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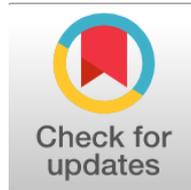
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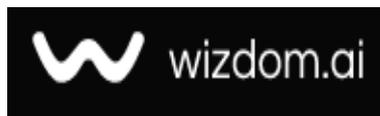
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Basic Literacy Module Development for Students' Reading Skills at Letter Level

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Abstract

Background (General): Reading literacy is a foundational skill that determines students' ability to access knowledge and succeed academically, yet Indonesian students still perform below international averages. **Background (Specific):** In MI NWDI Selong, many upper-grade students struggle with basic reading, indicating shortcomings in early literacy instruction. **Knowledge Gap:** Existing teaching methods and materials are often unsuited to young learners' needs, lacking engaging and structured approaches to support early reading at the letter and word level. **Aim:** This study aimed to develop, validate, and test a basic literacy teaching module tailored for lower-grade students using the Four-D (4D) development model. **Results:** Expert validation produced an average feasibility score of 84%, while implementation improved students' literacy scores from a pretest average of 39.03 to a posttest average of 79.23, demonstrating significant progress. **Novelty:** Unlike conventional methods, this module integrates systematic letter-to-word progression with contextual illustrations and phonetic exercises, offering a structured yet engaging tool for early literacy. **Implications:** The findings suggest that the developed module is both feasible and effective, providing a scalable model for improving early reading literacy in primary education contexts.

Highlights:

- Significant improvement of students' reading ability from pretest (39.03) to posttest (79.23).
- Module validated by experts with an average feasibility score of 84%.
- Novel approach integrates phonetic practice, letter-to-word progression, and contextual illustrations.

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Introduction

Reading ability is a fundamental skill that is very important for students to master from an early age. Reading is not just about recognizing letters, but also serves as the main gateway to understanding information, developing knowledge, and enhancing critical thinking skills. UNESCO emphasizes that reading literacy is one of the main indicators of the quality of a nation's education. However, the facts on the ground show that the literacy level of Indonesian students is still relatively low compared to other countries, as evidenced by the results of the Programme for International Student Assessment (PISA), which show that the reading literacy achievement of Indonesian students is below the international average.[1]

In 2018, Indonesia ranked 72 out of 78 countries in the world in terms of reading. Based on the results of the PISA (Programme for International Student Assessment) assessment, the reading ability of Indonesian students is said to be still low. The average score obtained in reading is 371 out of an international average score of 500. Compared to the previous year, which was 2015, Indonesia's position was even better, as the reading ability of students in Indonesia ranked 69 out of 76 surveyed countries. This result is lower than Vietnam, which ranked 12th out of the total surveyed countries. Furthermore, according to the World Bank No. 16369-IND and the IEA (International Association for the Evaluation of Educational Achievement) study, Indonesia holds the lowest position in the East Asia region with a score of 51.7, below the Philippines with a score of 52.6.[2] Field phenomena show that there are still students in MI, including in MI NWDI Selong, who are in higher grades (grades IV-VI) but are not yet able to read fluently, and some are still struggling to recognize letters and form syllables. This condition indicates a gap in the reading learning process in lower grades (grades I-III) which should serve as the main foundation for students' basic literacy.

The failure of reading learning in early grades can be caused by several factors. First, the learning methods that are not suitable for the characteristics of children at an early stage, for example, learning still focuses too much on memorization without paying attention to phonetic strategies or play-based approaches. Second, the limitations of media and interesting teaching materials lead to students quickly getting bored and losing motivation to learn. Third, the limitation of teachers in conducting initial assessments to detect reading difficulties, so that problems only become apparent when students are already in higher grades. The impact of this failure is very serious. Students who are unable to read will face obstacles in following other subjects, such as mathematics, science, and religious education, because almost all subjects require reading skills. In addition, they tend to have low self-esteem, become socially isolated, and are at risk of dropping out of school. Research by Abidin emphasizes that the failure to master early literacy in lower grades will create long-term academic gaps that are difficult to fix if not addressed promptly with the right strategies.[3]

Thus, one of the solutions that can be implemented is by developing a basic literacy teaching module. A teaching module is a systematically organized teaching material aimed at assisting teachers in carrying out lessons. This module contains content, methods, exercises, and evaluations so that students can learn in a directed and independent manner. Previous research shows that the use of structured teaching modules can enhance student engagement, facilitate teachers in teaching, and accelerate the achievement of basic literacy competencies. [4]. In addition, teaching modules that are developed according to the characteristics of students and based on local contexts will be more meaningful. For example, modules that use letter card media or simple illustrations that are close to the students' everyday lives have been proven effective in improving early reading skills.[5] stating that the letter card-based reading materials have high validity, practicality, and effectiveness with an effectiveness score of 84%. This proves that simple teaching materials relevant to the child's developmental stage can aid in accelerating literacy.

