

Transformation of Early Reading Ability Through Smart Wheel Media Based on the TGT Learning Model

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Abstract

This study introduces the Kintar/Smawheel learning media, a one meter diameter Smart Wheel media that was developed using the Team Game Tournament (TGT) learning model to improve the initial reading skills of grade 1 elementary school students. The problem of urgency is highlighted by the low reading ability of the average grade 1 child, encouraging the development of effective learning media. This research aims to develop, validate and evaluate the effectiveness of Kintar in improving student learning outcomes in early reading. This study uses a development approach, integrating the product design phase, feasibility validation by media and materials experts, and effectiveness testing through small and large scale trials involving grade 1 students from SDN Purwoyoso 03, Semarang City. Feasibility assessments by experts confirmed a high degree of suitability for educational use, with significant improvements in student learning outcomes observed during the pilot. The small scale trial showed an average increase from pretest to posttest scores from 46.67 to 70.00, with a significant difference of 23.33. The large-scale trial showed a mean increase from 61.47 to 81.47, with a striking difference of 20.00. The N-Gain test results show a moderate impact, with values of 0.3959 and 0.5298 for small and large scale tests, respectively. This study concludes that Kintar, integrated with the TGT learning model, is a powerful educational tool for improving early reading skills. Positive feedback from students and teachers underscores its effectiveness in generating engagement and improving learning outcomes in the classroom.

Keywords:

Early Reading, Smart Wheel, Team Game Tournament

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INTRODUCTION

Education plays an important role in improving the quality of human resources (Yusutria, 2017). Apart from being a means of transferring knowledge, education also functions as the main pillar in forming an individual's character, skills and positive perspective in facing future challenges (Wulandari et al, 2023). Education is an effort planned and implemented to create a conducive learning environment. Through this approach, students are encouraged to develop their potential, both spiritually and intellectually, so that they are able to control themselves, build character, increase intelligence, have noble character, and hone skills that are beneficial to themselves and society (Kamarudin et al., 2022; Noor, 2018; Anwar, 2015).

To reach the highest level in education, the learning process must start from basic education (Absawati, 2020; Halim, 2022). At this stage, learning is not only



related to knowledge, but also involves learning skills to improve students' abilities. Interaction between students, educators, and learning resources occurs in a structured learning environment (Sumantri & Ahmad, 2019). In elementary school, children are expected to be able to develop their potential and build a foundation of learning abilities for the future. One of the important basic abilities is reading skills (Muliastri, 2020; Dewi, 2019).

Initial reading skills are very important because they are the foundation for more complex reading skills (Maghfiroh & Liansari, 2024; Laili & Saputri, 2024). Students are introduced to symbols of language sounds which are realized in the form of writing or letters. In the initial stage, lower grade students are introduced to activities recognizing letters of the alphabet, learning to recognize syllables, reading words, and reading sentences (Yuliana, 2017; Muhyidin et al., 2018; Wardani, 2020; Janawati, 2020). These initial reading skills are an important foundation for developing further reading skills and play a role in improving oral language skills (Sb, 2018; Rofi'i & Susilo, 2020).

However, in reality there are still many grade 1 students who experience difficulties in initial reading. Learning outcome data from SDN Purwoyoso 03 shows that the majority of grade 1 students face challenges in achieving the expected reading competencies. Of the total 23 students, only 60% managed to achieve a score above the KKM or complete initial reading skills. This means 40% of students still have not reached the minimum competency standard. To clarify the data, a learning completion diagram is presented as follows:

