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Development of Syllable-Based Spin Wheel Media to Improve the Beginning Reading Ability of Students in Grade 1 SD / MI

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ABSTRACT

The background of this research is related to the differences in the initial reading skills of grade 1 elementary school students, where there are some students who do not recognize vowels and consonants, and have not been able to combine or arrange syllables into the right words. The purpose of this research is to create an efficient learning tool that is proven to improve the basic reading skills of grade 1 students. The tool developed is a Rotating Wheel that focuses on Syllables. This research uses the Research and Development (R&D) method with the ADDIE model which includes the stages of Analysis, Design, Development, Implementation, and Evaluation. During the development process of this tool, it has been assessed by experts in the field of media and material. The results of the assessment show that this tool is suitable for use in teaching and learning activities in class 1. The validation level for the media reaches 100% and for the material reaches 75%, both of which show numbers that are very suitable for the learning process. It can be concluded that this Rotary Wheel is very efficient in improving students' reading skills.

1. Introduction

In today's digital age, the ability to read is still an important foundation in a child's education and development. Reading is not just about recognizing letters and words, but also opening doors to knowledge and imagination. In addition, reading is also a foundation in education because by reading we can find out information that is packaged in written form.

Reading is one of the most important activities in life, as it can be said that the entire learning process depends on the ability to read (Sakdah and Anas 2023). Reading activities can be considered as a bridge for individuals to achieve success and progress, both in the world of education and in other social interactions (Sukma and Puspita 2023). In addition, reading is a thinking activity that involves understanding, conveying, and interpreting the meaning of written symbols or

symbols, involving vision, eye movements, internal dialog, and memory (Harianto 2020). Thus, reading is not just an activity of seeing letters that are assembled into words and then made into sentences, but we must also understand what the meaning of the reading is.

Through reading activities, educators can foster ethical values, logical thinking skills, and student creativity. This reflects the importance of mastering reading skills, which is one of the signs of Indonesian language and literature skills that must be acquired at various levels of education, including at the primary level (Hasibuan and Rambe 2021). Therefore, it is crucial for all of us, including teachers, parents, and communities, to collaborate in building an atmosphere that supports the growth of children's reading skills. Good reading skills in students will have a significant effect on their learning success otherwise, if their reading skills are low, it will be a barrier in achieving educational success at school (Hasanah and Lena 2021).

However, some students face serious difficulties in understanding and mastering basic skills such as reading and writing (Herianty 2024). One of the main reasons is the lack of variety in learning media, which causes students to feel bored and saturated during the learning process (Ritonga and Aufa 2023). This suggests that we need to be more attentive and provide the right support to help learners who experience these difficulties.

In reading learning activities, students often make mistakes. These errors can include the inability to recognize letters, words and sentences which are all reflected in pronunciation. Therefore, it is important to improve and hone reading skills in the early grades through consistent practice and intensive guidance from teachers, so that errors in reading can be minimized for students (Kholilah, Sapri, and Rambe 2024). A joint effort between teachers, students and parents is also needed to create a supportive learning environment to ensure that every child can reach their full potential in reading skills.

This research focuses on the development of learning media in the form of a Word Syllable-based Rotating Wheel to improve the beginning reading skills of grade 1 elementary school students. From the results of observations made at SD N 095136 Negeri Bosar, Nagori Bosar Village, Kec. Panombeian Panei, Kab. Simalungun, it was found that there were serious challenges in the learning process. The phenomenon of students who are often seen playing on the back benches, feeling bored, and sleepy during class hours indicates the need for evaluation and improvement in the teaching methods used. applied.

The results of the interview with the Indonesian language subject teacher who is also the homeroom teacher of grade 1 showed variations in students' reading ability. Out of 28 students, only 21 have been able to read well, while 4 students are still less proficient and 3 students have not been able to read. This inability is one of the significant factors in influencing the effectiveness of the teaching and learning process in the classroom, so it needs more attention to help students who have difficulties. Therefore, beginning reading skills should be a top priority in teaching.

There are several levels in reading skills. One of them is beginning reading or early stage reading. Beginning reading starts with the introduction of vowels and consonants. After the students understand the letters, they will be given lessons to combine the letters into syllables. Furthermore, the syllables that have been learned will be arranged into simple words and sentences (Nurani, Nugraha, and Mahendra 2021). One technique that can be applied to improve basic reading skills in grade 1 students is the syllable technique.

