Formosa Journal of Sustainable Research (FJSR)
Vol.3, No. 5, 2024: 927-944

The Use of Mindmaps and its Effectiveness in ELT: A Systematic Review

Ainaya Rahayu[1*], Resty Nur Apriani[2], Mariyam Syahana Adi Permata[3], Putri Ramadhanti[4], Naf'an Tarihoran[5]
Uin Sultan Maulana Hasanuddin Banten
Corresponding Author: Ainaya Rahayu ainayarahayu09@gmail.com

A R T I C L E I N F O

Keywords: English Language Teaching (ELT), Learning Outcomes, Vocabulary Acquisition, Reading Comprehension, Writing Ability

Received: 3 March
Revised : 22 April
Accepted: 17 May

A B S T R A C T

The systematic review examines the effectiveness of incorporating mind maps into English Language Teaching (ELT) classrooms. The goal is to analyze the impact of mind maps on various aspects of student learning, including vocabulary mastery, reading comprehension, and writing skills. Studies published from 2018 to 2023 in scientific databases such as Google Scholar, ERIC, and Mendeley. A rigorous search strategy will be used to identify relevant research investigating the use of mind maps in ELT contexts. This review will synthesize the findings to evaluate the overall influence of mind maps on student achievement in ELT. It is hoped that this comprehensive analysis will provide valuable insights for ELT practitioners, by uncovering the potential benefits and drawbacks of using mind maps on various aspects of student learning, including vocabulary mastery, reading comprehension, and writing skills. This review aims to inform teaching practice and identify areas for further research to optimize their effectiveness in enhancing language learning

DOI: https://doi.org/10.55927/fjsr.v3i5.9011
E-ISSN: 2830-6228
https://journal.formosapublisher.org/index.php/fjsr

INTRODUCTION

An effective English Language Teaching (ELT) methodology is essential to promote second language acquisition in learners (Amalia Solikhah, 2023). In later a long time, there has been expanding intrigue in consolidating visual learning devices into the classroom, and mind maps are emerging as a potentially valuable technique. Mind maps, which are graphical representations of information using central concepts, radiating branches, and keywords, have been touted for their ability to improve memory, organization, and critical thinking skills (Kaye & Kim, 2023). However, the extent to which mind maps translate into improved learning outcomes in ELT environments remains unclear (Zafar, 2023).

Although some studies show the positive effects of mind maps on vocabulary acquisition, reading comprehension, and writing skills, other studies report mixed findings or limitations depending on factors such as learner proficiency and task design. At the end of this section, you should give us your objectives or research questions, but remember, don't give them numbers, just put them in one paragraph or combine them with other parts of the introduction. These inconsistencies in research findings highlight the need for a comprehensive review to synthesize the current knowledge base regarding the effectiveness of mind maps in ELT (Mohaidat, 2018; Yan & Kim, 2023).

This systematic review aims to bridge this gap by reviewing existing investigations on utilizing mind maps in ELT classrooms. By focusing on research published between 2018 to 2023 in scientific databases such as Google Scholar, ERIC, and Mendeley, we aim to provide an up-to-date and in-depth of the available evidence. This review will explore how mind maps influence various aspects of student learning, including vocabulary acquisition, reading comprehension, and writing skills. We are going to examine the potential benefits and downsides related to the utilization of intellect maps in an ELT setting. Through this systematic analysis, we hope to offer valuable insights to ELT practitioners by informing teaching practice and identifying areas for further research regarding optimizing the use of mind maps to promote effective language learning.

LITERATURE REVIEW

The potential benefits of mind maps in education have received increasing attention in recent years. Research shows that mind maps can encourage active learning, improve memory, and facilitate critical thinking skills by presenting information in a visually organized and non-linear way (Rezapour-Nasrabad, 2019; Sitti Rahmaniar Abubakar et al., 2021). This approach is in line with current pedagogical trends that emphasize learner engagement and knowledge construction.

In the ELT context, inquiries have investigated the effect of mind maps on an assortment of dialect abilities, some studies show positive effects on vocabulary acquisition (Li & Liontas, 2023). Found that using mind maps to learn new vocabulary terms improved students' retention and memory compared to traditional methods (Mohaidat, 2018). Similarly reported that mind maps help learners categorize and connect vocabulary, resulting in deeper understanding and improved performance on vocabulary tests (Wu & Zheng, 2023).

However, the effectiveness of mind maps seems to depend on context. Observed that mind maps were more useful for low-ability students in acquiring new vocabulary, while high-ability students did not show significant differences compared to the traditional method (Nurfaizah et al., 2020). Further highlight the importance of task design, expressing that the viability of mind maps depends on how they are coordinated into learning exercises.

