



## **Effectiveness of Animated Video Media for Learning on Early Numeracy Skills of 5–6-Year-Old Children**

**Chintiya Febriyana Sari<sup>1✉</sup>, Tomas Iriyanto<sup>2</sup> & Wuri Astuti<sup>3</sup>**

<sup>1✉</sup>Universitas Negeri Malang, [chintiya.febriyana.2001536@students.um.ac.id](mailto:chintiya.febriyana.2001536@students.um.ac.id), Orcid ID: [0009-0004-1532-4224](https://orcid.org/0009-0004-1532-4224)

<sup>2</sup> Universitas Negeri Malang, [tomas.iriyanto.fip@um.ac.id](mailto:tomas.iriyanto.fip@um.ac.id), Orcid ID: [0000-0001-8856-8888](https://orcid.org/0000-0001-8856-8888)

<sup>3</sup> Universitas Negeri Malang, [wuri.astuti.fip@um.ac.id](mailto:wuri.astuti.fip@um.ac.id), Orcid ID: [0009-0003-2475-5440](https://orcid.org/0009-0003-2475-5440)

### **Article Info**

#### *History of Article*

Received:

19 May 2024

Revised:

10 October 2024

Published:

15 October 2024

### **Abstract**

Basic talents such as early numeracy skills require early stimulation. Both in everyday life and when pursuing further education, these skills are invaluable. The use of interesting media is one way to help children develop their numeracy skills from an early age. The purpose of this study was to determine the effect of learning animation video media on children's numeracy skills. This study employed the Intac-Group Comparison design, a type of pre-experimental research. Thirty samples were selected based on the purposive sampling technique; half of them went to the experimental group and half to the control group. A statistical t-test was used to conduct this study. The findings revealed a statistically significant difference between the two groups in terms of the amount of improvement in post-test scores. It can be concluded that animated learning video media positively affected children's early numeracy skills because the significance value of  $0.005 < 0.05$  in hypothesis testing exhibited a significant difference between the post-test results of the experimental group and the control group. These results show that animated video media significantly affects the numeracy skills of children aged 5-6 years. This study also recommends continuing to use similar media in improving children's basic early skills.

### **Keywords:**

Animated Video, Early Numeracy Skills, Learning Media

### **How to cite:**

Sari, C. F., Iriyanto, T., & Astuti, W. (2024). Effectiveness of animated video media for learning on early numeracy skills of 5–6-year-old children. *EduBasic Journal: Jurnal Pendidikan Dasar*, 6(2), 135-144.

---

**Info Artikel***Riwayat Artikel*

Diterima:

19 Mei 2024

Direvisi:

10 Oktober 2024

Diterbitkan:

15 Oktober 2024

**Abstrak**

Bakat dasar seperti kemampuan berhitung awal membutuhkan stimulasi sejak dini. Baik dalam kehidupan sehari-hari maupun saat menempuh pendidikan lebih lanjut, keterampilan ini sangat berharga. Penggunaan media yang menarik merupakan salah satu cara untuk membantu anak mengembangkan kemampuan berhitung sejak dini. Tujuan dari penelitian ini adalah untuk mengetahui pengaruh media video animasi pembelajaran terhadap kemampuan berhitung anak. Penelitian ini menggunakan desain Intac-Group Comparison, sebuah jenis penelitian pra-eksperimen. Tiga puluh sampel dipilih berdasarkan teknik purposive sampling; setengah dari mereka masuk ke dalam kelompok eksperimen dan setengahnya lagi masuk ke dalam kelompok kontrol. Uji statistik t-test digunakan untuk melakukan penelitian ini. Temuan menunjukkan adanya perbedaan yang signifikan secara statistik antara kedua kelompok dalam hal jumlah peningkatan skor post-test. Dapat disimpulkan bahwa media video pembelajaran animasi berpengaruh positif terhadap kemampuan berhitung permulaan anak karena nilai signifikansi  $0,005 < 0,05$  pada uji hipotesis menunjukkan adanya perbedaan yang signifikan antara hasil post-test kelompok eksperimen dan kelompok kontrol. Hasil ini menunjukkan bahwa media video animasi secara signifikan berpengaruh pada kemampuan numerasi anak usia 5-6 tahun. Penelitian ini juga merekomendasikan untuk terus menggunakan media sejenis dalam peningkatan kemampuan dasar permulaan anak.

