Indonesian Journal of Education Methods Development
Vol. 19 No. 2 (2024): May
DOI: 10.21070/ijemd.v19i2.821 . Article type: (Elementary Education Method)

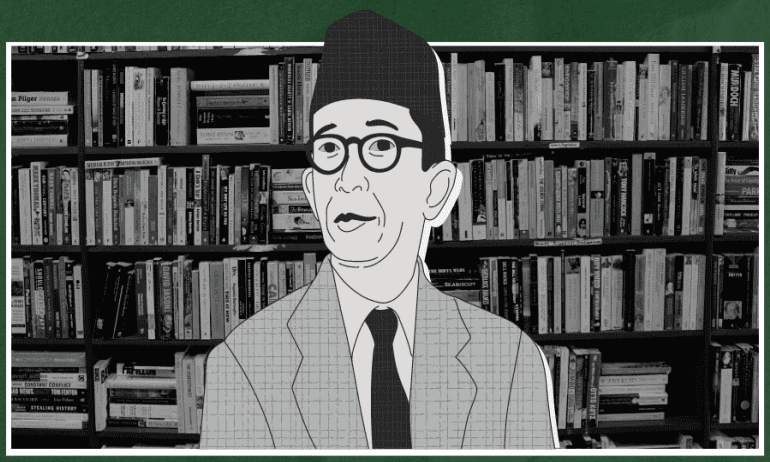
Table Of Content

ISSN 2598-991X (online), https://ijemd.umsida.ac.id/, published by Universitas Muhammadiyah Sidoarjo

Indonesian Journal of Education Methods Development
Vol. 19 No. 2 (2024): May
DOI: 10.21070/ijemd.v19i2.821 . Article type: (Elementary Education Method)

ISSN 2598-991X (ONLINE)

IJEMD



INDONESIAN JOURNAL OF EDUCATION METHODS DEVELOPMENT

UNIVERSITAS MUHAMMADIYAH SIDOARJO

Indonesian Journal of Education Methods Development
Vol. 19 No. 2 (2024): May
DOI: 10.21070/ijemd.v19i2.821 . Article type: (Elementary Education Method)

Originality Statement

The author[s] declare that this article is their own work and to the best of their knowledge it contains no materials previously published or written by another person, or substantial proportions of material which have been accepted for the published of any other published materials, except where due acknowledgement is made in the article. Any contribution made to the research by others, with whom author[s] have work, is explicitly acknowledged in the article.

Conflict of Interest Statement

The author[s] declare that this article was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Copyright Statement

Indonesian Journal of Education Methods Development
Vol. 19 No. 2 (2024): May
DOI: 10.21070/ijemd.v19i2.821 . Article type: (Elementary Education Method)

EDITORIAL TEAM

Complete list of editorial team (link)

Complete list of indexing services for this journal (link)

How to submit to this journal (link)

ISSN 2598-991X (online), https://ijemd.umsida.ac.id/, published by Universitas Muhammadiyah Sidoarjo

Indonesian Journal of Education Methods Development
Vol. 19 No. 2 (2024): May
DOI: 10.21070/ijemd.v19i2.821 . Article type: (Elementary Education Method)

Article information

Check this article update (crossmark)

Check this article impact (*)

Save this article to Mendeley

(*) Time for indexing process is various, depends on indexing database platform

ISSN 2598-991X (online), https://ijemd.umsida.ac.id/, published by Universitas Muhammadiyah Sidoarjo

Indonesian Journal of Education Methods Development
Vol. 19 No. 2 (2024): May
DOI: 10.21070/ijemd.v19i2.821 . Article type: (Elementary Education Method)

Global Study Unveils Mind Mapping's Impact on Reading Skills

Studi Global Mengungkap Dampak Pemetaan Pikiran terhadap Kemampuan Membaca

Muhammad Rafly Fitrawantono, Fitrawantono@gmail.com, (0)
Program Studi Pendidikan Bahasa Inggris, Universitas Muhammadiyah Sidoarjo, Indonesia, Indonesia

yuli astutik, yuliastutik@umsida.ac.id, (1)
Universitas Muhammadiyah Sidoarjo, Indonesia

