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The effectiveness of the SQ3R and KWL strategies on reading interest and learning outcomes among elementary school students in gunungkidul: a quasi-experimental analysis

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Abstract

This study aims to analyze the effectiveness of the SQ3R and KWL methods in improving the reading interest and learning outcomes of fourth-grade elementary school students and to compare the effectiveness of these two methods. This study uses a quantitative approach with a quasi-experimental design of the non-equivalent control group type. The research sample was selected using purposive sampling, specifically fourth-grade students at SDN Jetis 1 and SD Kepek 2 in Saptosari Subdistrict, Gunungkidul. Data were collected through reading interest questionnaires and learning achievement tests, then analyzed using the Wilcoxon test and the Mann–Whitney U test at a 5% significance level. The results showed that both the SQ3R and KWL methods were effective in increasing students' reading interest and learning outcomes, with the improvement categorized as moderate. The SQ3R method yielded an N-Gain of 0.5 for reading interest and 0.4 for learning outcomes, while the KWL method also yielded an N-Gain of 0.5 for reading interest and 0.4 for learning outcomes. The results of the Mann–Whitney U test showed that there was no significant difference in effectiveness between the two methods in improving reading interest (Asymp. Sig. = 0.902) or learning outcomes (Asymp. Sig. = 0.280). Thus, the SQ3R and KWL methods have equivalent levels of effectiveness, so both can be used as learning alternatives to improve reading interest and learning outcomes among elementary school students.

Keywords*: SQ3R, KWL, reading interest, learning outcomes*

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INTRODUCTION

Elementary education serves as the foundation of the formal education system and plays a decisive role in developing students' cognitive abilities, psychomotor skills, attitudes, and character. Learning experiences acquired during this stage become the basis for students' readiness to pursue higher levels of education and lifelong learning. Therefore, elementary education is expected not only to provide subject knowledge but also to develop essential competencies that enable students to learn independently, communicate effectively, and adapt to increasingly complex social and academic environments(Putri et al., 2025).

In the context of 21st-century education, these expectations have become even more demanding. Students are required to think critically, solve problems creatively, communicate effectively, and collaborate with others. Such competencies cannot be developed without adequate literacy skills because literacy enables learners to access, evaluate, analyze, and apply information in meaningful ways (Knoth et al., 2024; Sukmawati et al., 2023; Suto et al., 2025) Reading, therefore, should not be viewed merely as the ability to recognize written

words but as an active cognitive process through which students construct knowledge, connect new information with prior experiences, and generate deeper conceptual understanding(Van et al., 2022).

The importance of reading literacy is also supported by Jean Piaget's cognitive development theory, which explains that learning occurs through the active construction of knowledge rather than passive reception of information. At the concrete operational stage, elementary school students develop understanding by assimilating and accommodating new experiences into their existing cognitive structures until equilibrium is (Mulyadi, 2022; Suparno, 2001). Consequently, reading becomes an essential learning activity because it provides opportunities for students to interact with information, reorganize their cognitive structures, and gradually develop meaningful understanding(Afifah & Rohmah, 2024; Babullah, 2022; Ferdino et al., 2024).

Despite its essential role, evidence from both international and national reports indicates that reading literacy among Indonesian students remains a major educational challenge. UNESCO reported that Indonesia's reading interest index remains extremely low, approximately 0.001, indicating that reading has not yet become a habitual activity within society (Herlina et al., 2024; Khoirurofiq et al., 2025). Similar findings were reported by the 2018 Programme for International Student Assessment (PISA), which placed Indonesia below the international average in reading literacy achievement (Alfaruqi & Nurwahidah, 2025). Likewise, the 2021 Progress in International Reading Literacy Study (PIRLS) revealed that Indonesian students continue to perform below the international benchmark in reading proficiency (Afifah & Rohmah, 2024; Iskandar et al., 2025; Rizal, 2025). National reports present the same tendency, showing that students spend considerably more time accessing digital media for entertainment than engaging with reading materials as learning resources (Syahida et al., 2025; Wang et al., 2025). Collectively, these findings suggest that the challenge faced by Indonesian education is not merely limited to students' reading ability but also involves their willingness and motivation to engage in reading activities.