**Kata Kunci:**

Kemampuan Berhitung Awal, Video Animasi, Media Pembelajaran

**Cara Mensitasi:**

Sari, C. F., Iriyanto, T., & Astuti, W. (2024). Effectiveness of animated video media for learning on early numeracy skills of 5–6-year-old children. *EduBasic Journal: Jurnal Pendidikan Dasar*, 6(2), 135-144.

## INTRODUCTION

The phrase "Early Childhood Education" (PAUD) denotes programs aimed at fostering children's growth and learning by addressing their specific needs. Acquiring a quality education throughout a child's formative years is crucial, as this period is regarded as the "Golden Age" of development (Aristanti, 2020; Putri et al., 2021). The objective of Early Childhood Education (PAUD) is to facilitate the physical and spiritual development of children from birth to six years of age. The Regulation of the Minister of Education and Culture of the Republic of Indonesia Number 84 of 2014 mandates the provision of educational stimulation to prepare children for advanced courses (Andayani, 2021; Novira & Jaya, 2021). According to research on cognitive factors in the 2014 Ministerial Regulation (No. 146) regarding National PAUD Standards (No. 137), which includes the Child Development Achievement Level Standards (STPPA), optimal child growth and development is contingent upon the stimulation provided by adults. Adults' capacity to fulfil children's developmental needs significantly impacts the quality of their growth and development (Due & Ita, 2019). One of the educational stimuli that needs to be given to children is early numeracy skills (Dewi et al., 2021).

Basic numeracy skills encompass counting, sequencing, comparing, and grouping numbers (Ramadhani & Wulandari, 2021). Children develop early numeracy skills, encompassing the ability to sequence and count numbers, along with basic arithmetic, as they enhance their mathematical capacities (Maulida & Kaidaro, 2022). Arithmetic is the most extensive branch of mathematics. Up to 80% of mathematics interests include various forms of numeracy activities, as explained by Moris Kline quoted by Khadijah (Ramlah et al., 2022). Basic numeracy skills comprise activities like naming, sequencing, addition, and subtraction of numbers, which are crucial for early childhood education (Delfia & Mayar, 2020). Teaching children to count is a crucial initial phase in equipping them with more complex mathematical concepts (Maesaroh et al., 2020). Early mastery of numeracy skills is crucial for children since

they should be taught progressively from fundamental concepts to more advanced stages (Dwiyanti et al., 2019). One advantage of teaching children counting is that it facilitates their comprehension of the fundamental concept of counting accurately. Furthermore, children will engage in natural counting activities, cultivate interest and enjoyment in counting, and diminish their apprehension towards learning to count. Consequently, it is evident that early numeracy instruction must be engaging and enjoyable (Helfianis & Ismet, 2020; Sari et al., 2020).

The significance of early numeracy skills for children necessitates that they acquire them at a young age. Nevertheless, a significant number of children, particularly those between the ages of five and six, continue to struggle with the basics of mathematics. This is indicated by a lack of proficiency in basic numeracy operations, such as addition and subtraction, number recognition, and number succession. Some children may be exposed to uninspiring learning methods and media, or they may have a low IQ, which can affect their early numeracy skills. In fact, it is imperative that children's learning, particularly early numeracy learning, be conducted in a manner that is both engaging and pleasurable (Sari et al., 2020). In addition, children need to learn to count in a straightforward and easy-to-understand manner (Malapata & Wijayaningsih, 2019).

To arouse children's interest in learning, media can be used (Krisdiana et al., 2021). This aligns with Edgar Dale's perspective on the cone of experience, which elucidates the function of media utilization in facilitating learning experiences for children (Rohani, in Lestari et al., 2020). Effective early numeracy learning necessitates the incorporation of engaging media to facilitate children's accurate comprehension of early numeracy concepts, thereby ensuring optimal learning outcomes (Nasution et al., 2020). Previous research explains that the utilization of hand puppets can enhance children's numeracy skills (Novira & Jaya, 2021). Besides that, flannel boards and counting aprons have been shown to help children hone their numeracy skills (Due & Ita, 2019; Kusayang & Amin, 2017).

