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THE EFFECT OF INTERACTIVE MAGNETIC BOARD MEDIA ON READING INTEREST AND READING SKILLS OF ELEMENTARY SCHOOL STUDENTS

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ABSTRACT

This study investigates the influence of interactive magnetic board media on elementary students' reading interest and reading skills. The purpose of the research is to address the low reading motivation and underdeveloped reading abilities often found among lower-grade primary school students. A mixed-methods approach was employed, integrating both quantitative and qualitative techniques. The research was conducted on first-grade students at SD Negeri Tlogowungu 02, with additional trials involving inclusive second-grade students at SD Negeri Trangkil 06. Data collection instruments included classroom observation, guided interviews, and analysis of students' work. Quantitative data focused on changes in students' reading skills before and after the intervention, while qualitative data were gathered through observations of students' engagement and interest in reading activities. The findings revealed a significant positive effect of the interactive magnetic board media in enhancing both reading interest and reading skills among regular and inclusive students. The media's use of colorful images, numbers, and letters proved effective in capturing students' attention and sustaining their engagement during reading tasks. These results suggest that the interactive magnetic board is a child-friendly and inclusive instructional tool that can support literacy development in early primary education. The study contributes to the field by presenting an innovative, visually stimulating medium that can be integrated into classroom practice to foster student motivation and improve foundational reading competencies.

Keywords: Interactive media, magnetic board, reading interest, reading skills, elementary students.

INTRODUCTION

Education and curriculum are inextricably linked, with the curriculum functioning as a roadmap that guides the teaching and learning process (Martin, 2022). Reading is one of the most fundamental academic skills; it involves the ability to decode written symbols and comprehend their meaning. Proficiency in reading significantly influences students' ability to engage in classroom learning activities. Students who struggle with reading often face barriers across all subject areas (Muslih et al., 2022).

Early reading instruction typically begins with the recognition of vowel and consonant letters. Once students are familiar with these letters, they are taught to form syllables, which are then combined to create words and simple sentences (Nurani et al., 2021). However, many second-grade students still experience difficulties in reading, particularly in word recognition and comprehension. These challenges suggest delayed reading development, which may stem from multiple contributing factors (Septiana Soleha et al., 2021).

One of the major causes of poor reading performance among early-grade students is the use of teacher-centered instructional methods and the limited availability of engaging learning media. In many classrooms, teachers still emphasize content delivery rather than student interaction. As a result, students tend to lose interest and become disengaged, leading to suboptimal learning outcomes (Supriono, 2022).

Indonesia's education system continues to evolve in response to social and technological changes. This is reflected in the ongoing refinement of the national curriculum. The current curriculum, known as the Kurikulum Merdeka (Independent Curriculum), divides primary education into three phases: Phase A (Grades 1–2), Phase B (Grades 3–4), and Phase C (Grades 5–6). The curriculum is defined as a set of structured plans and content designed to achieve specific educational goals. These goals include the national education objectives and alignment with regional characteristics, institutional contexts, and student needs. Therefore, schools are encouraged to develop localized curricula tailored to the potential and conditions of their regions (Law No. 20, 2003 on the National Education System).

Interactive magnet boards combine sev-eral learning elements simultaneously. This media allows students to arrange letters or words made of magnets on a whiteboard, so that the learning process becomes more con-crete and interesting. Soliman & Al-Madani (2017) reported that in a multisensory inter-vention, dyslexic students formed words on a magnetic board and traced the letters using their fingers while pronouncing the sounds. This approach combines visual and kines-thetic stimulation according to a multisenso-ry strategy. The same thing was expressed by Astuti et al. (2024) that the use of syl-labic boards (a type of magnetic media) is effective in increasing the memory and read-ing motivation of dyslexic students. The integration of visual, auditory and tactile elements in an interactive magnetic board has the potential to enrich the reading learn-ing experience of students with special needs (Alisyafiq, 2021).

The idea of an interactive magnetic board aligns with the principles of multisen-sory learning. With a magnetic board, stu-dents not only see large, colored letters, but also feel the touch and physical movement of moving the magnetic pieces. This kind of approach utilizes the advantages of visual, auditory, kinesthetic and tactile senses which help dyslexic students in the process of recognizing letters and words (Primasari, 2021). Overall, the role of innovative learn-ing media in inclusive education cannot be ignored. Interactive magnetic boards, with their ability to combine learning with

play, have great potential to increase students' reading interest in inclusion classes. There-fore, the importance of the latest literature regarding the use of interactive magnetic board media in learning to read.