(1) Corresponding author

Abstract

This study investigates the effectiveness of the Mind Mapping Technique in improving reading comprehension among sixth-grade students in Sidoarjo, Indonesia. Using a pre-experimental design with pretest and posttest assessments, data from 20 students at Temu 2 Prambon Elementary School were analyzed using SPSS 26. Results show a significant improvement in post-test scores (average 68.5) compared to pre-test scores (average 49.5), indicating the positive impact of Mind Mapping on reading comprehension. These findings underscore the potential of Mind Mapping as an effective tool for educators to enhance students' reading skills, particularly in understanding descriptive content, offering valuable insights for educational practices in similar settings.

Highliht:

- **Effective Mind Mapping**: Enhances sixth-grade reading comprehension.
- **Quantitative Analysis**: Validates method using SPSS.
- **Educational Implications**: Recommends Mind Mapping for elementary education.

Keyword: Mind Mapping, Reading Comprehension, Elementary Education, Pre-experimental Design, SPSS Analysis

ISSN 2598-991X (online), https://ijemd.umsida.ac.id/, published by Universitas Muhammadiyah Sidoarjo

Indonesian Journal of Education Methods Development
Vol. 19 No. 2 (2024): May
DOI: 10.21070/ijemd.v19i2.821 . Article type: (Elementary Education Method)

Published date: 2024-05-07 00:00:00

ISSN 2598-991X (online), https://ijemd.umsida.ac.id/, published by Universitas Muhammadiyah Sidoarjo

Introduction

Education is the most important aspect of life, everyone has the right to get an equal and proper education. Most cultures demand more and more of education, to ever-higher standards, with more accountability and limited resources. Davies said education has the main goal of always educating and developing knowledge, forming the character and mindset of everyone, and shaping everyone's personality [1]. Education has the main goal of always educating and developing knowledge, forming the character and mindset of everyone, and shaping everyone's personality. Adams said it's important to continue learning and improving educational quality since both the process and the outcome are important [2]. Giving pupils information and skills is crucial for other parts of their intelectual development [3].

We can get education from the teaching and learning process, by teaching we can transfer the knowledge we get to others. In comparison to kids who merely take in what we teach them, active learners tend to comprehend more, pick up more information, retain it longer, enjoy it more, and be better able to see the importance of what they have learned [4]. The role of the teacher is very much needed in this activity because the teacher's position as a creator or maker makes students smarter with various ways of teaching, one of which is teaching reading. Anyone who learns to read will be empowered because they will be able to access the wealth of information contained in printed materials and, in the end, contribute to that knowledge [5]. Many educators think they can impart reading abilities to children by having them read a book first, then demonstrating to them how to use a range of skills to understand it better [6].

Kucukoglu said learners should develop goals for their reading in order to become excellent readers; as a result, good readers have a reason for reading [7]. To adapt their classes to their students' evolving skills, teachers must be aware of their students' development and be aware of how they are progressing. People with good working memory and those with low working memory used similar cognitive processing strategies when reading for enjoyment [8]. Harianto said a portion or component of written communication, reading is one of the four fundamental language abilities [9]. Effective reading methods are regarded as key abilities that have gotten extra attention for pupils' reading comprehension abilities [10].

Successful readers make an effort to use a variety of techniques to comprehend the meaning of the text. Pearson et al. said Comprehension is a process by which the reader creates meaning by responding to the text using a combination of information from the text, information from the reader's own prior knowledge and experiences

students, and information from their own opinions in relation to the text [11]. English is a foreign language that we must master wheter students like it or not because when someone is able to master English even a little bit, it will be an added value for that person. Teaching English for young learner is considered very good because at a young age students can learn many things related to curiousity and a deep desire to know about many things. Young children create their own learning by investigating the immediate area and participating in the learning process of their surroundings [12].

