OPEN ACCESS

E-ISSN 2776-3277, P-ISSN 2776-4729

Volume 4 (2), July 2024, 64-72

International Journal Education and Computer Studies (IJECS)

DOI: https://doi.org/10.35870/ijecs.v4i2.3051

# The Effect of Smart Fun Alphabet Media on the Ability to Recognize Letters for Early Childhood

**Villi Widia Ristianti** [1*], **Wulan Sari** [2]

[1*,2] Sekolah Tinggi Ilmu Tarbiyah Kota Pagar Alam, Pagar Alam City, South Sumatra Province, Indonesia.

Corresponding Email: villiwidia0@gmail.com [1*]

Received: 22 May 2024; Accepted: 20 July 2024; Published: 30 July 2024.

## Abstract

Children are distinctive individuals with unique characteristics encompassing cognitive, social, emotional, linguistic, physical, and artistic aspects that are undergoing a rapid developmental process. This phase signifies a crucial period laying the foundation for future life trajectories. Consequently, the age bracket of zero to six years is deemed as the optimum developmental stage. The primary objective of this investigation is to ascertain the impact of intelligent and enjoyable alphabet media on children's letter recognition abilities, particularly focusing on early childhood in Ar-rohman PAUD Bantunan Village, Pajar Bulan District, Lahat Regency. This study adopts a field research design, employing a quantitative approach, with a total sample size of 24 individuals and utilizing observation and documentation as data collection methods. The data analysis entails statistical analysis through the T-test. The findings reveal that the statistical analysis of paired t-tests yielded a t count of 92.916, surpassing the critical t table value of 2.096 (92.916 > 2.069) with a significance level of 0.000 < 0.005. Consequently, the null hypothesis (H0) is rejected in favor of the alternative hypothesis (Ha), with a correlation coefficient (R) value of 0.895. This indicates a highly robust relationship between the research variables. The R Square value, or coefficient of determination (KD), stands at 0.800, suggesting that the independent variable X exerts an influencing effect of 80% on variable Y. The remaining 20% signifies the contribution of unaccounted variables within the study.

**Keywords:** Smart Fun; Alfhabet; Ability to Recognize Letters.

## Introduction

Education etymologically comes from the Greek language, *namely paedagogie,* which consists of the word *paes,* meaning child, and *agogos,* meaning guidance given to children. In English, education is termed with the word *to educate*, which means improving morals and training intellectuals. Meanwhile, in accordance with educational terminology, the concept pertains to the transformation of an individual's or a collective's mindset and conduct, with the aim of fostering personal development through pedagogical and instructional endeavours (Bakhshandeh, 2023; Wade, 1998; Yuliana *et al*., 2023).

Children possess distinct individualities characterized by unique cognitive, social, emotional, linguistic, physical, and artistic attributes as they engage in a remarkably swift developmental trajectory (Armstrong-Carter *et al*., 2021; Sanson *et al*., 2018; S. Yuliana, 2018). This epoch represents a crucial juncture for forthcoming existence. Consequently, the span from birth to six years is deemed as a pivotal stage. Juveniles exhibit distinct traits which set them apart from adults; incessantly active, dynamic, enthusiastic, and inquisitive about their surroundings, they display an unyielding penchant for exploration and knowledge acquisition. Children display egocentric tendencies, an inherent curiosity,

OPEN ACCESS

E-ISSN 2776-3277, P-ISSN 2776-4729

Volume 4 (2), July 2024, 64-72

International Journal Education and Computer Studies (IJECS)

DOI: https://doi.org/10.35870/ijecs.v4i2.3051

social inclinations, unique attributes, a vivid imagination, limited attention span, and an optimal period for cognitive development (Duckworth & Yeager, 2015; Hayes, 2003; Sholihah *et al*., 2022).

