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# Needs Analysis and Conceptual Design of ROFADI (Interactive Wheel and Flashcard) for Descriptive Text Writing in Grade III Elementary School

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**Abstract:** Elementary students often experience difficulty generating ideas, selecting descriptive vocabulary, and organizing coherent sentences when writing descriptive texts. The source study at SDS Yasporbi III Pasar Minggu also documented limited classroom media interactivity, creating a need for concrete and engaging writing scaffolds. This study aimed to describe the writing difficulties and learning-media needs of Grade III students and to formulate the conceptual design of ROFADI, an Interactive Wheel and Flashcard medium, as a response to those needs. A descriptive qualitative approach was used by reorganizing data from classroom observation, one-on-one interviews, teacher responses, and learning-document analysis collected during January-July 2026. Data were reduced, categorized, compared across sources, and interpreted according to recurring themes. The findings show seven interconnected needs: idea generation, vocabulary enrichment, descriptive detail, grammatical accuracy, sentence coherence, paragraph unity, and learning motivation. ROFADI addresses these needs by combining a random thematic stimulus from a rotating wheel with visual and lexical prompts from flashcards. The study's novelty lies in mapping specific writing problems directly to complementary functions of two integrated media. The findings support ROFADI's pedagogical relevance, although its effectiveness requires separate classroom testing.

**Keywords:** Descriptive Text, Elementary School, Flashcard, Interactive Learning Media, Rotating Wheel.

## INTRODUCTION

Writing is one of the four interconnected language skills that elementary students need in order to communicate ideas in written form. It is not merely the mechanical act of producing letters; it is a productive and expressive activity that requires learners to select vocabulary, organize language structures, and communicate meaning to readers. Indonesian language learning therefore needs to develop listening, speaking, reading, and writing in a balanced way, with writing receiving sufficient practice because it supports students' literacy, cognition, and communication (Magdalena et al., 2021; Tarigan et al., 2023). At the elementary level, writing develops gradually from basic symbol production toward the organization of words, sentences,

and longer texts, so children need structured support that is appropriate to their developmental stage (Azizah et al., 2023; Leonia et al., 2022).

Descriptive text is particularly demanding because students must transform an observed or imagined object into language that allows readers to visualize its characteristics. This requires more than naming an object. Students need relevant descriptive vocabulary, sufficient detail, appropriate grammatical forms, and logical relationships among sentences. The learning process is therefore closely connected with students' ability to generate ideas, recognize salient features of objects, and convert those observations into coherent written expressions. Literacy activities that connect language to concrete objects and everyday environments can make early writing tasks more meaningful because children have accessible content to describe (Danita & Wirman, 2023; Raja et al., 2023).

However, writing instruction can become difficult when learning remains teacher-centered, repetitive, or insufficiently contextual. Previous studies summarized in the source manuscript indicate that limited methodological variation, routine writing tasks, and low student involvement may reduce motivation and make writing feel burdensome (Fadly, 2024; Khalik, 2021). This problem is relevant to the preliminary field condition at SDS Yasporbi III Pasar Minggu. Observation and teacher interview data documented that some Grade III students had difficulty developing sentences, choosing words, using capitalization and punctuation accurately, and writing according to language conventions. The teacher also identified limited descriptive vocabulary, weak sentence coherence, and insufficient paragraph unity as recurring problems. In this situation, a writing task is not only a linguistic challenge but also a motivational and instructional-design challenge.

Learning media can function as a bridge between abstract language demands and the concrete experiences of elementary students. Effective media should be aligned with learning objectives, student characteristics, time allocation, usability, and the nature of the content being taught (Wulandari et al., 2023). Visual and interactive media may increase attention and participation because students are not limited to listening to explanations; they manipulate prompts, interpret images, make choices, and construct responses. Current media-development literature also emphasizes that media are not decorative additions but instructional resources that should facilitate communication, learning activity, and meaning construction (Daniyati et al., 2023; Hasan & Muhammad, 2021; Kustandi & Darmawan, 2020; Yuniastuti et al., 2021).