Low reading interest has become a persistent problem affecting students' literacy achievement in Indonesia. A major factor contributing to this is students' reluctance to read, particularly at the primary level. Since reading is essential for knowledge acquisition, a weak reading culture poses a significant challenge. Teachers and parents play a critical role in reviving students' reading habits. Cultivating a strong literacy culture is key to developing a generation that is not only knowledgeable but also capable in their respective fields.

The ultimate goal of reading is to acquire knowledge, understand practical solutions to problems, and remain informed about events in the surrounding environment. Reading is an interpretive process that involves translating symbols into meaning within the reader's language (Yadi, 2023). A lack of reading interest directly impacts literacy skills, as many students are unable to derive meaning from the texts they read. On an individual level, this leads to poor academic performance and limited mastery of subject matter. At the national level, it contributes to falling behind in global competitiveness. For this reason, educational institutions must serve as key agents in promoting a strong reading culture among students (Raoda, 2023).

LITERATURE REVIEW

Reading Skills

Reading is a complex cognitive activity influenced by both internal and external factors. It is not an instinctive or innate ability, but rather a learned skill acquired through environmental interaction and experience (Nurhadi, 2010). As such, reading must be understood as a product of education and socialization, rather than a natural human behavior.

Reading is a process by which readers seek to extract meaning from written language. It involves decoding symbols words and sentences to receive the message intended by the writer. Effective reading requires the ability to recognize groups of words as meaningful units at a glance, as well as to interpret the individual meanings of words. Without these competencies, both the explicit and implicit messages of the text may be lost, and the reading process becomes ineffective.

Thus, reading is more than a visual activity; it entails the interpretation of graphic symbols and the cognitive transformation of those symbols into meaningful concepts. It includes not only the perceptual recognition of letters and words but also the reflective capacity to understand and respond to the ideas conveyed (Tarigan, 2015)

According to Tarigan (2015), language teachers must acknowledge that reading is a multifaceted and demanding skill, composed of numerous sub-skills that operate together. Therefore, it is essential that educators actively support and guide students in developing the specific competencies required for effective reading. Language instruction should be oriented toward nurturing these abilities to ensure students can comprehend and engage with written texts meaningfully.

Interactive Magnetic Board Media

The essence of learning lies in a dynamic communication process through which messages are transmitted from a source (teacher or instructional material) to an individual or a group of learners. This process results in learning outcomes that are reflected in cognitive, affective, and psychomotor changes. Instructional media, in this context, are all tools used by educators to mediate the delivery of content effectively and meaningfully. In general, the term media the plural form of medium refers to a channel or intermediary. Arsyad (2015) defines media as "a messenger or intermediary that carries information from the sender to the receiver," a definition echoed by Kustandi (2018), who describes media as a means of transmitting information from a source to a recipient.

Similarly, Trianto (2018) states that when media are used to deliver messages or information specifically intended for learning purposes, they are referred to as instructional media. Under this interpretation, teachers, textbooks, and even the school environment can all be considered as media. In the context of teaching and learning, media are often interpreted as tools graphic, photographic, or electronic that help capture, process, and reconstruct visual or verbal information.

Kustandi (2018) also emphasizes that in educational practice, the term instructional media is often used interchangeably with other expressions such as instructional materials, audiovisual aids, visual education tools, or demonstrative and explanatory tools. Instructional media are conceptualized as consisting of two essential components: software and hardware. The software represents the content or message embedded in the media, while the hardware refers to the physical devices used to deliver the message. Modern instructional media not only assist teachers in delivering content but also serve as independent sources of learning.

From a psychological perspective, instructional media are particularly effective in supporting primary school students' learning processes. This is because media can transform abstract concepts into more concrete representations. Consequently, instructional media align well with the developmental stage of elementary-aged children typically the concrete operational stage, wherein learners understand the world primarily through tangible experiences. Instructional media thus serve as an important bridge between abstract knowledge and concrete understanding for young learners.

Sadiman (2017) classifies instructional media according to their ability to stimulate sensory perceptions such as sight, hearing, touch, taste, and smell each of which contributes to the learning experience. Similarly, Astuti (2013) emphasizes that the choice of instructional media should be contextually appropriate, depending on the teaching situation and the needs of the learners.

