active participation in learning. Other research (Laiya et al., 2023) revealed that the application of digital literacy can also strengthen children's interest in various phenomena around them.

Digital literacy plays a role in improving early childhood learning abilities actively and contextually (Daulay et al., 2023). Research by (Ratnasari, 2024) also revealed a similar finding: implementing digital literacy can stimulate children's curiosity about various phenomena around them, making them more enthusiastic about observing, asking questions, and trying to understand various events displayed in digital media. This indirectly trains children's scientific thinking skills from an early age, including the ability to observe, group, compare, and draw simple conclusions (Sakina et al., 2025). This activity can indirectly train children's scientific thinking skills from an early age, including the skills of observing, grouping, comparing, and drawing basic conclusions.

The results of this study are also consistent with numerous previous studies, such as those conducted by (Riza et al., 2023), which showed that the use of digital literacy in education can provide positive stimulation for children's science development. Digital platforms can provide more diverse learning experiences, so children don't easily become bored during the learning process (Putri et al., 2024). Therefore, the use of digital literacy supported by television can be an effective learning tool for enhancing science development in early childhood.

Research at RA Al-Munawwarah revealed that the institution already has a digital literacy tool in the form of a television that can be used as a learning tool. However, television has not been optimally utilized in the learning process, particularly in stimulating early childhood science development. The current learning process prioritizes traditional methods, resulting in children showing less interest and active involvement in the learning process

http://jurnaltarbiyah.uinsu.ac.id/index.php/raudhah
e-mail: jurnalraudhah@uinsu.ac.id
p-ISSN: 2338-2163
e-ISSN: 2716-2435

Based on this situation, researchers identified an opportunity to utilize existing digital literacy media as a learning tool to make it more engaging and interactive for children. Therefore, researchers attempted to implement digital literacy activities by utilizing television to broadcast science learning materials tailored to the needs of early childhood. Before carrying out the treatment, the researcher first carried outpretest by using Children's Worksheets (LKA) to understand children's early scientific development abilities. From observations made duringpretestIt appears that most children are less active in participating in learning activities. They tend to be quiet and don't show much curiosity in the activities presented. Furthermore, a number of children still struggle with activities related to basic science development, such as observing, recognizing, and grouping objects based on shape, color, and characteristics. Some also wait for instructions from teachers or researchers to complete assigned tasks.

In response to this problem, researchers attempted to provide a solution by implementing digital literacy activities that utilized television as a medium for science learning. This medium was used to show educational videos related to simple science concepts, making it easier for children to understand the learning through engaging visual presentations (Guslinda & Kurnia, 2018).

The use of digital literacy in early childhood education can make the learning process more engaging and interactive (Budiarti, 2024). Digital tools such as instructional videos, interactive images, and educational broadcasts on digital television allow children to witness various basic scientific phenomena that may be difficult to observe directly in their environment (Nurjanah & Mukarromah, 2021). Research (Sartika & Alimudin, 2025) reveals that engaging visualizations can support children's understanding of basic scientific principles, such as nature, living organisms, weather changes, and various other simple phenomena.

The results of this study are consistent with Jean Piaget's view of cognitive development, stating that early childhood is in the preoperational phase, where they acquire knowledge from real-life experiences, observations, and exploration of their surroundings (Anggrian & Saefurahman, 2025). Furthermore, constructivist theory also emphasizes that early childhood can construct knowledge through meaningful learning experiences. In this context, digital literacy can serve as a supporting tool that can facilitate children's learning experiences

http://jurnaltarbiyah.uinsu.ac.id/index.php/raudhah
e-mail: jurnalraudhah@uinsu.ac.id
p-ISSN: 2338-2163
e-ISSN: 2716-2435

through engaging and easy-to-understand displays. With the presence of digital media appropriate to their ability level, the science learning process can be more efficient and can also increase children's interest in various phenomena around them. These results are supported by previous research that revealed that the use of digital literacy in learning can increase children's interest in learning and thinking skills. Visual and interactive digital media can help children understand scientific concepts more realistically.

However, research findings also indicate that the use of digital literacy must be carried out appropriately and with direction. The use of digital media in early childhood education requires an active role from teachers to ensure that learning remains aligned with children's developmental characteristics. Without teacher guidance or thorough learning planning, children can become less active in learning (Aminah et al., 2025). This indicates that the use of digital media in early childhood education requires teachers to act as guides in the teaching and learning process. Therefore, digital literacy should not only be used for entertainment but also be integrated with learning activities that include direct involvement between teachers and children (Fitriyanti et al., 2024).

