IDEAS

Journal of Language Teaching and Learning, Linguistics and Literature

ISSN 2338-4778 (Print)
ISSN 2548-4192 (Online)

Volume 11, Number 1, June 2023
pp. 385 - 394

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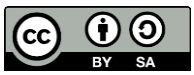

Issued by English study program of IAIN Palopo

The Effect of Using Mind Mapping to Students' Reading Comprehension

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Received: 2023-07-09 Accepted: 2023-07-09
DOI: 10.24256/ideas.v11i1.3656

Abstract

This research was intended to analyze the effect of mind mapping towards students reading comprehension at twelfth grade in MAN 2 Probolinggo. A lot of students still struggle with reading. To overcome students' challenges, teachers should have tactics when teaching reading comprehension. Using two groups pre- and post-test at an experiment and a control group, this study used the quasi-experimental methodology. The sample classes, which included 17 students in each, were twelfth social 2 and twelfth social 3. Technique for data analysis utilizing the Paired Sample T Test. The alternative hypothesis is rejected if the significance value, or Sig (2-tailed), is more than 0.05. The hypothesis is accepted if the significance value, or Sig (2-tailed), is less than 0.05. According to the findings, students who learnt by using mind map were able to develop at a higher level. If the results of hypothesis testing indicate a Sig value (2-tailed) of 0.000 < 0.05, then the test decision-making methodology is appropriate. It can be inferred from paired Sample T Test that the mind map method affects students' capacity for reading comprehension

Keywords: *effect; mind mapping; reading comprehension*

Introduction

One of the many languages that are widely spoken throughout the world is English. Nishanthi (2018) argues that English is an important language that connects people on an international level. Therefore, it is very essential to learn English to get new knowledge from individuals worldwide. Even in Indonesia, English is taught to students from elementary school through college as a foreign language and is covered in the academic program. There are two parts of skills that students must master in English learning. These skills are productive skills, or commonly called the ability of students to express ideas; this ability includes speaking and writing; and receptive skills, or commonly called the ability to absorb language; this ability includes reading and listening.

To make learning English easier, students need to master some of these skills. One of these skills that needs to be studied carefully and thoroughly is reading skills. One of the essential skills in learning a language is reading, according to Maxom (2009, p.139). Reading comprehension improves speaking, listening, and writing abilities in a language according Haerazi, Prayati, and Vikasari, (2019). Decoding

symbols in order to create or deduce meaning is a difficult cognitive process. Reading comprehension must be mastered and learned in order for students to completely comprehend the text's information. In schools, reading is also taught.

Besides that, Reading comprehension, according to Westwood (2008, p. 31), is an interactive cognitive process where a reader intentionally develops meaning to better understand the information provided in a text. Finding the reading's primary idea, recounting what he read, or being able to respond to questions about what they have read are all examples of reading comprehension. The multiple, extremely complex process of reading comprehension involves a variety of interactions between readers and the information they bring to the text (prior knowledge, strategy use), as well as elements particular to the text itself, (interest in the text, understanding of text types) according to Klingner, Vaughn, and Boardman (2007, p. 104).

The process of concurrently comprehending meaning and interacting with written language is known as reading comprehension. Furthermore, reading is a method of learning that students can use to advance their skills and knowledge. When reading, it is expected of students that they can understand what they have read. Reading tries to teach you new things. Learning will be successful when a shift in perspective results from learning something previously unknown. Students must comprehend material after learning it in order to apply it in the real world or at the very least to pass academic tests. To get this process successful, students must have the skills to lead them closer to a make great of reading a textual content.To support the aforementioned claim, The first commandment God gives to man is to read.In Surah Al-Alaq verses 1–5, Allah SWT states:

ٱقۡرَأۡ بِٱسۡمِ رَبِّكَ ٱلَّذِي خَلَقَ

خَلَقَ ٱلۡإِنسَٰنَ مِنۡ عَلَقٍ

ٱقۡرَأۡ وَرَبُّكَ ٱلۡأَكۡرَمُ

ٱلَّذِي عَلَّمَ بِٱلۡقَلَمِ

عَلَّمَ ٱلۡإِنسَٰنَ مَا لَمۡ يَعۡلَمۡ

Meaning: "*Read in the name of the Creator (all exist), He has created man from a clot (a piece of thick coagulated blood), Read! and your lord is the most generous, Who has thought (the writing) by pen, He has thought man that which he know not*"