According to previous studies, the most effective form of learning media involves the senses of sight and hearing (Ayu et al., 2020; Wahyuni & Aryani, 2021). Media that primarily appeal to the senses of sight and hearing are collectively known as audiovisual media. Educational animated films are a type of audiovisual media. To maximize learning outcomes, animated learning video media helps children absorb content faster, is interesting for children, improves learning quality, and is not boring (Dhida, 2021; Novelia & Hazizah, 2020; Yuanta, 2020). Previous studies have also demonstrated that animated learning video media is beneficial for children's early numeracy skills (Budiarti et al., 2023; Nurmaliza & Saridewi, 2023). Other studies have reported similar things that children's numeracy skills increase when they watch animated videos (Enjela et al., 2024; Maulida & Kaidaro, 2022).

In this study, the media used during the pre-test at ABA 39 Kindergarten Malang was a blackboard with a demonstration method and a magazine book. This caused boredom in children, so the acceptance of the material was not optimal. Seeing the problems explained previously, one of the solutions is to use animated learning video media to stimulate children's early numeracy skills, where there is interaction between children and videos and teachers in its use. For that reason, this study aims to determine whether children's early numeracy skills can be improved through the use of animated learning video media.

## METHODS

This study was quantitative and conducted using a pre-experimental approach that employed intact group comparisons. The subjects were divided into two categories: those who participated in the experiment and those who served as controls. The research design used is detailed below.

**Table 1.** Research Design

Class	Test	Treatment	Test
Experiment	O <sub>1</sub>	X	O <sub>3</sub>
Control	O <sub>2</sub>	-	O <sub>4</sub>

The sample of this study was thirty students of group B, aged between five and six years, from ABA 39 Kindergarten Malang. In collecting data for this study, the researchers used a purposive sampling strategy, which took into account certain factors. The age of the children, between 5 and 6 years, was the focus of this study. A total of 15 students of Class B1 acted as the experimental group, while 15 students of Class B2 acted as the control group. The data collection technique was carried out by providing children's worksheets (LKA) as a pre-test and post-test to see the development of children's early numeracy skills. In the pre-test and post-test activities, children were given five questions, which contained indicators regarding early numeracy skills. The following is a grid of the questions given.

**Table 2.** Assessment Instrument Grid

Variable	Sub-Variable	Indicator	Item No.
Early Numeracy Skills	Logical Thinking	Children are able to differentiate based on the size of "more than," "less than," and "most."	1, 2, 3
		Children are able to add 1-20	4, 5, 6
		Children are able to subtract 1-20	7, 8, 9
Symbolic Thinking	Children recognize number symbols 1-20	Children are able to use number symbols to count.	10, 11, 12
		Children are able to use number symbols to count.	13, 14, 15

Before children's worksheets were used, validity and reliability tests were conducted on the questions to assess whether the questions were truly valid and suitable for use. The following are the results of the validity and reliability tests.

**Table 3.** Validity Test Results

<b>Item-Total Statistics</b>				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
X01	49.5333	37.499	0.426	0.790
X02	49.5667	37.220	0.256	0.794
X03	50.1333	31.361	0.751	0.755
X04	49.5667	37.082	0.276	0.793
X05	49.7333	34.133	0.575	0.774
X06	49.9667	32.930	0.523	0.775
X07	49.9000	37.610	0.091	0.810
X08	49.8000	37.752	0.070	0.813
X09	49.6667	36.575	0.315	0.791
X10	49.7000	34.631	0.570	0.775
X11	50.0000	32.759	0.516	0.775
X12	50.4000	31.697	0.560	0.771
X13	50.2667	31.444	0.442	0.786
X14	49.6667	34.920	0.541	0.778
X15	49.7000	34.976	0.438	0.783

Table 3 reveals that out of 30 respondents, the calculated r value was smaller than the table r value (0.361), so questions 2, 4, 7, 8, and 9 were invalid. Then, in other questions, because the calculated r exceeded the table r value (0.361), questions 1, 3, 5, 6, 10, 11, 12, 13, 14, and 15 were declared valid and could be used as research instruments.