Two media forms are especially relevant to the writing difficulties found in the field: the rotating wheel and the flashcard. A rotating wheel introduces an element of play, uncertainty, and immediate choice. Prior studies have used wheel-based media to support vocabulary, mathematics, science, and other learning outcomes, with the common advantage of stimulating participation through game-like interaction (Angelina, 2021; Hs & Suriningsih, 2021; Faizah et al., 2023; Chamalia et al., 2024; Najiyah et al., 2025). Flashcards, in contrast, provide compact visual-verbal cues that can support recall, vocabulary recognition, and concept association. Their visual format is relevant for students who need concrete prompts before producing language (Hoerudin, 2024).

The research gap lies in the functional integration of these two media for descriptive writing. The source manuscript's literature and bibliometric analysis shows that rotating-wheel studies and flashcard studies are more commonly found as separate strands, while their direct integration with elementary descriptive-text writing remains limited. ROFADI, an acronym for *Roda dan Flashcard Interaktif* (Interactive Wheel and Flashcard), is designed to combine the motivational function of a rotating wheel with the visual and lexical scaffolding function of flashcards. Instead of asking students to generate a complete descriptive text from a blank page, the wheel provides an initial theme or object category and the cards provide details and keywords that can be transformed into sentences.

Because the available source document contains rich preliminary observation, interview, and design data but does not provide completed post-implementation effectiveness results, this

article deliberately adopts a descriptive qualitative focus rather than making causal claims. The study addresses two questions: what writing difficulties and instructional-media needs are evident in the Grade III learning context, and how can ROFADI be conceptually designed to respond to those needs? Accordingly, the objectives are to describe the identified needs and to explain the pedagogical logic connecting those needs with the components of ROFADI.

## METHODS

This study used a descriptive qualitative approach. The analysis was based on the preliminary qualitative data and design documents contained in the ROFADI research file. Descriptive qualitative inquiry was selected because the purpose of this article is to portray the learning problems, media needs, and design logic in their instructional context rather than to test statistical relationships. The procedure follows the general descriptive orientation of organizing field information into meaningful categories and presenting the observed condition in narrative form (Hanyfa et al., 2022).

The study setting was SDS Yasporbi III Pasar Minggu, South Jakarta, during the second semester of the 2025/2026 academic year. The source research period extended from January to July 2026. Data sources included classroom observation of Indonesian language learning, one-on-one interview material involving the teacher and students, the teacher's completed interview responses, documentation of currently used learning media, the Grade III teaching module, and the conceptual design documents for ROFADI. The source file does not report an exact number of student informants; therefore, this article does not infer or state a sample size that is not documented.

Data collection in the source study covered direct observation of classroom activities, student characteristics, learning resources, student engagement, and Indonesian language learning; interviews concerning writing difficulties and media experiences; and documentation used to support the field information. For the present qualitative article, only evidence relevant to needs analysis and conceptual media design was included. Planned expert-validation scores, pretest-posttest scores, and normalized-gain procedures from the original development plan were excluded because completed quantitative results were not present in the available file.

Analysis was conducted in four stages. First, the field notes and teacher responses were reduced to statements directly related to descriptive-text writing and media use. Second, the statements were grouped into recurring categories: idea generation, descriptive vocabulary, detail, grammatical accuracy, sentence coherence, paragraph unity, learning motivation, and media interactivity. Third, these categories were compared with the documented ROFADI components and with the theoretical rationale presented in the source literature. Fourth, interpretations were formulated as a needs-to-design mapping. Credibility was strengthened through source comparison among observation notes, teacher interview responses, student-oriented interview material, and instructional documents, while claims of effectiveness were intentionally avoided.

