

THE USE OF COMMERCIAL FACILITIES ASSISTED BY QUESTION AND ANSWER CARDS TO IMPROVE THE FUNCTIONAL READING AND WRITING SKILLS OF STUDENTS WITH MILD INTELLECTUAL BARRIERS (HI) IN CLASS V SLB IN YOGYAKARTA

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Abstract

This study aims to determine the effectiveness of the use of commercial facilities assisted by question and answer cards in improving the functional reading and writing skills of students with mild intellectual barriers (HI) in class V SLB in Yogyakarta. The research method uses a *quasi-experimental* approach with a *one-group pretest-posttest design*. This research was carried out in collaboration with three schools, namely SLB Negeri 1 Yogyakarta, SLB Negeri 2 Yogyakarta, and SLB Negeri 1 Bantul. The research subjects consisted of 20 students with mild intellectual barriers (HI) class V. Data collection was carried out through functional reading and writing ability tests, observation, and documentation. Test instruments that are validated by experts and demonstrate good validity and reliability. Data analysis used a paired t-test and an *effect size* test. The results showed a significant improvement in the functional reading ability of students with a tailed Sig. 2 value of 0.000, which was less than 0.05 ($p < 0.05$), and the functional writing ability of students with a tailed Sig. 2 value of 0.000, which was less than 0.05 ($p < 0.05$). The effect size test showed a Cohen's d value of 2.54 for reading and 5.08 for writing, indicating a large influence. The average *pretest* score for reading was 66.50 increased to 81.05 in the *posttest*. The average *writing pretest* score of 67.50 increased to 80.25 in the *posttest*.

Keywords: Commercial facilities are assisted with question and answer cards, functional reading, and functional writing.

Abstrak

Penelitian ini bertujuan untuk mengetahui efektivitas penggunaan fasilitas komersial berbantuan kartu tanya jawab dalam meningkatkan kemampuan membaca dan menulis fungsional siswa dengan hambatan intelektual (HI) ringan kelas V SLB di Yogyakarta. Metode penelitian menggunakan pendekatan quasi eksperimen dengan desain penelitian *one-group pretest-posttest design*. Penelitian ini dilakukan kolaborasi tiga sekolah yaitu SLB Negeri 1 Yogyakarta, SLB Negeri 2 Yogyakarta, dan SLB Negeri 1 Bantul. Subjek penelitian terdiri dari 20 siswa dengan hambatan intelektual (HI) ringan kelas V. Pengumpulan data dilakukan melalui tes kemampuan membaca dan menulis fungsional, observasi, dan dokumentasi. Instrumen tes yang divalidasi oleh ahli dan menunjukkan validitas serta reliabilitas yang baik. Analisis data menggunakan uji t-test berpasangan dan uji *effect size*. Hasil penelitian menunjukkan peningkatan signifikan pada

kemampuan membaca fungsional siswa dengan nilai Sig. 2 tailed sebesar 0,000 yang lebih kecil dari 0,05 ($p < 0,05$), dan kemampuan menulis fungsional siswa dengan nilai Sig. 2 tailed sebesar 0,000 yang lebih kecil dari 0,05 ($p < 0,05$). Uji effect size menunjukkan nilai Cohen's d sebesar 2,54 untuk membaca dan 5,08 untuk menulis, menunjukkan pengaruh yang besar. Rata-rata skor pretest membaca 66,50 meningkat menjadi 81,05 pada posttest. Rata-rata skor pretest menulis 67,50 meningkat menjadi 80,25 pada posttest.

Kata kunci: Fasilitas komersial dibantu dengan kartu tanya jawab, membaca fungsional, dan menulis fungsional.

INTRODUCTION

The use of commercial facilities in the process of learning to read and write needs to be carried out by educators so that students with intellectual disabilities can help them be more independent in community life, such as their ability to interact socially, as well as expand their understanding of the surrounding environment (Browder & Spooner, 2011). The utilization of commercial facilities is beneficial for students with intellectual barriers to overcome boredom during the learning process in the classroom. Thus, students are expected to be more active in exploring various information that supports their learning, especially in practical functional reading and writing (Collins & Stinson, 2014).