In contrast, Arsyad (2017) categorizes instructional media based on their intended practical use, grouping them into three types: graphic media, audio media, and still projection media. Among these, the blackboard or board-based media is cited as a prime example of graphic instructional media.

METHODOLOGY

Research Design

This study adopted a convergent parallel mixed-methods design (Creswell & Plano Clark, 2018), wherein both qualitative and quantitative data were collected and analyzed independently but

interpreted together to gain comprehensive insights into the effectiveness of interactive magnetic board media on students' reading interest and learning performance. The design was chosen to triangulate findings and enrich understanding from both behavioral and academic perspectives.

Participants and Setting

A total of 12 students participated in this study, selected through purposive sampling. The participants were divided into two groups: Primary group: Six first-grade students from SD Negeri Tlogowungu 02, representing a typical classroom environment. Pilot group: Six second-grade students from SD Negeri Trangkil 06, representing an inclusive education setting with diverse special needs, including cognitive, behavioral, and physical challenges. The study received approval from school authorities, and informed consent was obtained from parents or guardians prior to data collection.

Instruments and Data Collection

Qualitative Strand

Classroom Observation: A rubric-based observation tool was developed to capture indicators of reading interest, including students' attentiveness, enthusiasm, verbal responses, and active participation. Observations were conducted throughout the learning session involving the use of interactive magnetic board media. Student Interviews: Semi-structured interviews were conducted post-session to explore students' affective responses and perceptions of the media. Questions focused on enjoyment, motivation, and perceived usefulness of the media in supporting reading. Interviews were transcribed and analyzed thematically.

Quantitative Strand

Reading Evaluation Test: A post-instruction test was administered to measure students' reading comprehension and vocabulary acquisition. The test was developed based on the lesson content and reviewed by two language education experts for content validity.

Data Analysis Procedures

Qualitative data were analyzed using thematic analysis. Two independent coders conducted initial coding, and discrepancies were resolved through discussion to ensure inter-coder reliability. Quantitative data were analyzed descriptively, focusing on students' mean scores and performance distributions. Results from the inclusive group were compared qualitatively to assess adaptability and responsiveness to the instructional media.

FINDINGS

The implementation of the interactive magnetic board in the first-grade classroom of SD Negeri Tlogowungu 02 yielded positive results across two sessions conducted on May 7 and May 14, 2025. The class consisted of six students, five boys and one girl including four typically developing students and two inclusive students with learning difficulties that had previously impacted their reading interest and skills. During the first session, students demonstrated a high level of enthusiasm when interacting with the media. The interactive magnetic board, characterized by its vibrant colors, playful

images, and tactile manipulatives, successfully captured students' attention and interest. The ability to physically attach letters and pictures made the learning experience more engaging and enjoyable.

Initial assessments revealed that most students had low word recognition skills, with two students, particularly those with learning difficulties, struggling to identify letters and form simple words. However, by the end of the first session, one of the students with special learning needs showed measurable improvement in recognizing letters and beginning to read simple words. This was supported by their improved performance during the post-activity evaluation. In the second session, students maintained a high level of motivation and engagement. They were more confident in using the magnetic board and demonstrated better reading fluency and accuracy. The student who had shown progress in the first session continued to improve, while the other students also exhibited development in their ability to recognize and read words.

The learning activity began with a singing session to create a joyful and engaging atmosphere. This was followed by the introduction of the lesson topic and the learning media to be used. The instructional steps were then carried out using the interactive magnetic board in the classroom. Students' enthusiasm during the activity is illustrated in Figure 1.

Figure 1

Students Engaging with the Interactive Magnetic Board during the Lesson

Interactive magnet boards combine several learning elements simultaneously. This media allows students to arrange letters or words made of magnets on a whiteboard, so that the learning process becomes more concrete and interesting. Soliman & Al-Madani (2017) reported that in a multisensory intervention, dyslexic students formed words on a magnetic board and traced the letters using their fingers while pronouncing the sounds. This approach combines visual and kinesthetic stimulation according to a multisensory strategy. The same thing was expressed by Astuti et al. (2024) that the use of syllabic boards (a type of magnetic media) is effective in increasing the memory and reading motivation of dyslexic students. The integration of visual, auditory and tactile elements in an interactive magnetic board has the potential to enrich the reading learning experience of students with special needs (Alisyafiq, 2021).