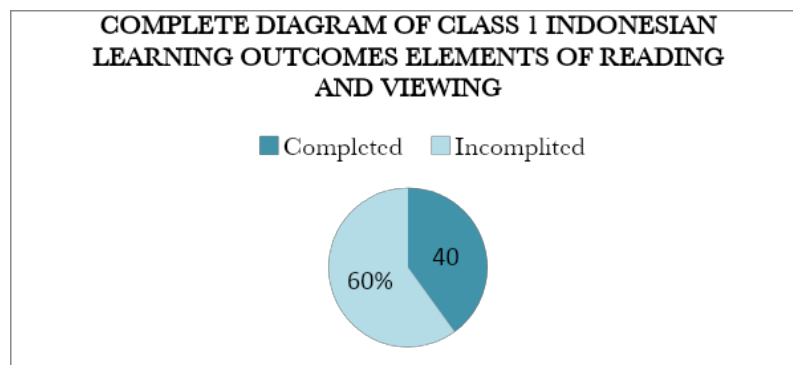


Figure 1. Completeness Diagram of Indonesian Language Content Learning Results for Students Reading and Viewing Elements Class 1 Purwoyoso Elementary School 03

This situation reflects a common problem in early reading instruction at lower grade levels. Where most students experience difficulty in developing initial reading skills. It turns out that this problem does not only occur at SDN Purwoyoso 03, but also commonly occurs in many other schools. The Center for Research and Development of Educational and Cultural Policy noted that in 2019 more than 55% of 10 year old children according to the PISA test were classified as functionally illiterate. This suggests that there are still significant challenges in achieving reading skills at the elementary school level, especially in the early grades (Pratiwi et al., 2020). Research by Aulia (2023), research by Aprilia et al (2021), and research by Hasanah & Lena (2021) also highlight that the majority of

grade 1 students still face difficulties in achieving the expected reading competency standards.

One of the factors causing low reading ability is students' lack of interest in reading activities. Low interest in learning can be caused by a lack of learning innovation implemented by teachers (Dwitiyah, 2023). The use of old media that is not appropriate to student development also results in students being less interested in learning. This is in accordance with the statement of the class 1 teacher at SDN Purwoyoso 03, that the use of media in initial reading is not effective enough to motivate students.

To improve the quality of reading learning, innovation is needed in media and learning models. One innovation that can be implemented is the use of learning media that is interesting and appropriate to students' conditions and academic demands. "Kintar" media (Smart Wheel) is a learning medium that also functions as a play tool, made to resemble a windmill from Styrofoam material decorated with colorful letter symbols to attract children's attention and increase their focus and enthusiasm for learning (Sintama et al., 2022).

Apart from media, successful achievement of learning objectives is also supported by the learning model used by teachers. Robert E. Slavin stated that the Teams Games Tournament (TGT) type cooperative learning model is a model that involves all students without differences in status, the role of students as peer tutors, as well as elements of games and reinforcement. Student activities using the TGT (Teams Games Tournament) learning model allow them to learn more relaxed, foster responsibility, cooperation, healthy competition and learning involvement (Mahardi, 2019; Sulisty, 2019; Herawati, 2022).

Based on the problems above, research into the development of the "Kincir Pintar" learning media by integrating the TGT (Teams Games Tournament) learning model is very important. This research aims to create media innovations and learning models that can increase reading interest and early reading skills of grade 1 students, so that they are able to overcome significant challenges in achieving reading skills at the elementary school level. This research focuses on developing "Kintar" learning media through the TGT (Teams Games Tournament) learning model to improve the early reading skills of grade 1 students at SDN Purwoyoso 03. By combining attractive visual media and learning models that involve games and group interaction, it is hoped that this can be achieved, creating a fun and effective learning process. Novelty in this research lies in the unique combination of the use of "Kintar/ Smart Wheel" media and the TGT (Teams Games Tournament) learning model, which has not been widely applied in the context of early reading learning in elementary school.