Early childhood education will educate and train various areas of habituation development. Activities in ECCE include the development of behavior formation and the field of essential ability development through play and habituation activities (Agustina *et al*., 2023; Alfiyanto, 2020). The framework of the ECCE curriculum encompasses various developmental programs, such as those focusing on religious and moral values, physical-motor skills, cognitive abilities, language proficiency, social-emotional intelligence, and artistic expression. According to Permendikbud RI Number 146 of 2014, these development activities are interconnected, with each aspect complementing the others. One crucial area of focus is the enhancement of language skills, as verbal communication plays a pivotal role in children's comprehension of words, sentences, and the connection between spoken language and early literacy. The goal of improving language skills is to equip children with the ability to articulate their thoughts using simple yet appropriate language, communicate effectively, and cultivate a keen interest in speaking Indonesian accurately and fluently (Kemendiknas, 2014).

Smart *fun alphabet* media is made of flannel fabric and can help children recognize letters in the form of artificial objects often encountered by children in everyday life. Then, they will attach the object to the appropriate letter can, which is made of letter-shaped pieces of flannel cloth and attached to cans covered with flannel fabric. Each can is affixed with an initial letter representing the artificial object and made colorful to attract children to learn to recognize letters (Fitriati & Widodo, 2022; Ningrum *et al*., 2023; Grace *et al*., 2023). With this media, children aged four to five years can recognize letters through activities to identify objects around them that have the initial letters of several alphabets that will be introduced by attaching objects to the appropriate letter cans, for example, the letter "a" on apple or wine objects, the letter "b" on duck or star objects, the letter "c" on lizard or dragonfly objects, and so on (Maulida, 2020).

The advantage of *smart fun alphabet* media is that it can provide direct and concrete experiences to children through artificial objects that children often encounter in everyday life and can be seen and touched because they have space and texture (Nafiah *et al*., 2022). This is to the opinion expressed by Sudjana and Rivai that *smart fun alphabet* media is included in three-dimensional visualization media, which is a three-dimensional imitation of several natural objects, for example, in the form of models such as *solid models*, cross sections, stacking, work, mock-ups, dioramas, and others and is the type of media most often used by teachers in learning activities in the classroom. This *smart fun alphabet media* in developing the ability to recognize letters is also carried out according to the stages of letter recognition. It can be said that the stages of children recognizing letters are the stages of fantasy, self-concept formation, reading pictures, recognition, and fluency. At the initial phase of the developmental process, juveniles acquire the skill of utilizing literary materials, perusing through the pages of books, and transporting their preferred literary works. Subsequently, the phase characterized by the establishment of self-perception emerges, wherein the child initiates to identify oneself as a proficient 'reader,' demonstrated through active engagement in reading undertakings and simulated reading behaviors.

## Literature Review

Early childhood education (ECE) plays a critical role in laying the foundation for a child's future learning and development. It encompasses various areas of development, including cognitive, social, emotional, linguistic, physical, and artistic domains. The ability to recognize letters is a fundamental skill that contributes to children's literacy development, which is essential for their success in formal education (Armstrong-Carter, Wertz, & Domingue, 2021). The early years, particularly from birth to six years, are considered a pivotal stage for cognitive and linguistic development (Sanson, Letcher, & Havighurst, 2018). During this period, children begin to develop an understanding of the shapes and sounds of letters, which are crucial for their reading and writing abilities.

OPEN ACCESS

E-ISSN 2776-3277, P-ISSN 2776-4729

Volume 4 (2), July 2024, 64-72

International Journal Education and Computer Studies (IJECS)

DOI: https://doi.org/10.35870/ijecs.v4i2.3051

The use of educational media in early childhood has been extensively studied and proven to be effective in enhancing various cognitive and linguistic skills. Media, such as alphabet learning tools, can provide children with direct, concrete experiences that facilitate the recognition of letters (Fitriati & Widodo, 2022). The "Smart Fun Alphabet" media, as discussed in previous studies, employs tactile and visual stimuli to engage children in the learning process, making letter recognition more accessible and enjoyable (Nafiah, Wijayanti, & Sukmono, 2022). Educational media that incorporate playful elements are particularly effective in early childhood settings. According to Alfiyanto (2020), interactive and engaging tools can significantly improve children's cognitive abilities by making learning an enjoyable experience. This is aligned with the theories of developmental psychology, which suggest that play-based learning is a powerful mechanism for cognitive development in young children (Hayes, 2003).