The study employed a Systematic Literature Review (SLR) guided by the PRISMA 2020 framework (Page et al., 2021) to examine prior research and gather relevant information regarding the implementation of Interactive Magnetic Board media to enhance reading skills in inclusive schools in Indonesia.

This methodological framework, as proposed by Evans & Pearson (2001), was chosen for its structured guidance and suitability for achieving the primary aim of the study analyzing and synthesizing existing research on the use of Interactive Magnetic Board media to improve reading skills in Indonesian inclusive schools. The outcome of this process offers comprehensive insights into the effectiveness of this media in supporting literacy development within inclusive educational settings.

The main factors that influence students' reading interest include literacy infrastructure, learning technology, and library availability (Mardiah, 2023). Various school literacy programs have also been promoted to foster a reading culture. In the context of inclusion, studies show that literacy movements involving reading corners, storytelling activities, teacher/parent training, and the use of interactive learning methods can significantly increase reading interest and literacy skills of students with special needs. These findings emphasize the importance of enriching literacy activities that utilize innovative learning media to support inclusive students (Aryanti, 2024).

Overall, the data collected through observations and evaluations indicate that the use of the interactive magnetic board positively influenced both the reading interest and reading skills of the students. These findings support the effectiveness of using interactive, visually stimulating, and hands-on media in early literacy instruction, particularly in inclusive educational settings.The inclusive education approach emphasizes that all students, including those with learning barriers (Children with Special Needs/ABK), have the right to equal learning opportunities. Students with special needs are children who experience abnormalities in physical, intellectual, social or emotional aspects and therefore require adapted educational services. Among ABK, dyslexic and autistic students in inclusive elementary schools often face special challenges in learning to read. The ability and motivation to read are important prerequisites for mastering various subjects, so increasing inclusive students' reading interest is an urgent need (Mardiah, 2023).

The study was conducted at SD Negeri Trangkil 06, an inclusive elementary school where all students have various special needs. The research focused on six second-grade students with diverse learning profiles: two students with hearing and speech impairments (deaf-mute), two students with hyperactivity, one student with learning difficulties, and one student with a shy personality. Initial observations revealed that only two students were able to read fluently and demonstrated consistent participation in class activities. The remaining four students showed limited interest in reading, which was likely influenced by their respective challenges. This lack of engagement presented a significant barrier to literacy development.

To address this issue, an interactive magnetic board was introduced as a learning medium. The study was carried out over two sessions, on May 8 and May 15, 2025. During the implementation, the use of the interactive magnetic board proved highly effective in capturing students' attention. The colorful visuals, tactile experience, and hands-on interaction allowed students to actively engage with the learning content by attaching letters and pictures to the board. Students displayed high enthusiasm, with improved focus and concentration during the lessons. Observational data and reading assessments indicated a clear improvement in reading skills among the students. By the end of the

intervention, five out of six students demonstrated progress in word recognition and reading accuracy. This marks a significant increase from the initial two students who were proficient readers before the intervention. Only one student remained with limited progress, suggesting that while the interactive magnetic board was effective for most learners, further individualized support may be necessary for some. These findings suggest that the use of interactive magnetic media is a promising approach to enhance both reading interest and literacy skills among students with special needs in inclusive classroom settings.

Students' enthusiasm during the learning process indicated an increased interest in the interactive magnetic board as a learning medium. This was evident from their active participation, excitement, and joyful expressions throughout the activities. The learning session using the interactive magnetic board with first-grade students at SD Negeri Trangkil 06 is shown in Figure 2.

Figure 2

Students at SD Negeri Trangkil 06 Engaged with the Interactive Magnetic Board

In inclusive learning practices, dyslexic and autistic students tend to experience typical reading difficulties. Dyslexic students often have difficulty recognizing sounds and the arrangement of letters, while autistic students can have difficulty understanding the context of a sentence as a whole. To overcome this, a multisensory approach is needed (Ariastuti, 2016). With the multisensory method, students learn by utilizing the senses of sight, hearing, movement and touch simultaneously. Apart from methods, the choice of learning media has proven to be effective in improving the reading ability and learning motivation of dyslexic children. Likewise, interactive board-based media such as flipcharts that display interesting images and text can positively improve the reading abilities of autistic students (Primasari, 2021).