With teacher support and a balance between digital media and hands-on learning activities, it's hoped that children will gain more meaningful learning experiences. Television can play a role in fostering children's interest and curiosity, while concrete activities can help strengthen their understanding of the science concepts being studied. This study has limitations in terms of the limited sample size and the application of the experimental design.pre-experimental Without a control group, the results of this study cannot be widely applied. The implications of this study indicate that utilizing television as an element of digital literacy can be an effective learning alternative when combined with concrete activities and teacher guidance..

D. CONCLUSIONS AND SUGGESTIONS

Based on the research findings, it can be concluded: (1) Using digital literacy in the form of television media in learning activities at RA Al-Munawwarah is a strategy that can help improve the development of science in children. Through educational videos and interesting visual media, children can see various simple scientific phenomena such as life, the

http://jurnaltarbiyah.uinsu.ac.id/index.php/raudhah
e-mail: jurnalraudhah@uinsu.ac.id
p-ISSN: 2338-2163
e-ISSN: 2716-2435

environment, and weather changes, so that this can foster their curiosity which makes it easier for them to understand scientific concepts directly. (2) The use of television in this study is not only one-way, but is combined with interactive activities such as questions and answers and simple exploration, so that children can continue to learn in an active way according to the characteristics of early childhood learning. (3) Digital literacy involving television has a positive influence on the development of early childhood science if it is used appropriately, directed, and in accordance with the principles of learning that is oriented towards direct experience.

Thus, the author's suggestions that can be put forward are: (1) For teachers, it is recommended to use digital literacy optimally while still providing active support so that early childhood children are not just passive spectators, but are involved in the learning process. (2) Digital media should only function as a support, not a substitute for direct experience, so the use of television media must pay attention to the principles of using digital media for early childhood, such as limiting screen time (screen time) and selecting appropriate content, (3) For future researchers, it is hoped that they can carry out research with larger samples and explore other variables or aspects of child development that can be strengthened through the use of digital literacy in early childhood learning

REFERENCE

Aisyah, R. (2024). Implementasi Pembelajaran Literasi Digital Pada Anak Usia Dini di Indonesia dan Luar Negeri. *Jurnal Ath-Thufail : Jurnal Pendidikan Islam Anak Usia Dini*, *2*(1), 11–23. https://doi.org/10.59829/n8m3mq43

Aminah, S., Puspita, D., & Anggraini, L. (2025). Optimalisasi Guru PAUD melalui Penerapan Digital Game Based Learning (DGBL) dalam Pembelajaran Berdiferensiasi di PAUD An-Naba Kota Pagar Alam. *Jurnal Solma*, *14*(3), 4439–4448. https://doi.org/10.22236/solma.v14i3.20894

Anggrian, M., & Saefurahman, I. M. (2025). Teori Perkembangan Kognitif Piaget dan Implementasi dalam Pembelajaran di Paud. *Research Early Childhood Qurrota A'yun*, *2*(01), 1–11. https://doi.org/10.64724/y20wk478

http://jurnaltarbiyah.uinsu.ac.id/index.php/raudhah
e-mail: jurnalraudhah@uinsu.ac.id
p-ISSN: 2338-2163
e-ISSN: 2716-2435

Anik, P., Trianggono, M. M., Triana, R. S., & Ashadi, F. (2025). Peningkatan Kemampuan Mengenal Angka melalui Media Sticky Note Counting Flower pada Anak Usia 4-5 Tahun. *PAUD Lectura: Jurnal Pendidikan Anak Usia Dini*, *9*(1), 77–95. https://doi.org/10.31849/paud-lectura.v

Budiarti, E. (2024). *Literasi Digital dalam Pembelajaran Anak Usia Dini* (N. Priyanti & H. S. Atmawidjaja (eds.)). Kaizen Media Publishing.

Daulay, L. S., Mardianto, & Nasution, M. I. P. (2023). Literasi Sehat untuk Menjaga Kesehatan Mental Anak di Era Digital. *Jurnal Raudhah*, *11*(1), 25–37. https://doi.org/10.30829/raudhah.v11i1.2767

Febriani, N., Adhe, K. R., Widayanti, M. D., & Maulidiyah, E. C. (2023). Pengaruh Model Pembelajaran Inkuiri dengan Media Realia Terhadap Literasi Sains Anak Usia 4-5 Tahun. *JIEEC (Journal of Islamic Education for Early Childhood)*, *5*(2), 1–13. https://doi.org/10.30587/jieec.v5i2.5801

Fitri, A. S., Kusumawardani, R., & Hayani, R. A. (2023). Pengaruh Penggunaan Aplikasi YouTube Terhadap Perkembangan Sosial Emosional Anak Usia 5-6 Tahun. *Jurnal Raudhah*, *11*(2), 106–115. https://doi.org/10.30829/raudhah.v11i2.2026

Fitriyanti, N., Aina, I. M. Q., Mauliyah, A., Islam, M. F., Wahyudi, M., Purnamasari, N. I., Dewi, W. T., Miswanti, I., Aminah, S., Puspitaningrum, N., Ervina, R., Wati, S. A., Puspita, W., Anggraini, K., & Irawati, S. N. (2024). *Tranformasi Pembelajaran Pendidikan Anak Usia Dini Di Zaman Digital* (R. D. Wijayati (ed.)). CV. Duta Sains Indonesia.