The capacity of a student to comprehend, evaluate, and apply knowledge learned through reading is a key component of academic success. In the eyes of teachers and students, reading proficiency and previous understanding will determine whether a student is able to understand the text. this is in line with the opinion of Almasi and Fullerton (2012), comprehension is characterized as a creative process that comprises developing a text basis and blending it with prior knowledge to create a scenario model. But so far, we also acknowledge that comprehension happens in a social situation. When a reader is able to combine

ISSN 2338-4778 (Print)
ISSN 2548-4192 (Online)

understanding with prior knowledge to later paint an accurate situational picture of the content being read, they have developed reading comprehension skills. There is a mental process involved in reading comprehension in addition to the activity between the sense of sight and a row of letters.

Based on the theory previously described from experts, it can be deduced that the reader's capacity for reading comprehension refers to his or her capacity to think through the process of thoroughly understanding a text by interpreting the information the author has referred to and developing the meaning of what he or she has read. Thus, a teacher must be able to use creative and engaging teaching strategies to help students comprehend what they have read. This will encourage students to desire to learn. A straightforward approach is essential for students because reading is a complex activity that calls for a variety of abilities, including vocabulary, background knowledge, and mechanics. Some, however, assert that they read less now since it's hard for them to understand what they have read.

For the time being, there are several challenges that foreign language teachers must overcome in order to expose students to the language and offer possibilities for learning through classroom activities. Teachers must establish clear guidelines in the classroom to ensure that students like their classes. As a result, the teacher should work to encourage the student to love reading and to improve his reading abilities. The teacher must also have the capacity to effectively organize the class. More active student participation in the teaching and studying process is useful. Students are the center of learning during the teaching and learning the process, which is important. Each student has different attitudes, motivations, and abilities in the learning process; these problems make it difficult for the students to read materials written in English, according to Lenski and Lewis (2008, p. 42–43). As a result, teachers must be good facilitators in order to create and build effective reading classes. One way to organize learning to make it more interesting is to use fresh and interesting media to bring to class. One way to attract students to want to learn to read is to use mind mapping techniques.

One method for increasing students' reading comprehension is mind mapping, according Cadieux (2011). Malekzadeh and Bayat (2015) go on to explain it. To develop a global knowledge, students can use mind mapping to simplify and make sense of complex information. That is consistent with Reed (2005) claim that mind mapping aids in illustrating the conceptual organization of ideas in a text and connecting associations among them. Such linkages may contain precise, causal, and sequence data.

A tool for both recording ideas and retrieving information from reading is mind mapping. As a result, it is claimed that thought mapping is a recall strategy that enables quick knowledge retrieval Santiago (2011). Mind mapping is a worthwhile practice that can increase student participation, according to the organizer's plan Santiago (2011). It can be argued that mind mapping can encourage kids to read actively. Reading involves interacting with the text to develop internal meaning. To put it another way, the student starts the reading process. After reading the book, they attempt to discern the primary ideas, supplementary ideas, and connections between them. Mind mapping affects students' reading comprehension as a result, according Malekzadeh and Bayat (2015).

The process of constructing a mind map involves multiple steps. First, use at least three colors to center the image or subject. Second, the mind map should also include images, codes, proportions, and other symbols. Third, select a keyword and print it in capital or lowercase letters. Fourth, each phrase or picture stands out and is arranged in a row. Connect the lines starting from the middle of the drawing next. As it extends from the center, the midline becomes thinner while remaining more organic and fluid Next, to match the word or image, stretch the lines. Use a range of colours used in the mind map. after that. Create your own mind mapping style next. Use focus in the mind map and display associations next. Use radial hierarchies, numerical sequences, or outlines to encompass your branches to keep the mind map organized. Buzan (2007, p. 70).

According to Setianingsih, Rosihan, and Pardani (2018), mind mapping seeks to imitate how learners' minds work by encouraging them to switch between various themes. The way a learner's brain processes knowledge when they record it using symbols, images, or colors is the same. While employing mind mapping strategies to develop students' language skills, particularly their reading abilities, several researchers have distinct foci. The use of critical thinking abilities is also promoted by this method. To map their thoughts while reading the text, good readers require a greater level of thinking activity. This supports the claim made by Thamrin et al (2019), Those who contend that learning activities that promote students' use of higher order thinking skills must be included in reading activities. To help students with their reading tasks, mind maps can be made. in line with this, this study discusses the use of mind mapping to improve students ' reading comprehension.

