

## **The Development of Smart Wheel Media For Reading Recognition to 1<sup>st</sup> Grade Students of MI Mamba'ul Huda**

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### **Abstract:**

The development of smart wheel media for early reading recognition is a relatively new thing. This is because the media will continue to grow and continue to be developed according to needs. Developing smart wheel learning media into a more feasible and effective media, 2. 1<sup>st</sup>-grade students' responses using smart wheel learning media for reading recognition to 1<sup>st</sup>-grade students of MI Mamba'ul Huda. This study uses the R&D (Research and Development) method, using the model developed by Borg and Gall. by designing media development. Data collection was carried out by means of observation, interviews, and documentation studies followed by a questionnaire. Data analysis techniques include validity testing by experts. The results showed that the media that the researchers had created was suitable for use in accordance with the validity test of material experts and learning media experts, based on media validation by smart wheel media expert got a percentage of 84% getting very good criteria, then based on material validation by reading learning materials experts the beginning of getting a percentage of 78% got good criteria, and the analysis of student responses to learning got a percentage of 96%.

### **Keywords:**

learning media; smart wheel; reading recognition

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## Introduction

Education is a very important need because through education it is able to form a dignified character and civilization, in order to educate the life of the nation. Law number 20 of 2003 concerning the national education system article 4 paragraph 5 states that education is carried out by developing a culture of reading, counting, and writing, for all residents. The message of this law is the juridical basis of the need to improve reading, arithmetic, and writing skills when learning at *MI/SD* (Madrasah Ibtidaiyah/Primary Schools). *Permendikbud* number 81A of 2013 (appendix IV) is the juridical basis for making technical guides for learning materials for reading, counting, and writing in or Primary Schools in 2013 curriculum (Pradana, 2020).

The difference between humans and other creatures is the presence of language, so language learning is expected to be able to help students get to know themselves, their culture, and the culture of others. Language learning is also likely to help students in providing ideas, and thoughts and using their analytical and imagination abilities. So important is the ability to read, so that every student who takes learning is significant to be able to read correctly a reading, especially the material given by the teacher. When students are able to understand reading, it can be said that they have been able to continue learning in the next lesson. The first verse that Allah revealed to the Prophet Muhammad was also the command to read, in Surah Al Alaq verses 1-5 (Maslianiwati, 2018).

Reading is a skill that must be mastered by students in *SD/MI* because the ability to read is directly related to the entire learning process of students (Pratiwi & Ariawan, 2017). Reading is a complicated process that requires several factors, including not only speaking in writing, but also thinking, seeing, and other senses. Reading is the process of converting written symbols into words that are spoken orally in the process of seeing. Word recognition, critical reading, and creative comprehension are part of the reading thinking process. *MI/SD* students in Indonesia are very unique and varied, particularly with differences in reading ability. So that the ability to read, count, and write well mastered by all students, it is necessary to strengthen the learning, especially in learning at *MI/SD* (Pradana, 2020).

Some of the difficulties in learning to read early faced by students include unnatural reading habits, mistakes in recognizing words, errors in understanding reading, and various symptoms (Fauzi, 2018). Other studies related to students' difficulties in reading are not yet able to read *diphthongs*, double vowels, and double consonants; unable to read sentences; halting reading; has not been able to name some consonants; and cannot spell (Pratiwi & Ariawan, 2017). The factors that hinder *SD/MI* students in reading early are the factors of students who do not know letters (weak memory) and lack of parental guidance at home (Windrawati et al., 2020). So here the role of parents and teachers has an important role to improve students' reading skills (Khairunnisa & Aryanti, 2018).

One solution to facilitate students in the process of reading recognition is to use learning media capable of stimulating student development and growth. Learning media is a tool or means specifically designed to be used in the process of delivering teaching materials from teachers to students so that effective and efficient interaction and communication occur (Khotimah et al., 2020). The purpose of using learning media is to facilitate students learning in class; increase efficiency in the learning process; create relevance between learning materials that aim to learn; and the concentration of students in learning (Hayati et al., 2017).

Based on the results of observations and interviews conducted by researchers, at MI Mamba'ul Huda they rarely use media in learning, and often only use the lecture method and textbooks so that the ability of 1<sup>st</sup> graders to read still

has low interest, especially in reading. So the researchers tried to develop appropriate media to make learning more active and fun and increase the reading interest of Mamba'ul Huda 1<sup>st</sup> graders in the form of smart wheel media. The purpose of this study was to determine the development of smart wheel media for reading recognition for 1<sup>st</sup> grade students at MI Mamba'ul Huda. The use of smart wheel media is expected to make children more focused and active in learning.