The advantages of this technique that support children in learning early reading are that children do not need to spell letters separately, thus accelerating reading mastery, they can learn to recognize letters by unpacking syllables that contain elements of these letters, the process does not take much time, and makes it easier to understand various words (Tanjung and Anas 2023). This syllable recognition technique is very useful for students who have difficulty in reading or even cannot read at all (Sihombing and Devianty 2024). In addition, the efficient way of presentation helps students more easily master a variety of words.

Teachers need to be more creative in teaching methods, for example by utilizing interesting learning tools so that children are more enthusiastic in participating in the learning process (Dalimunthe, Ahkas, and Aufa 2024). The use of media in the teaching and learning process is also one of the methods to improve the quality of student education outcomes (Risqi and Siregar 2023). Media is a tool to convey well- designed learning messages and information, and this will greatly assist students in understanding the material (Yusnaldi 2020). With learning media, teaching and learning activities become easier and more interesting for students (Ningrum and Zaini 2023).

In accordance with previous research conducted by (Nurlela and Mufti 2023) entitled "Introduction of Syllable Wheel Media to Help Elementary School Beginning Reading Skills". In this study, the researchers used a literature-based research method. It was found that the syllable method and the syllable wheel can serve as a powerful tool to improve reading skills in children. However, each student has a different level of learning ability, so the method applied can be adjusted to the abilities and needs of each student. Almost similar research was also conducted by (Dalimunthe, Ahkas, and Aufa 2024) entitled "Implementation of Syllable Wheel Media to Improve Beginner Reading in Elementary School Students". This research applies a qualitative approach. Apparently, the use of the syllable wheel media runs well and effectively. This device is very helpful for teachers in delivering lessons as well as facilitating students to understand the material taught during learning sessions. In addition, the reading interest of the students are also growing thanks to the use of this syllable wheel media.

These studies reinforce the notion that the Rotating Wheel media focusing on Syllables has the opportunity to be an efficient teaching tool in improving students' basic reading skills. The difference between this research and the previous research is that this research applies the research and development method (Research and Development) which focuses on the development of Word Syllable-based Spin Wheel Media for grade 1 elementary school students. By using this method,

researchers can create certain products and can measure the effectiveness of these products through validity tests conducted by experts in their fields. The advantage of these products through validity tests conducted by experts in their fields. The advantage of this media is its large size which can make it easier for students to see clearly even though they are sitting on their respective benches. In addition, the syllable place cards are designed with reciprocity so that they can minimize the card pieces per syllable. Each syllable piece is attached to the wheel using mini magnets that can facilitate the process of exchanging card reciprocity. When students get bored with using the wheel, the teacher can remove the syllables from the wheel and apply them as syllable cards.

The purpose of the study is to provide support to teachers in the teaching and learning process, as well as to help students so that they can read well. In addition, this study also aims to measure the effectiveness of syllable-based rotating wheel media in improving the early reading skills of grade 1 elementary school students.

2. Methodology

The research method used in this study is the Research and Development method, which is commonly called R&D (Research and Development) research. R&D research is an approach that is understood as a scientific method for exploring, designing, producing, and testing the validity of products that have been produced (Sugiyono 2019). The model to be used in this research is the ADDIE Model (Analysis, Design, Development, Implementation, and Evaluation). The following form of the ADDIE model can be seen in Figure 1.

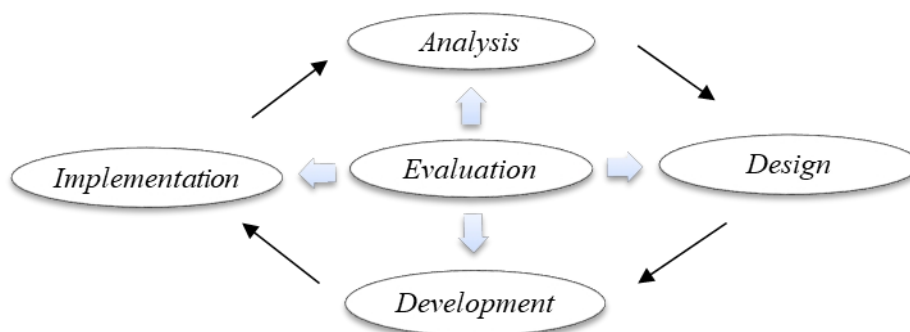


Figure 1. The shape of the ADDIE model.