In addition, the use of commercial facilities is very relevant because it is a means that not only facilitates daily life, but also provides opportunities for students with intellectual barriers to get meaningful information and direct experience, so that students have a real impact on learning functional reading and functional writing. Functional reading and functional writing skills need to be learned by students with intellectual barriers because reading and writing are the main foundations that must be possessed by every student with intellectual barriers (Allor et al., 2013). The World Health Organization in 2023 shows that about 1-3% of the global population has intellectual disabilities, with 85% of them falling into the mild category. In Indonesia itself, based on data from the Ministry of Education in 2023, there are around 2.8% of students with special needs who experience mild intellectual barriers from the total student population with special needs.

Based on a preliminary study carried out from March 14 to March 30, 2024, in three schools in class V SLB in Yogyakarta, it was found that students with mild intellectual barriers were able to recognize several food labels when doing culinary activities, but could not read the names of the foods. Students have difficulty compiling words into whole words, so it is difficult to recognize the names of medicines. Students have not been able to recognize the notices contained in traffic signs. Inability, in this case, can endanger the safety and welfare of students in carrying out daily activities.

This study proposes the use of a question and answer card-assisted commercial facility as an innovative learning method to improve the functional reading and writing skills of students with mild intellectual barriers. Assisted by question and answer cards is a learning medium in the form of small cards containing pictures, text, or symbols that function to help students associate pictures with learning concepts (Dendawijaya & Cohen, 2018). The use of question and answer card media for reading and writing learning

for students with mild intellectual barriers is effective in improving functional literacy skills and helping to overcome learning difficulties experienced by students in the classroom (Mechling et al., 2018). The application of this media is grounded in the idea that students with mild intellectual disabilities require concrete, contextual, and repetitive learning experiences to achieve understanding. By combining visual elements and contextual environments, such as commercial facilities, the learning process becomes more meaningful and accessible.

In the context of this study, commercial facilities serve as authentic environments where students can engage with real-life texts, such as product labels, price tags, and packaging information. These materials are part of students' daily experiences, making them ideal for developing functional literacy. When integrated with question and answer cards, these facilities provide structured yet flexible opportunities for learners to read, recognize, and write words related to their environment. The cards serve as scaffolds that guide students through a sequence of comprehension steps—from visual recognition to verbal articulation and written production—allowing for gradual cognitive development consistent with Vygotsky's theory of social constructivism.

According to Vygotsky, learning occurs most effectively within the zone of proximal development (ZPD), where students perform tasks with guidance that they could not accomplish independently. In this approach, the teacher functions as a facilitator who provides prompts and structured assistance through question and answer activities, encouraging students to engage in active meaning-making. The interaction between teacher, student, and contextual materials supports both social and cognitive development. Through repeated practice, learners internalize reading and writing behaviors, eventually performing them autonomously. The visual cues on the cards and the contextual clues in commercial settings enable students to connect abstract language forms with tangible meanings, bridging the gap between symbolic understanding and practical application.

Furthermore, the method fosters motivation and confidence among students with mild intellectual barriers. Traditional text-based approaches often cause frustration and disengagement due to the abstract nature of printed materials. In contrast, learning that incorporates visual and situational components reduces cognitive load and enhances interest. Students become more active participants, engaging in pair or group discussions guided by the cards. This collaborative aspect not only strengthens literacy but also nurtures social communication skills—a crucial developmental area for students with intellectual disabilities. The interactive, hands-on experience transforms learning into a dynamic process rather than a passive reception of information.

The integration of commercial facilities and question and answer card media aligns with the principles of functional literacy, which emphasizes the ability to use reading and writing skills in everyday life situations. It encourages students to view literacy as a practical tool for navigating their environment rather than merely an academic subject.

As demonstrated in the findings, this approach contributes to measurable improvements in students' reading fluency, spelling accuracy, and comprehension of functional texts. Beyond academic gains, it promotes independence, self-efficacy, and adaptability, preparing students to participate more meaningfully in their communities.