Smart wheel learning media is a learning paradigm that uses a spinning wheel game (*Twister*) to encourage children to think, talk, listen, and work together. This media is operated by turning the wheel, so the rotating wheel is the same as the smart wheel. As a result, it was nicknamed "Smart Wheel" to be more innovative and entertaining. Smart wheels are made to be interesting to meet the demands of children with various forms of games and colors in them, based on the child's condition when learning they prefer to play (Yuniartien, 2017).

The use of smart wheel media for children's reading skills has been carried out by Simbolon, the results of his research show smart wheels can improve children's reading skills because this media involves all students so that they are more active, and interactive so that learning is more optimal (Simbolon, 2019). In another study by Kurniadewi, the results of his research show that the use of a smart wheel can improve student learning outcomes (Kurniadewi, 2019). Based on the results of previous studies related to the use of smart wheel media, researchers are interested in using this smart wheel media for reading recognition for 1<sup>st</sup>-grade students of MI Mamba'ul Huda.

Media and games are children's worlds, so games can be used as a means of learning for children especially at the age of *MI/SD* because when children grow up, children will become accustomed to disciplinary attitudes and behavior (Maulida & Fuadah Z, 2020). With the media, children will be able to enjoy learning and facilitate understanding and distribution of learning materials that will be taught by educators. Smart wheel media is a learning tool in the form of a wheel/circle as a media for learning to read that can make children think, focus, be active, interesting, and have fun. At the age of 1<sup>st</sup> -graders, the kinesthetic and visualization aspects are very active, so to channel this kinesthetics you need a smart wheel for early reading recognition. Based on the problems that have been described, the researchers developed a smart wheel media for the reading recognition for 1<sup>st</sup>-grade students of MI Mamba'ul Huda.

### Research Methods

The type of research used in developing smart wheel media as a reading recognition for 1<sup>st</sup> grade student is using R&D (Research and Development) research. This development research uses the Borg and Gall model. According to Borg and Gall, the R&D in education includes ten stages. The core objective of this development research is to produce or make certain products by knowing the validity and feasibility of the products that have been developed on the Figure 1 (Sugiyono, 2019).

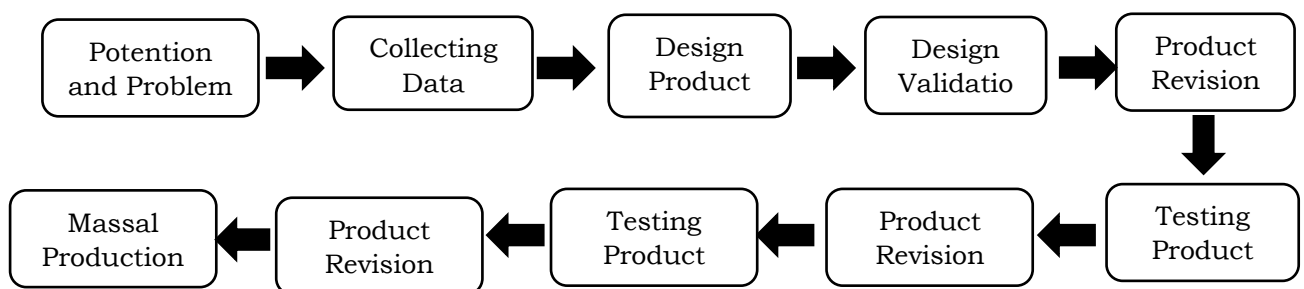


Figure 1. Steps to Use Research and Development Methods (R&D)

The population in this study were all first-grade students at MI Mamba'ul Huda with a total of 38 students located in *Desa Ngraseh, Dander District, Bojonegoro Regency*. While the sample in this study used *simple random sampling*, namely the research members were drawn through the population randomly, regardless of the *strata* in the community. The data sources in this study included journal articles, books, the internet, and previous studies.

The data collection instruments in this study consisted of preliminary study instruments (observations and interviews) and expert validation instruments and product trials. The purpose of this research instrument is to determine the validity and reliability of the smart wheel media that has been designed. Product validity is a method of determining whether a new product design will be more effective than the old one. The validator will assess the new product that has been designed to find out the advantages and disadvantages of the product made using a validated questionnaire. The examiners are experts in the field of reading and especially smart wheel learning media, and they will determine whether the tool is worth testing or should be improved.