METHODS

This research uses a using research and development (R&D) metode. This has chosen to create and test the effectiveness of new products. This research aims to produce Kintar learning media with a combination of the TGT (Teams Games Tournament) learning model. This research used 8 steps. These steps include identifying potential and problems, data collection, product design, design

validation, design revision, product testing, product revision, and use trials. The research procedures are explained as follows:

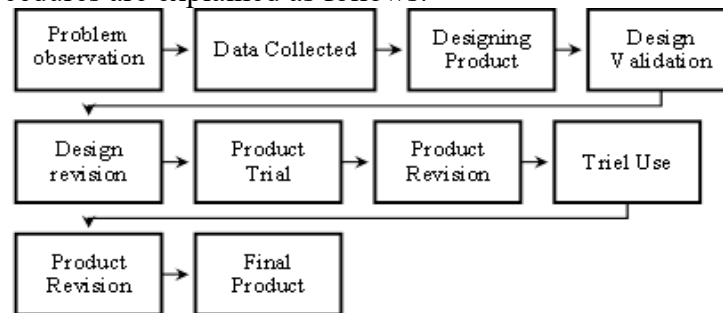


Figure 2. Research procedure

In developing the Kintar (Kincir Pintar) media based on the TGT (Teams Games Tournament) learning model, this research used a quantitative approach involving 6 students for small-scale experiments and 17 students for large-scale experiments. Evaluation of the suitability of Kintar media is carried out through validation tests by media experts to assess its quality statistically, as well as material tests by material experts to measure the validity and relevance of the learning materials developed, by collecting numerical data from class I students as research subjects.

Data collection was carried out using quantitative techniques consisting of tests and questionnaires. The data is then analyzed to test its validity and reliability, as well as to assess the level of difficulty and differences between question items. To assess student learning outcomes, pretest and posttest data were analyzed first by checking the normality distribution. After that, further analysis was carried out using statistical methods such as the T test and N-gain to evaluate the increase in learning outcomes. Product evaluation, in this case the Kincir Pintar (Kincir Pintar) learning media based on the TGT (Team Games Tournament) learning model, will involve experienced media experts and material experts.

The type of data in this research is quantitative data. The data collected were in the form of figures from media expert validation questionnaires, material expert validation questionnaires, learning outcome scores (student pretest and posttest scores) and student and teacher response questionnaires. Data processing was carried out using a number of relevant statistical techniques assisted by the SPSS application to provide a descriptive picture of the effectiveness of the media and the learning model used. The results were concluded through the ideal standard categories for assessing media effectiveness that had been determined.

To assess the level of appropriateness and appropriateness of media and materials based on the results of expert validation through questionnaires, the data that has been collected will be analyzed using a special formula. The following formula is used to carry out expert validation data analysis:

$$NP = \frac{R}{SM} \times 100\%$$

Information :

NP: Expected percent value

R : Score obtained

SM : Maximum score

This formula is used to measure the level of appropriateness of media based on assessment scores given by media experts and material experts. The score is then compared with the total maximum score to find out whether the media developed meets the requirements or requires additional improvements.

The feasibility percentage results from this data are interpreted in terms of criteria that refer to the classification of assessment results using a 100% scale. This shows that the percentage of suitability of the media will be evaluated and categorized based on a certain percentage range to assess how suitable the media is.

Table 1. Scoring Assessment

Interval%	Category
76% - 100%	Very valuable
51% - 75%	Corresponding
26% - 50%	Decent Enough
0% - 25%	Not feasible

Questionnaire Data Analysis

Researchers will use a questionnaire as a validation tool that will be given to teachers and students to get their responses. This aims to evaluate the suitability of the media being developed. Data from the questionnaire will be analyzed to assess the level of practicality of the media. The following is the formula used to analyze data from the questionnaire:

$$NP = \frac{R}{SM} \times 100\%$$

Information :

NP: Expected percent value

R : Score obtained

SM : Maximum score

The assessment results obtained are then interpreted according to the following table:

Table 2. Assessment Scoring

Interval %	Category
76% - 100%	Very Worth It
51% - 75%	Worth it
26% - 50%	Decent Enough
0% - 25%	Not Worth It