The steps in the ADDIE model: a) Analysis is related to the activities of examining working conditions and the environment in order to identify the products that need to be made. Researchers see problems that occur in elementary schools, especially regarding early reading skills in grade 1 students of SD N 095136 Negeri. Bosar. Therefore, researchers are interested in developing Word Syllable-based Spin Wheel media as a tool to improve students' reading skills. b) Designing is the process of designing products according to existing needs. This process includes making material content, product design, and other things needed such as validation sheets from material and media experts, pre-test and post-test questions, and

feedback sheets from teachers and students. c) Development is the stage of making and testing products. At this stage, researchers produce a product, namely the Syllable-based Spin Wheel media, which will then be tested for validity by media experts. d) Implementation is a trial step after the media has been validated by a team of media and material experts. In this trial phase, students are required to fill out a questionnaire to assess the attractiveness of the Spin Wheel media, as well as conduct observations of students when implementing the product, and provide pretest and posttest sheets. e) Evaluation is carried out to determine the feasibility of Word Syllable-based Spin Wheel media, to refine and evaluate the success rate of the media after revision.

The subjects involved in this study consisted of 1 media expert, 1 material expert, 1 pretest and posttest question expert, a teacher, and 28 students from grade 1 of SD N 095136 Negeri Bosar. This research was conducted at SD N 095136 Negeri Bosar which is located in Nagori Bosar Village, Panombeian Panei District, Simalungun Regency. The data used in this study are divided into two types, namely descriptive and quantitative qualitative data. Qualitative data collection was obtained through interviews with teachers and students, as well as observations made during the learning process at school, plus assessments or information provided by validators.

Interviews were conducted to understand the needs of students and the needs of the teaching materials to be applied. Questions in the interview process were made according to the needs of the analysis conducted in the research. Instruments for collecting quantitative descriptive data were implemented with the aim of evaluating the feasibility of Syllable-based Spin Wheel media through the values obtained from validation questionnaires and response questionnaires. The validation questionnaire involved media experts and material experts, while the response questionnaire consisted of questionnaires filled out by teachers and students. The data collection process in this study includes validation sheets from media and material experts to be filled in by validators, response sheets from teachers and students, as well as pretest and posttest questionnaires. The formula used to calculate the validation results from experts is:

$$\text{Total Score} = \frac{\text{score obtained}}{\text{maximum score}} \times 100$$

Meanwhile, to calculate the N-Gain of the Pretest-Posttest questions using the formula:

$$\text{N-Gain} = \frac{\text{posttest} - \text{pretest}}{\text{ideal score} - \text{pretest}}$$

3. Results and Discussion

This research produces a tool in the form of a Rotating Wheel media that focuses on Syllables to support the improvement of early reading skills of grade 1 elementary school students. The media development process is carried out through

the R&D (Research and Development) research method with the ADDIE model (Analysis, Design, Development, Implementation, and Evaluation).

At the analysis stage, the researcher found a gap in students' reading ability. This information was obtained from interviews with the class teacher. The observation also showed that there was a gap. Some students still do not understand which letters are vowels and which letters are consonants. There are also students who cannot combine or arrange syllables into the right words. Still at this stage, researchers also found that there was no special learning media to help improve students' reading skills.

At the design stage, researchers thought of a suitable product to overcome the existing problems, namely the Word Syllable-based Rotating Wheel. This Rotating Wheel is made with the right size for students to observe from their respective benches to make it easier for students in the learning process. The syllable pieces are also designed reciprocally so that they can add syllables without having to add the syllable pieces. The following products developed by researchers can be seen in Figure 2.



Figure 2. Syllable-based Spin Wheel Media

Furthermore, the development stage, at this stage the product that has been developed will be tested for validity by experts. As for what needs to be validated, among others: a) Media Validation, b) Material Validation, and c) Validation of Pretest-Posttest questions. This validation is carried out to assess the media, materials, and questions, whether they are interesting and suitable for use or not.

a) Media Validation : The assessment from the media expert shows that the learning media achieved a perfect score, indicating a high feasibility to be utilized with a percentage of 100%. The results can be seen from table 1 below.