From the researchers' perspective, low reading achievement cannot be separated from students' reading interest. Reading interest functions as an internal motivational factor that determines the frequency, duration, and quality of students' interactions with reading materials. Students who enjoy reading are generally more willing to explore information, evaluate ideas, and integrate new knowledge into their existing understanding. Conversely, students with limited reading interest often interact with learning materials only when required by teachers, resulting in superficial comprehension and weaker academic performance. This relationship is consistent with Skinner's behaviorist theory, which explains that behaviours strengthened through positive learning experiences are more likely to be repeated (Andriani et al., 2022; Istri Ari Krisna et al., 2025; Siregar, 2023). Therefore, creating enjoyable and meaningful reading experiences should become an integral component of classroom instruction rather than merely encouraging students to read more frequently (Wedanthi, 2025).

The same pattern was identified during preliminary observations conducted at Jetis 1 Public Elementary School, Kepek 1 Public Elementary School, and Kepek 2 Public Elementary School in Saptosari Subdistrict, Gunungkidul. Fourth-grade students generally demonstrated limited ability to comprehend relatively long reading texts. Most students tended to read mechanically without being able to identify main ideas, infer implicit information, or explain

textual content using their own words. Consequently, many students experienced difficulties in understanding Indonesian language learning materials that required text-based comprehension. Classroom observations further revealed that reading had not yet become a regular learning habit. School library utilization remained relatively low, while students showed limited interest in reading materials beyond compulsory textbooks. As a result, a considerable number of students failed to achieve the Minimum Learning Achievement Criteria (KKTP) in Indonesian language subjects.

One important issue emerging from these findings is that low learning outcomes appear to be associated not only with students' cognitive abilities but also with their insufficient interest in reading. Students with limited reading interest spend less time interacting with learning resources, reducing opportunities to identify essential information, construct meaning, and integrate new concepts into their existing knowledge. Consequently, weak reading engagement may indirectly contribute to lower academic achievement. From the researchers' perspective, this situation indicates that improving learning outcomes requires more than simply delivering instructional content effectively. Learning strategies should also foster students' interest in reading because reading interest represents an important motivational pathway through which meaningful learning can occur. In other words, strengthening students' reading interest is expected to encourage more active engagement with learning materials, which subsequently supports better learning outcomes. This conceptual relationship forms the theoretical basis for examining instructional methods that simultaneously promote reading interest and academic achievement.

One instructional strategy that is considered capable of addressing these challenges is the Survey, Question, Read, Recite, Review (SQ3R) method. SQ3R is an active reading strategy that guides students through a systematic process of understanding texts. During the Survey stage, students obtain an overview of the reading material by identifying its structure and key ideas. In the Question stage, they formulate questions that guide their reading process. These questions become learning goals that encourage purposeful reading rather than passive information reception. Subsequently, during the Read stage, students search for answers within the text, followed by the Recite stage, where they restate important information using their own words. Finally, in the Review stage, students revisit the entire reading material to reinforce understanding and improve long-term retention (Ahmadi, 2022).

From the researchers' perspective, the effectiveness of SQ3R lies not only in its structured sequence of learning activities but also in its ability to transform students from passive readers into active constructors of knowledge. Every stage requires students to interact directly with the text, formulate questions, verify information, and reconstruct meaning. These activities make reading more purposeful, engaging, and intellectually stimulating. Consequently, SQ3R is theoretically expected to improve students' reading interest, as reading becomes an active learning experience rather than a compulsory classroom task. At the same time, deeper engagement with reading materials enables students to develop better conceptual understanding, which ultimately contributes to improved learning outcomes. Therefore, SQ3R is assumed to influence both the affective dimension of learning (reading interest) and the cognitive dimension (learning outcomes) simultaneously.

Previous empirical studies consistently support the effectiveness of SQ3R in improving classroom learning. Research conducted by Aisah et al (2024; Antari et al (2024) Apriliani et al (2019) Subekti et al (2024) demonstrated that the implementation of SQ3R significantly

enhances students' reading comprehension and academic achievement. These findings indicate that SQ3R successfully promotes active engagement during reading. However, most existing studies primarily evaluate improvements in reading comprehension or learning achievement, while relatively limited attention has been given to examining whether the method also strengthens students' interest in reading as an important motivational factor that supports learning.