Analysis of Test Results Data

The pretest and posttest data analysis is intended to evaluate the effectiveness of implementing the TGT (Teams Games Tournament)-based Kintar (Smart Wheel) development media in improving the initial reading skills of grade I elementary school students. Assessment of pretest and posttest data will take into account the graduation standard that has been set at 70. This minimum score shows the achievements needed to fulfill school graduation requirements. The calculation procedure can be carried out using the formula:

$$N - \text{Gain} = \frac{\text{Shoes posttest} - \text{Shoes Pretest}}{\text{Shoes Maximal} - \text{Shoes Pretest}}$$

The N-gain results obtained are used to interpret the N-gain value criteria by referring to the percentage table for the N-gain value criteria which is presented as follows:

Table 3. Percentage of Criteria Value *N-profit*

Hose	Category
N-gain \geq 0,7	Height
$0,3 \leq$ N-gain $<$ 0,7	At the moment
N-gain $<$ 0.3	Low

The N-gain results obtained are then converted into percentages to provide an idea effectiveness of a model. Below is a table of N-gain effectiveness percentages:

Table 4. N-gain Effectiveness Percentage

Hose	Category
$<$ 40%	Ineffective
40% - 55%	Less effective
56% - 75%	Effective enough
$>$ 76%	Effective

RESULTS

Research Findings

This research focuses on developing Kintar media (Smart Wheel) to improve early reading skills in grade 1 elementary school students. The research results compiled include: 1) product development, 2) product feasibility assessment, and 3) product performance evaluation or product effectiveness in improving student learning achievement

Product Development Results

This development research produced a product in the form of Kintar (Smart Wheel) media based on the TGT (Team Games Tournament) learning model for learning Indonesian language subjects with the aim of improving the initial reading skills of grade 1 students at SDN Purwoyoso 03 Semarang City. This product was deemed suitable for use after going through a feasibility validation process by a team of validators and received a positive response from students in a limited trial.

Smart Wheel product development is based on the TGT (Team Games Tournament) learning model is a careful and structured process. It starts with an in-depth analysis of student needs, teacher needs, and educational curriculum. This first stage ensures product development meets learning objectives. After that, a curriculum design was prepared taking into account the principles of collaborative tournaments that underlie the TGT (Team Games Tournament) learning model, such as group division, cooperation, responsibility within the group, and healthy competition in the implementation of the game. Learning

materials are developed carefully, adapting to students' initial reading levels and ensuring compliance with the TGT (Team Games Tournament) concept.

The following is a visualization of the Kintar (Smart Wheel) media that researchers have successfully developed based on students' learning needs in early reading learning materials:

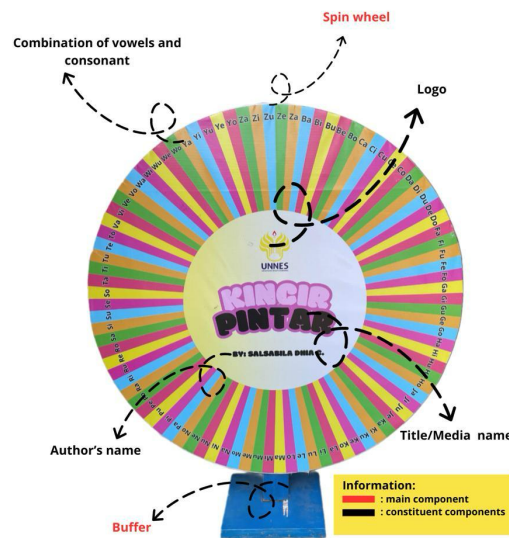


Figure 3. Kintar/Smart Wheel media

The smart wheel learning media developed by researchers is a model of a wheel designed with bright and attractive colors, with a diameter of about one meter. The wheels are made of light but sturdy plywood. On the outside there are pictures of letter symbols that attract children's attention, starting from the letters babibubebo to zazizuzezo which are arranged sequentially following the direction of the wheel's rotation. Each letter symbol has a different color to clarify identification.