Research has shown that media designed for alphabet recognition, such as the "Smart Fun Alphabet," can significantly improve children's ability to recognize letters. For instance, Maulida (2020) conducted a study that demonstrated the effectiveness of such media in enhancing letter recognition among preschool children. The study found that children who were exposed to the "Smart Fun Alphabet" media showed a marked improvement in their ability to recognize and recall letters compared to those who did not use the media. Similarly, recent research by Ningrum, Nurlita, and Satria (2023) confirmed that interactive media tools are highly effective in early childhood education settings. Their study on "Alphabet Fishing" media showed that these tools not only help in letter recognition but also in developing other related skills such as early reading.

In recent years, the development of educational media has advanced with the integration of technology. Digital learning tools and apps have become increasingly popular in early childhood education. These tools often combine visual, auditory, and kinesthetic elements to create a multi-sensory learning experience (Rahmat *et al*., 2023). This multi-sensory approach is particularly beneficial for young learners, as it caters to different learning styles and needs. A recent study by Bakhshandeh (2023) highlights the growing importance of incorporating transformational coaching and digital tools in early childhood education. These innovations are designed to support educators in creating more personalized and adaptive learning experiences, which can lead to better outcomes in letter recognition and overall literacy. The literature on early childhood education and the use of educational media for letter recognition consistently supports the effectiveness of tools like the "Smart Fun Alphabet" in enhancing children's cognitive and linguistic development. The integration of playful elements and multi-sensory approaches has been shown to be particularly effective in engaging young learners and improving their ability to recognize letters. As educational technology continues to evolve, future research should explore the long-term impact of these media on literacy development and how they can be further optimized to meet the diverse needs of early learners.

## Methodology

This research employs a field study approach, which involves direct interaction with the research environment and respondents. The focus of this study is to assess children's ability to recognize letters before and after the implementation of the "Smart Fun Alphabet" method. The research design follows a pre-experimental one-group pretest-posttest format. This design was chosen despite its limitations, notably the absence of a control group, which is a key component in a true experimental setup. Consequently, it lacks some elements required for a natural experiment. The methodology adopted in this study is quantitative. According to Sugiyono (2017), a quantitative methodology is applied to examine specific populations or samples, utilizing structured research instruments to collect data. This approach allows for the systematic analysis of numerical data and the testing of predefined hypotheses. Through statistical tools, the study seeks to quantify the impact of the "Smart Fun Alphabet" media on the children's letter recognition skills, providing empirical evidence to support or refute the research hypotheses.

OPEN ACCESS

E-ISSN 2776-3277, P-ISSN 2776-4729

Volume 4 (2), July 2024, 64-72

International Journal Education and Computer Studies (IJECS)

DOI: https://doi.org/10.35870/ijecs.v4i2.3051

## Results and Discussion

### Results

**The Ability to Recognize Letters Before Using *Smart Fun Alphabet Media* in Ar-Rohman Preschool Children**

It can be seen that the ability to recognize the letters of BB category children as many as 11 children (46%), MB as many as 13 children (54%), BSH as many as 0 (0%) children, and BSB as many as 0 children (0%). Thus, it can be concluded that PAUD Ar Rohman children cannot recognize letters after applying smart fun alphabet media.

Table 1. Description of Pretes Before Treatment

Descriptive Statistics

| | N | Range | Maximum | Sum | Mean | | Std. Deviation | Variance |
|---|---|---|---|---|---|---|---|---|
| | Statistic | Statistic | Statistic | Statistic | Statistic | Std. Error | Statistic | Statistic |
| Pretes | 24 | 7.00 | 16.00 | 303.00 | 12.6250 | .38454 | 1.88386 | 3.549 |
| Valid N (listwise) | 24 | | | | | | | |

Source: SPSS output, processed data, 2024.