Besides SQ3R, another instructional strategy that encourages active reading is the Know, Want to Know, Learned (KWL) method. Unlike conventional reading instruction, which generally emphasizes the final learning outcome, KWL focuses on students' thinking processes before, during, and after reading. At the Know stage, students identify their existing knowledge related to the topic being studied. During the Want to Know stage, they formulate questions regarding information they wish to discover. Finally, in the Learned stage, students reflect upon newly acquired knowledge and compare it with their prior understanding (Alhidri et al., 2025).

From the researchers' perspective, KWL creates meaningful learning experiences because students become actively involved in constructing knowledge throughout the reading process. Activating prior knowledge increases students' confidence in approaching reading materials, while generating questions stimulates curiosity and encourages sustained engagement with texts. Reflection during the final stage enables students to evaluate their own learning progress and integrate new information into existing cognitive structures. Consequently, KWL is theoretically expected to increase students' reading interest, since reading becomes a process of exploration rather than simple information retrieval. Simultaneously, deeper processing of textual information is expected to improve students' conceptual understanding and consequently produce better learning outcomes.

Previous studies have consistently demonstrated the educational benefits of the KWL strategy. Siskariani et al (2025) reported that KWL significantly improved students' comprehension of reading materials at the elementary school level. Similar findings were reported by Larasati (2025), who found that KWL supported the development of students' literacy skills. Mahardika & Haryadi (2026) further demonstrated that KWL enhanced reading literacy through more active and reflective learning processes, while (Hazara et al., 2025)found that students responded positively to KWL because it provided greater opportunities for participation during classroom learning. Collectively, these findings confirm that KWL effectively facilitates active learning. Nevertheless, similar to SQ3R studies, previous investigations have focused primarily on cognitive outcomes, whereas the role of reading interest as a factor supporting learning success has received relatively limited attention.

From the researchers' perspective, improving learning outcomes should not be viewed solely as a cognitive objective but also as the result of increased student engagement throughout the learning process. Reading interest functions as an important motivational mechanism that encourages students to spend more time interacting with texts, seek information independently, and participate actively in classroom learning. Consequently, instructional strategies such as SQ3R and KWL are expected to influence learning outcomes not only directly through improved comprehension but also indirectly by fostering stronger reading interest. This conceptual relationship provides the theoretical rationale for examining reading

interest and learning outcomes simultaneously rather than treating them as independent educational outcomes.

Although numerous studies have demonstrated the effectiveness of SQ3R and KWL, several important research gaps remain. First, previous studies generally examined only one instructional strategy rather than comparing the effectiveness of both methods within the same educational context. Second, most studies emphasized improvements in reading comprehension or academic achievement without simultaneously investigating students' reading interest. Third, limited research has attempted to explain the conceptual relationship between active reading strategies, reading interest, and learning outcomes. As a result, empirical evidence regarding how these variables interact remains insufficient, particularly in elementary education.

Based on these considerations, this study offers a different perspective by simultaneously examining the effectiveness of the SQ3R and KWL methods in improving two interrelated learning outcomes, namely reading interest and learning outcomes, among fourth-grade elementary school students. Unlike previous studies that investigated a single instructional strategy or focused on only one dependent variable, this study integrates both instructional methods within a single quasi-experimental design. Furthermore, this study provides empirical evidence from elementary schools in Saptosari Subdistrict, Gunungkidul, thereby contributing to a more comprehensive understanding of how active reading strategies influence both students' motivation to read and their academic

METHOD

This study employed a quantitative approach using a quasi-experimental method with a Nonequivalent Control Group Design. The study aimed to analyze the effectiveness of the Survey, Question, Read, Recite, Review (SQ3R) and Know, Want to Know, Learned (KWL) methods in improving elementary school students' interest in reading and their learning outcomes. The study was conducted during the even semester of the 2025/2026 academic year in Saptosari Subdistrict, Gunungkidul Regency, Special Region of Yogyakarta. The study population included all fourth-grade students in elementary schools located in Saptosari Subdistrict. Based on these criteria, Jetis 1 Public Elementary School was designated as the class receiving the SQ3R method, while Kepek 2 Public Elementary School received the KWL method. The study involved two independent variables—the SQ3R and KWL learning methods and two dependent variables. The research design is presented in Table 1.