## RESULTS AND DISCUSSION

### Writing Difficulties Identified in the Learning Context

The qualitative evidence shows that the central problem is not a single weakness but a chain of difficulties occurring from idea generation to paragraph construction. Observation notes indicate that some students were unable to develop simple ideas into complete sentences and were confused when selecting appropriate words. The teacher's interview responses reinforce this observation by describing initial descriptive-writing ability as low for several students. The teacher specifically identified difficulties in expressing ideas, describing an object in sufficient detail, selecting suitable vocabulary, and arranging sentences clearly and sequentially.

Idea generation appears to be the first bottleneck. Students may know the object they want to describe, but they do not always know how to begin or which characteristics should be written first. When the initial idea is weak, subsequent sentences tend to be short, repetitive, or disconnected. This finding is consistent with the broader understanding of elementary writing as a process that requires support for idea formation before linguistic accuracy can be expected (Azizah et al., 2023; Tarigan et al., 2023). A learning medium for this context therefore needs to provide a starting stimulus rather than merely evaluate the final text.

Vocabulary constitutes the second major difficulty. The teacher reported that descriptive vocabulary was limited and that students often used simple words repeatedly within the same paragraph. Limited lexical options reduce the precision of description because students cannot easily distinguish color, shape, texture, location, atmosphere, or other attributes. The problem also affects confidence: when students cannot find an appropriate word, the writing process slows down and dependence on teacher assistance increases. Flashcard research is relevant here because image-word associations can provide concrete retrieval cues and reduce the burden of recalling vocabulary from memory alone (Hoerudin, 2024).

The third difficulty concerns detail and specificity. The teacher noted that many descriptions remained brief and did not yet give readers a clear picture of the object, place, or atmosphere. This shows that students need help noticing and organizing observable features. Descriptive writing benefits from prompts that direct attention toward what an object looks like, where it is located, what makes it distinctive, and which words can represent those qualities. Concrete visual media are particularly useful at this stage because they turn an abstract instruction such as 'describe clearly' into a visible set of features that students can examine and name.

Language accuracy forms another interconnected category. The teacher identified incorrect use of place and direction expressions, as well as confusion between the Indonesian prefix *di-* and the preposition *di*. Observation notes also mentioned capitalization, punctuation, and general language conventions. These errors suggest that students need repeated contextual practice, not isolated rule explanation. When a vocabulary cue is immediately used to form a sentence about a visible object, grammatical correction can be embedded in meaning-making rather than treated as a separate exercise.

Finally, sentence coherence and paragraph unity remain weak. The teacher reported that relationships among sentences were sometimes not cohesive and that paragraphs lacked a clear connection between the main sentence and supporting sentences. This indicates that students need scaffolding not only at the word level but also at the sequencing level. A useful medium should help students move through a progression: select a topic, identify attributes, choose descriptive words, construct sentences, and then connect the sentences into a paragraph.

**Table 1. Qualitative Mapping of Descriptive-Writing Difficulties**

| Theme | Evidence from the source data | Instructional implication |
|---|---|---|
| Idea generation | Students have difficulty starting, developing ideas, and converting simple ideas into complete descriptions. | Provide a clear, concrete starting stimulus and a manageable topic. |
| Vocabulary | Descriptive vocabulary is limited; simple words are repeated. | Supply visual-word prompts and contextual vocabulary choices. |
| Descriptive detail | Descriptions are short and do not yet portray objects, places, or atmosphere clearly. | Prompt observation of visible characteristics and distinctive features. |
| Language accuracy | Errors occur in capitalization, punctuation, place/direction expressions, and the forms di-/di. | Embed language conventions in repeated sentence-building practice. |
| Sentence coherence | Relationships among sentences are not consistently sequential or cohesive. | Guide students through ordered sentence construction. |

| Theme | Evidence from the source data | Instructional implication |
|---|---|---|
| Paragraph unity | Main and supporting sentences are not yet well connected. | Use staged prompts that lead from details to a unified paragraph. |
| Motivation and engagement | Existing instruction is perceived as insufficiently interactive and students can become bored. | Use game-like participation and student manipulation of media. |

## Need for More Interactive and Concrete Learning Media

The field condition also reveals a mismatch between the complexity of the writing task and the interactivity of the media commonly used. The teacher reported that learning generally relied on textbooks, presentation slides, YouTube videos, and teacher explanation. These resources can communicate information, but the teacher considered them not sufficiently interactive to build students' enthusiasm and motivation for descriptive writing. Earlier observation notes similarly described the need for more varied media that can actively involve students rather than leaving them as passive recipients.