Based on the information presented in the table, the study derived descriptive statistical findings from a sample of 24 participants, where the lowest pretest score recorded was 9 and the highest score reached 16, resulting in a range of 7. It is important to note that a wider range signifies a greater degree of variability within the dataset. The cumulative score observed was 303, with a mean value of 12.625, a standard deviation of 1.88386, and a variance of 3.459. Both the standard deviation and variance metrics serve as indicators of the extent of diversity present in the data.

**The Ability to Recognize Letters After Using *Smart Fun Alphabet Media* in Ar-Rohman Early Childhood Children**

Observations were made with the same instrument to find out the picture of the ability to recognize letters in children in PAUD Ar-Rohman Bantunan Village after the use of smart fun alphabet media. It can be concluded that Ar Rohman's early childhood children, after the application of *smart fun alphabet media,* have a very high ability to recognize letters.

Table 2. Description of Postes After Treatment

Descriptive Statistics

| | N | Range | Maximum | Sum | Mean | | Std. Deviation | Variance |
|---|---|---|---|---|---|---|---|---|
| | Statistic | Statistic | Statistic | Statistic | Statistic | Std. Error | Statistic | Statistic |
| Posts | 24 | 5.00 | 31.00 | 690.00 | 28.7500 | .31993 | 1.56733 | 2.457 |
| Valid N (listwise) | 24 | | | | | | | |

Source: SPSS output, processed data, 2024.

Based on the table above, descriptive statistical results were obtained from 24 respondents with a minimum score of 26 postes and a maximum score of 31, so the range is 5. In practice, the more significant the range, the more varied the data is. The total score is 690, the average is 28.75, the standard deviation is 1.567, and the variance is 2.457. The standard deviation and variance indicate the level of data diversity.

**Test Analysis Prerequisites**

**Normality Test**

A test of normality is employed to ascertain if the sample in the research exhibits a normal distribution. The instrument utilized to assess whether the sample conforms to a normal distribution is a normality test conducted through the SPSS 22.0 software. The evaluation of the normality of data distribution within the sample is conducted through the

OPEN ACCESS

E-ISSN 2776-3277, P-ISSN 2776-4729

Volume 4 (2), July 2024, 64-72

International Journal Education and Computer Studies (IJECS)

DOI: https://doi.org/10.35870/ijecs.v4i2.3051

utilization of the Kolmogorov-Smirnov Test or K-S Test. The hypothesis for the normality test in the study is outlined accordingly.

- HO = Abnormally distributed population.
- HA = Normal distributed population.

The main criterion used to make decisions in the normality test is the comparison between the Significance value (Sig.) and a significance level of 5% or 0.05 in the subsequent manner: In cases where the Sig. value is greater than 0.05, it indicates that the population follows a normal distribution. Conversely, if the Sig. value is less than 0.05, it suggests that the population deviates from a normal distribution. The results of testing normality data from home visit variables and learning outcomes of Islamic education students with the SPSS 22.0 application are as follows:

Table 3. Normality Test

| One-Sample Kolmogorov-Smirnov Test | | | |
|---|---|---|---|
| | | Pretes | Posts |
| N | | 24 | 24 |
| Normal Parameters | Mean | 12.6250 | 28.7500 |
| | Std. Deviation | 1.88386 | 1.56733 |
| Most Extreme Differences | Absolute | .184 | .162 |
| | Positive | .139 | .160 |
| | Negative | -.184 | -.162 |
| Kolmogorov-Smirnov Z | | .901 | .796 |
| Asymp. Sig. (2-tailed) | | .391 | .551 |
| a. Test distribution is Normal. | | | |

Source: SPSS output, processed data, 2024.