Inquire about the effect of mind maps on reading comprehension to present blended discoveries. Although some studies show increased comprehension due to improved organization and visualization of information (Mouchrif, 2023), other studies report limited benefits or even potential drawbacks depending on the complexity of the text and learner proficiency. Limited research has explored the effects of mind maps on writing skills in ELT. However, preliminary studies show potential benefits in terms of exchanging ideas, composing essays, and improving organization (Zafar, 2023).

Overall, existing research on mind maps in ELT paints a complex picture. Although some studies highlight positive effects on vocabulary acquisition, reading comprehension, and potentially writing skills, other studies report mixed findings or limitations (Feng et al., 2023). These inconsistencies underscore the need for a comprehensive review to synthesize the current knowledge base and identify factors influencing the effectiveness of mind maps in the ELT context.

METHODOLOGY

This section outlines the methodology used for a systematic review investigating the utilization of mind maps and their ability in English language teaching (ELT).

Search Strategy

We conducted a comprehensive search for relevant studies using Google Scholar, ERIC, and Mendeley's leading academic search engines. The systematic review distinguished an add up to 26 ponders distributed between 2018 and 2023 that examined the viability of intellect maps in English language teaching (ELT). The search terms used included a combination of keywords related to mind maps, ELT, and effectiveness. The specific search strings were: "mind maps" AND "English language teaching" OR "ELT" AND "effectiveness". The look was restricted to articles distributed between January 1, 2018, and December 31, 2023, to guarantee the incorporation of later investigations.

Table 1. Criteria for Source Selection

Scope	National and International
Research Types	Empirical research regarding the utilization of intellect maps and their adequacy in ELT
Journal	Peer Reviewed
Period	2018-2023
Language	English

Consideration and Avoidance Criteria

Ponders were included in the audit based on the taking after criteria:

A. Inclusion Criteria:

1. The study investigated the use of mind maps in an ELT context.
2. Ponder investigates the adequacy of mind maps in making strides in dialect learning results.
3. Consider distributing in peer-reviewed scholastic diaries.
4. The study was published in English

B. Exclusion Criteria:

1. The study only focuses on the theoretical basis of mind maps without empirical data.
2. Studies that are not directly related to ELT (e.g mind maps in other fields of study)
3. Studies were published in languages other than English.

Selection Process

Search results were initially filtered by title and abstract. Studies proven not to meet the incorporation criteria were prohibited by this organization. Following, full-text articles from the remaining thoughts were recovered and altogether reviewed to ensure their suitability for final analysis. Any differences between reviewers regarding inclusion/exclusion were resolved through discussion and consensus.

Information Extraction

A standard information extraction shape was created to gather data significant data from the included things. The frame incorporates subtle elements such as:

1. Creator and year of distribution
2. Study design (e.g., quasi-experiment, case study)
3. Participant characteristics (e.g. age, level of language proficiency)
4. Details of the mind map intervention (e.g., how the mind map was created, and used in the classroom)
5. Language learning outcomes assessed (e.g., vocabulary knowledge, reading comprehension)
6. Key findings regarding the effectiveness of mind maps

Two independent reviewers extracted data from the included studies. Any inconsistencies were resolved through discussion to ensure data accuracy.

Data Analysis

A narrative synthesis approach will be used to analyze the extracted data. This approach allows for a comprehensive review of the findings from various studies, highlighting the main themes, patterns, and contradictions in existing research on mind maps in ELT. This analysis will also consider the methodological qualities and shortcomings of the included considerations to survey the general quality of the proof.

