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Examining the Relevance of Background Knowledge in Enhancing the Reading Skills of SMAN 2 Semarapura Students

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ABSTRACT: *Reading comprehension is a crucial skill that plays a significant role in academic success. One of the key factors influencing reading comprehension is background knowledge, which helps readers interpret and understand texts more effectively. This study aims to examine the relevance of background knowledge in enhancing the reading skills of SMAN 2 Semarapura students, particularly in answering English literacy test questions. This research employs a mixed-method approach with a quasi-experimental design, using pre-test and post-test reading assessments, as well as the Metacognitive Awareness of Reading Strategies Inventory (MARSI) questionnaire. The intervention applied in this study involves activating students' background knowledge through the THIEVES reading strategy. The collected data were analyzed quantitatively using descriptive and inferential statistics, including a paired sample t-test, and qualitatively through content analysis of student responses. The results reveal that background knowledge has a significant impact on improving students' reading proficiency. More than half of the students demonstrated notable improvements in their reading test scores after the intervention, indicating that background knowledge activation enhances reading comprehension. However, some students showed no significant change, and a small percentage experienced a decline in their reading performance, suggesting that other factors, such as linguistic competence and reading strategies, also play a role in comprehension. These findings highlight the importance of implementing background knowledge activation strategies in reading instruction. Educators should adopt structured pre-reading strategies to help students better engage with texts and improve their comprehension skills. Future research could explore individual differences in background knowledge utilization and its impact on various types of reading assessments.*

KEYWORDS - *Background Knowledge, English Literacy, Quasi-Experiment, Reading Comprehension, THIEVES Strategy.*

I. INTRODUCTION

English has become one of the languages that dominates many important works field. This language is spoken by numerous speakers globally and plays a strategic role in various field such as business, technology, science, communication, education and healthcare. Proficiency in English is essential in these areas. Therefore, this skill is crucial, especially in professional or work contexts.

Currently, when a student wishes to pursue higher education, they must go through selection tests such as Achievement Based National Selection (SNBP) and Test Based National Selection (SNBT). SNBP is the initial admission pathway, usually opening in early 2025, which selects students based on report card grades, academic achievements, and non-academic accomplishments. On the other hand, SNBT is an entrance pathway based on testing. Each student is required to meet a certain score standard to be accepted into a university. The subjects tested in the 2023 SNBT included the scholastic aptitude test, Indonesian language literacy, mathematical reasoning, and, of course, English literacy.

Ensuring that every student at SMAN 2 Semarapura possesses strong skills and is capable of completing the English literacy test is very important. Reading can be defined as the activity of understanding written words or symbols, and comprehension in reading activities can be achieved through the interaction between the reader and the text. In formal education, students read various types of written works to construct and gain meaning from those works (Snow, 2002). By possessing strong reading skills, students will be able to access higher levels of education, which will ultimately play a role in improving their quality of life in the future, enabling them to contribute to the nation and country. By becoming skilled readers, individuals are expected to fully benefit from reading activities. To address this, this study applies the Metacognitive Awareness of Reading Strategies Inventory (MARSI) developed by Mokhtari & Reichard (2002). Metacognitive strategies are strategies that function to regulate or monitor cognitive strategies (Devine, 1993; Flavell, 1981).

To enhance reading comprehension, several strategies can be applied, one of which is activating background knowledge to build a schema. Background knowledge encompasses all the world knowledge that a reader brings into the reading activity (Smith, 2021:3). The presence of background knowledge helps in the formation of a schema in the reader's mind, which, in turn, facilitates their understanding of the text. Technically, schema is a term used by cognitive scientists to explain how individuals process, organize, and store information in their minds. To create the required schema, an intervention is conducted using Carrell's schema theory (1984) and the THIEVES reading strategy, a previewing strategy for reading a text before fully engaging with it.Based on the explanation above, the issues to be discussed in the study are:(1) What is the level of reading skills among SMAN 2 Semarapura students?(2)How relevant is background knowledge in enhancing the reading skills of SMAN 2 Semarapura students?

II. THEORETICAL FRAMEWORK

This study employs schema theory as proposed by Carrell (1984) as the foundation for schema activation during the intervention process. According to Carrell (1984), texts do not inherently carry their own meaning. Instead, a text provides cues for readers on how they should construct meaning based on their prior knowledge. This prior knowledge is referred to as background knowledge, and its structure is known as schema. Schemata are mental frameworks or structures developed by individuals based on their previous experiences, knowledge, and cultural background. Schemas can be classified into three types: linguistic schema, content schema, and formal schema (Carrell, 1984).