In conclusion, using question and answer card-assisted commercial facilities as a learning medium provides a holistic pedagogical framework that integrates cognitive, social, and contextual dimensions of literacy learning. It operationalizes Vygotsky's constructivist principles by situating learning within authentic, socially mediated contexts where meaning is jointly constructed and internalized. This model offers significant potential for educators seeking inclusive and effective strategies to enhance literacy development among students with mild intellectual disabilities.

METHOD

This study uses a quasi-experimental method with a one-group pretest-posttest research design. According to Creswell (2014), quasi-experimental methods allow researchers to measure the effects of certain treatments on dependent variables. This design involves measuring dependent variables before and after treatment is given to the same group (Sugiyono, 2021). This research was carried out in three schools, namely SLB Negeri 1 Yogyakarta, SLB Negeri 2 Yogyakarta, and SLB Negeri 1 Bantul. The research subjects consisted of 20 students with mild intellectual barriers in class V, with details of 9 students at SLB Negeri 1 Yogyakarta, 5 students at SLB Negeri 2 Yogyakarta, and 6 students at SLB Negeri 1 Bantul. Data collection in this study uses tests (pretest-posttest), direct observation, and documentation. The test technique is used to measure students' initial and final abilities in reading and writing the names of functional items such as medicines, toiletries, and snacks. Direct observation was carried out to observe how students interacted with the question and answer cards and the difficulties they faced. The test instruments used have been validated by experts and show good validity and reliability. The instrument is a functional reading and writing ability test that includes product names that are often encountered in daily life. The data analysis process was carried out through several stages, namely normality test using the Shapiro-Wilk Test, hypothesis test using the Paired Sample t-Test, and effect size calculation using Cohen's formula d to measure the effect of treatment.

RESULTS AND DISCUSSION

Pretest and Posttest Test Results

The test results showed a significant improvement in students' functional reading skills. The comparison between pretest and posttest scores revealed that the average pretest score of 66.50 rose to 81.05 in the posttest. This improvement shows that the use of question-and-answer card-assisted commercial facilities is highly effective in improving students' functional reading skills. Statistical tests support this conclusion, where the t-test shows a significant difference between pretest and posttest results on functional reading ability with a significance value of 0.000, which is less than 0.05.

Functional Writing Pretest and Posttest Results

Test results show a significant improvement in students' functional writing skills. The average pretest score was 67.50 and increased to 80.25 on the posttest. The results of the statistical test support this finding with a significance value of 0.000 that is smaller than 0.05, indicating that the hypothesis is accepted.

Table 1. Pretest and Posttest Results of Functional Reading and Writing Ability

ABILITY	PRETEST (M)	POSTTEST (M)	SIG. (2- TAILED)	COHEN'S D
FUNCTIONAL READING	66.50	81.05	0.000	2.54
FUNCTIONAL WRITING	67.50	80.25	0.000	5.08

Observation Results

The results of observations showed that students tended to participate more actively when using commercial facilities assisted by question and answer cards. Students show an increase in independence when reading and writing product names. Before treatment, students tend to be passive and have difficulty recognizing words, especially those related to the names of medicines and toiletries. However, after the use of the question and answer card-assisted commercial facility, students are better able to read fluently and write the product name correctly.

The results of the study showed a significant improvement in students' functional reading and writing skills after the implementation of commercial facilities assisted by question and answer cards. The average reading ability score increased from 66.50 at the pretest to 81.05 in the posttest, while writing ability increased from 67.50 to 80.25. Statistical tests showed a significance value of $0.000 < 0.05$, which means that there was a significant difference between the results before and after treatment. This increase was also strengthened by the results of observations that described the change in students' behavior from passive to more active, independent, and enthusiastic in reading and writing the names of products they encountered in the surrounding environment. These findings indicate that real-context learning media, in this case, commercial facilities combined with question and answer cards, provide meaningful learning experiences that affect the development of functional literacy skills of elementary school students.