Based on the description, it is important to conduct research and development of a basic literacy teaching module to improve the reading skills of students at MI NWDI Selong. This development not only focuses on preparing materials that are appropriate to the stages of student development, but also on testing the validity, practicality, and effectiveness of the module. With a tested basic literacy teaching module, it is hoped that students can be assisted in mastering reading skills from the letter level, thus gradually improving learning achievements and literacy quality in the madrasah.

Theoretical Studies

Basic Literacy Concept Basic literacy is the minimum ability that students must possess to be able to access, understand, and use information through activities of reading, writing, and counting. In the context of basic education, reading literacy becomes the main focus because this skill is the gateway to mastering other literacies.[3] Reading literacy includes the skills of recognizing letters, understanding words, and interpreting the meaning of texts. Therefore, effective basic literacy learning from an early age is crucial so that students do not encounter obstacles in the learning process at the next level. **Beginning Reading Ability** Beginning reading is the initial stage in the reading process characterized by the ability to recognize letters, connect sounds with symbols, and arrange letters into simple words and sentences.[6] Early reading skills serve as the foundation for mastering advanced reading, so failure at this stage will impact learning difficulties later on. In practice, there are still many upper-grade students in Islamic Elementary Schools (MI) who have not yet mastered early reading skills or are even still at the letter level, so more appropriate learning strategies are needed.

Child Language Development Theory provides an important foundation for understanding the early literacy process.[7] emphasizes that the development of children's language and literacy is greatly influenced by social interactions with teachers, peers, and the environment.[8] emphasizing that elementary school age children are at the concrete operational stage, so reading instruction needs to be adjusted to real experiences and the use of concrete media. This indicates that the basic literacy teaching module should be designed according to the characteristics of children's cognitive and language development. Teaching Modules as Learning Materials Teaching modules are a set of learning materials systematically

designed based on the curriculum to assist learners in studying independently or with guidance.[9] Teaching modules have advantages because they provide opportunities for students to learn at their own pace, contain clear learning objectives, and provide structured evaluations. Thus, the development of basic literacy teaching modules at MI NWDI Selong is a strategic step to help students at the letter level improve their reading skills gradually.

Development of Literacy Teaching Materials Previous research has shown that the development of innovative literacy teaching materials can enhance students' reading abilities.[4] developing reading literacy modules for elementary school teachers, and the results show that the module is valid, practical, and effective in improving students' reading skills.[5] It proves that the use of letter card media in teaching materials can accelerate the mastery of beginner reading with an effectiveness of 84%. This demonstrates that teaching materials designed according to students' needs significantly influence the achievement of literacy. Letter Level in Student Literacy Students who are still at the letter level generally are not yet capable of reading words or sentences but are only able to recognize the symbols of letters and their sounds.[10] This stage is a crucial phase of emergent literacy. If students do not receive proper guidance at this stage, there will be delays in literacy as they progress to higher levels. Therefore, basic literacy teaching modules must emphasize systematic practice in recognizing letters, phonemes, and syllables so that students can transition from the letter level to the stage of reading words.

Learning Theories Supporting Module Development The development of basic literacy teaching modules needs to be based on relevant learning theories. Skinner's behaviorism theory emphasizes the importance of repetition and reinforcement in reading learning. Meanwhile, Piaget's constructivism theory emphasizes that students construct their own knowledge through learning experiences.[11] It is mentioned that children learn better if the material is presented gradually through the enactive (concrete), iconic (image), and symbolic (abstract) stages. This foundation strengthens the argument that basic literacy teaching modules must integrate various learning strategies to effectively improve students' reading skills. The Framework for Developing Basic Literacy Teaching Modules with the 4D Model.

1. The 4D Model as a Reference for Development The 4D development model is one of the instructional development models that is widely used to develop teaching devices or materials. Its stages consist of Define, Design, Develop, and Disseminate.[12] The 4D model is developed to produce learning products that have been tested for validity, practicality, and effectiveness. This model is very suitable for use in the development of basic literacy teaching modules due to its systematic nature and focus on the real needs of students.

2. Definition Phase (Define) The definition phase aims to analyze existing needs and problems. In the context of MI NWDI Selong, it was found that there are still high-grade students who cannot read, even at the letter level. This indicates a gap in reading instruction in lower classes. This analysis includes the curriculum, student characteristics, learning environment conditions, and the challenges faced by teachers.[13] needs analysis is very important to design development products that align with the issues present in the field.

3. Design Stage After the problems are identified, the next stage is to design the basic literacy teaching module. The module design includes: determination of basic competencies, formulation of learning objectives, preparation of materials, learning strategies, selection of media, and preparation of evaluations. The module for letter level students must include the introduction of letters, phoneme exercises, syllables, and simple words gradually.[9] It states that good teaching materials should be organized systematically, be engaging, and suitable for the students' developmental level.