From figure 2 it is known that the smart wheel contains several components in it which are contained in table 5 as follows:

Table 5. Smart Pinwheel Media Components

Component Name	Function
Spin Wheel	<p>The main part of this media contains a combination of vowels and consonants. When rotated, this wheel will show letter combinations that can be used to teach syllable pronunciation or phonetics to students.</p> <p>The main part of the rotating wheel contains various other components, consisting of:</p> <ol style="list-style-type: none"> 1. A combination of vowels and consonants There are various letter combinations consisting of consonants and vowels, such as "Ba", "Be", "Bi", "Bu", "Bo", etc. The main function of this combination is to train students to read and recognize syllables quickly.

2.	Pointing indicator Be found instruction which indicates on a certain combination of letters when the wheel stops spinning. This helps determine which letter combinations are being learned or practiced.
3.	Logo and title/media name Gives an identity to this learning media, including the institution that created it (UNNES) and the title of the learning media ("Smart Wheel "). This is important for branding and recognition.
4.	Author's name Include the name of the creator of this learning media, in this case "Salsabila Dhia C.". This gives credit to the creator or developer of the tool.
Buffer	The bottom of the media functions as a support or stand so that the wheel can stand stably and be easy to rotate. The types of materials needed in making it buffer namely wood that has the criteria of strength and large mass. The purpose of selecting such material criteria is to be able to withstand the stability of the media so that it remains standing upright when Smart Wheel (Kintar) media is applied.

Product Feasibility Results

The results of the learning media design are developed in accordance with the answers to the student and teacher needs questionnaire and then assessed by experts, namely media experts and material experts. Aspects assessed by experts regarding media design include aspects of content suitability, appearance aspects, intonation clarity aspects, media effects on learning strategies and aspects of expert use of media. Meanwhile, the completeness aspect of the material contained in the learning media is assessed directly by material experts. From the results of the validation of the two-dimensional video learning media design by media experts and material experts, the percentage of feasibility assessments expressed in the data is obtained as follows:

Table 6. Expert Validation Results

Validator	Frequency	%	Category
Media Member	56	87,5 %	Very Worth It
Materials Member	37	85%	Very Worth It

Based on the data in table 6, the results of the media expert evaluation show a feasibility level of 85.71% with very feasible criteria. This shows that the two-dimensional video learning media design has met the required standards in terms of media expert assessment. A similar assessment was also carried out by material experts with a result of 92.18% and very feasible criteria. Thus, the conclusion is that the material delivered through the Kintar (Smart Wheel) learning media with the TGT (Team Games Tournament) learning model design to improve initial reading skills is comprehensive and substantial. Overall, the evaluation of media

experts and material experts shows that the learning media design developed based on the needs of students and teachers is very suitable for application in the process of learning initial reading material in class I.

Product Effectiveness

After the expert assessment stated that the Kintar (Smart Wheel) learning media design which adopted the TGT (Team Games Tournament) learning model concept was declared in the very feasible category, the next step was to assess the effectiveness of the learning media in improving student learning outcomes during the learning process. Testing the effectiveness of the Kintar (Smart Wheel) learning media which carries the concept of the TGT (Team Games Tournament) learning model was carried out in two stages, namely a small-scale test and a large-scale test. The pretest and posttest are used as indicators to evaluate the increase in student learning outcomes due to the use of the Kintar (Smart Wheel) learning media which adapts the TGT (Team Games Tournament) approach at both testing stages.

Table 7. Pretest and Posttest Results of Small Group Tests

Student Code	Prates	Posts
S1	20	30
S2	40	70
S3	40	70
S4	40	75
S5	50	80
S6	90	95
Amount	280	420
Average value	46.67	70.00
Difference		23.33

Based on the data in table 7 which shows the results of the Pretest and Posttest in the small group test, it can be seen that there has been an increase in the average learning outcomes from before (Pretest) to after using the developed learning media (Posttest) with an average difference of 23.33. From these results it can be concluded that the application of learning media (Team Games Tournament) which focuses on initial reading material produces a significant average increase in small group trials.