In addition to the validity test, a reliability test was also conducted. The following are the results of the reliability test.

**Table 4.** Reliability Test Results

<b>Reliability Statistics</b>	
Cronbach's Alpha	N of Items
0.796	15

The reliability test produced a Cronbach's Alpha score of  $0.796 > 0.361$ , as seen in Table 4. In other words, the research question instruments could be used for actual research purposes.

Subsequently, the t-test statistic was used to assess the research data. A preliminary test was conducted before the t-test statistic was used for testing. To find out whether the data followed a normal distribution, a normality test was carried out. To ensure data homogeneity, a homogeneity test was performed. The t-test conducted was a non-parametric test (Mann-Whitney) because the required test was not met. For children's early numeracy skills, animated video learning media functions well if the significance value is less than 0.05.

## RESULTS AND DISCUSSION

### Results

The study was conducted at ABA 39 Kindergarten Malang. Thirty children aged 5 to 6 years from group B were involved as samples for this study. The children's worksheet (LKA) was tested with a non-sample group before being given to the research sample. This study was attended by thirty children of PG/TA Hidayatul Mubtadi-Malang. Validity and reliability tests are what are formally called investigations carried out. Ten of the fifteen questions were determined to be valid after running the validity test. In addition, the reliability test demonstrated that the questions were considered reliable with a Cronbach's Alpha score of  $0.796 > 0.361$ .

A pre-test was given to the children using worksheets (LKA) to measure their initial level of numeracy skills. Here are the initial findings from the tests of the two study groups.

**Table 5.** Descriptive Statistics of Pre-test Score

	Experimental Group	Control Group
Valid	15	15
Missing	0	0
Mean	12.87	10.93
Std. Deviation	3.091	2.631
Minimum	6	7
Maximum	17	15

The data obtained from the experimental group was 12.87, and the control group was 10.93, according to Table 5. The

lowest score was 6 in the experimental group and 7 in the control group, with 17 as the maximum score for the experimental group and 15 in the control group. Consequently, children continue to exhibit basic numeracy skill deficiencies.

The final condition of children's early numeracy skills was measured by a post-test through a children's worksheet (LKA) as was performed in the pre-test. The post-test was conducted after giving treatment to the children five times. The following are the post-test results from the two research groups.

**Table 5.** Descriptive Statistics of Post-test Score

	<b>Experimental Group</b>	<b>Control Group</b>
Valid	15	15
Missing	0	0
Mean	16.20	12.47
Std. Deviation	3.707	3.777
Minimum	8	7
Maximum	20	18

Table 6 indicates an average result of 16.20 for the experimental group and 12.47 for the control group. The experimental group had a minimum score of 8 and a maximum score of 20, while the control group had a minimum score of 7 and a maximum score of 18. The data suggests an improvement in the children's basic numeracy skills. The experimental group demonstrated a higher level of progress compared to the control group due to the receipt of treatment.

Additionally, it is standard practice to do homogeneity and normality tests as a preliminary measure prior to performing a t-test. The objective of a normality test is to ascertain if the data adheres to a normal distribution. The data normality test produces these results.

**Table 7.** Data Normality Test Results

	<b>Research Data</b>	<b>Sig. Value</b>	<b>Description</b>
Experimental Class	Pre-test	0.110	Normal
	Post-test	0.006	Not normal

Control Class	Pre-test	0.178	Normal
	Post-test	0.188	Normal

Table 7 indicates that the results prior to and subsequent to the third test of data had a normal distribution, with significance values exceeding 0.05 for both the experimental and control groups, respectively. The post-test findings of the experimental group demonstrated an abnormal distribution, with a significance value below 0.05. Consequently, the research data did not conform to a normal distribution; thus, the requisite test was not satisfied, necessitating the implementation of the non-parametric Mann-Whitney test.