Based on data processing with SPSS Version 22.0 above, the sign value for pretest data is 0.391, which means the sign value is greater than the α value (0.391 > 0.05). Then, for the test post data, a signed value is greater than the α value (0.551 > 0.05). Based on the sign value of both variables, it can be stated that Ha is accepted, which means that the data comes from a normally distributed population.

**Homogeneity Test**

The homogeneity test is part of the classical assumptions in comparative analysis. This homogeneous test is used to determine whether the score variance measured in the sample has the same variance.

- H0 = Sample data derived from a homogeneous population
- H1 = Sample data comes from heterogeneous populations

The main criterion for terminating the linearity test is based on comparing the significance value (Sig.) with a significance level of 5% or 0.05 as follows: In cases where Sig. > 0.05, it indicates homogeneity of the data. Conversely, if Sig. < 0.05, it suggests heterogeneity within the data. The results of the homogeneity test derived from computations carried out using the SPSS 22 software are presented as follows:

Table 4. Homogeneity Test

| Test of Homogeneity of Variances | | | |
|---|---|---|---|
| Posts | | | |
| Levene Statistic | df1 | df2 | Sig. |
| 2.329 | 5 | 16 | .091 |

OPEN ACCESS

E-ISSN 2776-3277, P-ISSN 2776-4729

Volume 4 (2), July 2024, 64-72

International Journal Education and Computer Studies (IJECS)

DOI: https://doi.org/10.35870/ijecs.v4i2.3051

Based on the table above, the sign is 0.091, meaning that in this case, the sign is more significant than α (0.091> 0.05), so we can know that the pretest with posttest has data derived from a homogeneous population.

**Linearity Test**

The linearity test forms a component of the traditional assumptions underlying classical correlation and linear regression analysis, specifically regression models. This particular test serves the purpose of determining whether a linear relationship exists between two variables. Its primary objective is to establish whether the available data aligns with a linear trajectory. Assessments of regression linearity are conducted to gauge the level of proximity in the relationship, estimate the extent of the relationship's direction, and project the extent of the dependent variable given knowledge of the independent variable's value. The variables under consideration for testing in this instance are home visits (X) and learning outcomes (Y). The correlation between the independent and dependent variables can manifest as either positive or negative. A positive correlation, also known as a direct relationship, indicates that an increase in the independent variable results in a corresponding increase in the dependent variable. Conversely, negative relationships or bidirectional relationships operate in the opposite manner. The hypothesis for the linearity test in research is articulated below.

- H0 = Non-linear patterned regression model.
- H1 = Linear-patterned regression model.

The principal factor contributing to the conclusion of the test in the linearity examination involves the comparison of the Significance value (Sig.) against a threshold of 5% or 0.05 in the subsequent manner: In instances where the Sig. value exceeds 0.05, a statistically meaningful linear correlation is present between the variables X and Y. Conversely, if the Sig. value is less than 0.05, there exists no noteworthy association between the variables X and Y. The resultant data output arising from the linearity assessment conducted via computations utilizing the SPSS 22 software exhibit the subsequent outcomes:

Table 5. ANOVA Test

ANOVA Table

| | | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|---|
| Postes * Pretes | Between Groups | (Combined) | 49.226 | 7 | 7.032 | 15.469 | .000 |
| | | Linearity | 45.214 | 1 | 45.214 | 99.455 | .000 |
| | | Deviation from Linearity | 4.013 | 6 | .669 | 1.471 | .250 |
| | Within Groups | | 7.274 | 16 | .455 | | |
| | Total | | 56.500 | 23 | | | |

Source: SPSS output, processed data, 2024.

Based on the table above, the sign is 0.250, meaning the sign is more significant than α (0.250> 0.05), so we know that the pretest and postes have a linear relationship or linear pattern.

**Hipotesis Test**

The t-test was employed in order to ascertain the impact of Alphabet's Smart Fun media on the capacity for letter recognition. Utilizing a significance level of 0.05 and a two-tailed approach, the test proceeded as outlined below.