Data collection techniques in the development of smart wheel media use a triangulation approach, namely data collection techniques by combining several data collection techniques from several existing sources, such as observation, interviews, and documentation. At the design stage, researchers analyzed from beginning to end both the teacher, the material, and the students. The techniques used in development research in terms of data collection are interview techniques, observation, and documentation studies. Meanwhile, at the development stage, the techniques used were non-test techniques in the form of student response questionnaires, expert validation questionnaires for learning media, and material validation questionnaires. Qualitative data were obtained from the results of interviews and observations related to the reading ability of 1<sup>st</sup>-grade students at MI Mamba'ul Huda. Quantitative data is in the form of product quality assessments obtained from validation questionnaires (Syafri et al., 2022). The product quality assessment is finally translated descriptively into interval data using a Likert scale on Table 1.

The following formula is used to find the percentage of validation results and the percentage of student responses:

$$P = \frac{\sum K}{\sum N} \times 100\%$$

Description :

- P : The percentage sought
- $\sum K$  : The total number of response in one item
- $\sum N$  : The total number of highest answer scores in one item
- 100 : Constant number

**Table 1. Criteria and Scale**

<b>Interval Score</b>	<b>Criteria</b>	<b>Validation Level</b>
84 - 100	Very good	No need for revision
68 - 83	Good	Not revision
52 - 67	Fairly good	Revision slightly
36 - 51	Not good	Revision
20 - 35	Poor	Revision

## Results and Discussion

### Preliminary Study at MI Mamba'ul Huda

Before developing a smart wheel learning media, a preliminary study was carried out first at MI Mamba'ul Huda. The preliminary study conducted by the researcher was simple observation and interviews with the 1<sup>st</sup> grade teacher of MI Mamba'ul Huda so that it was known that there were no learning media used in the *madrasah* for reading recognition to 1<sup>st</sup>-grade students, that's why students have a low interest in reading, so often learning becomes passive and ineffective. So from the results of the preliminary study, it was found that the need for learning media to help students in reading recognition to students and make learning more effective. Because students who cannot read can hinder the learning process given by the teacher.

### Smart Wheel Media Development Design

Smart wheel learning media is one of the early reading learning media for children in the form of a circle. The plan in making this smart wheel will be used to increase student creativity and make students more active when learning, in making this smart wheel product it will be made simply, in the form of a circle with a line into 19 parts then cut a rectangle with a total of 5 pieces as a place for vowels to be pasted. How to use the smart wheel media including:

- a. The first step of using the media is to explain vowels and consonants.
- b. The teacher practices up front on how to play the smart wheel and asks students to read the letters indicated by the smart wheel.
- c. Students play the smart wheel media according to the word they choose.
- d. The teacher gives letter cards to students and gives instructions to make sentences with the letter prefixes that students bring.
- e. Students are asked one by one about what letters and sentences they think of and mention them clearly.

### Expert Test on Smart Wheel Media

The validation results showed in the Table 2.

<b>Validator</b>	<b>Results</b>
Smart Wheel Media Material Expert Validator	78%
Learning Media Expert Validator	84%
Average	81%
<b>Classified Good</b>	

Based on the validation results, smart wheel media is feasible to use and revision is needed according to suggestions and input from validators. The average of the validation is 81% so the smart wheel media is classified as good as a learning media for students' reading recognition.

### Product Revision after Expert Test

Furthermore, the researchers revised to perfect and improve the smart wheel learning media, then the developed media can be tested in the 1<sup>st</sup>-grade of MI Mamba'ul Huda. Following the results of the improvement of the smart wheel learning media according to the validator's suggestions showed in the Table 5.

**Table 5. Revised Results of Smart Wheel Media Validation**

Number	Concept	Before Revision	After Revision
1	Media Design	Green vowel background	White vowel background
		Vowel size is bigger and bolder	the size of the vowels is the same as the size of the consonants
2	Material	The initial concept of reading only with smart wheel media	Adding letter cards

After the product trial, there were still revisions related to the shortcomings that existed when learning was taking place, as well as the use of media and media design that still needed to be improved and shown in the Figure 2.