2.1 Linguistic Schema

Linguistic schema refers to a reader’s prior linguistic knowledge, including knowledge of phonetics, grammar, and vocabulary, as traditionally understood. A reader must decode both lexical units and syntactic structures encountered in the text. Carrell argues that L2 readers must acquire certain linguistic knowledge to comprehend a text. Therefore, having well-accumulated linguistic information is essential for readers to grasp the meaning of a text.

2.2 Content Schema

Content schema refers to background knowledge related to a particular essay or topic (Carrell, 1984). This includes familiarity with the topic, cultural knowledge, conventions, and prior experiences in a specific domain. Since it is field-specific, this type of schema plays a critical role in determining a reader’s comprehension of a text. Regardless of the type of text being read, interpretation must occur within the context of the specific field. For students with low language proficiency, content schema poses a significant challenge that must be addressed.

2.3 Formal Schema

Defined as background knowledge related to formal structure, rhetoric, and organization of various text types (Carrell, 1984), formal schema represents abstract, encoded, and internalized patterns in meta-linguistic

organization, discourse, and coherent texts that shape expectations for understanding meaningful language (Carrell, 1984). It includes knowledge of different text genres and their structural organization, language structures, vocabulary, and grammar. Common types of text structures discussed in academic books include argumentation, exposition, description, and narration. However, in reality, students encounter various subcategories such as newspaper reports, poetry, short stories, editorials, and more. Familiarity with these subcategories helps readers comprehend the reading material more effectively, enhancing their overall understanding. Conversely, a lack of awareness in these areas can become a barrier to comprehension.

III. METHOD

To obtain the desired data, this research employs a mixed-method approach with a quasi-experimental design.In an effort to collect data related to background knowledge, this research uses a quantitative method with test, questionnaire, and interview techniques. In this study, a total number of 40 students were instructed to answer a reading test consisting of 20 multiple-choice questions that had been prepared. this study utilizes English literacy practice questions from previous years as the test materials for both pre-test and post-test. Subsequently, the students were interviewed one by one regarding the reasons they chose those answers to observe the difficulties they encountered. The interviews were conducted after all the students had completed the reading test. Meanwhile, to obtain data on reading skill levels, this study employs a survey method using a questionnaire technique, which is completed by students after they finish the reading test. The questionnaire is conducted by providing a set of written statements in the form of the MARSI instrument, which respondents answer using a Likert scale (1, 2, 3, 4, 5).Each item in MARSI is rated on a scale from one to five (1, 2, 3, 4, and 5), which can be explained as follows:

(1) Means "I never or almost never do this."
(2) Means "I rarely do this."
(3) Means "I sometimes do this (50%)."
(4) Means "I often do this."
(5) Means "I always or almost always do this."

After taking the pre-test, the students will receive treatment or intervention to activate their background knowledge. The intervention is conducted using schema theory proposed by Carrell (1984) with the THIEVES strategy. THIEVES is a reading strategy where students can obtain information from a text by observing the Title, Headings, Introduction, Every first sentence, Visual and Vocabulary, End-of-chapter questions, and Summary. Or in other word, they will be required to review a text before they start reading it. This is done under the guidance of a teacher who acts as a facilitator in the use of this strategy. The teacher plays an active role in efforts to activate students' background knowledge according to schema theory to form the expected schema.

After the entire intervention process is completed, students will take a reading test (post-test) and be asked to answer 20 equivalent multiple-choice questions. They will also complete the questionnaire again, and the results will then be compared to the pre-intervention results.

In this study, to examine the effect of background knowledge on reading skills, this research employs a t-test (paired sample t-test). This test aims to compare the pre-test and post-test results in the experimental group to determine whether there is a significant difference in the improvement of students' reading skills after the intervention. In this study, the p-value plays a role in indicating whether the difference between the pre-test and post-test results is significant or not. The p-value is calculated by first determining the deviation between the pre-test and post-test scores, computing the mean deviation, calculating the standard deviation, determining the t-value, and finally, calculating the p-value. In this calculation, $p \leq 0.05$ can be considered significant. A more detailed explanation is as follows:

(1) $p \leq 0.05$: Statistically significant results, indicating a real difference.
(2) p between 0.05 and 0.10: Results can be considered less significant or, in other words, show a tendency but not fully strong.
(3) $p > 0.10$: Results are not significant, indicating insufficient evidence that the intervention made a real difference.