Especially when teaching young learner reading comprehension, some common learning strategies include direct teaching, project-based learning, collaborative learning, problem-based learning and flipped learning. Winarno et al. said learning strategy is an operational step of the learning strategy chosen to achieve learning objectives [13]. There are many models and ways to apply learning methods, one of which is the mind mapping learning method, Mind mapping or in general what we usually call mind maps or concept maps is a method of creative recording to make it easier for us to remember what we see and then put it into writing with varied and imaginative notes. Buzan said Mind maps are a creative and efficient approach to capture knowledge since they are the simplest way to get information from the brain [14]. Rahayu also said by using mind mapping, the visual information that the brain has received is then completely explained to produce a holistic notion [15].

Based on the results of observations and interviews with class teachers when teaching English in the sixth grade of SD Negeri Temu 2 Prambon. It is known that students' reading comprehension skills in English lessons are currently still very low, and also the teacher's learning model still uses the lecture method, that relied on teacher-centered instruction, Mind mapping has never been used. This can be proven when researchers observe the teacher's teaching process in class and when the teacher gives English reading texts, there are still many students few understand the meaning of the reading and vocabulary. Based on the problems in reading, it is known that the goals of language learning are very far from what is expected, especially in the subject of reading comprehension in English.

There are five previous research releated to this research. William Grabe found that There's still a lot going on out there teachers, teacher trainers and content writers who don't use research studies as evidence a practice they see ''working for them", informally [16]. As a result, programs and classrooms all around the world incorporate a significant amount of practitioner expertise to support certain teaching philosophies. This information frequently works effectively and aids kids' growth as readers. In reality, a lot of teachers and teacher educators could assert that their own classroom experience and competence in teaching reading have taught them many of the issues mentioned in this paper. Next Davis state that the studies reported here have explored one way to investigate the psychological properties of reading ability [17]. It has suggested how to determine the validity of a reading comprehension test. The results show that reliable tests are needed to measure some of the nine predefined basic skills and workbooks to help improve students' abilities in them. The need to correlate scores on existing reading tests with scores on some of the component principals was apparent. In addition Astutik et al. state that in general, English as a foreign language must still be taught to young English learners [18].

Moreover Crowe et al states that Mind mapping helps students concentrate on remembering information, increases student creativity and makes students enjoy the learning process and trains the left and right brains [19]. Acesta state that mind

ISSN 2598-991X (online), https://ijemd.umsida.ac.id/, published by Universitas Muhammadiyah Sidoarjo

mapping approach, which employs visual reminders by building patterns and linked concepts that are employed for learning, is one of the teaching strategies that can help students improve their capacity for creative thinking [20]. So the link with this research is to examine further about reading comprehension for young English learners using the mind mapping method based on the previous research.

Although the students appreciate the teacher's instruction process, it is known that their reading comprehension skills in English courses are still very low, and the teacher's learning model still employs the lecture method with no usage of mind mapping techniques. However the use of variation of teaching English to young learner method should be developed. Therefore the researchers of this research want to know the effect of mind mapping in TEYL. Thus the research question that can be formulated in this research is as follow : Does mind mapping affect the reading comprehension of young learner in elementary school?

Method

Pre-test and post-test were used in this study to assess students' learning outcomes. The primary goal of this study is to assess and compare their abilities before and after receiving the specified treatment in order to determine the effectiveness and influence of the treatment on their overall skill development. Both results then be measured using the spss 26 program with Shapiro Wilk Normality Test and Man Whitney U Test. This is to assess how effective students can use the Mind Mapping approach in understanding text, especially in the material of describing people and objects.

In research, an instrument can affect the quality of research results. Therefore, every device that be used to research a problem must be validated first. In this study, instrument 3 validity tests were used. First, the pre-test and post-test validity tests asked experts in the field of English language learning to assess the suitability of the pre-test

and post-test for the competencies being measured. Second, the validity of the mind mapping media requires opinions from experts in the field of English to evaluate the mind mapping media used. Third, the validity of learning resources and lesson plans requires input from expert educators in the field of English to assess the suitability and relevance of what is presented according to the competencies achieved. In this research, to measure the reliability of the instrument, a retest was carried out on the same group of students at appropriate time intervals.