4. Development Stage (Develop) The development stage is the stage of producing teaching modules according to the design. The module is then validated by content experts, media experts, and education practitioners. The results of the validation are used to improve the module before it is trialed. At this stage, a limited trial is also conducted on a small group of students to determine the practicality of the module.[14], Limited trials are important to conduct so that the product can be continuously improved before being tested on a larger scale.

5. Dissemination Stage The dissemination stage aims to implement the teaching module in a broader educational context. The modules that have been tested are then distributed to teachers and students, and can be used in both remedial and regular learning at MI NWDI Selong.[12] emphasizing that the dissemination stage must be accompanied by field evaluations so that the effectiveness of the product can be measurably assessed in various classroom conditions.

6. Advantages of the 4D Model The advantage of the 4D model is its simple yet systematic flow. This model emphasizes clear needs analysis, mature product design, tested development, and actual product dissemination. In the context of this research, the 4D model ensures that the basic literacy teaching module developed truly meets the needs of letter level students, and can be more widely adopted once proven effective.[4] which uses a systematic development model to produce valid, practical, and effective reading literacy modules.

7. The Relevance of the 4D Model in the Context of Basic Literacy The use of the 4D model in developing basic literacy teaching modules at MI NWDI Selong is very relevant because its stages align with the urgent needs of the students. The Define stage helps to map the problems of students who are still at the letter level, Design arranges early reading learning strategies, Develop produces a feasible module, and Disseminate ensures that the module can be widely utilized. Thus, the 4D model is expected to generate effective basic literacy teaching modules that improve students' reading abilities.

Method

This research is a research and development (R&D) study that utilizes the Four-D (4-D) model developed by Thiagarajan, Semmel, and Semmel.[12] This model consists of four stages: Define, Design, Develop, and Disseminate. However, this study was only carried out up to the third stage (develop) due to limitations in time, personnel, and budget. The subjects of the study were lower-grade students (grades I-III) from MI NWDI Selong who were still at the level of letters and words. A limited trial was conducted on 30 students.

The procedure of this research is the first stage, Define (definition), where the needs analysis is conducted through interviews with lower grade teachers and literacy support teachers at MI NWDI Selong. The interview results show that many students are still not fluent in reading, and some are still struggling to recognize letters. This analysis becomes the basis for the development of the basic literacy teaching module. The Design stage involves designing the teaching module according to the students' needs, which includes material on recognizing vowel and consonant letters, simple words, constructing words into sentences, and reading practice with supporting images. Both designs were carried out using a laptop, Canva application, A4 paper, and other supporting tools. The module includes a cover, materials on letters, simple words, words with special sounds (NG, NY), and exercises. The third stage of development involves validating the designed teaching module by media experts, content experts, language experts, and practitioners (teachers). The assessed aspects include: accuracy of content, clarity of language, aesthetics, and feasibility of use. The validation results show that the module is in the feasible category with an average score of 84%. After validation, the module was tested on a limited basis with 30 lower-grade students.

The instruments used include: validation sheets (media experts, material experts, language experts, and practitioners). Reading tests (pretest and posttest) to measure students' initial and final abilities. Data collection techniques consist of interviews with teachers for needs analysis. Observations during the learning process. Tests (pretest and posttest) to assess the improvement of students' reading abilities. The data is analyzed using descriptive statistics to determine: The feasibility level of the module based on expert and practitioner validation. The improvement of students' reading abilities by comparing pretest and posttest scores.

Results and Discussion

The development model I use is the Four-D (4-D) model. This model was developed by Sivasailam Thiagarajan, Dorothy S. Semmel, and Melvyn I. Semmel in 1974. The 4-D model is a development model that can be used to develop various types of learning media.[15] The four stages are the defining stage, the designing stage, the developing stage, and the disseminating stage, but this research only reached the third stage which is Develop (Developmental testing) due to limitations in time, manpower, and budget.[16]. The define stage is the stage of analyzing the needs for the product to be developed, by analyzing the needs of students and the characteristics of students. At this stage, the needs analysis for the developed product is conducted through interviews with teachers. Based on the interview results, the teachers at MI NWDI Selong have used literacy teaching modules in reading activities but have never developed basic literacy teaching modules. Based on observations and interviews with the literacy assistance teachers at MI NWDI Selong, there are several issues that make teachers reluctant to use and develop effective learning media for engaging learning that boosts student motivation. The issues are: (1) teachers feel burdened, (2) expensive, (3) lack of capability, and so on. The issues are: (1) teachers feel report, (2) expensive, (3) unable, and others. Each teacher certainly faces various different problems in developing learning media, some are troubled with finances, time, ability, and so on.