1) Hypothesis Formulation
   Ha: *Smart Fun alphabet media* influences students' ability to recognize alphabet letters in PAUD Ar-Rohman, Bantunan Village, Pajar Bulan District, Lahat Regency.
   Ho: there is no effect of using *Smart Fun alphabet media* on the ability to recognize letters of the alphabet in students of Ar-rohman PAUD year, Bantunan Village, Pajar Bulan District, Lahat Regency.
2) Criteria Setting
   The magnitude of the table t value for a significant level of 5% db = 32 (db = N – 1 for N = 24) is 2.069 or by looking at the significance value with the < sign criterion 0.05.
3) Perform a test analysis using SPSS 22.0

OPEN ACCESS

E-ISSN 2776-3277, P-ISSN 2776-4729

Volume 4 (2), July 2024, 64-72

International Journal Education and Computer Studies (IJECS)

DOI: https://doi.org/10.35870/ijecs.v4i2.3051

4) Decision-making
If the t value surpasses the critical t from the table, the alternative hypothesis (Ha) is favored over the null hypothesis (Ho). The computed t value of 4.778 exceeds the tabulated t value (df = 24) of 2.069 at a significance level of 5%. Consequently, when the calculated t value is greater than the tabulated t value, the alternative hypothesis (Ha) is accepted while the null hypothesis (Ho) is rejected. Essentially, this entails rejecting the null hypothesis (Ho) in favor of testing both variables using the alternative hypothesis (Ha).
5) Conclusion
The results of the paired t-test can be seen in the table below:

Table 6. Paired t Test

Paired Samples Test

| | | Paired Differences | | | | | t | df | Sig. (2-tailed) |
|---|---|---|---|---|---|---|---|---|---|
| | | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference | | | | |
| | | | | | Lower | Upper | | | |
| Pair 1 | Pretes - Postes | -1.61250E1 | .85019 | .17354 | -16.48400 | -15.76600 | -92.916 | 23 | .000 |

Source: SPSS output, processed data, 2024

In the table presented above for the Paired Samples Test, it is evident that the t count value is calculated as 92.916, while the t table value is 2.096 (92.916 > 2.069), accompanied by a significance level of 0.000 < 0.005 for a 2-tailed test. Consequently, the null hypothesis (H0) is rejected in favor of the alternative hypothesis (Ha). These results indicate a statistically significant impact of the Smart Fun Alphabeth approach on letter recognition skills among students at Ar-rohman PAUD in Bantunan Village, Pajar Bulan District, Lahat Regency.

**Coefficient of Determination**

The coefficient of determination was employed to assess the impact of the Smart Fun Alphabeth method on the recognition of alphabet letters among children at Ar-rohman PAUD in Bantunan Village, Pajar Bulan District, Lahat Regency. The coefficient of determination is presented in the table below:

Table 7. Model Summary

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .895[a] | .800 | .791 | .71625 |

a. Predictors: (Constant), Pretes

*Source: SPSS output, processed data, 2024.*

Based on the data presented in the table above, the symbol R denotes the coefficient. The correlation value in the aforementioned table is indicated as 0.895, signifying a robust relationship between the two research variables. Furthermore, the table showcases the R Square value, known as the coefficient of Determination (KD), which reflects the effectiveness of the regression model resulting from the interplay of independent and dependent variables. The obtained KD value stands at 0.800, suggesting that 80% of the variance in variable Y can be explained by the independent variable X. The residual 20% accounts for the influence of unexamined variables in the research.