Table 1. Research Design

Group	Pretest	Treatment	Posttest
Eksperimental Class	O_1	(SQ3R Method)	O_2
Control Class	O_3	(KWL Method)	O_4

The interventions were administered during the learning process in accordance with the teaching modules that had been developed based on the syntax of each method. A pre-test was administered before the intervention, followed by a post-test afterward. Data collection was conducted using two types of instruments. Reading interest was measured using a Likert-scale questionnaire designed based on indicators of enjoyment of reading, attention, and engagement in literacy activities. Learning outcomes were measured using an objective test designed based on the Indonesian language learning outcomes for reading comprehension.

Before being used in the field, all instruments were validated to ensure they met the criteria as research measurement tools aligned with the variable indicators as shown in Table 2.

Table 2. Indicators of Reading Interest and Learning Outcomes

Variable	Indicator/Level	Description
Reading Interest	Enjoyment of Reading	Positive feelings toward reading activities
	Attention While Reading	Ability to maintain focus while reading
	Reading Frequency	Intensity of reading activities
	Awareness of the Benefits of Reading	Understanding the benefits of reading
	Willingness to Read	Motivation and initiative to read
Learning Outcomes	C4 – Analyzing	Breaking down and examining information
	C5 – Evaluating	Assessing or providing judgments/opinions
	C6 – Creating	Generating new ideas

Data analysis was conducted in stages. Prerequisite tests were performed using the Shapiro–Wilk test for normality and Levene's test for homogeneity. After the prerequisite tests were completed, hypothesis testing was conducted to test the six hypotheses, as shown in Figure 1.

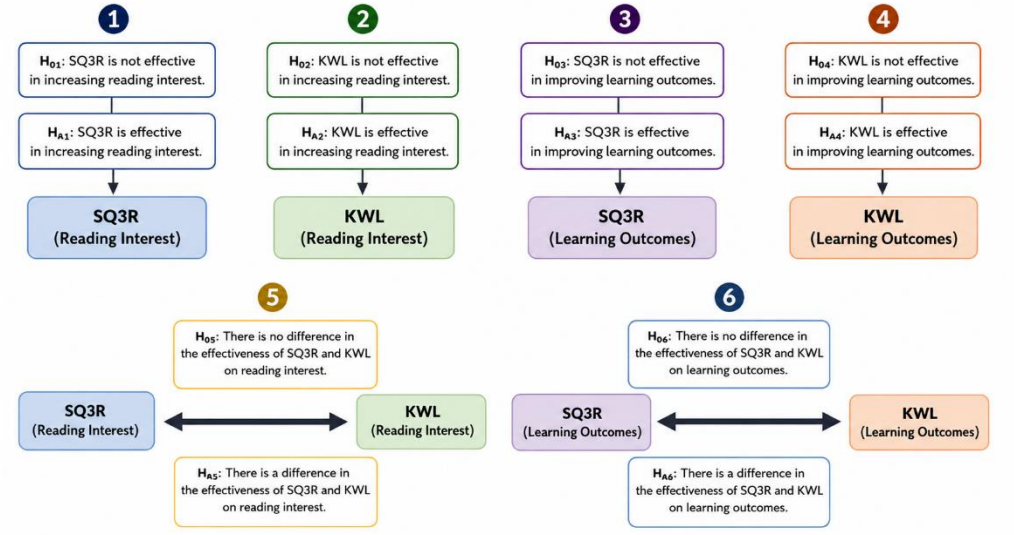

Figure 1. Research Hypothesis

Assumption tests showed that the data were not normally distributed, so hypothesis testing switched to nonparametric statistics. Hypothesis tests one through four were conducted using the Wilcoxon Signed-Rank Test. Next, the fifth and sixth hypotheses used the Mann–Whitney U Test on the N-Gain values to compare the effectiveness of the SQ3R and KWL methods in improving students' reading interest and learning outcomes.

RESULTS AND DISCUSSION

Results

This study involved 48 fourth-grade elementary school students who were divided into two treatment (experimental) groups, with the first group using the SQ3R learning method and the other using the KWL learning method. Descriptive analysis was conducted to provide an

overview of changes in reading interest scores and learning outcomes before (pretest) and after (posttest) the treatment. The results of the descriptive statistics are presented in Table 3.