Moreover, homogeneity tests are mandatory. A homogeneity test was implemented to determine the uniformity of the data. The following results were obtained from the homogeneity test.

**Table 8.** Results of Data Homogeneity Test

<b>Based on Mean</b>	
<b>Indicator</b>	<b>Results</b>
Levene Statistic	0.867
df 1	3
df 2	56
Sig. Value	0.464

Table 8 reveals that a significance value greater than 0.05 was achieved from both the pre-test and post-test findings of the experimental group and the control group. Therefore, it can be said that all data were homogeneous.

Since the data did not follow a normal distribution, the Mann-Whitney test could be performed for data analysis. The results of the Mann-Whitney test are detailed below.

**Table 9.** Mann-Whitney Test Results

<b>Indicator</b>	<b>Results</b>
Mann Whitney U	46.000
Wilcoxon W	166.000
Asymp. Sig (2-tailed)	0.005

As revealed by the data in Table 9, the experimental group and the control group were significantly different, as the significance value was  $0.005 < 0.05$ . This implies that  $H_a$  was true, and  $H_0$  was false. The experimental group's basic numeracy scores exhibited a statistically significant increase in comparison to those of the control group. This demonstrates that the utilization of animated learning videos had a beneficial effect on the development of early numeracy skills.

## Discussion

In order for children to develop their critical and logical thinking skills, they need to acquire early numeracy skills. These skills include understanding numbers and their symbols, colours, shapes, locations, and spaces (Maulida & Kaidaro, 2022). However, in reality, children's early numeracy skills are still very poor at the age of 5 and 6 years. A number of factors cause children's low numeracy skills from an early age. One of them is the prevalence of traditional teaching techniques, which can lead to a lack of enthusiasm for learning and rapid boredom. Another reason is the limited diversity of methods and media used. A child's innate talent for mathematics is influenced by their IQ, in addition to the factors mentioned. Given the current problems, one solution is to use media that is interesting to children. The use of age-appropriate media and learning strategies can stimulate children's intrinsic motivation to learn and accelerate their progress in early numeracy skills (Ramadhani & Wulandari, 2021). Media such as audio, video, and audiovisual can all play a role in the educational process. When it comes to simplifying complex ideas for children, audiovisual media is the most effective (Wahyuni & Aryani, 2021).

This study indicates that the cognitive level of children, along with a deficiency in media and strategy variation, are the primary factors leading to inadequate early numeracy skills. In alignment with previous research, this study identified that a lack of creative learning media contributes to the inadequacy of children's numeracy skills (Febiola, 2020; Simatupang et al., 2024). Conversely, several studies have shown that the lack of

engagement in the delivery of material contributes to children's poor numeracy skills (Ramli & Zulminiati, 2021).

Therefore, efforts are made to help the younger generation overcome their poor early numeracy skills by providing interesting media. Animated learning video media was the tool used in this study. Of the six sessions, in the second, third, fourth, and fifth sessions, participants in this study received treatment. These treatments consist of five educational animated videos that introduce children to numeracy.

The final condition was then evaluated with a post-test after treatment with animated learning video media. From the average value achieved in the pre-test to the average value in the post-test, all increased. After starting at 12.87 in the pre-test, the experimental group increased to 16.20 in the post-test, while after starting at 10.93 in the pre-test, the control group had 12.47 in the post-test. However, it is clear from these figures that the experimental group, on average, experienced a greater increase than the control group. Therefore, it can be assumed that children's early numeracy skills can be improved by using animated learning video media. Previous studies have also explained that animated video media has a significant impact on children's early mathematics abilities (Enjela et al., 2024; Nurmaliza & Saridewi, 2023; Oktavia, 2022). In line with other studies, this study uncovered that animated learning video media can help children's early numeracy skills (Maulida & Kaidaro, 2022).

## CONCLUSION

This research focuses on utilising animated videos in learning to impact on early numeracy skills of children aged 5-6 years. The pre-test scores of the experimental and control groups were low, indicating that children's numeracy skills were lacking. The average post-test in the experimental group exhibited that children's numeracy skills had increased at a moderate level, while the average post-test in the control group revealed that children's numeracy skills remained poor.

