

DEVELOPING LITERACY WHEEL MEDIA: AN INNOVATION TO IMPROVE ENGLISH READING SKILLS OF PRIMARY LEARNERS

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Article Info	Abstract
Article History Received: January 2025 Revised: April 2025 Published: July 2025	<i>The Literacy Wheel stands out as a promising tool designed specifically to enhance English language skills. This media not only makes the learning process more engaging but also addresses key linguistic competencies. The Literacy Wheel significantly boosts students' interest in learning English. Therefore, efforts are needed to assist students in learning English by creating an interactive learning medium called the Literacy Wheel (Rossi) to enhance students' learning motivation. The focus of this study is to analyze the validity and practicality of the developed learning media. The subjects of the study were third-grade students. The method used was Research and Development, employing the ADDIE model. The data used in the study included a preliminary study with interview techniques, validation by subject matter and media experts, and questionnaires to gather teacher and student responses to the learning media. The results showed that 98% of the Literacy Wheel media aligned with the material, and 95% of it was deemed valid for use in learning. The product received positive responses from students, with 79, 30% of them expressing enjoyment of the Literacy Wheel media. Based on these findings, the authors suggest that the content in the Literacy Wheel media be expanded to include more diverse subjects.</i>
Keywords Learning media; Spinning wheel; Literacy wheel; Reading skills; English learning;	
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INTRODUCTION

Education plays a central role in shaping the intellectual and moral fabric of a nation. It functions not only as a vehicle for personal development but also as a strategic tool for national advancement (Aqqal et al., 2017; Şahin Kızıl, 2017). The primary aim of education is to cultivate individuals who are not only knowledgeable and skilled but also possess a dignified character—traits essential to the creation of a strong, creative, and competitive society in the future (Umar et al., 2023; Zhang et al., 2023). This notion is reinforced by Law No. 3 of 2003 on the National Education System of Indonesia, which explicitly states: "*Education aims to develop abilities and create a dignified national character to achieve intelligent and creative students in the future.*" This legislative framework positions education as an indispensable pillar in realizing the vision of a prosperous and sustainable Indonesia.

Further echoing this sentiment, Muhsinin (2023) asserts that education is a deliberate governmental effort aimed at preparing the next generation to continue the nation's struggle and effectively compete with other countries. In the context of globalization, this need becomes

increasingly urgent. Nations today are measured not merely by their economic output but also by their ability to produce skilled and competent citizens capable of navigating a complex, interconnected world (Kho et al., 2021; Okumura, 2020). Accordingly, the quality of a country's education system often correlates with its global standing and socio-economic resilience.

However, despite these lofty goals, Indonesia continues to grapple with significant challenges in foundational educational outcomes—particularly in literacy. Literacy, which is the cornerstone of all academic disciplines and a prerequisite for lifelong learning, has emerged as a critical issue, especially at the elementary school level. According to data from the Indonesian Ministry of Education and Culture (Kemendikbud RI, 2019), the national literacy score using the Alibaca metric was a mere 37.32, indicating a serious deficiency in reading abilities among young learners. This alarming statistic underscores the inadequacy of current educational strategies and highlights the urgent need for effective interventions.

Low literacy levels among elementary school students inevitably hinder their ability to engage with more advanced subjects, including the acquisition of foreign languages like English (Rajagukguk et al., 2022; Soares et al., 2021; Suwandi et al., 2020). English, as a global lingua franca, offers significant opportunities for students, both academically and professionally. Yet, students often struggle with the fundamental aspects of language learning due to their poor literacy foundation. This challenge necessitates the introduction of innovative pedagogical tools, specifically tailored learning media that can bridge the gap between students' cognitive readiness and the curricular demands.

Budiman et al. (2020) emphasize the importance of learning media in the educational process, stating that these tools significantly enhance academic performance by making the delivery of instructional material more accessible and engaging. At the elementary level, where students are still developing basic cognitive and motor skills, the use of engaging, visually stimulating, and interactive learning media becomes even more critical. Widyowati et al. (2020) define learning media as tools—either physical or digital—that are intentionally designed to facilitate the achievement of educational objectives. These tools help transform abstract concepts into tangible experiences, thereby enabling students to grasp new information more effectively.