Within the framework of the theory of social constructivism put forward by Lev Vygotsky, learning is seen as a social process that occurs through interaction between individuals and their social and cultural environment. Students not only gain knowledge through the teacher's explanations but also build their own understanding through hands-on experience and collaborative activities. Vygotsky emphasized the importance of social contexts, language, and interactions between individuals in shaping new knowledge. In the context of this study, a question and answer card-assisted commercial facility is a means that provides an authentic context for students to interact, ask questions, and

construct meaning to words or information they encounter in a real environment. This process is in line with Vygotsky's idea of *the zone of proximal development*, which is the distance between the child's actual ability when learning on his own and the developmental potential that can be achieved with the help of others. Through targeted questions and answer card-based activities, teachers play the role of providing temporary support or *scaffolding* that allows students to move from basic understanding levels to more complex abilities.

The results of improving functional reading skills show that students become more able to recognize, understand, and use texts in daily life. Before treatment, many students had difficulty reading words related to product names, especially medicinal products and toiletries, which they rarely encountered in the context of formal learning. After the application of real environment-based media, students gain the opportunity to associate linguistic symbols with concrete objects around them. This activity allows for a stronger process of meaning construction because students not only read the text mechanically, but also understand the function and meaning behind the word. Vygotsky asserts that the meaning of words is not static, but rather shaped through social interaction and experience. Thus, the use of commercial facilities allows students to associate written language with their social experiences in the real world, which in turn reinforces functional reading skills.

Functional writing ability also experienced a significant improvement after the intervention. The activity of writing down the names of the products they see in commercial facilities allows students to channel their understanding of the shape and spelling of words. In constructivist learning, writing activities are seen as a form of representation of knowledge resulting from individual interaction and reflection on their environment. Through the question and answer card, students are not only asked to copy words, but also to associate them with the product's function, pronunciation, and context of use. This writing process acts as a reflective activity that strengthens memory and understanding of word meanings in depth. This shows that contextual and interactive learning experiences play a big role in fostering more meaningful functional writing skills.

The active involvement of students during the learning process also reflects the main principle in Vygotsky's theory, namely, the importance of collaboration and social mediation in building knowledge. In this activity, the teacher acts as a mediator who directs students through questions structured on question and answer cards. Students not only answer, but are also encouraged to discuss, reason, and find meaning with their classmates. Thus, social interaction between students is the main means of building understanding. This activity is in line with Vygotsky's view that language functions as a tool of thought, not just a means of communication. Through dialogue and the exchange of ideas, students learn to use language to structure their thoughts and develop reflective thinking skills. This process shows that learning that utilizes real social and environmental

contexts is more effective in developing functional literacy skills than learning that is purely abstract or textual.

In addition to the improvement in test results, observations showed a significant change in students' learning attitudes. At first, most students show a tendency to be passive, hesitant, and lack the initiative to read or write. After the implementation of the commercial facility assisted by question and answer cards, students looked more enthusiastic, actively asked questions, and were able to work together in small groups. These behavioral changes show an increase in intrinsic motivation, which, in the framework of constructivism, is an important component of the process of meaningful learning. According to Vygotsky, learning motivation arises when learning activities have social and personal meaning for students. By engaging a real environment such as a store, pharmacy, or convenience store, students feel that what they are learning has direct relevance to their daily lives. This reinforces the connection between the learning experience at school and social realities outside the classroom.

The findings of this study also show that the use of commercial facilities as learning media can integrate hands-on experience, social interaction, and reflective activities simultaneously. These three aspects correspond to the main principles of the theory of social constructivism. First, hands-on experience allows students to build concepts based on observable and manipulated reality. Second, social interaction through discussions and group work allows for the exchange of ideas and the formation of a common meaning. Third, reflective activities, such as writing observations, help students reorganize the knowledge they have gained into a more structured form. In the context of language learning, the combination of these three aspects not only strengthens reading and writing skills but also develops critical thinking skills and interpersonal communication.