Guslinda, & Kurnia, R. (2018). *Media Pembelajaran Anak Usia Dini*. CV. Jakad Publishing.

Hayatinnufus, D., Ulfah, M., Mayyadah, S. A., Qulubi, S. M., & Hasanah, L. (2023). Peran Guru Dalam Project Based Learning Pada Profil Pelajar Pancasila di Tk Islam Al-Amanah Jakarta Utara. *Jurnal Raudhah*, *11*(2), https://doi.org/10.30829/raudhah.v11i2.2157

Ibda, F. (2015). Perkembangan Kognitif: Teori Jean Piaget. *Intelektualita*, *3*(1), 32.

Jennah, T. F., Ismaiyah, N., Hamiduddin, Mw, N. Q., Fitriyah, F., & Putri, P. W. (2026). *Kisi-Kisi Instrumen Penelitian*.

Judijanto, L., Minarsih, Y., Saepulloh, Muthie, I., Oktaviani, M., Jauhari, D. R., Ayyubi, I. I. Al, Dheasari, A. E., Kurniasih, I., Alfahani, K., Adawiyah, R., & Purnami, S. E. (2025). *Pendidikan Anak Usia Dini* (A. Prodyanatasari (ed.)). CV. Future Science.

http://jurnaltarbiyah.uinsu.ac.id/index.php/raudhah
e-mail: jurnalraudhah@uinsu.ac.id
p-ISSN: 2338-2163
e-ISSN: 2716-2435

Laiya, S. W., Utoyo, S., Juniarti, Y., & Lanter, N. (2023). Pengembangan Video Animasi dalam Mengenalkan Literasi Awal pada Anak Usia Dini. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*, *7*(6), 7623–7637. https://doi.org/10.31004/obsesi.v7i6.4542

Lesmana, D. E., Annisa, N., Setiawati, C., & Watini, S. (2023). Pemanfaatan Studi Literatur TV Sekolah sebagai Media Pembelajaran Digital PAUD. *JIIP - Jurnal Ilmiah Ilmu Pendidikan*, *6*(3), 2055–2063. https://doi.org/10.54371/jiip.v6i3.1818

Maisarah, Prasetya, C., & Sari, C. K. (2025). Analisis Kebutuhan Media Pembelajaran Berbasis TPACK Pada Kognitif Sains Anak. *Jurnal Raudhah*, *13*(1), 117–125. https://doi.org/10.30829/raudhah.v13i1.4640

Maku, K. R. M., Meka, M., & Mere, V. O. (2024). Improving Scientific Understanding in Early Childhood through Interactive Color Mixing Activities. *Jurnal Pendidikan Anak Usia Dini Undiksha*, *12*(3), 374–381. https://doi.org/10.23887/paud.v12i3.87242

Mala, A. (2022). Optimalisasi Etika Digital Pada Anak Usia Dini Melalui Literasi Digital: Mendukung Pembentukan Karakter Unggul Di Era Teknologi. *Atthiflah: Journal of Early Childhood Islamic Education*, *9*(2), 68–79. https://doi.org/10.54069/atthiflah.v9i2.588

Mauluddia, Y., & Yulindrasari, H. (2024). Peran Literasi Digital dalam Mendukung Perkembangan Anak Usia Dini melalui Pemanfaatan Teknologi. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*, *8*(5), 1209–1220. https://doi.org/10.31004/obsesi.v8i5.6166

Monika, D., Watini, S., & Ardana, A. (2024). Peran Program Kelas dalam Membina Literasi Sains pada Anak Usia Dini. *Jurnal Mentari: Manajemen, Pendidikan Dan Teknologi Informasi*, *2*(2), 176–187. https://doi.org/10.33050/mentari.v2i2.490

Nazara, D. K., Mustapa, N., Hendriawan, D., & Mahabbati, A. (2025). The Influence of Digital Learning Media in Stimulating Literacy Skills of Children Aged 5-6 Years. *PAUDIA : Jurnal Penelitian Dalam Bidang Pendidikan Anak Usia Dini*, *14*(4), 791–811. https://doi.org/10.26877/paudia.v14i4.2271