Among the various innovative learning media currently available, the Literacy Wheel stands out as a promising tool designed specifically to enhance English reading skills among third-grade students. This media not only makes the learning process more engaging but also addresses key linguistic competencies such as phonemic awareness and reading fluency (Yamin, 2025; Gusdiana et al., 2020). Observations indicate that the Literacy Wheel significantly boosts students' interest in learning English by offering an interactive platform through which they can learn to pronounce letters and read short sentences. Such media is especially beneficial in classrooms where students may not receive adequate linguistic stimulation at home.

Nevertheless, the development and implementation of effective learning media are not without challenges. Teachers, particularly those involved in remote or online learning settings, often face constraints in developing customized media. Arsyad (2011) cites Gerlach and Ely in defining media as encompassing people, materials, and events that establish conditions conducive to learning. In educational settings, this definition extends to include textbooks, educators, school environments, and various forms of digital and non-digital instructional materials. The National Education Association (as cited in Arsyad, 2011) further elaborates that media includes anything that can transmit information—whether observable, audible, or manipulable—alongside the instruments used in educational activities. These definitions underscore the versatility and expansive role of media in supporting instructional objectives.

The development process of learning media, therefore, must be rooted in a robust design framework that translates conceptual learning goals into functional educational tools. Rayanto & Sugianti (2020) describe development as the act of converting design blueprints into tangible products, including the drafting and production of learning materials. The Literacy Wheel exemplifies such innovation, building upon the foundational structure of the Spinning Wheel—an earlier educational media prototype (Yamin, 2025; Gusdiana et al., 2020). Gusdiana et al. (2020) inform that the potential of game-based media to simplify complex scientific concepts for young learners. The study showed that the interactive nature of the Spinning Wheel significantly improved student engagement and learning outcomes, thus validating the efficacy of this approach. The Literacy Wheel adapts this model to language learning by incorporating elements tailored to the English syllabus, such as pronunciation drills and short reading exercises.

Designing effective educational media also requires a nuanced understanding of the target user group—in this case, elementary school children. The media must be age-appropriate, intuitive, and visually appealing to sustain students' attention and foster intrinsic motivation. Studies in English language instruction at the elementary level affirm the importance of simplifying complex linguistic elements to suit the developmental stages of young learners. Yamin (2015) notes that learning is a deliberate process initiated by teachers, marked by observable changes in student behavior over a defined period. Therefore, teachers must possess the competence to adapt teaching materials to suit students' cognitive and emotional readiness. Fundamental competencies for elementary English teachers, as outlined in pedagogical literature, include the ability to simplify vocabulary, pronunciation, grammar, and conversational structures (Muhsinin et al., 2024; Usman et al., 2024). This pedagogical skill set is essential for creating a supportive and stimulating learning environment that motivates students to engage with English despite its status as a foreign language in Indonesia.

The Literacy Wheel aligns with these pedagogical requirements by integrating syllabus-based content tailored for third-grade students in the second semester. The material focuses on simple sentence pronunciation, comprehension, and descriptive texts that reflect students' daily lives at school and home (Kemendikbud, 2013). This alignment ensures that the media not only facilitates the acquisition of basic English skills but also enhances literacy development in a manner that is contextually relevant and cognitively appropriate.

The strategic development and deployment of innovative learning media such as the Literacy Wheel offer a viable solution to the challenges posed by low literacy levels and foreign language acquisition among elementary students. Grounded in pedagogical theory and supported by empirical evidence, such media can significantly enhance the quality of education by making learning more accessible, engaging, and effective. As Indonesia continues to strive for educational excellence, investments in teacher training, media development, and curriculum alignment will be crucial in achieving its national educational objectives.

RESEARCH METHOD

Research Design

This study adopts a Research and Development (R&D) approach, which is a methodological framework aimed at the creation, refinement, and validation of educational products such as instructional media, teaching strategies, or learning models. The R&D approach is characterized by its cyclical and systematic nature, encompassing five primary stages: analysis, design, development, implementation, and evaluation. Each stage is interconnected and designed to ensure that the final product is both pedagogically sound and practically applicable in real classroom settings. This methodological approach is particularly suitable for addressing specific educational

challenges and needs, especially those related to improving student learning outcomes and teacher effectiveness.