Data collection was carried out through pre-test and post-test. The author gave it to 20 respondents from 6 graders on March 13 for the pre-test and March 25 for the post-test at SD Negeri Temu 2 Prambon, with 10 pre-test questions and 10 post-test questions. The author also analyzed the data using a statistical program and service solutions (SPSS) version 26 to determine: Average Value, Shapiro Wilk Normality test, Man Whitney U test.

To find out the hypothesis of the effect of using the mind mapping method on learning to describe people and objects before and after treatment. The experiment will be tested using the SPSS 26 program. The factors investigated are explained in this data [23]. Correct information will result in conclusions that reflect the current situation. If H0 Asymp.sig > 0.05 then the hypothesis is rejected and if Ha Asymp.sig < 0.05 then the hypothesis is accepted. This shows that there is a significant difference between the initial variable and the final variable, this shows that there is a significant effect on the difference in the treatment given.

Finding and Discussion

The pre-test and post-test data that has been collected is then compiled using Excel and calculated to determine the total value of each student and the average value of each student. Based on the analysis, the value data obtained before treatment (pretest) and after treatment (posttest) can be seen in Table 1.

No	Students Name	Result Students Test		Code		Total Value Cach Students	Average number of marks per students
		Pretest	Posttest				
1	AAH	50	70	1	2	120	60
2	ARD	30	50	1	2	80	40
3	ANA	60	80	1	2	140	70
4	AMA	60	80	1	2	140	70
5	AM	50	60	1	2	110	55
6	ADA	30	60	1	2	90	45
7	ARS	20	70	1	2	90	45
8	BDH	40	60	1	2	100	50
9	FFRP	50	60	1	2	110	55
10	FDR	40	80	1	2	120	60

11	MNP	60	70	1	2	130	65
12	MRS	40	80	1	2	120	60
13	MAA	30	50	1	2	80	40
14	MHA	70	80	1	2	150	75
15	MMA	60	70	1	2	130	65
16	MSI	60	70	1	2	130	65
17	NSA	70	80	1	2	150	75
18	NAR	60	70	1	2	130	65
19	NLA	60	70	1	2	130	65
20	NL	50	60	1	2	110	55

Table 1. *the average of each student's grades*

Table 1 shows a total of 20 students with pre- test and post-test results. the highest score from the pretest is 70 and the lowest score is 20. The highest score from the posttest is

80 and the lowest score is 50. The results of the

average pretest score are 49.5 and the posttest value is

68.5. The results of the average analysis can be seen in table

Average Pre – test	49,5
Average Post – test	68,5

Table 2. *the average of all students' pre-test and post-test scores*

After calculating the mean of all pretest and posttest data, the data in Table 1 were analyzed using the Shapiro Wilk normality test of Statistical Program and Service Solutions (SPSS) version 26. The analytical results are shown in Table 3.

Tests of Normality						
	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pretest	,218	20	,013	,914	20	,076
Posttest	,210	20	,021	,871	20	,012

Table 3. *Lilliefors Significance Correction*

It can be seen in table 3. The results of the analysis state that the normality test on the pretest and posttest data in table 1 is not normally distributed because the significance value in the pretest data is 0.076 and also in the posttest data is 0.012. Basis for decision making:

After being processed using the normality test, the data is then processed using the Man Whitney u test which can be seen in Table 4

Test Statistics a	
Hasil tes	
Mann-Whitney U	56,500
Wilcoxon W	266,500
Z	-3,973
Asymp. Sig. (2-tailed)	,000
Exact Sig. [2*(1-tailed Sig.)]	,000b
a. Grouping Variable: Kode	
b. Not corrected for ties.	

Table 4. *Processed the data using Man Whitney U test*

The results of the analysis state that the man whitney u test is known Asymp sig (2-tailed) = 0.000.

This means that the research hypothesis (Ha) is accepted. Basis for decision making:

Based on the findings in this study, the researcher found that there were significant differences between before and after treatment. Reading comprehension was still low before applying the Mind Mapping Technique and post-test results showed that students' Reading Comprehension could improve by applying the Mind Mapping Technique. Significant influence on students when applied and this can be seen in the pre and post test results of each student. Mind maps help students learn information by forcing them to organize it and add

pictures and colors to it. Finally, the results of this study indicate that the Mind Mapping Technique is an effective technique to improve students' Reading Comprehension [24].