The relationship between learning outcomes and constructivist approaches can also be seen from the high effect size in statistical analysis. Cohen's *d* score of 2.54 for reading and 5.08 for writing showed a huge effect on students' abilities. This figure indicates that the interventions carried out have a strong impact on improving functional literacy skills. Theoretically, this can be explained through Vygotsky's view of accelerated cognitive development when students learn in a supportive social context. When teachers assist gradually according to the needs of the students, and then slowly reduce it as the students' independence increases, there is a more stable internalization of new abilities. In the process, students not only memorize words or written forms, but also understand the structure of language, its social meaning, and its functional use.

The changes that are happening to students also indicate that real environment-based learning encourages multisensory engagement. Through direct observation of products and texts contained in commercial facilities, students tap into the senses of sight, hearing, and gestures simultaneously. This activity strengthens the process of storing information in long-term memory. Within the framework of social constructivism, multisensory engagement expands students' opportunities to relate new concepts to existing knowledge

schemas. Thus, the learning process is not linear, but is the result of an integration between old experiences and new experiences that are constantly updated through social interaction.

Question and answer-card-assisted commercial facilities also serve as a bridge between academic learning and daily life. Language learning in elementary school is often stuck in a textual routine that is less contextual, so students have difficulty connecting language to reality. Through a real-world context-based approach, students are invited to see that reading and writing skills are not only important for academic purposes but also as essential life skills. The ability to read product labels, write shopping lists, or understand instructions for use is part of functional literacy, which is a basic need in modern life. Thus, these activities not only improve students' academic abilities but also equip them with practical literacy competencies that are relevant to the real world.

From a pedagogical point of view, the results of this study reinforce the idea that effective learning in primary schools must integrate cognitive, social, and contextual aspects in a balanced manner. Teachers no longer play the role of the only source of knowledge, but rather as facilitators who create a collaborative and meaningful learning environment. Question and answer cards serve as a mediation tool that encourages dialogue between teachers and students as well as between students, while commercial facilities provide a real context in which language concepts are used and understood. Through the synergy between authentic contexts, mediation tools, and social interactions, learning becomes more lively, relevant, and effective in developing students' functional reading and writing skills.

Overall, the findings of this study confirm that the learning approach based on social constructivism is effective in improving the functional literacy of elementary school students. This success is marked by an increase in test results, changes in learning behavior, and a strengthening of more contextual thinking and language skills. Through meaningful and interactive learning experiences, students not only gain new knowledge but also internalize the values of independence, cooperation, and confidence in language. Thus, the implementation of question and answer card-assisted commercial facilities can be seen as a pedagogical practice that is in line with the principles of social constructivism and relevant to the needs of 21st-century learning that emphasizes literacy, collaboration, and creativity

CONCLUSION

Based on the results of research and analysis that have been conducted, it can be concluded that the use of commercial facilities assisted by question and answer cards has proven to be effective in improving the functional reading and writing skills of grade V elementary school students. A significant increase can be seen from the comparison of pretest and posttest scores, where the average reading score increased from 66.50 to 81.05 and writing ability increased from 67.50 to 80.25, with a significance value of $0.000 < 0.05$. These results show that real-context learning media have a positive impact on

students' functional literacy skills. The increase not only reflects success in the cognitive aspect, but also changes in student learning behavior that are more active, independent, and collaborative, as reflected in the results of observations during the learning process. These findings are in line with Vygotsky's theory of social constructivism, which emphasizes that knowledge is built through social interaction, hands-on experience, and gradual support from the learning environment. Through the use of commercial facilities as learning resources and question and answer cards as mediation tools, students gain meaningful learning experiences, relevant to daily life, and strengthen reflective and communicative thinking skills. Teachers play an important role in providing gradual guidance that allows students to move from actual abilities to potential abilities. Thus, the application of commercial facilities assisted by question and answer cards can be used as an effective learning strategy in developing functional literacy in elementary schools. This approach not only improves learning outcomes but also forms a positive learning attitude, strengthens critical thinking skills, and fosters students' awareness of the importance of reading and writing in real-life contexts.

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