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The Effectiveness of Engklek Baca in Improving the Early Reading Ability of Children with Reading Difficulties

Angga Damayanto, Nurfallah Hayati, Listya Mutiara Cantika

Universitas Negeri Yogyakarta

E-mail: anggadamayanto@uny.ac.id

Abstrak: Penelitian ini bertujuan untuk membuktikan bahwa engklek baca sebagai media pembelajaran berbasis kearifan lokal dapat menjadi alternatif media pembelajaran yang dapat meningkatkan keterampilan membaca awal pada siswa dengan hambatan membaca di SDN Bumiaji 3 Sragen. Penelitian ini menggunakan metode eksperimen dengan menggunakan desain subjek tunggal atau Single Subject Research (SSR). Pengumpulan data dilakukan dengan menggunakan desain one group pre-test – post-test yang terdiri dari satu kelompok yang telah ditentukan. Pada desain ini tes dilakukan dua kali yaitu pre-test dan post-test yang dilakukan setelah siswa diberikan treatment. Data yang diperoleh menunjukkan bahwa membaca engklek sebagai media pembelajaran terbukti efektif dalam meningkatkan keterampilan membaca siswa dengan hambatan membaca. Dari nilai rata-rata yang diperoleh terdapat peningkatan rata-rata dan terdapat selisih antara kedua data yaitu 20. Hipotesis dapat diterima karena terdapat perbedaan antara setelah diberikan perlakuan dengan sebelum diberikan perlakuan kepada siswa. Perbedaan yang dimaksud adalah peningkatan kemampuan membaca siswa dengan hambatan membaca.

Kata Kunci: engklek baca; media pembelajaran; membaca awal; anak-anak yang mengalami kesulitan membaca

Abstract: This research aims to prove that engklek baca as a learning media based on local wisdom can be an alternative learning media that can improve initial reading skills in students with reading barriers at Bumiaji 3 Sragen State Elementary School. This research uses an experimental method using a single subject design or Single Subject Research (SSR). Data collection was carried out using a one group pre-test - post-test design consisting of one predetermined group. In this design, the test is done twice, namely a pre-test and a post-test done after the students are given treatment. The data that has been obtained shows that engklek reading as a learning medium has proven to be effective in improving the reading skills of students with reading barriers. From the average value obtained, there is an increase in the average and there is a difference between the two data, namely 20. The hypothesis can be accepted because there is a difference between after the treatment given and before the treatment was given to students. The difference in question is an increase in the reading ability of students with reading barriers.

Keywords: engklek baca; instructional media; early reading; children with reading difficulties

INTRODUCTION

The literacy problem faced by Indonesia is a serious concern because Indonesia ranks 60th out of 61 countries in literacy (J. W. Miller & The data shows an urgent need for Indonesia to improve reading skills that are still low among students aged 7-11 years, with 11% having low comprehension skills and 7% experiencing difficulty in reading fluency (Cecilia et al., 2014). Statistical data found by White (2018) indicates that around 36% of students in grade 4 elementary school face difficulties at the early reading stage. In every elementary school grade, one to three students experience similar obstacles (Pujaningsih & Ambarwati, 2012). Phonemic awareness is one of the main problems faced by students when they have difficulty beginning to read (Cunningham, 2001; Shanahan, 2005). The impact extends beyond the classroom, as reading difficulties can affect students'

academic achievement as well as their behaviour (Bahrudin et al., 2020; Bergey et al., 2017; Smart et al., 2017). Moreover, low reading skills also have profound economic implications, as good reading skills will be the foundation for successful participation in various job sectors (Blaug, 2015; John W. Miller & McKenna, 2016).

Students with early reading difficulties face challenges in acquiring reading skills in the early stages of learning. These challenges can stem from various factors, including but not limited to memory limitations, perceptual barriers, unsupportive learning environments, or specific developmental problems such as dyslexia (Hosp, Huddle, Ford, & Hensley, 2016, p.44). Children with early reading impairments face challenges such as memory limitations, perceptual barriers, and unsupportive learning environments (Sandman-Hurley & Ed, 2019, p. 16-17). A teacher

must identify and understand specific barriers to determine and develop learning strategies and approaches appropriate to the student's needs.