This does not mean that digital or presentation media are inherently ineffective. The qualitative issue is the learning role given to the student. Watching a video or viewing a slide may still position the learner mainly as an observer, whereas writing requires generating, selecting, arranging, and revising language. Therefore, the needed medium must elicit action. Students should make a choice, respond to a cue, manipulate information, and immediately transform that information into language. Media literature emphasizes that instructional tools are most useful when their characteristics are aligned with learning objectives and learner needs, not merely when they are visually attractive (Wulandari et al., 2023; Daniyati et al., 2023).

The source data suggest four practical criteria for the desired medium. It should be concrete enough for lower-grade students, visually attractive enough to sustain attention, simple enough to use repeatedly in class, and structured enough to guide a writing sequence. These criteria correspond with the developmental need for meaningful, observable learning experiences. They also support an interactive classroom orientation in which students construct understanding through activity rather than receive complete answers from the teacher.

Game-based wheel media answer part of this need. Studies cited in the source show that rotating wheels have been used as engaging learning devices across different subjects and grade levels (Angelina, 2021; Hs & Suriningsih, 2021; Faizah et al., 2023; Chamalia et al., 2024; Najiyah et al., 2025). Their main strength for the present context is not that they automatically improve writing, but that they create a simple participatory event: the learner spins, waits for a result, and must respond to the selected category. This event can reduce the open-endedness of a blank-page writing task by giving students an immediate topic.

Flashcards answer a different part of the problem. A card can carry an image, object name, characteristic, or descriptive keyword in a compact visual format. As a result, it can support vocabulary retrieval and direct attention to features that students may otherwise overlook. The complementarity between these two media is important: a wheel is strong as a motivational and selection mechanism, while a flashcard is strong as a lexical and visual scaffold. ROFADI therefore uses integration rather than duplication of functions.

## Conceptual Design of ROFADI as a Needs-Based Response

ROFADI is conceptually composed of two main elements: a rotating wheel and a set of flashcards. The rotating wheel functions as the first stimulus. The source design proposes categories and themes close to students' experiences, including places, people, favorite objects, animals, plants, and other familiar topics. The purpose is to give students an immediate writing focus. Random selection also introduces curiosity because students do not fully control which

topic will appear, creating a game-like atmosphere without disconnecting the activity from the learning objective.

The flashcards function as the second scaffold. The source design describes cards containing an object image, distinctive characteristics, and descriptive keywords. The card therefore narrows the distance between seeing and writing. Instead of expecting students to retrieve all relevant words independently, the card offers a limited but useful vocabulary field. Students can then select words, combine them with their own observations, and construct sentences. This design is consistent with the need for visual prompts identified in the field and with the potential of flashcards to strengthen image-word associations (Hoerudin, 2024).

The physical characteristics of the design also respond to classroom practicality. The wheel is planned with clear segmented colors and a pointer, using strong but relatively light materials such as thick cardboard or thin board. Flashcards are planned on thick or laminated paper so that they can be handled repeatedly. Bright contrasting colors and readable typography are intended to match the visual preferences of lower-grade students. These features are not merely aesthetic: durability supports repeated practice, while clear visual differentiation helps students recognize categories efficiently.

Pedagogically, the media can be used through a staged sequence. A student first spins the wheel and obtains a topic. The student then receives or selects relevant flashcards, identifies visible or listed characteristics, and chooses descriptive vocabulary. The selected information is transformed into sentences, after which the sentences are organized into a paragraph. The teacher can use this sequence for individual work or small-group interaction. The process creates a bridge from concrete stimulus to lexical support and finally to written production.