The purpose of this research is to investigate the relationship between mind mapping media and reading comprehension and its impact on reading texts. By explaining this purpose, the researcher can provide the necessary context to understand this media effectively in increasing students' reading comprehension further discussion of these findings.

In this study, it was found that there was a significant difference before being given treatment (x) and after being given treatment (y). based on the output of statistical tests it is known that the asymp sig 2 tailed value is

0.000 <0.05. These findings indicate that changes before being given treatment are consistently associated with changes after being given treatment. the point is that the use of mind mapping media has broad implications and relevance in increasing understanding and memory of the material read.

The results of this study are comparable to relevant previous studies. The Mind Mapping Technique has the potential to make the instruction more interesting. Mind Mapping Technique can be used in the educational process to help students overcome reading comprehension problems and improve their reading comprehension [25]. Research on the Application of Mind Mapping Techniques to Improve Reading Comprehension in Grade VII Middle School Students and Does Mind Mapping Improve Students' Reading Comprehension in English Classes for Young Students?, showed a positive relationship between before and after being given treatment.

Conclusion

Researchers want to draw conclusions based on the analysis of each data in the previous table. The results of this study indicate that the average post-test score (68.5) is higher than the average pre-test score (49.5). This means that the mind map method can be considered as an effective method to improve students' reading comprehension. Based on the conclusions above, it is suggested that English teachers can apply the Mind Map method in the teaching and learning process to improve students' reading comprehension. Make students more interested in learning English, especially content that describes people and things. This research is useful, Because many kids in Indonesia face similar challenges, this study can be valuable and used by other researchers as a source for conducting research in various educational settings [25].

References

1. P. Davies, "What is Evidence-Based Education?," Society for Education Studies, 2012, doi: 10.1111/1467-8527.00106.
2. D. Adams, "Defining Educational Quality," Improving Education Quality Project Publications, no. 703, pp. 1–24, 1993, [Online]. Available: http://pdf.usaid.gov/pdf_docs/PNACA245.pdf.
3. G. Biesta, "Good Education in an Age of Measurement: On the Need to Reconnect with the Question of Purpose in Education," Educational Assessment, Evaluation and Accountability, vol. 21, no. 1, pp. 33–46, 2009, doi: 10.1007/s11092-008-9064-9.
4. C. Park, "Engaging Students in the Learning Process: The Learning Journal," Journal of Geography in Higher Education, vol. 27, no. 2, pp. 183–199, 2003, doi: 10.1080/03098260305675.
5. J. Bamford and R. R. Day, "Teaching Reading," Annual Review of Applied Linguistics, vol. 18, pp. 124–141, 1998, doi: 10.1017/s0267190500003512.
6. I. Van Wijnendaele, "Reading in a Second Language," Psychological Belgica, vol. 38, no. 3–4, pp. 149–161, 1998, doi: 10.5334/pb.931.
7. H. Küçükoğlu, "Improving Reading Skills Through Effective Reading Strategies," Procedia - Social and Behavioral Sciences, vol. 70, pp. 709–714, 2013, doi: 10.1016/j.sbspro.2013.01.113.
8. T. Linderholm, "Reading with Purpose Review of the Literature: Reading for Specific Purposes," Journal of College Reading and Learning, vol. 36, no. 2, pp. 70–80, 2006, doi: 10.1080/10790195.2006.10850189.
9. E. Harianto, "'Keterampilan Membaca dalam Pembelajaran Bahasa'," Jurnal Didaktika, vol. 9, no. 1, pp. 1–8, 2020, [Online]. Available: https://jurnaldidaktika.org/.
10. A. Pourhosein Gilakjani and N. B. Sabouri, "How Can Students Improve Their Reading Comprehension Skill?," Journal of Studies in Education, vol. 6, no. 2, p. 229, 2016, doi: 10.5296/jse.v6i2.9201.
11. N. K. Duke and P. D. Pearson, "Effective Practices for Developing Reading Comprehension. What Research Has to Say about Reading Instruction," Effective Practices for Developing Reading Comprehension, pp. 205–242, 2004, doi: 10.1177/0022057409189001-208.
12. N. D. Uysal and F. Yavuz, "Teaching English to Very Young Learners," Procedia - Social and Behavioral Sciences, vol. 197, no. February, pp. 19–22, 2015, doi: 10.1016/j.sbspro.2015.07.042.
13. A. Sani, D. Rochintaniawati, and N. Winarno, "Enhancing Students' Motivation Through Brain-Based Learning," Journal of Physics: Conference Series, vol. 1157, no. 2, 2019, doi: 10.1088/1742-6596/1157/2/022059.