The use of R&D in this study is motivated by the need to develop an innovative learning medium tailored to the literacy and language acquisition needs of third-grade elementary students. Unlike traditional experimental research, which focuses primarily on hypothesis testing, R&D emphasizes the generation of solutions through the iterative process of design and revision. This makes it ideal for the development of instructional tools that require ongoing feedback and refinement from actual users—teachers and students—before they are finalized. Furthermore, by adopting this approach, the study ensures that the developed product is not only functional but also theoretically grounded in sound educational principles, practically effective based on user feedback and implementation trials, and empirically validated through systematic evaluation. This integration of theory, practice, and evidence enhances the reliability and relevance of the product, making it a valuable contribution to the field of elementary education and instructional design.

Participants

The participants of this research were third-grade students from SD IT Imam Syafe'i, located in Marpoyan, Pekanbaru. These students were selected as the primary subjects because the developed media, the Literacy Wheel, was specifically designed to enhance English reading skills at the elementary school level, particularly for young learners at the third-grade stage. The selection of this group was strategic, as the English curriculum at this level includes foundational components such as vocabulary recognition, sentence pronunciation, and basic reading comprehension, all of which align with the intended learning outcomes of the Literacy Wheel media.

Additionally, the research also involved a key practitioner—Mrs. Martina, S.Pd., a third-grade English teacher at SD IT Imam Syafe'i. She participated in the initial needs analysis through structured interviews and later provided critical feedback during the validation and implementation stages of the media development. Her insights were instrumental in identifying the lack of supporting teaching media in English instruction and guided the design and refinement of the Literacy Wheel to ensure its practical relevance and usability in classroom settings. During the implementation phase, all third-grade students present were actively involved in the direct media testing. They engaged with the Literacy Wheel in a structured learning session and later completed response questionnaires to evaluate the media's effectiveness, attractiveness, and usability. Thus, the research participants comprised not only the student respondents but also the practicing classroom teacher, enabling a comprehensive understanding of the media's practicality from both learner and educator perspectives.

Instrument and Analysis

The data collection process in this study began with a preliminary investigation, which served as a crucial foundational step to identify the existing challenges, needs, and conditions within the target learning environment. This initial phase employed structured interview techniques, specifically involving third-grade elementary school teachers. Structured interviews were selected due to their effectiveness in systematically eliciting specific information aligned with the research objectives. These interviews provided valuable insights into students' difficulties in learning English, the teachers' views on students' literacy levels, and the availability or lack of instructional media in classrooms. The information gathered at this stage significantly informed the subsequent phases of media design and development.

Following the preliminary study, the next phase involved designing the Literacy Wheel learning media. The design was carefully crafted based on the data collected earlier and then

submitted for validation by a panel of subject matter experts, media specialists, and experienced third-grade teachers. The purpose of this validation was to obtain professional feedback and suggestions for improvement to ensure that the developed media would be both valid and practical for use in real classroom settings. After incorporating the feedback, the revised instructional media was subjected to a limited field trial involving third-grade students and their teacher. During this trial, the effectiveness and practicality of the Literacy Wheel were evaluated using a Likert scale questionnaire to assess the responses of both teachers and students regarding their experiences using the media in English learning.

The data collected from these trials were primarily quantitative in nature, but some elements were analyzed qualitatively using Guttman scale analysis techniques. In this method, students' responses were limited to binary choices such as "Yes" or "No," which were then transformed into numerical values for interpretation (Usyanti, 2015). To ensure the validity of the findings, documentation of all research activities was meticulously recorded. The results of this analysis served as the basis for further refinement of the media product.

Additional data collected from the questionnaires were analyzed using descriptive statistical methods, particularly to gauge respondents' attitudes, perceptions, and opinions. The instrument used in this phase was a non-test instrument in the form of a Likert scale questionnaire. As defined by Sudaryono (2013), the Likert scale is a tool used to measure individuals' or groups' attitudes and perceptions toward a given phenomenon. In this study, the Likert scale ranged from 1 to 4, with 1 indicating the lowest agreement and 4 the highest. This scoring system was also applied to evaluate the feedback provided by media and subject matter experts, ensuring a robust quantitative analysis of the media's quality and relevance.