**Discussion**

The results of this study demonstrate that the use of the "Smart Fun Alphabet" media significantly enhances the ability of children to recognize letters, as evidenced by the results of the paired t-tests. The analysis revealed a p-value of 0.000, which is well below the threshold of 0.05, thereby leading to the rejection of the null hypothesis (H0) and the acceptance of the alternative hypothesis (Ha). This indicates that the implementation of this educational media has a statistically significant positive effect on letter recognition skills among children at PAUD Ar-Rohman in Bantunan

OPEN ACCESS

E-ISSN 2776-3277, P-ISSN 2776-4729

Volume 4 (2), July 2024, 64-72

International Journal Education and Computer Studies (IJECS)

DOI: https://doi.org/10.35870/ijecs.v4i2.3051

Village, Pajar Bulan District, Lahat Regency. The integration of engaging and educational media, such as the "Smart Fun Alphabet," is crucial in early childhood education, particularly for developing foundational literacy skills. Research has consistently shown that interactive and playful learning tools can enhance cognitive and linguistic abilities in young children. For instance, Armstrong-Carter, Wertz, and Domingue (2021) emphasize the importance of early interventions in cognitive development, while Hayes (2003) highlights the role of educational media in enhancing learning outcomes in early childhood. This study's findings align with previous research that underscores the significance of media designed to promote letter recognition. Maulida (2020) found that children exposed to similar media showed marked improvements in recognizing and recalling letters. Additionally, the work of Nafiah, Wijayanti, and Sukmono (2022) supports the use of alphabet maze media as an effective tool for beginning reading skills, further corroborating the results of this study.

Moreover, recent advancements in educational technology, such as those reported by Rahmat *et al*. (2023), suggest that integrating digital elements into learning media can further enhance the effectiveness of these tools. These studies collectively affirm that using interactive, multi-sensory educational media is a potent strategy for boosting early literacy skills, particularly letter recognition. Furthermore, Dardjowidjojo's work on language acquisition suggests that letter recognition is a critical stage in children's cognitive development, transitioning them from unfamiliarity to familiarity with letter forms and sounds. This foundational skill is vital for later reading and writing proficiency, underscoring the importance of the findings from this research. The "Smart Fun Alphabet" media significantly contributes to the development of letter recognition abilities in early childhood, as evidenced by both the statistical outcomes of this study and the supporting literature. This reinforces the need for incorporating such media in early childhood education to foster essential literacy skills from a young age.

## Conclusion

The statistical analysis performed in this study, particularly through the paired t-test, reveals that the "Smart Fun Alphabet" media has a significant impact on the ability of students at PAUD Ar-Rohman in Bantunan Village, Pajar Bulan District, to recognize alphabet letters. The analysis yielded a t-value of 46.818, which is substantially greater than the critical t-value of 2.096, with a significance level of 0.000, far below the threshold of 0.005. This result supports the rejection of the null hypothesis (H0) in favor of the alternative hypothesis (Ha), confirming the effectiveness of the "Smart Fun Alphabet" media in enhancing letter recognition skills. The correlation coefficient (R) of 0.895 indicates a strong positive relationship between the use of the media and the improvement in letter recognition. Additionally, the R Square value, or coefficient of determination, is 0.800, suggesting that 80% of the variance in letter recognition (Y) can be explained using the "Smart Fun Alphabet" media (X). The remaining 20% of the variance is likely influenced by other factors not examined in this study. These findings underscore the importance of integrating engaging and effective educational tools in early childhood education to foster critical literacy skills.

## References

Agustina, A. N., Yuliastuti, R. A., Safitri, D., Syafruddin, S., & Alfiyanto, A. (2023). Upaya meningkatkan minat membaca dengan menggunakan media pembelajaran buku cerita bergambar pada anak PAUD Kasih Ibu. *Indonesia Berdaya, 4*(2), 507–512. https://doi.org/10.47679/ib.2023416

Alfiyanto, A. (2020). Upaya meningkatkan kemampuan kognitif anak mengenal angka di PAUD Kasih Ibu. *Jurnal Migasian.* https://doi.org/10.36601/jurnal-migasian.v4i1.98

Armstrong-Carter, E., Wertz, J., & Domingue, B. W. (2021). Genetics and child development: Recent advances and their implications for developmental research. *Child Development Perspectives, 15*(1), 57–64. https://doi.org/10.1111/cdep.12400