Table 3. Descriptive Statistics on Reading Interest and Learning Outcomes

Variable	Method	Pretest (Mean±SD)	Posttest (Mean±SD)
Interest in reading	SQ3R	42,50 ± 4,66	49,54 ± 2,93
Interest in reading	KWL	43,38 ± 4,36	49,04 ± 2,61
Learning outcomes	SQ3R	7,25 ± 1,29	13,13 ± 1,12
Learning outcomes	KWL	8,08 ± 1,28	14,04 ± 1,30

Both teaching methods had a positive impact on improving the average reading interest scores and learning outcomes. In the SQ3R group, the reading interest score increased from 42.50 on the pretest to 49.54. Meanwhile, in the KWL group, the average reading interest score increased from 43.38 to 49.04. Improvements were also observed in learning outcomes. The SQ3R group saw an increase in the average score from 7.25 to 13.13, while the KWL group's score rose from 8.08 to 14.04. Overall, the average posttest scores for all variables were higher than those on the pretest.

To ensure the data's suitability before hypothesis testing, the researcher conducted the Shapiro–Wilk normality test and Levene's test of homogeneity. The normality test showed that the reading interest data were normally distributed in both groups ($p > 0.05$), whereas the learning outcomes were not normally distributed ($p < 0.05$). Since one of the variables did not meet the assumption of normality, all hypothesis tests were conducted using nonparametric statistics to ensure a more consistent analysis. The results of the normality test are presented in Table 4.

Table 4. Normality Test for Reading Interest and Learning Outcomes

Variable	Method	Shapiro-Wilk (Sig.)
Interest in reading	SQ3R	0,527
	KWL	0,607
Learning outcomes	SQ3R	0,002
	KWL	0,018

The p-value for the homogeneity test was 0.387. Since this value is above the threshold of 0.05 (\(p > 0.05\)), it can be concluded that the data from the two groups have equal variances. Thus, the two groups had relatively equivalent characteristics prior to the analysis of differences. Learning effectiveness was assessed using the Normalized Gain (N-Gain) index. The analysis results showed that both methods produced moderate improvements. The N-Gain values for the SQ3R group were 0.50 for reading interest and 0.40 for learning outcomes. Meanwhile, the KWL group also achieved average values of 0.50 for reading interest and 0.40 for learning outcomes. Based on Hake's criteria, all of these data were categorized as moderate.

Hypotheses one through four were tested using the Wilcoxon Signed-Rank test to analyze the differences between pretest and posttest scores. The first test was a Wilcoxon test for the SQ3R method regarding reading interest, followed by a test for learning outcomes, yielding the results presented in Table 5.

Table 5. Results of the Wilcoxon Test on the SQ3R Method's Effect on Interest and Learning Outcomes

Variable	N	Negative Ranks	Positive Ranks	Ties	Z	P
Interest in reading	24	0	24	0	-4.294	<0.001
Learning outcomes	24	0	24	0	-4.517	<0.001

The results of the analysis show that the application of the SQ3R method led to a significant increase in reading interest (Z = -4.294; p = 0.000) and learning outcomes (Z = -4.517; p = 0.000). This was followed by a Wilcoxon test for the KWL method's effect on reading interest, and then a Wilcoxon test for the effectiveness of KWL on learning outcomes, with the results shown in Table 6.

Table 6. Results of the Wilcoxon Test on the KWL Method's Effect on Interest and Learning Outcomes

Variable	N	Negative Ranks	Positive Ranks	Ties	Z	p
Reading in interest	24	0	24	0	-4.294	<0.001
Learning outcomes	24	0	24	0	-4.811	<0.001

Similarly, in the KWL group, there was a significant increase in reading interest (Z = -4.294; p = 0.000) and learning outcomes (Z = -4.811; p = 0.000). Thus, both methods proved to be effective. Next, a comparison of the effectiveness of the two methods was analyzed using the Mann–Whitney U test on N-Gain scores. The Mann–Whitney test results were analyzed separately for both the KWL method and the SQ3R method, with the results presented in Table 7.