Developing innovative learning media is one strategy to increase learning motivation. The media needs to be adapted to the characteristics of ABK so that learning material can be delivered effectively. Kusumawardhani (2020) stated that the use of appropriate learning media is very important so that the learning process for ABK runs well, is interesting and easy to understand.

Innovative media can take the form of special print media, audio-visual media, or interactive digital media according to student needs. By combining fun and contextual elements, it is hoped that innovative learning media can stimulate inclusive students' interest in reading.

DISCUSSION

The Potential of Interactive Magnet Boards in Improving Reading Skills

The use of interactive magnet board media has been shown to positively influence the reading interest and skills of primary school students. This is evidenced by a study conducted in two elementary schools: SD Negeri Tlogowungu 02 and SD Negeri Trangkil 06. The research involved first-grade students at SD Negeri Tlogowungu 02 (6 students) and second-grade students at SD Negeri Trangkil 06 (6 students), with a total of 12 participants. The findings indicate that all students demonstrated increased interest in reading and improvement in their reading skills. Initially, 6 out of 12 students showed low levels of reading interest and ability. After the implementation of the interactive magnet board media, 10 students showed significant improvements in both areas. Among the 6 students who previously experienced difficulties in reading, only 2 students continued to struggle. These remaining difficulties were attributed to individual learning challenges. In conclusion, interactive magnet board media serve as an effective learning tool to support the development of early literacy in primary school students, particularly in enhancing both motivation and basic reading competencies.

Interactive magnetic boards as a learning medium for reading use a multisensory approach involving visual, auditory, kinesthetic and tactile stimuli. The use of a magnetic board is done by stimulating students to see letters (visual stimulus), hear the sound of letters when the teacher calls them (auditory stimulus), and touch/move magnetic letters (tactile-kinesthetic stimulus). The multisensory approach has proven to be effective for dyslexic students because it optimizes all of the child's senses (Primasari & Supena, 2021). In line with Primasari & Supena (2021), multisensory instruction involving visual, auditory, kinesthetic and tactile can help dyslexic children learn to read systematically. This method is in line with the Orton-Gillingham approach, namely that reading and writing material is taught explicitly and in a structured manner with stimulation of different senses (Stevens et al, 2021).

The use of similar media has been developed for multisensory learning. Lutfia et al. (2021) reported the development of an interactive flipchart that significantly improved the reading ability of autistic students in an inclusive elementary school. The content in the media uses raised letters and colored images to create an interactive learning experience that stimulates the visual and tactile senses. A similar tactile component is also applied in dyslexia learning in line with Primasari & Supena (2021) reporting the use of letters embossed from toy wax so that students can feel the shape of the letters. Other multisensory steps include students arranging letters into words, copying writing on the blackboard, and repeating words simultaneously (Aisia et al, 2023). The multisensory approach connects visual (letters on cards/board), auditory (word sounds), and tactile (embossed letters) stimuli so that the learning process to read is more comprehensive. Overall, the literature confirms that interactive physical media (such as magnetic boards, flannel boards, or “sensory boards”) have high potential in learning to read, because they facilitate simultaneous repetitive practice for the senses of sight, hearing, movement, and touch (Aisia et al, 2023).

Reading Skills in Inclusive Elementary Schools

The second-grade students at SD Negeri Trangkil 06 are all students with special needs. Initially, I was sceptical about the effectiveness of the interactive magnet board media for this group, fearing it might not yield positive results. However, this assumption was refuted through the research findings. The students responded with enthusiasm and joy during the learning activities, especially because the interactive magnet board possesses engaging characteristics, it is colourful, humorous, and filled with a variety of pictures, which effectively captured their attention and increased their interest in reading despite their learning challenges. Furthermore, the students' reading abilities showed noticeable improvement. While at first they struggled to concentrate, gradually they became more focused and were able to recognize letters that formed into words. They successfully read aloud and wrote the words on worksheets or during evaluation activities. These results suggest that the interactive magnet board media can be a valuable and inclusive learning tool, even for students with special educational needs.