Identifying and responding to each student's needs is crucial to overcoming early reading challenges. Memory limitations cause initial reading problems at the elementary school level (Kofler et al., 2018), perceptual barriers (Snowling, Hayiou-Thomas, Nash, & Hulme, 2020), and environment (McCarthy et al., 2020). Through the adaptation of methods, learning media to the provision of assistive technology, specifically in each aspect of the abilities, needs, and interests of each student with reading difficulties, the learning process can be more relevant and effective (Fatoni, 2020; Svensson et al., 2021; Taboer, Rochyadi, Sunardi, & Bahrudin, 2020). Initial reading problems in children can be overcome, one of which is if the media is made based on the ability accompanied by programs and measurements of student learning progress with personal reading difficulties (Hasanudin, 2015; Vaughn & Fletcher, 2012).

Engklek baca program employed in this study adopts a competency-based education approach, emphasizing student feedback and tailored instruction based on individual needs and demonstrated mastery (Camacho & Legare, 2016; McCarthy et al., 2020). Through its interactive and engaging approach, Engklek baca has proven effective in enhancing reading skills among students (Pane et al., 2015; Sanford & Horner, 2012). This program bridges the gap for teachers in designing early reading instruction, addressing the challenge identified by dos Santos & Capellini (2020), where students struggle with interpreting assessment results and developing reading proficiency. Engklek baca offers a solution by tailoring early reading instruction to individual student abilities, utilizing appropriate learning media, and providing comprehensive progress reports. This approach ensures gradual and sustained student success.

Engklek baca, a learning program rooted in Indonesian local wisdom, integrates various culturally relevant learning media to enhance early reading skills and foster a love for reading in young learners. This innovative approach leverages traditional games to create an engaging and meaningful learning experience (Ngaisah et al., 2023). Extensive research supports the effectiveness of culturally relevant learning media in early reading instruction. Studies have shown that incorporating wayang puppets into reading activities improves phonemic awareness and vocabulary acquisition (Anggarina et al., 2022). Folklore-based storytelling not only captivates young learners but also exposes them to rich vocabulary, cultural values, and oral traditions, fostering a deeper appreciation for their heritage (Halimah et al., 2020). In addition to these findings, research specifically on Engklek baca has shown promising results. A study by (Tika et al., 2023) found that the program significantly

improved articulation ability vocal letters in deaf children, including letter recognition, sound-symbol association, and early reading. Furthermore, the use of local wisdom-based learning media in Engklek baca was found to enhance student motivation, engagement, and cultural identity (Chaira, 2021).

Through the support of learning media tailored to their individual needs, students can feel more supported and motivated to develop their early reading skills (Cahyani & Liansari, 2023; Smaldino et al., 2014, 2019). Thus, they can participate in reading learning activities more inclusively and sustainably, allowing each student to reach their full potential in reading. Incorporating the concept of local wisdom into learning media has been proven to increase student motivation, cultural awareness, and material understanding (Prawiyogi, Rahman, Sastromiharjo, Anwar, & Suparman, 2023; Rosa, Hartati, & Kuswono, 2022). In addition, using local wisdom in learning media has been highlighted as a valuable approach to engaging students in improving their learning experience (Adam et al., 2022). However, challenges such as low student interest in early reading and teachers' inadequate understanding of local wisdom have been identified as obstacles to effectively implementing local wisdom-based literary literacy (Dwinando, Marmoah, & Yamtinah, 2021; Latifah, Sulistyorini, & Sumarti, 2023; Puspita, Saud, Damayanti, William, & Setiawan, 2021).

Based on this discussion, researchers are interested in testing the effectiveness of learning media integrated with local wisdom, namely "Engklek baca" at Bumiaji 3 Sragen State Elementary School. The aim is to prove that local wisdom-based learning media can be one of the media that can improve early reading skills and foster cultural awareness and appreciation among students. However, this article will be limited to aspects of the effectiveness of learning media on students' initial reading skills. Researchers wanted to describe comprehensively how effective engklek baca is on students' initial reading skills so that an overview will be obtained related to the test of the effectiveness of engklek baca in overcoming initial reading problems in students.