Table 1
Scoring Guidelines for Subject Matter Experts and Media Experts

Score	Description
1	Less
2	Enough
3	Good
4	Very Good

RESEARCH FINDINGS AND DISCUSSION

Research Findings

The field study was conducted at SD IT Imam syafei,I , located in Marpoyan Pekanbaru, , with the objective of gathering preliminary information about the situation and conditions as a foundation for developing the "Literacy Wheel" media. The information was obtained through a structured interview with the third-grade teacher at SD IT Imam Syafe'I Pekanbaru , Mrs. Martina, S.Pd. The results of the interview with Mrs. Martina, S.Pd, is when English lessons were conducted, the teacher relied solely on student worksheets (LKS) without the support of any teaching media. This study follows the ADDIE model framework and introduces an innovation in the form of learning media focused on reading English (vocabulary) to improve students' skills. This approach was developed based on the findings from the structured interview, analysis of teacher needs, and future expectations for English learning. Subsequently, a stage of the ADDIE model, known as instructional media design, was carried out, which included:

Initial Media Design

Developing an initial media design containing the materials using CorelDRAW. This process involved identifying the materials to be developed and selecting backgrounds that matched the content.

Preparation of Tools and Materials

Preparing tools and materials (plywood, flannel fabric, saw, hot glue, sandpaper, small hinges, scissors, small roller). The process began by creating a wheel with a diameter of 35 cm, followed by constructing a board measuring 2x50 cm to mount the "Literacy Wheel." The next step involved attaching the roller to the wheel and building a small stand to support the wheel. The woodwork was smoothed using sandpaper before attaching the flannel fabric to the board with hot glue. Stickers were applied to the "Literacy Wheel" with the help of a sticker expert.

Printing and Applying Materials

Printing sticker-based materials and attaching them to the prepared components. This process resulted in a learning media design aimed at enhancing English vocabulary acquisition for elementary school students.

The final stage in the creation of the literacy wheel media is a thorough review to minimize errors before conducting a trial run. The media design process involves subject matter experts and media experts to ensure the media is valid and practical.

The development phase is a series of activities marked by initial steps, including organizing, designing, and preparing everything required for product development. The development planning includes several stages of activities, namely: (1) Design planning, which involves activities carried out by researchers in developing literacy wheel learning media. These activities include preparing teaching tools for English language instruction, such as syllabi, lesson plans (RPP), teaching materials/content, and creating icons or material fragments learning should be integrated into complete sentences that are relevant to the vocabulary material for third-grade students. (2) Planning the material involves steps taken in organizing third-grade vocabulary lessons, including outlining the main points of the material aligned with the learning objectives.

The literacy wheel media, focused on improving English reading skills for third-grade elementary school students, has been validated and evaluated by subject matter and media experts. Third-grade teachers were involved in providing suggestions and feedback on the developed product. Subsequently, the learning media underwent revisions before conducting limited field trials involving respondents, in this case, third-grade elementary school students. The stage after completing the media design and media validation is the development phase, which is carried out by following the suggestions and guidance of subject matter experts and media experts.

The next stage in the ADDIE model is Implementation. The implementation phase is carried out by involving all students present during the direct media testing. This stage begins with distributing questionnaires to practitioners to assess the practicality of the learning process. Following this, the media is introduced to students as research respondents, along with an explanation of the purpose and objectives of the trial. Next, the developed product is handed over to teachers and students as a learning tool. After completing the learning process using the literacy wheel media, an evaluation of the media product is conducted through a prepared assessment questionnaire.