This sequence addresses the field problems in a direct manner. A student who is unsure how to begin receives a topic from the wheel. A student with limited vocabulary receives word cues from the cards. A student whose description lacks detail receives visual characteristics to observe. A student whose sentences are disorganized can be guided to order the information from general identification to specific features. Language issues such as *di-* and *di*, capitalization, or punctuation can then be corrected within the sentences the student has generated.

**Table 2. Needs-to-Design Mapping of ROFADI**

| Identified need | ROFADI component | Expected pedagogical function |
|---|---|---|
| Difficulty starting a text | Rotating wheel topic/theme | Provides an immediate writing focus and reduces blank-page uncertainty. |
| Limited descriptive vocabulary | Flashcard keywords | Offers lexical choices that can be used directly in sentence construction. |
| Insufficient detail | Flashcard images and object characteristics | Directs attention to observable attributes and distinctive features. |
| Low motivation | Game-like spin-and-select activity | Creates anticipation, participation, and a more active classroom role. |
| Weak sentence sequencing | Guided order from wheel result to card details to sentences | Structures the writing process from topic selection to paragraph construction. |
| Need for contextual learning | Familiar themes and everyday objects | Connects language tasks with students' concrete experiences. |

**Pedagogical Interpretation**

The qualitative strength of ROFADI lies in its scaffolding logic. The media do not provide a finished descriptive text; instead, they distribute the cognitive demands of writing across manageable steps. The wheel externalizes topic selection, while flashcards externalize part of the vocabulary-search process. Students still need to make decisions, construct sentences, and connect ideas. In this way, the media can support active learning rather than replace student thinking. This principle is compatible with contemporary learning-media perspectives that emphasize participation, interaction, and the purposeful integration of visual cues (Daniyati et al., 2023; Wulandari et al., 2023).

The design is also relevant to the developmental characteristics of elementary students. Young learners benefit from concrete experiences and visible references when abstract verbal tasks become difficult. Visual prompts can reduce unnecessary cognitive load because the learner does not have to imagine every content element while also managing grammar, spelling, and sentence order. This does not eliminate the need for instruction; rather, it gives the teacher a shared object around which explanation, questioning, and feedback can occur. Media texts discussing elementary learning similarly emphasize the importance of matching tools with learner characteristics and classroom goals (Hasan & Muhammad, 2021; Yuniastuti et al., 2021).

A further pedagogical advantage is the possibility of differentiation. Students who require more support can receive cards with explicit keywords and example attributes, whereas more advanced students can receive cards with images only and be asked to generate their own vocabulary. The same wheel can therefore initiate tasks at different levels of difficulty. This is useful because the source data indicate variation in students' ability to begin writing, select words, and organize paragraphs. A flexible medium allows the teacher to adjust scaffolding without changing the overall learning activity.

The design can also support formative assessment. Because students produce language step by step, the teacher can observe where the difficulty occurs. If a learner can choose an appropriate topic but cannot generate details, the intervention should focus on observation and vocabulary. If the details are adequate but sentences are incoherent, feedback should focus on sentence connection and order. Such process-oriented observation is more diagnostic than judging only the final paragraph. It also creates opportunities for peer discussion and revision before the text is considered complete.

Nevertheless, pedagogical relevance must not be confused with proven effectiveness. The available qualitative evidence can justify why ROFADI is needed and why its components are logically aligned with observed problems, but it cannot demonstrate that the medium increases writing scores. Claims about improvement would require implementation data, appropriate writing rubrics, and pre-post or comparative evidence. This distinction is important because several previous wheel-media studies reported positive learning outcomes in other subjects, yet those results cannot automatically be transferred to descriptive writing (Faizah et al., 2023; Chamalia et al., 2024; Najiyah et al., 2025).