METHOD

This study used an experimental method using a single-subject design or Single Subject Research (SSR) to test the effectiveness of *engklek baca* in improving the reading ability of children with reading difficulties at Bumiaji 3 Sragen State Elementary School. The experimental method with SSR design was chosen so that the data obtained in this study could explain comprehensively the effectiveness of *engklek baca* conducted at SD Negeri Bumiaji 3 Sragen, which focused on the last 2 phases of the 5 phases of the early reading stages of Ehri (1995) which include,

pre-alphabetic phase, partial alphabetic phase, full alphabetic phase, consolidated alphabetic phase, and automatic alphabetic phase.

The research stage begins with measuring students' initial ability to determine the research subject. The group of students in this study is those in grades 1 to 3 already in the Consolidated alphabetic phase. After taking initial measurements, it was found that four students had similar problems, namely problems in reading syllables, words, and groups of words. The next stage is to do one group pre-test - post-test design consisting of a predetermined group. In this design, two tests were carried out, namely pre-test and post-test, which were carried out after the students were given treatment⁴⁰ with the following pattern:

The data analysis technique used in this study was performed by giving tests two times, namely before and after being given experimental treatment. The pre-test is presented in the experimental class. After the pre-test, researchers gave treatment in the form of learning to read using *engklek baca* media (), then after the treatment was given at the final stage, the author gave a post-test. This study was conducted for two months, from November 3, 2023, to January 10, 2024, with treatment of 6 meetings for 45-60 minutes for each research subject.

RESULTS AND DISCUSSION

The study began by interviewing each homeroom teacher and assessing students at risk for reading impairment to see how early reading skills were in each class. Based on the results of these interviews and assessments, it can be concluded that each class has students who are not fluent in beginning reading with various categories. Some students are not yet able to read with words given the addition of affixes, sentences patterned consonants or double vowels and are unfamiliar with the concept of letters. Furthermore, on November 18, 2023, the first test or pre-test was carried out on four selected research subjects in the Consolidated Alphabetic phase. After getting the pre-test results, researchers began treating students using *engklek baca* media which was carried out in as many as 6 meetings for 45-60 minutes for each research subject.

Data on treatment results are taken from the initial test and final test conducted by each student who attended each meeting totaling four students. The test given is made in the form of 25 questions, 25 questions, 10 syllables; 10 words without affixes, suffixes or infixes or by using KVKV patterned words and 5 phrases. The test is not done in writing but directly using an oral test. The test is conducted with students shown syllables, words and groups of words and then students will be asked to read or say the

syllables, words and groups of words. Both tests given are to see students' reading ability after being given learning using *engklek baca*. The estimated time given to students for each test is around 45 – 60 minutes. This is because the test is carried out orally one by one to students. The assessment format is as follows table 1.

Engklek baca is done by adapting the Dual-route approach to orthographic processing from Grainger and Ziegler (2011) thought to be involved in optimizing the mapping of print to meaning during reading acquisition, might shape the nature of the orthographic code involved in skilled reading. On the one hand, optimization is hypothesized to involve selecting combinations of letters that are the most informative with respect to word identity (diagnosticity constraint which can specifically assist students in processing reading based on two language processing locations, namely: (1) rough grains that record informative letter combinations regardless of letter position; and (2) fine grain takes into account letter combinations that often appear together. This application can assist students in efficiently associating spelling with word meaning through diagnostic analysis and processing of adjacent letter chunks. Based on the treatment given to students using *engklek baca*, pre-test and post-test results were obtained as stated in Table 2.

The pre-test results have a total score of 47 and the post-test conducted after students are given individual treatment using *engklek baca* has a score result of 99. During reading, students' eyes will always be glued to most words in the text at one time then absorb information from the words they read as a function of word position and fixation (Schurz et al., 2015). inferior temporal, middle temporal, superior temporal Therefore, the application begins with giving a word that is already understood by students visually. Because in the process of spelling, students are not only required to identify the position of the visible letters, but also must know and understand where the given letters are in the word.