Table 1. Media Validation by Idzni Azhima M.Pd

No.	Statement	Approval Rate			
		1	2	3	4
Display Writing					
	The font size on the wheel is appropriate				4
	Syllable congruence in wheels				4
	Appropriateness of using a variety of fonts, sizes and shapes in syllable spinning wheel media				4
Media Display					
	The attractiveness of the syllable spinning wheel media				4
	The attractiveness of the colors used in designing the media syllable spinning wheel				4
	Syllable layout of the wheel				4
	Media display attracts students' attention to learn read				4
Implementation					
	The syllable spinning wheel media is suitable as a learning resource read				4
	Proportion of syllable spinning wheel as entertainment and games in learning to read				4
Total Score				36	
Maximum Score				36	

$$\frac{36}{36} \times 100 = 100\% \text{ Very valid category (Very worth using)}$$

b) **Material Validation** : The assessment from the material expert obtained a score of 75%, which means that it is qualified enough to be implemented with a valid category (feasible to use). As seen in table 2 below.

Table 2. Material Validation by Tri Indah Kusumawati M.Hum

No.	Statement	Approval Rate			
		1	2	3	4
Learning Materials					
	Material in accordance with initial competencies				3
	Material in accordance with learning objectives				3
	Learning topics are presented clearly				3
	Correct and clear use of syllables				3
Learning Methods					
	The learning method chosen is appropriate				3
Learning Activities					
	Test on syllable spinning wheel according to learning objectives				3
	Test on syllable spinning wheel according to learning objectives				3
Language					
	Language conformity with Indonesian language rules				3
	The language used is easy to understand				3
	Clarity in providing information				3
	Effective and efficient use of language				3
Benefit					
	Syllable spin wheel according to student characteristics				3
	The syllable rotary wheel is easy to use in learning				3
	The syllable spinning wheel attracts students' attention in learning read				3
Total Score				42	
Maximum Score				56	

$$\frac{42}{56} \times 100 = 75\% \text{ Valid category (Worth using)}$$

c) Pretest-Posttest Question Validation : The assessment of the pretest-posttest items also scored 75%, indicates that the questions are reliable. This can be seen from table 3 below:

Table 3. Validation of Pretest-Posttest Questions by Tri Indah Kusumawati M.Hum

No.	Statement	Approval Rate			
		1	2	3	4
	Question items are in accordance with KD			3	
	Questions are formulated briefly and clearly			3	
	The boundaries of the questions and expected answers are clear			3	
	The questions given are in accordance with cognitive abilities students			3	
	The questions use standardized language and are in accordance with EYD			3	
	Questions use language that is communicative, easy to understand, and does not lead to multiple interpretations			3	
Total Score				18	
Maximum Score				24	

$$\frac{18}{24} \times 100 = 75\% \text{ Valid category (Worth using)}$$

Based on this information, it can be concluded that the media tools, material content, and pretest-posttest instruments are overall categorized as very good and very suitable for use, with an average score of 83%.

After completing the development stage, the next step is implementation. Before using the media in learning, researchers gave pretest questions to students to measure their initial abilities. The average pretest score of all students was 67.5%. After the pretest questions were distributed, the researcher began to apply the Syllable-based Spin Wheel media in the learning process. In this implementation, students showed great enthusiasm thanks to the media, and they were so enthusiastic to learn. This can be seen from the increase in students' posttest scores. The average posttest score for all students reached 91.8%. The average N-Gain increased by 0.8% (high improvement category) after the use of the Syllable-based Spin Wheel media. Therefore, it can be concluded that this media is effective in helping students improve their beginning reading skills.

The last stage is evaluation, where researchers distributed questionnaires to teachers and students to evaluate the feasibility of Syllable-based Spin Wheel media from the point of view of educators and learners. The teachers' responses to this media showed that the media was valid and feasible to use in learning with a percentage of 95%. The process of applying the media in learning can be seen in Figure 3 below:



Figure 3: Media Implementation Process

Similarly, students' responses measured by Guttman scale showed that this media is also valid and appropriate to use, with a percentage of 95%. 28 students (all) chose the answer "Yes/Agree" and 0 students chose "No/Disagree". This shows that the results obtained are very satisfying for researchers.

4. Conclusion

Based on the results and analysis in this study, it can be concluded that the development of Syllable-based Spin Wheel media with the ADDIE model (Analysis, Design, Development, Implementation, and Evaluation) has been successfully carried out. This study shows that the resulting product, the Syllable-based Spin Wheel Media, is effective in improving students' reading skills. This Rotary Wheel Media has met the criteria as a valid, practical, and effective tool to be used in the teaching process. The validity of the media is determined by the average value of each instrument which is included in the valid and very valid categories. The proper design of the Rotary Wheel provides an opportunity for students to learn in a more interactive and interesting way. Responses from teachers and students also indicate that this media is appropriate to be applied in the learning process.

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