Table 8. Pretest and Posttest Results of Large Group Tests

Student Code	Pretest	Posttest
S1	85	90
S2	70	80
S3	40	80
S4	40	90
S5	80	85
S6	55	85
S7	75	75
S8	55	80
S9	55	90
S10	70	85
S11	65	75

S12	55	90
S13	70	75
S14	50	70
S15	55	90
S16	75	75
S17	50	75
Amount	1045	1385
Average value	61,47	81.47
Difference		20.00

Based on the data in table 8 which shows the results of the Pretest and Posttest in the large group test, it can be seen that there has been an increase in the average learning outcomes from before (Pretest) to after using the developed learning media (Posttest) with an average difference of 20.00. From these results it can be concluded that the application of the Kintar (Smart Wheel) learning media which adopts the TGT (Team Games Tournament) learning concept which emphasizes initial reading material produces a significant average increase when tested in large groups.

Based on the results of the pretest and posttest on small and large scale tests, the next step is to carry out a normality test to find out whether the data is normally distributed or not. The following is a table of small scale and large scale normality tests:

Table 10. Normality test

Component	Class	Kolmogorov-Smirnov			Shapiro-Wilk		
		Statistics	Df	Sig.	Statistics	Df	Sig.
Learning outcomes	Pretest SK	.279	6	.159	.836	6	.122
	Post-test SK	.279	6	.159	.836	6	.122
	Pretest SB	.214	17	.037	.942	17	.346
	Posttest SB	.192	17	.097	.875	17	.027

From table 10, data is presented, namely for the Posttest SB variable, the Shapiro-Wilk test shows a significance value (Sig.) of 0.027, which is smaller than 0.05 (0.05). This shows that the SB Posttest data does not follow a normal distribution at the 0.05 significance level.

Meanwhile, for the other variables (SK Pretest, SK Posttest, and Pretest SB) the significance value (Sig.) of the Shapiro-Wilk test is greater than 0.05, so the data is considered to follow a normal distribution of significance. level 0.05.

So based on the Sig value requirements. which is greater than 0.05 indicates the data follows a normal distribution, but the SB Posttest data does not follow a normal distribution at the 0.05 significance level.

After knowing the type of normality of the data, the researcher determines the type of significance test that will be used. If the data is normally distributed then the type of significance test uses the T Test, while for data that is not normally distributed the type of significance test uses the Willcoxon Test.

Table 11. Results of small scale and large scale significance tests

Test type	Test Type	Say. (2-tail)	Information
Small scale	Uji-T	0,006	Ha accepted
Large Scale	Tes Wilcoxon	0,001	Ha accepted

Based on table 11 data, the significance value (2-tailed) of the small scale and large scale tests is 0.006 and 0.001 respectively. In the paired sample t-test, if the significance value (2-tailed) is less than 0.05, then the null hypothesis (H0) is rejected and the alternative hypothesis (Ha) is accepted; if the value is greater than 0.05 then H0 is accepted and Ha is rejected. Both tests show a significance value (2-tailed) that is lower than 0.05. Thus, H0 is rejected and Ha is accepted, this shows that the use of the Kintar (Smart Wheel) learning media with the TGT (Team Games Tournament) learning concept has a significant effect on increasing the average student learning outcomes in initial reading.

From these results it was concluded that the use of Kintar (Smart Wheel) media with the TGT (Team Games Tournament) learning concept had a significant positive impact on increasing the average student learning outcomes. T test findings also support the positive impact of using this media. The next step is to carry out an N-Gain test to evaluate the level of effectiveness of using Kintar learning media Smart Wheel Learning Media with the TGT (Team Games Tournament) learning concept.