Research Method

Research Design

Research design is necessary for conducting research. The researcher's use of study design aids in the discovery of reference objectives, data collecting and analysis procedures, and methods for presenting findings and conclusions. This research utilizes a quasi-experimental methodology. Although the subjects different, adjusting an independent variable is required. It does not offer complete control and does not randomly allocate treatment groups Ary et al (2010, p. 316). A quasi-experiment, according to Nunan (1992: 41), is a quantitative study that does not randomly assign participants and instead includes experimental and control groups, pre- and post-test data, and both control and experimental groups.

Population and Sample OR Subject

This study was conducted in MAN 2 Probolinggo. This school has 3 majors, including religious, science, and social studies. But in this study, researchers took 2 classes of social studies to be analyzed. Twelfth grade of social studies 2 as control group and twelfth grade of social studies 3 as experimental group, and each class consists of 17 students

Instruments

A reading assessment is the research instrument. Pre-test and post-test versions of the tests are given out. The pre-test serves as a gauge for some of the qualities or traits that the researcher evaluated for experiment participants before the students received the treatment (Creswell, 2012). Before giving them treatment,

ISSN 2338-4778 (Print)
ISSN 2548-4192 (Online)

pre-tests for this study were conducted at the first meeting of the trial. Although the post-test is designed to assess students' reading proficiency following treatment (Creswell, 2012). When the therapy was administered at the conclusion of the trial, a post-test was completed for this investigation. It tries to evaluate students' reading proficiency following treatment

Data Analysis

Data analysis technique using paired sample t-test. Data processed using SPSS version 16.0 for windows.

Research and Finding Discussion

Research Findings

In this study, a pre-test was used to ascertain the students' reading ability before the treatment. Researchers discovered that the majority of the students were unable to complete the test after calculating the pre-test results. The average student post-test score increases after students in the experiment class are instructed utilizing mind mapping techniques. The following bar chart compares the pre- and post-test scores of students in the experiment class and the control class:

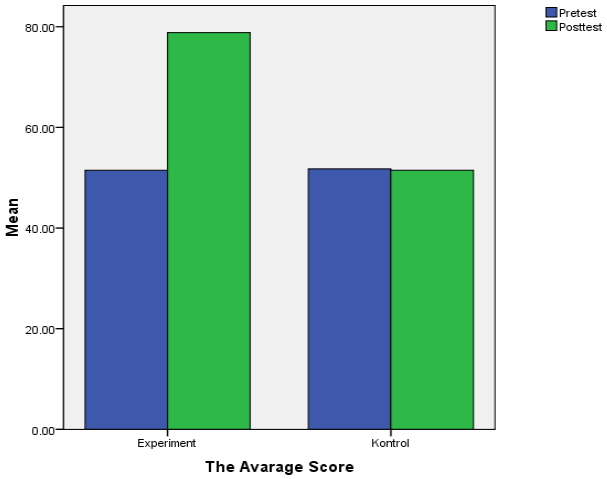

Figure 1 The Comparison of Result

The results of the normality test on table 1 are presented in the following table:

Tests of Normality

Class		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	Df	Sig.	Statistic	Df	Sig.
Result of students' learning	Pre Test Experiment	.177	17	.163	.950	17	.451
	Post Test Experiment	.182	17	.138	.897	17	.060
	Pre Test Control	.198	17	.077	.951	17	.468
	Post Test Control	.190	17	.103	.920	17	.147

a. Lilliefors Significance Correction

Table 1Test of Normality

According to the table, researchers discovered that the findings of the Kolmogorov-Smirnov test were as follows: a) Statistical normality The pre-test experiment's class, degree of freedom (df), and normality significance all have values of 0.177. Pre-test for the class is 0.163. b) The experiment class post-test statistical normality is 0.182, the degree of freedom (df) is 17, and the experiment class significance is Normality after the test is 0.138. d) The control's statistical normality with a degree of freedom (df) of 17 and the significance of the control, the class pre-test has a value of 0.198. Pre-test class normalcy is 0.077. d) The significance of the control class post-test normality is 0.103. The statistical normality of the control class post-test is 0.190 with a degree of freedom (df) of 17. Pre- and post-test results from both the experiment class and the control class were found to be normally distributed based on normality testing.