The final stage is the evaluation stage. The evaluation stage in this research involves a media response questionnaire that includes expert practitioners, specifically the third-grade teacher at SD IT Imam Syafe'I Pekanbaru, as well as responses from third-grade students at SD IT Imam Syafe'I Pekanbaru regarding the practicality of the developed media product. The assessment results are as

follows: (1) Teacher response questionnaire – Mrs. Martina.S.Pd, the third-grade teacher at SD IT Imam Syafe’I Pekanbaru , stated that she found the development of the learning media very helpful. Most students also showed interest in the "Literacy Wheel" media product and expressed hope for the development of similar media in the future. (2) Student response questionnaire, the results of student responses are presented in the form of a diagram as follows

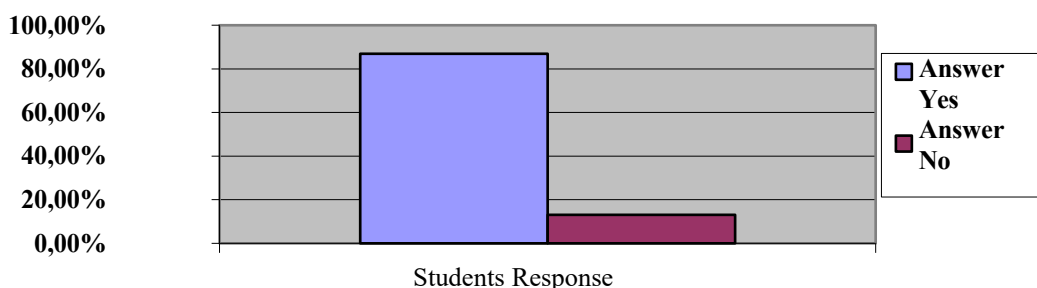


Figure 2. Student Response Questionnaire Diagram

Discussion

The research demonstrates the strategic development of the Literacy Wheel as a novel instructional medium aimed at addressing the persistent literacy challenges faced by Indonesian elementary school students, particularly in learning English. This development is grounded in a well-established R&D framework, specifically the ADDIE model, which offers a systematic process from needs analysis to evaluation. The structured implementation of this model underscores the researchers' commitment to ensuring that the product is pedagogically robust and contextually appropriate for the targeted learners.

The positive reception of the Literacy Wheel, as evidenced by both expert validation and student-teacher feedback, is a noteworthy outcome. Subject matter experts validated the media with a content validity score of 98%, while media experts assessed it to be 95% suitable for classroom use. These high scores not only affirm the alignment of the media content with curricular goals but also reflect its practicality in actual teaching contexts. Moreover, student response data, which indicated an overwhelmingly favorable impression with nearly 80% expressing enthusiasm and enjoyment, reinforces the notion that interactive and hands-on media are more effective in engaging young learners compared to conventional worksheet-based instruction.

The practical implementation of the Literacy Wheel also reveals important insights into student engagement and learning motivation. English is often perceived as a difficult subject by elementary students due to its foreign language status and limited exposure outside the classroom (Muhsinin et al., 2024; Umar et al., 2023). The introduction of an interactive and gamified learning tool like the Literacy Wheel addresses this issue by embedding vocabulary acquisition and sentence reading within a playful, exploratory activity. This pedagogical approach aligns with the constructivist learning theory, which posits that students learn more effectively when they are actively involved in constructing knowledge through experience.

Another significant point in the discussion is the critical role of teacher participation throughout the development process. By engaging the classroom teacher in structured interviews during the analysis phase, the researchers ensured that the media addressed real and observable instructional needs. It is in line with Gusdiana et al. (2020) who inform that English instruction had been limited to the use of worksheets without the support of visual or interactive media. The involvement in both the early design and evaluation phases not only provided relevant pedagogical

feedback but also demonstrated the importance of teacher buy-in for successful media integration. This echoes the findings of previous studies which emphasize that the effectiveness of instructional tools is highly contingent upon teacher acceptance and consistent usage.

The design of the Literacy Wheel was particularly meticulous. Developed using CorelDRAW and constructed with tangible materials such as flannel, plywood, and customized stickers, the media offers a tactile learning experience that is often lacking in digital-only solutions. This multi-sensory approach is particularly well-suited for early-grade students, who benefit from concrete learning experiences (Abutalebi & Clahsen, 2022). The craftsmanship of the media reflects a broader educational philosophy that values creativity and resourcefulness in instructional design—especially important in low-resource settings where high-tech solutions may not be feasible.