$H_0$  was rejected, and  $H_a$  was accepted based on the findings of the hypothesis test conducted. This demonstrates that the post-test

results of the experimental group were significantly different from the post-test results of the control group, thereby suggesting that animated learning video media effectively improves children's basic numeracy skills.

## REFERENCES

- Andayani, S. (2021). Karakteristik perkembangan anak usia dini. *Jurnal An-Nur: Kajian Pendidikan dan Ilmu Keislaman*, 7(2), 200–212.
- Aristanti, N. D. (2020). Pengaruh game menghitung binatang terhadap kemampuan menghitung permulaan 1 sampai 20 bagi anak kelompok B. *Jurnal PAUD Teratai*, 9(1), 1–9.
- Ayu, D. P., Iriyanto, T., & Twinsari, R. D. (2020). Media big book portable berbasis audio-visual dalam pembelajaran tematik pada anak usia 4-5 tahun. *Jurnal Pendidikan Anak Usia Dini*, 3(1), 18–27.
- Budiarti, E., Handayani, D. H., Babys, I., Nurkamisah, D. P. T., Yuliana, N., & Romlah, L. (2023). Pemanfaatan media audio visual “Cerita Lebah” dalam meningkatkan kemampuan berhitung permulaan anak usia 3-4 tahun di TK Nur Adiba Banyuasin. *Aksara: Jurnal Ilmu Pendidikan Nonformal*, 9(2), 971–978.
- Delfia, E & Mayar, F. (2020). Penanaman konsep berhitung anak melalui permainan pencocokkan kepingan buah. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, 4(1), 338–350.
- Dewi, N. W. U. R, Asril, N. M., & Wirabrata, D. G. F. (2021). Meningkatkan kemampuan berhitung permulaan pada anak usia dini melalui video animasi. *Jurnal Pendidikan Anak Usia Dini Undiksha*, 9(1), 99–106.
- Dhida, T. T. (2021). The effect of animation video learning media on social emotional development of early children: A literature review. *Early Childhood Education and Development Journal*, 3(1), 47–58.
- Due, G., & Ita, E. (2019). Pengembangan media pembelajaran apron hitung untuk meningkatkan kemampuan berhitung anak. *Al-Athfaal: Jurnal Ilmiah Pendidikan Anak Usia Dini*, 2(2), 14–31.
- Dwiyanti, L., Khan, R. I., & Kurniawati, E. (2019). Pengembangan permainan smart adventure untuk meningkatkan kesiapan belajar berhitung permulaan anak usia dini. *VISI: Jurnal Ilmiah Pendidik dan Tenaga Kependidikan Pendidikan Non Formal*, 14(1), 59–66.
- Enjela, B. O., Miranda, D., & Amalia, A. (2024). Pengaruh media video animasi terhadap kemampuan berhitung permulaan anak usia 5-6 tahun. *Jurnal Edukasi*, 2(2), 47–57.
- Febiola, K. A. (2020). Peningkatan kemampuan berhitung permulaan anak usia dini melalui pengembangan media pembelajaran pohon angka. *Jurnal Ilmiah Pendidikan Profesi Guru*, 3(2), 238–248.
- Helfianis, H., & Ismet, S. (2020). Manfaat kartu angka papan flanel dalam menstimulasi kemampuan berhitung anak di taman kanak-kanak. *Jurnal Pendidikan Tambusai*, 4(3), 3316–3322.
- Krisdiana, K., Iriyanto, T., & Astuti, W. (2021). Pengembangan media pembelajaran smart book untuk menunjang aktivitas belajar anak usia 5-6 tahun. *SELING: Jurnal Program Studi PGRA*, 7(2), 123–141.
- Kusayang, T., & Amin, R. (2017). Penggunaan media papan flanel dalam mengembangkan kemampuan berhitung anak di Taman Kanak-Kanak Mutiara Al-Madani Kota Sungai Penuh. *Innovatio: Journal of Religious Innovation Studies*, 17(2), 1–12.