The data obtained from the questionnaire will be analyzed quantitatively. The interpretation scheme proposed by Oxford (1990) is used to determine how well students perform in reading. Based on this scheme, individual levels are measured on a scale of 1 to 5. The scale is then categorized into three levels as follows:

(1) High (average 3.5 or higher)
(2) Moderate (average 2.5 to 3.4)
(3) Low (average 2.4 or lower)

By utilizing the available data, the impact of background knowledge on students' reading skills can be measured. This measurement is conducted by comparing the results of the reading test (pre-test and post-test) and the MARSI questionnaire before and after the intervention. The assessment is carried out as follows:

(1) If a student's reading skills improve by two levels (e.g., from low to high), it is considered highly relevant.
(2) If a student's reading skills improve by one level (e.g., from low to moderate or from moderate to high), it is considered relevant.
(3) If there is no improvement in a student's reading skills (i.e., they remain at the same level), it is considered not relevant.
(4) If a student's reading skills decline, it is considered highly irrelevant.

With the combination of quantitative and qualitative analysis, the research results are expected to provide a comprehensive understanding of the relevance of background knowledge in enhancing students' reading skills.

IV. RESULTS AND DISCUSSION

This chapter discusses the research findings conducted on SMA 2 Semarapura students. This study examines students' reading skills in answering English literacy reading questions and the relevance of background knowledge in enhancing their reading skills.

4.1Level of Reading Skills Among Sman 2 Semarapura Students

Based on the questionnaire results, it can be understood that the majority of students have achieved a high or moderate level of reading proficiency. The data shows that 53% of students have a high level of reading proficiency, while 45% are at a moderate level, and only 5% remain at a low proficiency level.

These findings suggest that more than half of the students already possess strong reading skills, while the rest still require further improvement. The relatively low percentage of students with poor reading proficiency indicates that most students have a solid foundation in reading. However, additional interventions may still be necessary to support students in enhancing their reading skills further, particularly those in the moderate and low proficiency categories.

4.2The Relevance of Background Knowledge in Enhancing the Reading Skills of SMAN 2 Semarapura Students

Regarding the relevance of background knowledge in improving the reading skills of SMAN 2 Semarapura students, this study shows that background knowledge is highly relevant in enhancing the reading skills of most students. The results of the pre-test and post-test can be seen in the table below.

Table 4.1
Pre-test and post-test scores

Students Code	Pretest	Posttest	Deviation
S1	45	80	35
S2	65	40	-25

S3	75	95	20
S4	50	70	20
S5	70	90	20
S6	35	35	0
S7	55	90	35
S8	5	20	15
S9	70	90	20
S10	80	95	15
S11	50	75	25
S12	30	70	40
S13	40	65	25
S14	50	95	45
S15	15	90	75
S16	30	95	65
S17	45	95	50
S18	30	85	55
S19	35	95	60
S20	25	75	50
S21	25	70	45
S22	25	55	30
S23	30	55	25
S24	30	55	25
S25	30	85	55
S26	15	85	70
S27	75	85	10
S28	85	95	10
S29	45	50	5
S30	65	95	30
S31	90	80	-10
S32	15	95	80
S33	75	85	10
S34	25	50	25
S35	30	50	20
S36	75	55	-20
S37	25	55	30
S38	45	60	15
S39	20	95	75
S40	35	100	65

4.2.1Deviation Between the Pre-Test and Post-Test Scores

In addition to presenting the pre-test and post-test results, as well as the comparison of scores and the deviation between the two tests, the deviation calculation is performed using the following formula:

Deviation (D) = Post-test Score – Pre-test Score

From the data above, it is observed that the highest deviation is 80, while the lowest deviation is -25. The next step is to calculate the mean deviation.

4.2.2Calculating Mean Deviation (M_d)

The mean deviation of students' scores is calculated using the following formula:

$$M_d = \frac{\sum D}{n}$$

Where:

D = Difference between pre-test and post-test scores
n = Number of students (sample)
Based on this formula, the mean deviation for students is 31.

4.2.3Calculating Standard Deviation (S_d)

The standard deviation of the difference measures how far each deviation varies from the mean deviation. The standard deviation (S_d) is calculated using the following formula:

$$S_d = \sqrt{\frac{\sum (D - M_d)^2}{n - 1}}$$

Where:

D = Individual deviation (difference between pre-test and post-test scores)
(M_d) = Mean deviation
n = Number of students (sample)
Based on the calculations, the standard deviation **(S_d)**for Class is 25.450.With the standard deviation determined, the t-value and p-value can now be calculated.

4.2.4Calculating Significance

The T-Value is used to calculate the P-Value, which indicates the statistical significance of the study. The p-value helps determine whether the difference between the pre-test and post-test results is significant, less significant, or not significant. The T-value is calculated using the following formula:

$$t = \frac{M_d}{\frac{S_d}{\sqrt{n}}}$$

Where:

M_d = Mean deviation
S_d= Standard deviation of the deviation
N = Number of students (sample)
Based on the formula, the T-value is -7,7038.