**Figure 2. Smart Wheel Media After Revised**

### Smart Wheel Media Trial

The next stage after revising the design and improving the media is conducting the first trial of smart wheel media in a 1<sup>st</sup>-grade smart room. The trial conducted by the researcher on June 9, 2021, was continued by trial II in the 1<sup>st</sup>-grade agile room. The experiment was carried out by researchers on June 15, 2021, at MI Mamba'ul Huda Ngraseh, Dander, Bojonegoro. The first trial was carried out on 14 students and the second trial was carried out on 19 students. Following the results of small group trials in the Table 6.

**Table 6. Student's Responses in Trials to Read Using the Smart Wheel**

Number	Indicator	Trial I		Trial II	
		Yes	No	Yes	No
1	The use of smart wheel media is fun	14		19	
2	Learning to read what is conveyed can be easily understood	13	1	19	
3	Able to distinguish between vowels and consonants	12	2	19	
4	Already able to read	14		19	
5	How to use that smart wheel media	14		18	1
6	Smart wheel media makes excited to learn to read	14		19	
7	Loved today's lesson	14		18	1
8	Want to take part in smart wheel learning activities again	14		14	5
	Total	109	3	145	7

Based Table 6, the number of answers from the "Yes" answer is 254, it can be seen that the percentage of the effectiveness of the smart wheel media is 96%.

Students gave positive responses to the existence of this smart wheel learning media, so 100% said that this media was fun. This is according to the previous research which states that students like learning using the developed smart wheel (Ningrum, 2021). In the first trial, 1 student considered learning to read using the smart wheel media still not understandable, while in the second trial all students considered it easy to understand. 2 of the students in the first trial, still could not distinguish between vowels and consonants, while in the second trial they were able to distinguish between vowels and consonants. In the second trial, 1 student responded that the use of smart wheel media was not easy to use, then 1 person did not like learning that day, and 5 students did not want to take part in learning with smart wheels anymore. After 2 trials using the smart wheel, students were able to read 100%.



This is in accordance with the results of research conducted by Simbolon (2019); Kurnadewi (2019) which states that the smart wheel media can improve students' reading skills. Because smart wheel media provides many positive benefits for students so that it can help them become better at recognizing letters. In addition, it also helps students to be more active and interactive during the class learning (Simbolon, 2019). Therefore, this smart wheel media is feasible to be used in the process of reading recognition to the 1<sup>st</sup>-grade students of MI Mamba'ul Huda.

### Product Revision after Trial

After the product has been revised, the last step is to refine the product that the researcher has made by tidying and gluing the media. Based on the validation of the learning media and the results of the implementation of learning, it can be concluded that the smart wheel media is feasible/valid and effective to be used for early-stage reading learning. Furthermore, producing more products to be introduced to the wider community.

1. Advantages of smart wheel media.
  - a. Concrete.
  - b. Easy to use.
  - c. Students are more interested because they use a variety of colors.
  - d. There is a game element so that students feel learning while playing.
  - e. Make it easier for students to distinguish between vowels and consonants, and assemble words.
2. Aspects developed in the smart wheel media.
  - a. Materials that do not fade and break easily.
  - b. Ideal size for use in 1 class.
  - c. The various colours.

**Table 7. Smart Wheel Media Modification**

Number	Before being developed	After being developed
1	Small size about 25cm	Size 50 cm suitable for one class
2	Using materials from cardboard or carton, writing using markers or crayons	Using material from cardboard covered with a banner
3	Color fades and breaks easily	Colors are not easy to lose and fade
4		

## Conclusion

Based on the media development process and trials of reading learning media using smart wheel media, it can be described as follows the development of smart wheel media is designed according to the needs of its users. Namely, the 1<sup>st</sup>-grade students as a reading recognition, in the development process the smart wheel media was designed using the Photoshop application, then printed into a banner, then the banner and cardboard were cut according to the design that had been made. The last step is to glue the banner and cardboard and make a hole in the center of the circle as the axis where the vowels and consonants rotate and add bolts. After that, the media is given to the material experts/learning materials to be validated to determine the feasibility of the media that has been made. The results of the validation of the material/content experts get a percentage of 78% which is included in the valid/good category. And from the validation of learning media experts, the percentage of 84% is included in the very valid / very good category.

The results of this learning media validation are seen from the results of the implementation of learning using media and the attractiveness of learning media is seen from the results of the questionnaire acquisition by getting a percentage of 96%, it can be concluded that the smart wheel media is very valid/feasible and effective and efficient to use in early learning reading stages.

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