- Lestari, S. L., Mulyana, E. H., & Nur, L. (2020). Pengembangan rancangan media permainan sains lampu lava berbasis SEL (Social and Emotional Learning) untuk anak usia 5-6 tahun. *Jurnal PAUD Agapedia*, 4(2), 229–241.
- Maesaroh, M., Sumardi, S., & Nur, L. (2020). Kemampuan berhitung permulaan anak taman kanak-kanak kelompok B se-Kelurahan Lengongsari Kota Tasikmalaya. *Jurnal PAUD Agapedia*, 3(1), 61–75.
- Malapata, E., & Wijayaningsih, L. (2019). Meningkatkan kemampuan berhitung anak usia 4-5 tahun melalui media lumbung hitung. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, 3(1), 283–293.
- Maulida, S., & Kaidaro, U. (2022). Peningkatan kemampuan berhitung 1-10 melalui video animasi pada kelompok A di RA Ar Rohmah Pekukuhan Kecamatan Mojosari Kabupaten Mojokerto. *Abata: Jurnal Pendidikan Islam Anak Usia Dini*, 2(2), 241–249.
- Nasution, N., Yaswinda, Y., & Maulana, I. (2020). Analisis pembelajaran berhitung melalui media prisma pintar pada anak usia dini. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, 4(1), 230–236.
- Novelia, S., & Hazizah, N. (2020). Penggunaan video animasi dalam mengenal dan membaca huruf Hijaiyah. *Jurnal Pendidikan Tambusai*, 4(2), 1037–1048.
- Novira, N., & Jaya, I. (2021). Analisis metode bercerita menggunakan boneka tangan dalam meningkatkan kemampuan berhitung anak usia 5-6 tahun. *Edukatif: Jurnal Ilmu Pendidikan*, 3(1), 84–91.
- Nurmaliza, A., & Saridewi, S. (2023). Efektivitas penggunaan video animasi terhadap kemampuan matematika awal anak di Taman Kanak-Kanak Mawar Kabupaten Padang Pariaman. *Journal of Childhood Education*, 7(1), 10–18.
- Putri, V. L., Wijayanti, A., & Kusumastuti, N. D. (2021). Pengembangan media Frueelin untuk meningkatkan perkembangan kognitif anak usia dini. *Jurnal Golden Age*, 5(2), 155–163.
- Ramadhani, E. A., & Wulandari, R. S. (2021). Pengaruh permainan jepit angka terhadap kemampuan berhitung anak usia dini. *MENTARI: Jurnal Pendidikan Anak Usia Dini*, 1(1), 25–33.
- Ramlah, U. T., Riyanto, A. A., & Nuraeni, L. (2022). Media Loose Part Play dalam merangsang perkembangan kognitif anak usia dini. *CERIA (Cerdas Energik Responsif Inovatif Adaptif)*, 6(3), 293–299.
- Ramli, C. P., & Zulminiati, Z. (2021). Penggunaan video animasi untuk mengembangkan kemampuan berhitung anak di taman kanak-kanak. *Edukids: Jurnal Pertumbuhan, Perkembangan, dan Pendidikan Anak Usia Dini*, 18(2), 117–123.
- Sari, N. M., Yetti, E., & Hapidin, H. (2020). Pengembangan media permainan Mipon's Daily untuk meningkatkan kemampuan berhitung anak. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, 4(2), 831–501.
- Simatupang, N. D., Saroinsong, W. P., Widayati, S., Adhe, K. R., & Damayanti, M. I. (2024). Pelatihan literasi numerasi transisi PAUD SD melalui lagu. *PengabdianMu: Jurnal Ilmiah Pengabdian Kepada Masyarakat*, 9(1), 19–26.

Wahyuni, W., & Aryani, R. (2021). Penerapan video pembelajaran daring anak usia dini pada masa pandemi covid-19. *Jurnal Syntax Transformation*, 2(7), 1036–1048.

Yuanta, F. (2020). Pengembangan media video pembelajaran ilmu pengetahuan sosial pada siswa sekolah dasar. *Trapsila: Jurnal Pendidikan Dasar*, 1(2), 91–100.