Table 7. Results of the Mann-Whitney Test for the SQ3R and KWL Methods on Reading Interest and Learning Outcomes

Variable	Mean Rank KWL	Mean Rank SQ3R	Mann–Whitney U	Z	Sig. (2-tailed)	Decision
Interest in reading	24,27	24,73	282,500	-0,124	0,902	There was no significant difference in effectiveness
Learning outcomes	26,29	22,71	245,000	-1,080	0,280	There was no significant difference in effectiveness

The test results showed that there was no significant difference in effectiveness between the SQ3R and KWL methods in increasing students' interest in reading (U = 282.50; Z = -0.124; p = 0.902). Similar results were also obtained for the learning outcome variable, namely effectiveness (U = 245.00; Z = -1.080; p = 0.280). Overall, both the SQ3R and KWL methods were equally effective in improving students' reading interest and learning outcomes. Although there were differences in the mean ranks for both variables, these differences were not statistically significant; thus, both methods have relatively equivalent levels of effectiveness.

Discussion

The Effectiveness of the SQ3R and KWL Methods in Improving Reading Interest and Learning Outcomes

The application of the SQ3R and KWL methods proved equally effective in improving both students' reading interest and learning outcomes among fourth-grade elementary school students. More importantly, the findings suggest that these two outcomes are closely interconnected. The increase in students' reading interest encouraged greater engagement with reading activities, which subsequently supported better comprehension and contributed to improved learning outcomes. All students in both groups showed improved scores after the intervention, with no decline in learning outcomes or reading interest observed. Students are not merely recipients of information but act as active participants who construct their own understanding through guided reading activities.

This improvement can be explained by Piaget's constructivist theory. According to this theory, knowledge is not passively acquired from the teacher but is constructed through the interaction between new experiences and the students' existing cognitive structures. In the SQ3R method, the process of knowledge construction occurs through the stages of survey, question, read, recite, and review, while in the KWL method, it takes place through the activation of prior knowledge (know), the formulation of learning objectives (want to know), and reflection on learning outcomes (learned). Both strategies provide students with the opportunity to connect new information with their existing knowledge, thereby making the resulting understanding more meaningful. These conditions contribute to improved learning outcomes while also fostering a growing interest in reading. Consequently, the meaningful construction of knowledge encouraged students not only to understand learning materials more effectively but also to perceive reading as an engaging learning activity. This positive perception strengthened their reading interest, which in turn reinforced the acquisition of new knowledge and contributed to improved learning outcomes.

From the perspective of learning psychology, an increase in reading interest can also be explained through Skinner's theory of reinforcement. Reading activities accompanied by clear goals, opportunities to ask questions, and the success of finding answers to self-formulated questions provide a positive learning experience for students. This experience serves as reinforcement that increases intrinsic motivation to read. When students have an enjoyable reading experience and successfully understand the text, they are more likely to repeat the reading activity. Repeated positive reading experiences gradually develop a stable reading habit. As students become increasingly motivated to read, they interact more frequently with learning resources, providing greater opportunities to construct knowledge and improve academic performance. Therefore, both the SQ3R and KWL methods not only develop intellectual capacity but also nurture the emotional aspect of a love for reading.

The present findings indicate that the effectiveness of both SQ3R and KWL does not merely lie in their procedural stages but in their ability to increase students' active engagement during reading. Increased engagement appears to stimulate students' interest in reading, which subsequently supports better comprehension and contributes to higher learning outcomes. This mechanism explains why improvements occurred simultaneously in both dependent variables. Similar tendencies have also been reported by previous studies(Khotimah & Lansari, 2025; Ningrum & Asih, 2025; Sinaga et al., 2025). Similarly, research on KWL reports that activating prior knowledge, formulating questions, and

reflecting after reading promote student engagement in understanding the text and academic achievement (Rosita et al., 2024; Yuniarty et al., 2025). The consistency of these results demonstrates that the interactive reading method is an effective approach to improving the quality of Indonesian language education at the elementary school level.

An important finding of this study is that reading interest and learning outcomes are not independent educational outcomes but are conceptually interconnected. The improvement in students' learning outcomes appears to be preceded by an increase in their interest in reading. Students who developed greater interest in reading became more willing to spend time interacting with texts, exploring information, and verifying their understanding through questioning and reflection. This increased engagement enabled them to process learning materials more deeply, resulting in better conceptual understanding and higher academic achievement. From the researchers' perspective, this finding suggests that the effectiveness of SQ3R and KWL extends beyond improving students' cognitive performance. Both methods create meaningful learning experiences that stimulate students' motivation to read, and this enhanced motivation subsequently strengthens the learning process. Therefore, reading interest may function as an important motivational pathway through which active reading strategies contribute to improved learning outcomes, indicating that affective and cognitive development should be viewed as complementary rather than separate dimensions of elementary learning.