The normality test was examined when the researchers had the outcomes of the students' pre- and post-tests. The researchers then performed a paired sample t-test to determine whether teaching reading comprehension to 12th grade students using mind mapping techniques was successful or not. The following table displays the computations' outcomes:

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	PreTest Experiment	51.47	17	6.559	1.591
	Post Test Experiment	78.82	17	6.502	1.577
Pair 2	PreTest Kontrol	51.76	17	6.359	1.542
	Post Test control	51.47	17	6.063	1.471

Table 2Paired Sample Statistics

The researchers deduced from the table 2 that 17 students were enlisted in the experimental class at the time that treatment began., with a mean of 51.47. When

ISSN 2338-4778 (Print)
ISSN 2548-4192 (Online)

the students received mind mapping instruction and post-test questions, the mean value improved to 78.82. In contrast, the mean in the control class, which had 17 students, was 51.76 before treatment and 51.47 following other forms of treatment. The outcomes of the pre- and post-tests again for experiment class demonstrated improvements in the students' reading comprehension.

Paired Samples Test

		Paired Differences					T	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	PreTest Experiment - Post Test Experiment	-27.353	11.335	2.749	-33.181	-21.525	-9.949	16	.000
Pair 2	PreTest Kontrol - Post Test control	.294	5.440	1.319	-2.503	3.091	.223	16	.826

Table 3 Paired Samples Test

depending on the results of the table 3, the value of significance (2-tailed) experimental class for paired Sample T test is 0.000 < 0.05. According to decision-making theory, there is a significant effect if the significance value is less than 0.05 or (2 tails) 0.05 and there is no significant difference if the significance value is more than 0.05. There was no significant difference in the control class, corresponding to the significance value of 0.826 > 0.05. Therefore, it can be concluded that the mind mapping technique has quite a significant impact on students' reading comprehension skills in the third social studies class at MAN 2 Probolinggo.

Discussion

In this study, reading comprehension among students is improved using mind mapping techniques. For students to comprehend information and text messages while they read, reading comprehension is crucial. Indeed, students struggle to grasp concepts. This may be brought on by a number of things, including: 1) The absence of vocabulary is the first factor. As a result, sometimes students struggle to deduce the meaning of specific terms. The secret to understanding the text they are reading is to understand the terminology. Understanding the words being read is necessary for good reading comprehension (Mikulecky & Jeffries, 2007: 26). But, in practice, the students struggle to understand the words they come across when reading the text, which negatively affects their reading comprehension. 2) Their interest in studying English is the second factor. Students find it difficult for studying a foreign language as like English, and some find the subject uninteresting. As a result, they have a hard time grasping what is being taught in class since they are bored.

However, it is the attribution of reading that will determine the success of a student, this is in line with Yilmaz's opinion, Yilmaz (2012) looked at reading judgments that influence how teachers and students would judge whether a student has understood a material or not. The most popular choices were sound tactics or strategies. It makes sense that students would require techniques. This is so because reading is a difficult task that requires a variety of skills, including vocabulary, previous knowledge, and mechanics Chou (2011); Pathan and Al-Dersi (2013); Gilakjani and Ahmadi (2011). This shows that students' reading comprehension issues persist and that they need specific reading comprehension techniques to advance. Researchers use mind mapping techniques to aid students' issues for the aforementioned reasons. According to researchers' explanation at the time of the study, the mind mapping method works well to increase students' reading comprehension.

Students' interest in learning might be increased by using mind mapping techniques. It makes learning circumstances much more enjoyable to explore text information while making lovely, gorgeous, and colorful mind maps that resemble playing and learning activities with graphics and colors. Also, by applying mind-mapping techniques, students may categorize ideas in a text after reading it, respond questions more quickly, and enjoy their reading lesson. In other words, Using mind-mapping strategies has a substantial effect on students' interest inside and understanding of reading. The treatment strategies adopted were a major factor in the experimental group's success over the control group.

Conclution

A student must exhibit the four essential abilities of speaking, listening, writing, and reading in order to study English. Reading is a skill that researchers employ when writing research papers. Students should read frequently. Making reading simple to learn, however, is a difficult task. Mind mapping can be used as an alternative in this situation to enhance reading comprehension. Students can learn and comprehend information from the text they have read by engaging in enjoyable reading activities that use mind maps. This is demonstrated by the rise in the mean after experiment class's students received mind mapping instruction. In the experiment class, there were 17 students , with a mean of 51.47. Then the mean increased to 78.82 after the students received mind mapping instruction and post test questions. While in the control group, the mean is 51.76 prior to treatment and 51.47 following alternative forms of treatment. The alternative hypothesis is rejected if the significance value, or Sig (2-tailed), is more than 0.05. The hypothesis is accepted if the significance value, or Sig (2-tailed), is less than 0.05. According to the findings, students who learnt by using mind map were able to develop at a higher level. If the results of hypothesis testing indicate a Sig value (2-tailed) of $0.000 < 0.05$, then the test decision-making methodology is appropriate. It can be inferred from paired Sample T Test that the mind map method affects students' capacity for reading comprehension.