The use of *engklek baca* provides a more interesting and fun learning atmosphere, so that students are more motivated and active in the learning process. This is in line with research conducted by Dewi, Nurashah, & Nurmeta (2023) and Zuhara (2023) because of the learning atmosphere that requires students to be active and fun, *engklek baca* can improve students' reading skills and can be used as a reference for teachers in using media based on local wisdom. *Engklek baca* in this study focused on providing support to students in processing two reading locations, by means (see Figure 1): (1) explaining and giving students what syllables are contained in *engklek baca*; (2) provide repetition to strengthen students' memory related to the given syllable; and (3) have students jump through each box provided while asking them to name what word they are stepping on. This stage must be done until the last

Table 1. Reading Proficiency Assessment Format

Phase	Aspects	Indicator	Number of items	Scoring Points	Max Points
Consolidated Alphabetic Phase	Syllables	Read syllables without prompting	10	2	20
		Reading syllables with prompting		1	
		Cannot		0	
	Words	Read words without prompting	10	2	20
		Read words with prompting		1	
		Cannot		0	
Automatic Alphabetic Phase	Phrases	Read phrases without prompting	5	2	10
		Read phrases with prompting		1	
		Cannot		0	

Table 2. Pre-Test and Post-Test Results

No.	Subjects	Pre-Test				Post-Test			
		Syllables	Words	Phrases	Total	Syllables	Words	Phrases	Total
1.	A	10	5	3	18	16	10	6	32
2.	B	7	3	3	13	13	9	5	27
3.	C	4	5	1	10	12	8	3	23
4.	D	3	3	0	6	10	6	1	17
Total		47				99			

Table 3. Average Pre-Test and Post-Test Scores

		Paired Samples Statistics			
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre-test	11.75	4	5.058	2.529
	Post-test	24.75	4	6.344	3.172

Table 4. Average Pre-Test and Post-Test Scores

		Paired Samples Test					t	df	Sig. (2-tailed)
				Paired Differences					
		Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference					
Mean				Lower	Upper				
Pair 1	Pre-test – post-test	-13.000	1.414	.707	-15.250	-10.750	-18.385	3	.000

word on the *engklek baca* is finished reading. If the student is wrong in reading, then the student needs to repeat the reading again or indicate the correct syllable.

Data on descriptive pre-test and post-test results using the SPSS t-test version 26 for Windows will be described in Table 2. based on data score is 11.75 while for the post-test average is 24.75. From the average value obtained, there is an increase in the average and the two data have a difference of 13 points. After the pre-test, students were given reading learning treatment using *engklek baca*. Researchers treated 6 meetings with the results of developments in each meeting attached to Figure 2. After being given new treatment, then at the post-test stage which gives

significant results to the development of students' initial reading skills.

Based on Figure 2, it is known that there is an increase in every meeting. At the first meeting, students were asked to do a pre-test until they got an average score of 11.75. After the pre-test, students were given reading learning treatment with *engklek baca*. At the first meeting, students were familiar with the media for the first time, so adaptation was still needed, besides that at the first meeting, students were still less focused because they were more interested and curious about the design of *engklek bacas*. Based on the first meeting, it can be seen that child D has the lowest score compared to other children and child A gets the highest

score. In the second meeting there was an increase with an average increase of one to two points in the aspect of syllables and words but for the aspect of phrases still did not increase.

At the second meeting, the children have begun to focus on learning activities and have been able to follow how to use the media well. In the third meeting the students did not experience a significant improvement, the hannya increased by one point or the same as the previous meeting. But in the aspect of syllables, student D experienced a fairly high increase of two points. At the fourth meeting, almost all students improved. Student B at the fifth meeting did not improve in the aspect of words and phrases. The same thing happened to student A who did not improve at the fifth meeting. In the sixth meeting, the expression aspect of students who experienced an increase was only student A while the syllables and word aspects of almost all students improved, except student C who did not experience an increase in the words aspect.