Table 12. Small Scale Large Scale N-Gain Test Results

Test type	Means	Information
Small scale	0, 3959	Currently
Large Scale	0, 5298	Currently

Based on the results of table 12, the N-Gain test value for the small scale is 0.3959 and for the large scale it is 0.5298. According to the interpretation of the table, these two values falls into the "Medium" category. These results show that the increase in scores from pretest to posttest is considered to have a moderate impact, indicating the effectiveness of using Kintar (Smart Wheel) learning media with the TGT (Team Games Tournament) learning concept in improving student learning outcomes. in early reading ability.

Analysis of Student Questionnaire Data

The following research results are recorded in the form: student responses the implementation of the learning is presented in table 13 as follows:

Table 13. Results of Student and Teacher Response Questionnaire Data Processing

Test Subject	Validation Results	Qualification
Response small scale students	85,83 %	Very Worth It
Response Large scale students	91,8 %	Very Worth It
Teacher Response	88,3% %	Very Worth It

Analysis of results questionnaire data shows that both students and teachers gave positive responses, namely giving category very appropriate for the "Kintar" learning media used in the teaching and learning process. From the students' point of view, the majority felt that the color composition and writing on "Kintar" media helped them focus more on their learning activities. Attractive design is also an important factor that makes students interested in taking part in learning. Apart from that, students feel that this media and learning model suits their needs in improving their initial reading skills.

The use of "Kintar" media does not cause obstacles for students, this shows that this media is easy to use and can be accessed well. Learning activities carried out using "Kintar" media make students feel more active in the learning process. They also discuss, ask questions and contribute more often to the activities presented, this shows that this media encourages active participation. Collaboration in teams or groups with the help of "Kintar" media really helps students, and they feel they support each other and share ideas to achieve learning goals. Enthusiasm for the material presented through this media is increasing, students show high interest in learning to use this media.

Students also feel capable of independent learning and deepen their understanding of the material studied. They feel they understand the material better after using the media and learning models presented, and are able to apply the knowledge gained using this media. Finally, students realized that there was an increase in their initial reading abilities after using "Kintar" media.

From the teacher's point of view, the "Kintar" learning media is considered to be very appropriate to the special needs of students and the learning objectives that have been set. Teachers also stated that this media was successful in conveying complex concepts to students and arousing interest in learning. The suitability of this media with the principles of active and collaborative learning is also recognized by teachers who assess that the integration of media in daily learning runs smoothly without any special obstacles or difficulties.

The teacher observes that students are directly involved in using learning media without requiring outside assistance. "Kintar" media supports the learning process in the classroom well, including interactions between teachers and students and between students. This media also facilitates discussion or collaborative activities in class effectively. The resources required to use the media are easily accessible, and there are no limitations in terms of technology or infrastructure that affect its use. Evaluation of student understanding through the use of "Kintar" media is effective, and this media helps teachers monitor individual student development well. The media used is proven to be able to improve students' understanding in early reading learning.

Overall, the research results show that the "Kintar" learning media has a significant positive impact on the learning process. increase focus, participation, understanding of material, and students' initial reading abilities. Both students and teachers feel great benefits from using this media in the learning environment.

DISCUSSION

As the name suggests, Kintar (Smart Wheel) is a learning medium that is played by rotating (Sari & Simaremare, 2023; Handayani, 2023). As explained by

Sonia, et al (2022), a wheel is a rotating movement, a tool for rotating, or an object that can be rotated. In operating the Kintar media (Smart Wheel), the teacher or student representative will play the Kintar media until one syllable is obtained. Students are tasked with finding as many words as possible from the first syllable obtained through reference to a small dictionary of words provided by the teacher.

Smart wheel media is used as a learning medium that can support learning activities in the classroom and improve student learning outcomes. Smart wheel media (Kintar) is classified as educational teaching aids (APE). This is because the smart wheel media (Kintar) can be used as an intermediary/means or tool in the teaching and learning process, as well as as a communication medium between teachers and students. As stated by Suharyati & Zulmiyetri (2019), students will be more interested in learning when they apply teaching aids in the learning process.