Reading success in inclusive elementary schools depends on differences in students' abilities and needs. The results of research by Prawira and Wahyuni (2024) show that the initial reading abilities of low-inclusion class students tend to vary, namely that the average letter recognition and spelling scores of inclusive second-class students are at a medium level (around 63–66%). These findings indicate that some students are not yet fluent in reading syllables and simple sentences. This problem is closely related to the presence of students with special needs in line with Fatoni & Ainin's (2019) report that from 7 inclusive elementary schools in Surabaya, around 37% of students were identified as being at risk of dyslexia. This high percentage shows that many students in inclusion classes face specific literacy difficulties, especially in recognizing and spelling letters or simple words (Fatoni & Ainin, 2019).

Autistic students in inclusion classes also often experience typical reading obstacles. Even though autistic children's word decoding skills are sometimes relatively good, they usually have difficulty understanding the meaning of reading comprehensively so that special intervention (Visualizing/Verbalizing) is needed to be able to improve the reading comprehension of autistic children with a specific comprehension profile. In other words, without adapted teaching strategies, inclusive students with special needs are at risk of falling behind in literacy. Therefore, inclusive schools are required to provide equal and adaptive educational services (Beckerson et al, 2024). Inclusive learning strategies need to pay attention to children's characteristics, for example teachers need varied and multisensory-based learning methods to help dyslexic students remain able to follow reading lessons (Primasari & Supena, 2021).

Strategies for Improving Reading Skills in Inclusive Elementary Schools

The findings of this study demonstrate that the use of interactive magnet board media can significantly improve both reading interest and skills among early grade primary school students. This improvement was observed in two research settings: SD Negeri Tlogowungu 02 (first grade) and SD Negeri Trangkil 06 (second grade), with a total of twelve participants. Notably, the students at SD Negeri Trangkil 06 were all identified as students with special needs, a factor that initially led to doubts about the effectiveness of the intervention. Despite the initial skepticism, the study revealed that students with special needs responded positively and enthusiastically to the learning activities. The interactive magnet board media featured colorful visuals, engaging illustrations, and playful elements, which successfully captured their attention and stimulated their motivation. These sensory-

rich elements are particularly suitable for students with learning difficulties, as they provide multimodal stimuli that support both cognitive engagement and emotional involvement in the learning process.

In terms of outcomes, reading interest increased in 10 out of 12 students, and there was a clear enhancement in reading skills. Among the six students who initially had low reading proficiency, only two continued to struggle after the intervention, with their challenges attributed to individual learning difficulties that may require more targeted support. Importantly, students who previously had difficulties maintaining focus gradually became more attentive, began to recognize letters, and were able to form and read words independently. This progression was also reflected in their ability to complete worksheets and perform written tasks during evaluations. The interactive magnet board serves not only as a learning aid, but also as a motivational tool that encourages active student participation, fosters a positive emotional climate, and accommodates various learning needs. In summary, the success of the intervention among both regular and special needs students suggests that interactive magnet board media can be integrated into inclusive literacy instruction at the primary level. Its engaging design and tactile features align well with the developmental characteristics of early grade learners and can be particularly valuable in bridging gaps in reading readiness among diverse student populations.

A multisensory approach is one of the main strategies in improving reading skills. Multisensory learning methods using simultaneously the senses of sight, hearing, kinesthetics and touch are effective in increasing the motivation, involvement and academic achievement of dyslexic children (Sepsita & Wijaya, 2024). A multisensory approach is carried out using systematic steps, namely introducing letters through letter cards (visual), repeating the sound of letters (auditory), copying letter shapes with fingers (tactile), and writing movements in the air or on a blackboard (kinesthetic) (Aisia et al, 2023). In line with Ningsih & Supena (2021) and Aisia et al. (2023) also found that structured multisensory strategies can significantly help dyslexic students master vocabulary and basic reading comprehension. In addition, Sepsita & Wijaya (2024) reported that the application of multisensory methods increased learning engagement and academic results for dyslexic students in elementary school.

Learning methods other than multisensory, differentiation learning, are also highly recommended. Prawira & Wahyuni (2024) stated that differentiated learning that adapts teaching materials and activities to students' level of readiness is able to serve diverse reading and writing needs in inclusion classes such as individual tutoring with additional time is also an important strategy. Ramadhani et al. (2024) found that teachers usually provide special assistance in the form of additional learning time focused on spelling, reading and writing activities for dyslexic students. The use of educational media and technology works continuously, for example teachers use word wall, interactive videos, or multimedia applications to visualize reading material (Ramadhani et al, 2024).