ISSN 2338-4778 (Print)
ISSN 2548-4192 (Online)

References

Abdullah Yusuf Ali. (2008). The Holy Qur'an: The Original Arabic Text with English Translation and Selected Commentaries. Malaysia: Saba Islamic Media.

Ary, Donald, et al. 2010. Introduction to Research in Education.Eighth edition. USA: Wordsworth Thomson Learning.

Al-Jarrah, H., & Ismail, N. S. B. (2018). Reading comprehension difficulties among EFL learners in higher learning institutions. International Journal of English Linguistics, 8(7), 32. https://doi.org/10.5539/ijel.v8n7p32

Almasi. Fullerton. 2012. Teaching Strategic Processes in Reading. available at http://www.guilford.com/excerpts/almasi.pdf

Bahareh Malekzadeh, A. Bayat. 2015. The Effect of Mind Mapping Strategy on Comprehending Implicit Information in EFL Reading Texts. International Journal of Education Investigations Vol. 2, No.3

Buzan, Tony. 2007. Buku Pintar Mind Map. Jakarta : PT. Gramedia Pustaka Utama

Chou, P. T. M. (2011). The effects of vocabulary knowledge and background knowledge on reading comprehension of Taiwanese EFL students. Electronic Journal of Foreign Language Teaching, 8(1), 108±115. Retrieved from http://e-flt.nus.edu.sg/v8n12011/chou.pdf

Ganie, R., . D., & Rangkuti, R. (2019). Reading Comprehension Problems on English Texts Faced By High School Students in Medan. KnE Social Sciences.

Haerazi, Prayati, and Vikasari. (2019). The Use of Scientific-Based Approach in ELT Class to Improve Students' Achievement and Classroom Interaction. Journal of IAIN Salatiga. https://www.researchgate.net/publication/337616331_The_Use_of_Scientific_Based_Approach_in_ELT_Class_to_Improve_Students'_Achievement_and_Classroom_Interaction

Klingner, Janette K., Sharon Vaughn and Alison Boardman. 2007. Teaching Reading Comprehension to Students with Learning Diffculties. New York: The Guildford Press

Lenski, S. and Lewis, G. (2008). Reading success for struggling adolescent learners. New York and London: The Guilford Press.

Maxom, M. 2009. Teaching English As a Foreign Language. England: Wiley.

Mikulecky, B. S., & Jeffries, L. (2007). Advanced reading power: : extensive reading, vocabulary building, comprehension skills, reading faster. New York: Pearson Education.

Nishanthi, R. (2018). The Importance of Learning English in Today World. International Journal of Trend in Scientific Research and Development, 3, 871-874. https://doi.org/10.31142/ijtsrd19061

Pathan, M. M., & Al-Dersi, Z. E. M. (2013). Investigating the role of short-stories in overcoming the problems faced by the Libyan EFL learners in reading comprehension skill. The Criterion, 12, 1-8.

Santiago, H. C. (2011). Visual Mapping to Enhance Learning and Critical Thinking Skills. Optometric education, 36(3).

Setianingsih, T., Rosihan, M., & Pardani, S. (2018). The use of mind mapping to

improve motivation in learning vocabulary of second grade students at MTs Mispalah Praya. JOLLT Journal of Languages and Language Teaching, 6(2), 125-133. DOI: https://doi.org/10.33394/jollt.v6i2.1264

Thamrin et al. (2019). Developing Higher Order Thinking Skills (Hots) For ReadingComprehension Enhancement.Journal of physic Coferense series.https://www.researchgate.net/publication/335500776_Developing_Higher_Order_Thinking_Skills_Hots_For_Reading_Comprehension_Enhancement

Westwood, P. (2008). What teachers need to know about learning difficulties.Victoria: Australian Council for Educational Research Ltd.

Yilmaz, C. (2012). An investigation Language Teaching and into Turkish EFL students' attributions in readingcomprehension. Journal of Research, 3 (5), 823-828. doi:10.4304/jltr.3.5.823-828