In addition to the above problems, based on the interview results, it shows that many students are still unable to read, especially in the lower grades (1, 2, 3), even in the first grade, where more students cannot read than those who can. The teacher addresses this by establishing reading guidance with reading books and available media. Based on the analysis, students need various types of media as tools to assist in the development of reading skills. Engaging media is very much needed by students, so that during the learning process, students do not get bored quickly. Therefore, we choose to develop a basic literacy teaching module that includes the introduction of alphabet letters, vowels and consonants, recognizing simple words, learning to arrange letters into words, and forming words into sentences, along with clear illustrations and writing that are easy to understand and attractive. By creating media in the form of teaching modules for basic literacy, it is hoped that it can improve the reading skills of students at the letter and word level, as a product that corresponds to the observations and needs of the students.

In the second stage, which is design, this stage involves designing a product tailored to the needs of students in the form of a basic literacy teaching module that enhances the ability to read letters and words, which includes recognizing letters of the alphabet, consonants, and how to arrange letters into a word, accompanied by attractive and easily understood images. The process of designing the literacy teaching module is carried out using a laptop and the Canva application, A4 paper, double tape to adhere the letter cards to the module, scissors to cut out the printed letter cards, and a pen to fill in the questions present in the module. Then the image search used in the module was obtained from the Canva application, taking various kinds of images such as animals and fruits, and others. In the module design phase, starting from the cover, alphabet letters, vowel letters, consonant letters, recognizing simple words, reading words according to images, reading words with the sounds NG and NY, and arranging words into sentences. Next is the creation of letter cards that will be attached according to the questions in the basic literacy teaching module, then printing and neatly cutting the letter cards that have been made.

In the third stage, which is development, this stage aims to produce media that has been created based on input from validators and to determine the feasibility of the teaching module before it is tested on students at the beginner level (letters and words). The steps taken in this stage include first providing the instrument sheet that has been prepared to the

Validator (media expert). The aspects assessed are the efficiency of the literacy teaching module, the accuracy of the literacy teaching module, the durability of the teaching module, and the safety of the literacy teaching module with ten items of statements. The score obtained is 33 and the maximum score is 40 with a percentage of 82%. The feedback from the media expert is that the content of this module is good and interesting, but the cover of the module needs improvement. The title should be placed above the image, not below it.

Both material experts assessed the content suitability, content accuracy, and student motivation with seven statement items. The score obtained was 25 with a maximum score of 28, resulting in a percentage of 89%. Thirdly, a language expert validated the language with assessment aspects including ease of understanding and information clarity, also with seven statement items. The score obtained was 23 with a maximum score of 28, giving a percentage of 82%. From these three validators, the teaching module received a suitable criterion. Lastly, a practitioner assessment of the teaching module was conducted by one of the teachers at MI NWDI Selong, who is a first-grade teacher and also serves as a literacy facilitator for beginner level (letters and words). The assessment aspects included the aesthetics of the literacy teaching module and its usability. The score obtained was 34 with a maximum score of 40, resulting in a percentage of 85%.

The next step is the implementation of the basic literacy teaching module to determine the improvement in reading skills of students at the letter and word level at MI NWDI Selong. Before the teaching module is implemented, the first step taken is to conduct a pretest in the lower class (letter and word level) by providing ten essay questions, aimed at assessing the initial abilities of the students. The data collected is then analyzed, and from the results of the pretest conducted in the lower class (letter and word level), an average score of 39.03 was obtained. After conducting a pretest to assess the students' abilities, the next step was to implement the developed literacy teaching module at the letter and word level. After several sessions of learning using the teaching module, a final test, namely a posttest, was administered in the lower class (letter and word level) with a total of 30 students, resulting in an average score of 79.23. To clarify, the results are presented in the following table.

[Table 1. about here]

Based on the table above, it shows that the number of students who took the initial and final tests of letter and word levels is 30, with the lowest score in the initial test (pretest) being 20 and the highest score being 60, with an average score of 39.03. Meanwhile, in the final test (posttest), the lowest score is 50 and the highest score is 90, with an average score of 79.23. To clarify, the comparison of pretest and posttest results in letter and word levels can be seen in the histogram below.

Conclusion

Based on the results of the research and discussion above, the teaching module is developed according to the needs of students in improving reading skills at the letter and word level for students at MI NWDI Selong. The literacy teaching module that has been designed and developed was then validated by experts and practitioners. The validation results from media experts received 82%, validation from content experts received 89%, validation from language experts received 81%, while validation from practitioners received 85%. The average percentage from the four validators is 84%. Therefore, the developed teaching module meets the eligible criteria. After the basic literacy teaching module was validated, it was then implemented at MI NWDI Selong. From the results of the pretest, students obtained an average score of 39.03, while the posttest results obtained an average score of 79.23. It can be concluded that the basic literacy teaching module at the letter and word level can be considered effective as it can improve the reading skills of students at the letter and word level at MI NWDI Selong.

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