**Comparison with Previous Studies and Research Novelty**

Previous rotating-wheel studies provide evidence that this type of media can be adapted across different learning contexts. Angelina (2021) developed a rotating wheel for trigonometry, Faizah et al. (2023) combined a smart wheel with cooperative mathematics learning, Chamalia et al. (2024) developed rotating-wheel media for Grade IV learning outcomes, and Najiyah et al. (2025) used smart-wheel assistance in elementary science. Hs and Suriningsih (2021) used a spin-wheel game in vocabulary learning. These studies show the flexibility of wheel-based interaction, but their content goals differ from the descriptive-writing problem addressed in the present study.

The flashcard literature adds a complementary perspective because cards are commonly used to strengthen recognition, recall, and vocabulary through visual cues. Hoerudin (2024), for example, discusses flashcards in Indonesian language learning at elementary school. ROFADI does not merely place a wheel beside flashcards; it assigns each component a different instructional function. The wheel determines the thematic entry point, while the flashcards provide supporting attributes and vocabulary. The integration is therefore functional and sequential.

The source manuscript's bibliometric mapping strengthens this interpretation of novelty. The terms associated with Indonesian language learning, writing skills, elementary school, flashcards, and rotating wheels appear in the mapped literature, but the connection between rotating-wheel media and writing skills is less dominant than the connection between flashcards and language learning. This suggests an identifiable research space for a medium that combines both elements specifically for descriptive writing. The present qualitative analysis refines that novelty by showing that the integration is not only a combination of two attractive media; it is a response to two different categories of writing difficulty: generating a starting point and enriching the language needed to elaborate it.

The main finding of this study is therefore a needs-based design principle: instructional-media novelty becomes more meaningful when each media component is linked to a documented learner difficulty. In ROFADI, random thematic stimulation responds to hesitation and limited idea generation, while flashcard scaffolding responds to limited vocabulary and insufficient descriptive detail. The sequence from theme to detail to sentence to paragraph creates a coherent pedagogical mechanism. This direct needs-to-function mapping constitutes the qualitative contribution of the study and distinguishes it from simply reporting that a new learning medium has been produced.

## CONCLUSIONS AND RECOMMENDATIONS

### Conclusion

The descriptive qualitative analysis shows that Grade III descriptive-text writing at SDS Yasporbi III Pasar Minggu is challenged by interconnected difficulties in generating ideas, selecting descriptive vocabulary, elaborating details, applying language conventions, organizing coherent sentences, constructing unified paragraphs, and sustaining learning motivation. The learning-media need is therefore not merely for a more attractive tool, but for a concrete and participatory scaffold that supports the writing process from its earliest stage. ROFADI conceptually answers this need by combining a rotating wheel as a thematic and motivational stimulus with flashcards as visual and lexical scaffolds. The pedagogical value of the design lies in the sequence it creates from topic selection to detail identification, sentence formation, and paragraph construction. The study contributes a direct needs-to-design mapping that explains why the two media should be integrated. However, the findings establish pedagogical relevance and design rationale, not causal effectiveness.

### Limitations

This study is limited by the nature of the available source document. The file primarily contains preliminary field information, teacher interview responses, research instruments, and a planned media-development design; it does not provide a complete set of implementation outcomes, expert-validation results, or pretest-posttest data. The exact number of student informants is also not reported. In addition, the student interview appendix contains example responses, so those examples were not treated as quantified or generalizable student findings in this article. Consequently, the analysis is intentionally restricted to needs identification and conceptual design.

**Recommendations**

Future research should implement ROFADI in the Grade III classroom and examine its usability, student engagement, and effect on descriptive-writing performance using a validated writing rubric. Qualitative observation should be retained to document how students use the wheel and cards, while quantitative pretest-posttest or comparison-group data may be added to test effectiveness. Further development can also compare different levels of flashcard scaffolding, such as image-only cards, keyword cards, and cards containing guided questions, so that teachers can differentiate support according to students' writing ability. Before journal submission, the author should also verify and complete all bibliographic metadata and author contact information required by the SIJET template.

**Author Contributions**

The author conceptualized the study, collected and organized the source data, conducted the qualitative needs analysis, interpreted the findings, prepared the ROFADI design rationale, and wrote and revised the manuscript.

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