Furthermore, the Literacy Wheel bridges the gap between abstract language skills and real-world application. By focusing on daily vocabulary and simple descriptive sentences, the media supports learners in contextualizing English within their everyday experiences. This approach resonates with the communicative language teaching (CLT) methodology, which advocates for meaningful language use in real-life contexts (Adem & Berkessa, 2022; Lestari & Margana, 2024). The inclusion of descriptive texts related to school and home activities further ensures that the material is culturally and developmentally appropriate for Indonesian learners.

The practicality of the media was further demonstrated during the implementation phase, where students were directly engaged in learning using the Literacy Wheel. The researchers facilitated the lesson, administered assessment tools, and gathered feedback through questionnaires. It aims to manage and measure the effective learning activities (Khonamri & Sana'ati, 2014; Nurdiana et al., 2023). Importantly, the implementation process was not only about testing the media's effectiveness but also served as a formative stage to observe its ease of use and student response in a live setting. The iterative nature of this process—validation, revision, and reimplement—highlights the dynamic character of R&D in education, which prioritizes continual refinement based on empirical evidence.

This study also contributes to the growing body of research that emphasizes the importance of innovative media in foundational literacy development. Prior studies, such as the work of Gusdiana et al. (2020) on the Spinning Wheel Game Box, similarly showed that hands-on, rotating-wheel media can significantly enhance student engagement and conceptual understanding in subjects like science. The Literacy Wheel adapts and advances this concept for language learning, demonstrating that such media are not subject-specific but can be repurposed effectively across disciplines with proper pedagogical alignment.

In terms of limitations, while the study provides compelling evidence for the Literacy Wheel's effectiveness, it was implemented in a limited trial involving a single school. This naturally raises questions about generalizability. Future research might expand the scope by testing the media across multiple schools with diverse student populations. Moreover, a longitudinal study assessing long-term impacts on literacy and English proficiency would strengthen claims about the media's sustained effectiveness.

Nonetheless, the findings strongly support the conclusion that the Literacy Wheel is both a valid and practical tool for improving English reading skills among third-grade students. Its tangible, interactive design fosters higher levels of engagement and motivation, which are critical factors in early language acquisition. Moreover, the collaborative development process—rooted in expert input, teacher feedback, and student testing—provides a model for best practices in instructional media innovation.

The successful implementation of the Literacy Wheel also has broader implications for educational policy and practice. It underscores the necessity of equipping classrooms with creative, student-centered resources that go beyond textbooks and worksheets. In alignment with Indonesia's educational vision of nurturing intelligent and dignified students (as mandated by Law No. 3 of 2003), such media offer practical pathways to achieving foundational literacy goals. For educators, policymakers, and curriculum developers, this study serves as an exemplar of how localized innovation, informed by pedagogical research and grounded in classroom realities, can drive meaningful educational improvement.

CONCLUSION

The development of the Literacy Wheel media represents a significant contribution to English language instruction at the elementary level, particularly in addressing the persistent challenges of literacy acquisition among young learners. Grounded in the ADDIE model, this research successfully navigated each phase—from analysis to evaluation—by integrating insights from structured interviews, expert validations, and student feedback. The product, a tactile and visually engaging learning medium, was rigorously validated by subject matter experts and media specialists, receiving scores of 98% for content validity and 95% for media usability. These results affirm the Literacy Wheel's alignment with pedagogical goals and its effectiveness in enhancing student engagement. Furthermore, the study underscores the practical benefits of using interactive, student-centered media to facilitate vocabulary development and reading fluency, particularly for learners in contexts with limited exposure to English.

Importantly, the study demonstrates how innovative educational tools can serve as practical solutions to systemic literacy issues in primary education. The Literacy Wheel was not only validated for content but also evaluated in real classroom settings, where it garnered highly positive responses from both teachers and students—79.30% of students expressed enjoyment in using the media. These findings support the broader implication that learning media, when developed systematically and with user input, can dramatically improve educational outcomes. As a result, the authors advocate for the broader application and adaptation of the Literacy Wheel across different subjects and grade levels, suggesting its scalability and relevance for future pedagogical innovations. The research thus provides a strong foundation for continued exploration in instructional media development and its role in enriching early language education.

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