To further increase student involvement and create a challenging learning system in the application of Kintar media, teachers combine learning implementation with the TGT (Teams Games Tournament) learning model. The TGT (Team Games Tournament) learning model is an approach that involves students in team learning, where students work together in small teams to achieve certain learning goals (Nuryanti, 2019). In its implementation, learning consists of the following steps:

1. Organizing the team, the teacher forms small groups consisting of 3-4 students.
2. Introducing the material, the teacher briefly explains the shapes and sounds of letters, vowels and consonants, as well as how to read the combination of two vowels and consonants.
3. In games/tournaments, the teacher asks representatives of each group to come forward to do one round on the Kintar media. Another group task is to find as many types of words that start with the syllable indicated by the Kintar media as possible.
4. Team discussions, after each game, teams gather to discuss their answers and strategize for the next game.
5. Evaluation, the teacher evaluates student learning outcomes by comparing the number of syllables obtained by each team. The winner is the team that finds the most syllables.
6. Reflection, students can reflect on what they have learned about smart wheel media (Kintar) and how its use can improve their learning

In the trial of Kintar media with the TGT (Teams Games Tournament) learning design, several important findings were revealed, namely that students became more active in understanding the material better, often exchanged opinions based on their experiences, and did not show signs of boredom. . This is in line with the opinion of Gawise et al. (2020) & Tofano (2018) which states that the use of appropriate media can overcome students' passive attitudes in learning. The research results show that Kintar media is in accordance with the characteristics of grade 1 elementary school students for initial reading skills. In its application, students are taught to recognize letters, practice arranging letters into syllables, and find simple words that are often encountered in everyday life.

To determine the effectiveness of using media and learning packaging, differences in learning outcomes before and after using media can be used in small groups and large groups after product trials. The research results show that the use of Kintar media combined with the TGT (Teams Games Tournament) learning model has proven effective in improving student learning outcomes, both in small and large groups. This can be seen from the increase in the number of students who have achieved learning completeness, from initially only a few, to all of them. This shows that the Kintar media and TGT (Teams Games Tournament) learning packaging developed by researchers are effective in improving the reading ability of grade 1 students at SDN Purwoyoso 03.

Consistently the results of this research are in line with several previous studies, including research by Nurrita (2018) which found that the use of learning media in learning helps improve students' skills in understanding lesson material. Likewise, Kurniawan's (2020) findings show that the use of interesting learning media can increase student motivation and participation in the learning process.

Apart from that, research by Wardani et al. (2024) also revealed that the use of media and models that suit student characteristics can increase understanding of lesson material. This finding is in line with the opinion of Gawise et al. (2022) which was mentioned previously, that the use of appropriate media and learning models can overcome students' passive attitudes in learning.

Overall, the relationship between the TGT (Team Games Tournament) model and the application of Smart Wheel media is synergistic and complementary. The TGT (Team Games Tournament) model provides a framework for cooperative learning and problem solving, while the Smart Wheel media provides an interesting and interactive way of presenting learning material. By combining these two approaches, educators can create a fun and effective learning environment.

CONCLUSION

The product produced in this research is smart wheel media namely Kintar. The media design that researchers successfully developed is a one meter diameter wheel made of light but sturdy plywood, with colorful letter symbols to attract children's attention. This wheel includes a rotating wheel component with vowel and consonant letter combinations to teach syllables, a pointing indicator to show certain letter combinations, a logo for identification, the author's name to provide credit, and a solid base for stability. Smart wheel media based on the TGT (Team Games Tournament) learning model has passed feasibility validation and received a positive response from students, and is considered very suitable by media experts and material experts to be applied in initial reading learning. The effectiveness test shows that the use of Kintar media has a significant impact on improving student learning outcomes, with the results of the significance test and the N-Gain value showing a positive increase in results both on a small and large scale. Analysis of student and teacher questionnaires also confirms the positive response to Kintar media which helps increase student focus, participation, understanding of material and initial reading skills. With these findings, it can be

concluded that Kintar media is effectively used in improving the quality of initial reading learning at the elementary school level.

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