However, the improvement achieved falls into the moderate category. This is influenced by various other factors, such as students' initial abilities, reading habits, learning motivation, family support, the school's literacy culture, the availability of reading materials, and the duration of the method's implementation. Therefore, the implementation of both the SQ3R and KWL methods needs to be integrated with a continuous school literacy movement to optimize the growth of students' reading enthusiasm and academic achievement.

A Comparison of the Effectiveness of the SQ3R and KWL Methods

A comparative analysis shows that there is no significant difference in the impact of the SQ3R and KWL approaches on improving students' interest in reading or their learning outcomes. Both methods are relatively equally effective in helping students develop reading comprehension skills and improve their academic performance. Although they have different learning stages, both methods apply the principle of self-directed exploration.

This equivalence in effectiveness can be explained by the similarities in the characteristics of both methods. SQ3R guides students through a systematic reading process, starting from identifying the content of the text, formulating questions, reading actively, restating information, and reviewing. On the other hand, KWL directs students to formulate questions and then construct knowledge after reading. Both strategies foster critical thinking, metacognition, and self-regulation, resulting in relatively similar cognitive processes. Therefore, although their learning procedures differ, the resulting learning outcomes do not show significant differences.

These findings reinforce the view that success in learning to read is influenced more by students' active engagement than by the type of reading strategies used. As long as these strategies are able to activate prior knowledge, foster curiosity, provide students with

opportunities to explore information, and encourage reflection on learning outcomes, the likelihood of increased reading interest and improved learning outcomes will be relatively the same. Thus, teachers have the flexibility to manage classroom conditions without having to assume that one method is absolutely superior to another.

Implications of the Research for Elementary School Learning

The results of this study demonstrate, in practical terms, that educators at the elementary school level must shift their approach to teaching reading. The application of both the SQ3R and KWL methods provides students with opportunities for critical literacy, formulating questions, engaging in dialogue, and evaluating their understanding, thereby making teaching and learning activities more impactful. These methods align with contemporary educational concepts that focus on critical thinking, communication, collaboration, and problem-solving skills. Furthermore, the research findings demonstrate that fostering a love of reading requires more comprehensive support—not merely relying on instructional approaches. Therefore, the successful implementation of both the SQ3R and KWL methods must be integrated into the school's literacy culture through the provision of diverse reading materials, establishing a habit of reading before lessons, optimizing the school library's functions, and collaborating with parents to build reading habits at home. Collaboration between classroom teaching methods and a supportive literacy environment is believed to foster increased interest in reading and lead to better academic achievement.

Academically, this study plays an important role in advancing research on reading among elementary school students by demonstrating that two different active reading strategies are relatively equally effective. These results can serve as a foundation for further studies to test the effectiveness of both methods across different educational levels, subject matter, and treatment durations, thereby providing a more comprehensive understanding of the application of active reading strategies in elementary education.

CONCLUSION

This study demonstrates that the SQ3R approach successfully boosts elementary school students' interest in reading and academic achievement. The Wilcoxon test analysis confirms a significant difference between pre-test and post-test scores on both measures (\($p < 0.05$\)). Similarly, the KWL method proved effective in improving students' reading interest and learning outcomes, as indicated by the results of the Wilcoxon test with a significance level of $p < 0.05$. Thus, both reading methods had a positive impact on improving students' learning abilities and attitudes. However, the results of the Mann–Whitney U test showed that there was no significant difference in effectiveness between the SQ3R and KWL methods in improving reading interest ($p = 0.902$) or learning outcomes ($p = 0.280$). These results indicate that both methods are equally effective and can therefore be used as reading instruction methods in elementary schools, tailored to the material, objectives, and students' needs. Limitations of this study include the small sample size and the fact that it only included fourth-grade students from several elementary schools in the Saptosari subdistrict; consequently, the results cannot be widely generalized. This study only measured the short-term effects of teaching methods based on pretest and posttest results. This suggests that the findings do not yet fully reflect the long-term impact on improving reading interest and learning outcomes. Therefore, further research is recommended to include a more representative sample size and cover a broader geographic area.

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