14. T. Buzan, "Buku Pintar Mindmap," pp. 1–23, 2007, [Online]. Available: https://books.google.com/books?hl=id&lr=&id=ZjIIsH9UEiYC&oi=fnd&pg=PA2&dq=T.+Buzan,+"Buku+Pintar+Mindmap&ots=KSirXubXo-&sig=jypsgYIZDtJrDnwfcFWJFfcHRMU.
15. A. P. Rahayu, "Penggunaan Mind Mapping dari Perspektif Tony Buzan dalam Proses Pembelajaran," Jurnal Paradigma, vol. 11, no. April 2021, pp. 65–80, 2021, [Online]. Available: https://www.ptonline.com/articles/how-to-get-better-mfi-results.
16. William Grabe, "3. Research on Teaching Reading," Annual Review of Applied Linguistics, vol. 24, pp. 44–69, 2004, doi: 10.1017/s0267190504000030.
17. F. B. Davis, "Fundamental Factors of Comprehension in Reading," Psychometrika, vol. 9, no. 3, pp. 185–197, 1944, doi: 10.1007/BF02288722.
18. Y. Astutik, F. Megawati, and C. N. Aulina, "Total Physical Response (TPR): How is it Used to Teach EFL Young Learners?," International Journal of Learning, Teaching and Educational Research, vol. 18, no. 1, pp. 92–103, 2019, doi: 10.26803/ijlter.18.1.7.
19. M. Crowe and L. Sheppard, "Mind Mapping Research Methods," Qualitative and Quantitative Methods in Libraries, vol. 46, no. 5, pp. 1493–1504, 2012, doi: 10.1007/s11135-011-9463-8.
20. A. Acesta, "Pengaruh Penerapan Metode Mind Mapping Terhadap Kemampuan Berpikir Kreatif Siswa," National Journal of Educational Research and Reviews, vol. 4, no. 2b, pp. 581–586, 2020, doi: 10.35568/naturalistic.v4i2b.766.
21. W. Leal Filho and M. Kovaleva, "Research Methods," Environmental Science and Engineering, vol. 5, no. 3, pp. 81–82, 2015, doi: 10.1007/978-3-319-10906-0_5.
22. I. Etikan, "Comparison of Convenience Sampling and Purposive Sampling," American Journal of Theoretical and Applied Statistics, vol. 5, no. 1, p. 1, 2016, doi: 10.11648/j.ajtas.20160501.11.
23. S. Syamsuryadin and C. F. S. Wahyuniati, "Tingkat Pengetahuan Pelatih Bola Voli Tentang Program Latihan Mental di Kabupaten Sleman Yogyakarta," Journal of Sport Achievement, vol. 13, no. 1, pp. 53–59, 2017, doi: 10.21831/jorpres.v13i1.12884.
24. B. D. Jones, C. Ruff, J. Snyder, B. Petrich, and C. Koonce, "The Effects of Mind Mapping Activities on Students' Motivation," International Journal of Scholarship of Teaching and Learning, vol. 6, no. 1, 2012, doi: 10.20429/ijsotl.2012.060105.
25. D. P. Tatipang, E. Z. Oroh, and N. V. F. Liando, "The Application of Mind Mapping Technique to Increase Students' Reading Comprehension at the Seventh Grade of SMP," Kompetensi, pp. 389–397, 2021.

ISSN 2598-991X (online), https://ijemd.umsida.ac.id/, published by Universitas Muhammadiyah Sidoarjo