To calculate the p-value, this study used Microsoft Excel. The obtained p-value is 2.36×10^{-9}, or in decimal notation, approximately 0.00000000236.The two-tailed P value is less than 0.0001. By conventional criteria, this difference is considered to be extremely statistically significant.

4.2.5The Relevance of Background Knowledge in Enhancing the Reading Skills

The reading skills of students were assessed using MARSI questionnaire before and after the intervention to determine the impact of background knowledge activation. The comparison of students' reading skills pre-intervention (pre-test) and post-intervention (post-test) is presented in the table below.

Table 4.2
Students' Levels of Reading Skills Before and After the Intervention

Students	Before Intervention	After Intervention	Relevance
S1	Moderate	High	Relevant
S2	High	High	Not Relevant
S3	High	High	Not Relevant
S4	Moderate	High	Relevant
S5	Moderate	High	Relevant
S6	High	High	Not Relevant
S7	Moderate	High	Relevant
S8	High	High	Not Relevant
S9	High	High	Not Relevant
S10	Moderate	High	Relevant
S11	High	High	Not Relevant
S12	High	High	Not Relevant
S13	Low	Moderate	Relevant
S14	Moderate	High	Relevant
S15	High	High	Not Relevant
S16	High	Moderate	Highly Irrelevant
S17	Moderate	High	Relevant
S18	Moderate	High	Relevant
S19	High	High	Not Relevant
S20	Moderate	High	Relevant
S21	Moderate	Moderate	Not Relevant

S22	Moderate	High	Relevant
S23	Moderate	High	Relevant
S24	High	Moderate	Highly Irrelevant
S25	High	Moderate	Highly Irrelevant
S26	High	High	Not Relevant
S27	High	High	Not Relevant
S28	High	Moderate	Highly Irrelevant
S29	Moderate	High	Relevant
S30	High	High	Not Relevant
S31	High	High	Not Relevant
S32	High	High	Not Relevant
S33	Moderate	High	Relevant
S34	Low	High	Highly Relevant
S35	High	High	Not Relevant
S36	Moderate	Moderate	Not Relevant
S37	High	High	Not Relevant
S38	High	High	Not Relevant
S39	Moderate	High	Relevant
S40	Moderate	Moderate	Not Relevant

Based on the questionnaire collected after the intervention, 32 students were classified as having a high level of reading skills. This number increased by 11 students compared to the questionnaire results before the intervention. Meanwhile, 8 students had a moderate level of reading skills. This number is lower compared to the previous questionnaire results, which recorded 17 students with a moderate level of reading skills. And, no students were classified as having a low level of reading skills. These results are considered good, as previously, two students were recorded as having a low level of reading skills.

Based on the research findings, it can be understood that the activation of background knowledge has a varied impact on students' reading skills. While some students experienced significant improvements, others showed no change, and a small percentage even experienced a decline in reading proficiency.The data reveals that 2.5% of students demonstrated a remarkable improvement, moving from a low to a high reading proficiency level, indicating that background knowledge was highly relevant for them. Additionally, 37% of students improved by one level, suggesting that background knowledge played a positive role in enhancing their reading skills. However, for 50% of students, no significant changes were observed, meaning that background knowledge activation did not influence their reading proficiency. Interestingly, 10% of students experienced a decline in their reading skills, which suggests that other factors may have affected their performance.

These results indicate that while background knowledge can be a useful tool for improving reading skills, its effectiveness varies among students. This highlights the need for more personalized teaching strategies that consider individual differences in learning styles, prior knowledge, and reading proficiency levels.

V. CONCLUSION

The results of this study indicate that activating background knowledge has a varying impact on improving students' reading skills. Overall, most students experienced an increase in reading proficiency after the intervention, although not all showed significant changes. Based on the pre-test and post-test results, the majority of students demonstrated score improvement after receiving intervention using the THIEVES strategy. This suggests that background knowledge plays a crucial role in facilitating text comprehension, especially for students who initially had moderate or low reading proficiency. The findings from the MARSI questionnaire analysis further support this conclusion, as more than half of the students showed improvement in their use of reading strategies after the intervention. However, some students did not show any change, and a few even experienced a decline in reading proficiency.

Thus, it can be concluded that background knowledge is relevant in enhancing reading skills, particularly for students with developing reading abilities. However, its effectiveness varies, depending on other factors such as linguistic competence, prior reading experience, and the application of appropriate reading strategies. Therefore, a more targeted and personalized approach to reading instruction is necessary to maximize the benefits of background knowledge activation for all students.

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