Nurjanah, N. E., & Mukarromah, T. T. (2021). Pembelajaran Berbasis Media Digital Pada Anak Usia Dini Di Era Revolusi Industri 4.0 : Studi Literatur. *Jurnal Ilmiah Potensia*, *6*(1), 66–77. https://doi.org/10.33369/jip.6.1.66-77

Putri, N. E., Iriyanto, T., & Anisa, N. (2024). Stimulating Early Childhood Digital Literacy Through the Innovative Kiddyfun Platform. *Jurnal Pendidikan Anak Usia Dini Undiksha*,

http://jurnaltarbiyah.uinsu.ac.id/index.php/raudhah
e-mail: jurnalraudhah@uinsu.ac.id
p-ISSN: 2338-2163
e-ISSN: 2716-2435

12(2), 272–280. https://doi.org/10.23887/paud.v12i2.77180

Ratnasari, E. M. (2024). Digital Literacy in Early Childrren Through Pictured Story Books. *Indonesian Journal of Islamic Golden Age Education*, *5*(1), 119–128. https://doi.org/10.32332/n7sw2e73

Riza, B., Hutasuhut, S., & Eliza, D. (2023). Pengembangan E-Modul Literasi Sains Anak Usia Dini. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*, *7*(2), 1564–1574. https://doi.org/10.31004/obsesi.v7i2.4037

Rusdawati, & Eliza, D. (2022). Pengembangan Video Pembelajaran Literasi Sains Anak Usia Dini 5-6 Tahun Untuk Belajar Dari Rumah. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*, *6*(4), 3648–3658. https://doi.org/10.31004/obsesi.v6i6.1350

Sakina, Hapidin, & Nurani, Y. (2025). Literasi Sains Anak Usia Dini Melalui Pembelajaran Proyek Menggunakan Loose Parts. *Jurnal Penelitian Dalam Bidang Pendidikan Anak Usia Dini*, *14*(1), 159–173. https://doi.org/10.26877/paudia.v14i1.1156

Sari, R. J., & Hermawan, R. (2023). Pengaruh Metode Eksperimen terhadap Kemampuan Sains Mencampur Warna pada Anak Usia 4-5 Tahun. *Journal on Teacher Education*, *5*(1), 497–506. https://doi.org/10.31004/jote.v5i1.19279

Sartika, R., & Alimudin. (2025). The Influence of Using Animated Videos on the Symbolic Thinking Skills of 5-6 Year Old Children. *PENA PAUD Journal*, *6*(1), 27–40. https://doi.org/10.33369/jpp.v6i1.41573

Simatupang, E. V., Erniati, R., & Sari, D. A. (2024). Tinjauan Beberapa Aplikasi Teknologi Pada Pembelajaran Anak Usia Dini. *Jurnal Raudhah*, *12*(2), 200–215. https://doi.org/10.30829/raudhah.v12i2.3820

Sipahutar, R. J. (2023). Faktor yang Mempengaruhi Pengembangan Literasi Digital pada Anak Usia Dini di Indonesia. *Jurnal Usia Dini*, *9*(1), 35–51. https://doi.org/10.24114/jud.v9i1.47817

Siregar, M. H., Harahap, R. A. S., & Lubis, M. Y. (2024). Pengaruh Metode Eksperimen terhadap Keterampilan Proses Sains Anak di PAUD Prima Pertiwi. *Jurnal Jendela Bunda*, *13*(1), 24–32. https://doi.org/10.32534/jjb.v13i1.6801

Watini, S. (2019). Pendekatan Kontekstual dalam Meningkatkan Hasil Belajar Sains pada Anak Usia Dini. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*, *3*(1), 82–90.

http://jurnaltarbiyah.uinsu.ac.id/index.php/raudhah
e-mail: jurnalraudhah@uinsu.ac.id
p-ISSN: 2338-2163
e-ISSN: 2716-2435

https://doi.org/10.31004/obsesi.v3i1.111

Yuliarini, S., & Harun. (2025). Pengembangan E-Science Kit untuk Meningkatkan Berpikir Kritis dan Literasi Sains Anak Usia 5-6 Tahun : Studi Analisis Kebutuhan. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, *9*(5), 1699–1710. https://doi.org/10.31004/obsesi.v9i5.7102

Yunita, & Watini, S. (2022). Membangun Literasi Digital Anak Usia Dini melalui TV Sekolah. *JIIP- Jurnal Ilmiah Ilmu Pendidikan*, *5*(7), 2603–2608. https://doi.org/10.54371/jiip.v5i7.729