Explicit phonics teaching strategies such as the Orton-Gillingham approach are also recommended for dyslexic students. This approach teaches reading and spelling in a direct, level, and multisensory manner (Stevens et al, 2021). In inclusive education, the teacher's role is to create a learning environment that supports concentration, such as a quiet room or an adaptive classroom arrangement so that students with special needs are more focused (Yusop, 2020). Apart from creating an environment, there is a thematic approach with meaningful activity themes, the use of educational games, and collaboration with parents and accompanying teachers have also been proven to increase students' interest in reading in particular (Lutfia et al, 2021).

Primasari & Supena (2021) used letters from toy wax for multisensory learning about dyslexia. Lutfia et al. (2021) developed an interactive flip board for children with autism. Interactive magnetic boards can replace previous manual media with flexible features (easy to rearrange, use repeatedly, and combine with games). This media is also more practical and organized for use by teachers in inclusion classes.

A multisensory approach combines visual, auditory, kinesthetic and tactile separately through different tools. The magnetic board brings together these various stimuli in one activity: seeing the letters, composing them by hand, saying the sound of the letters, and hearing the pronunciation from the teacher or audio. This activity speeds up the process of assimilating letters and phonemes. Effectiveness for Dyslexia Studies show multisensory approaches help dyslexic students read syllables and simple words. (Aisia et al., 2023; Sepsita & Wijaya, 2024). Interactive magnetic boards support explicit phonics methods such as Orton-Gillingham because they allow physical manipulation of letters while associating letter sounds and shapes. This strengthens phonemic and symbolic connections in a concrete way.

Differentiated learning is recommended for inclusion classes (Prawira & Wahyuni, 2024). However, media tends not to be designed flexibly for variations in student abilities. The magnetic board can be adjusted to the level of difficulty: from recognizing letters, arranging syllables, to forming simple sentences. Teachers can adjust assignments according to the needs of each student (both regular and special needs students). Interesting and interactive media increases interest in learning, especially for children with autism and dyslexia (Rosadi & Wachidah, 2024; Lutfia et al., 2021). The use of magnetic boards in the form of games (for example: word composition competitions, looking for hidden letters) can increase students' enthusiasm in learning to read because they are concrete and fun.

Overall, the series of strategies above strengthen preliminary results regarding the effectiveness of multisensory interactive media by combining interactive magnetic boards into reading learning with word stringing activities using magnetic letters that can be touched and teachers can provide a multisensory reading and writing learning experience (Aisia et al, 2023) (Zunaida, 2020). The interactive magnetic board approach allows inclusive students, especially those with dyslexia or autism, to practice reading while simultaneously training their senses of sight, hearing, movement and touch. Recent literature shows that the use of interactive multisensory media consistently improves early reading skills and learning motivation, as well as helping to deal with phonological difficulties faced by students with special needs (Lutfia et al, 2021) (Faruq, 2022). The results of the implications of the literature review can be seen in Figure 2.

CONCLUSION

The findings of this study underscore the effectiveness of interactive magnetic boards as a pedagogical tool in enhancing both reading interest and reading skills among early elementary students. The integration of visually stimulating elements, such as colorful images and movable letters, provided an engaging platform that transformed the reading experience for students. Initially, a significant portion of students exhibited low enthusiasm towards reading activities. However, following the implementation of the interactive magnetic boards, there was a notable increase in student engagement and motivation. The tactile and interactive nature of the boards facilitated a more dynamic learning environment, encouraging students to participate actively in reading exercises.

Quantitative assessments further corroborated these observations. Out of 12 students evaluated, 6 initially faced challenges in reading proficiency. Post-intervention results revealed that 4 of these 6 students demonstrated significant improvement, marking a 75% enhancement in reading skills within this subgroup. Consequently, 10 out of the 12 students achieved satisfactory reading proficiency levels. These outcomes highlight the potential of interactive magnetic boards to address reading difficulties effectively and to foster a more inclusive learning environment.

The implications of this study suggest that incorporating interactive and multisensory tools in early education can play a pivotal role in developing foundational literacy skills. Educators are encouraged to explore and integrate such innovative resources to support diverse learning needs and to promote sustained interest in reading among young learners.

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