Figure 1. Application of *Engklek baca*

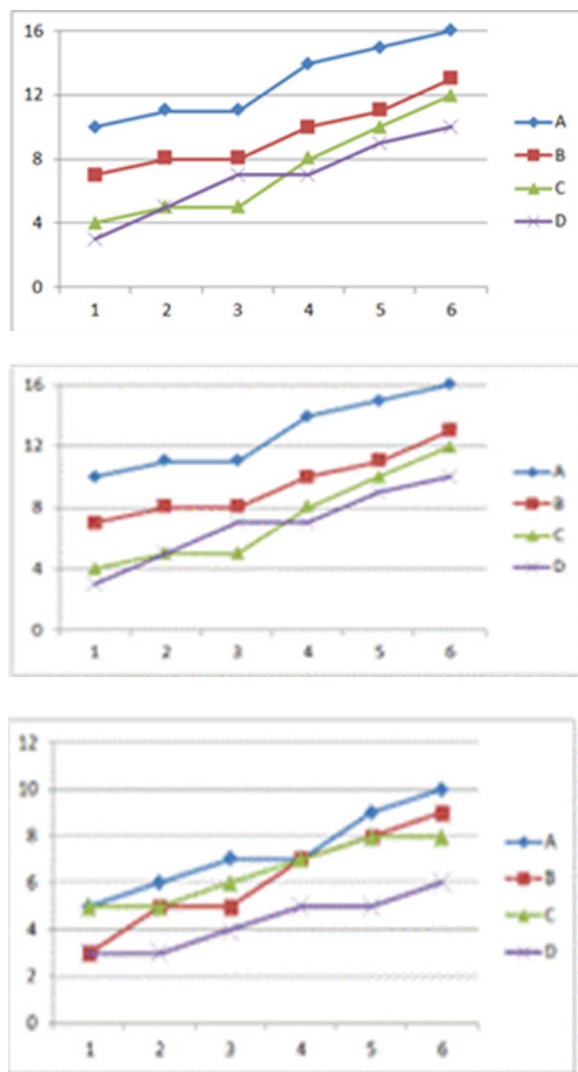


Figure 2. *Engklek Baca* application graphic data

Figure 2 also shows that the level of students with the least improvement is student D. This is because during meetings student D often runs around the media, jumps and jumps and does not follow the use of media properly. Focus problems such as anxiety or other distractions in students can hinder their understanding of the context of the reading they are reading, which affects learning outcomes (Torgesen, Wagner, Rashotte, 2021). In contrast to student D, student A who likes reading media the most, is very excited and has a high focus when learning. Student A can also follow the series of activities very well. This factor makes student A have a fairly high improvement in reading learning compared to other students. The basis for hypothesis testing in this study is is acceptable and is rejected if the calculated t value is greater than the table t value. The result of calculating the value of t based on Table 3, it is known that the calculated t is greater with a value of 18.385 than the table t which is valued at 3.182 so that rejected and accepted, which means that *Engklek baca* effectively

improves the reading ability of students with learning difficulties. The hypothesis can be accepted because of the difference between after the treatment given and before the treatment given to students. The difference in question is the improvement of students' reading skills with reading difficulties.

CONCLUSION

Based on the results of the research listed in the results and discussion above, it is known that there is a significant influence in this experimental research. This study was conducted on four students with initial reading difficulties at SD Negeri 3 Bumiaji, Sragen. The four students experienced development in reading skills, starting from being unable to say two letters combined into one or other word forms. The limitation of this study is that not all letter unity has been taught to students because the time collides with the Final Semester Exam period at SD Negeri 3 Bumiaji, Sragen. However, the *engklek baca* designed by the research team has motivated students to learn to read while playing. The details of the time used for this study in each data collection are around 45 – 60 minutes, with the tests given in the form of 25 questions; 10 syllables; 10 words without affixes, suffixes, or infixes; and 5 phrases. Further research is needed to develop locally wisdom-based learning media or assistive technology as an alternative to early reading learning activities or other reading levels for students with reading difficulties. So, technically, reading learning can accommodate the needs of students with reading difficulties.

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