OPEN ACCESS

E-ISSN 2776-3277, P-ISSN 2776-4729

Volume 4 (2), July 2024, 64-72

**International Journal Education and Computer Studies (IJECS)**

DOI: https://doi.org/10.35870/ijecs.v4i2.3051

Bakhshandeh, B. (2023). The world of transformation. In *Transformational coaching for effective leadership.* https://doi.org/10.4324/9781003304074-2

Duckworth, A. L., & Yeager, D. S. (2015). Measurement matters. *Educational Researcher, 44*(4), 237–251. https://doi.org/10.3102/0013189X15584327

Fitriati, A., & Widodo, M. (2022). Kelayakan media colored smart cube untuk menstimulasi pengenalan warna di kelompok A TK Bunga Bangsa Mojodadi. *Jurnal Pendidikan Indonesia, 3*(09), 820–827. https://doi.org/10.59141/japendi.v3i09.1165

Hayes, N. (2003). What are four-year-olds doing at school? Reconciling current knowledge about learning in young children with early educational pedagogy. *International Journal of Early Years Education.*

Kemendiknas. (2014). Permendikbud No 146 Tahun 2014. *Permendikbud Republik Indonesia, 8*(33), 37.

Maulida, E. (2020). Pengaruh media Smart Fun Alphabet. *Unpublished Thesis, Universitas Negeri Yogyakarta.*

Nafiah, I. N., Wijayanti, A., & Sukmono, N. D. (2022). Development of alphabet maze media for beginning reading skills for children. *Al-Athfaal: Jurnal Ilmiah Pendidikan Anak Usia Dini, 5*(1), 48–62. https://doi.org/10.24042/ajipaud.v5i1.11678

Ningrum, N. F., Nurlita, N., & Satria, D. (2023). Pengaruh media alphabet fishing terhadap kemampuan membaca anak usia 5-6 tahun di TK Mawar Putih Kecamatan Singingi Hilir Kabupaten Kuantan Singingi. *Journal on Education, 6*(1), 2254–2263. https://doi.org/10.31004/joe.v6i1.3104

Rahmat, A., Wullur, M., Pinontoan, M., & Dumanaw, R. G. (2023). The use of alphabet flash cards learning media in the process of learning while playing at the community learning activity center in North Sulawesi Province. *KnE Social Sciences.* https://doi.org/10.18502/kss.v8i9.13332

Sanson, A. V., Letcher, P. L. C., & Havighurst, S. S. (2018). Child characteristics and their reciprocal effects on parenting. In *Handbook of parenting and child development across the lifespan* (pp. 337–370). Springer International Publishing. https://doi.org/10.1007/978-3-319-94598-9_15

Sholihah, M., Fitriani, M., & Istiqamah, M. (2022). Strategi guru dalam menangani anak yang mengalami keterlambatan dalam berbahasa (Observasi lapangan di TK Daarul Fattaah Tangerang). *Ash-Shobiy: Jurnal Pendidikan Islam Anak Usia Dini dan Al-Qur'an, 1*(1), 27–37. https://doi.org/10.33511/ash-shobiy.v1n1.27-37

Sugiyono. (2017). *Metode penelitian kuantitatif dan kualitatif dan R&D.* ALFABETA.

Wade, G. H. (1998). A concept analysis of personal transformation. *Journal of Advanced Nursing, 28*(4), 713–719. https://doi.org/10.1046/j.1365-2648.1998.00729.x

Yuliana, C., Hanim, Z., Huda, M. S., & Yamin, M. (2023). Sumber daya lembaga dalam praktek dunia pendidikan. *Journal on Education, 6*(1), 2285–2294. https://doi.org/10.31004/joe.v6i1.3241

Yuliana, S. (2018). The unique things of gifted children development. In *Proceedings of the 2nd INDOEDUC4ALL - Indonesian Education for All (INDOEDUC 2018).* https://doi.org/10.2991/indoeduc-18.2018.22.