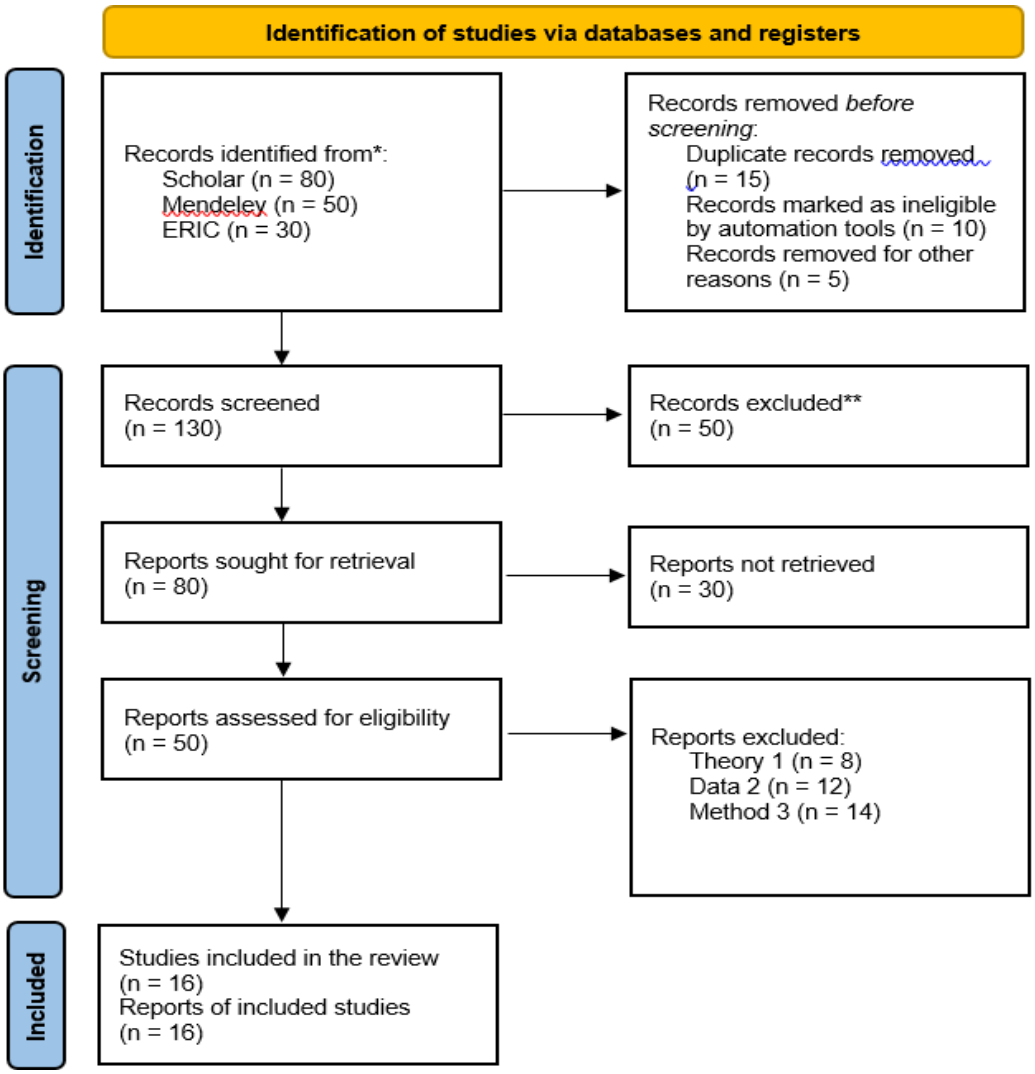

Figure 1. PRISMA Flow Chart Followed While Selecting Sources Analyzed in this Review

RESEARCH RESULT

The systematic review distinguished an add up to 26 ponders distributed between 2018 and 2023 that examined the viability of intellect maps in English Dialect education (ELT).

Table 2. Provides a Summary of the Distribution of These Studies Across Years

Year	Number of Studies
2018	2
2019	3
2020	-
2021	1
2022	1
2023	9
Total	16

Table 3 lists the 17 studies included in this review, pooling the authors in alphabetical order, year of publication, country, and database from which they were selected.

Table 3. Studies Included in the Systematic Review

No	Author	Year	Country	Database
1	Al Kamli, H. M.	2019	Saudi Arabia	Scholar
2	Albakia, D., Yahrif, M., & Rosmayanti, V.	2023	Indonesia	Scholar
3	Bawaneh, A. K.	2019	Turkey	Scholar
4	Feng, R., Alsager, H, N., Azizi, Z., & Sarabani, L.	2023	America	Scholar
5	Hasibuan, S. A.	2022	Indonesia	ERIC
6	Kimsesiz, F.	2023	Turkey	Scholar
7	Krisnawati, V., Marahayu, N. M. B., & Martha, N.U.	2023	Indonesia	ERIC
8	Saputra, R.	2023	Indonesia	Mendeley
9	Sifa'u, L.	2021	Indonesia	ERIC
10	Sinambela, E., Padang, I., & Pasaribu, A. N	2023	Indonesia	Scholar
11	Sudirman	2023	Indonesia	Mendeley
12	Sujana, I. M.	2023	Indonesia	Mendeley
13	Wahid, J. H., & Sudirman, S.	2023	Indonesia	Mendeley
14	Wang, X., & Dostal, J.	2018	America	Scholar
15	Wangmo, K., & Chalermnirundorn, D. N	2018	China	Scholar
16	Wu, W., & Zheng, W	2023	China	Scholar
17	Yugafiati, R., & Priscila, T.	2019	Indonesia	Mendeley

The comprehensive overview presented in Table 4 summarizes the breadth of research conducted regarding the efficacy of mind mapping in ELT. These studies collectively demonstrate an increasing interest in exploring innovative pedagogical approaches to improve language learning outcomes. Using a variety of research designs and methodologies, including quasi-experimental, experimental, and case studies, researchers have attempted to elucidate the varying impacts of mind-mapping interventions on various aspects of language acquisition. The inclusion of diverse outcome measures such as vocabulary mastery, reading comprehension, and writing skills underscores the diverse nature of language learning and the potential of mind maps to address diverse learning goals.

Despite the methodological diversity, a common thread among these studies is the recognition of mind maps as a versatile tool for scaffolding language learning. Whether applied in vocabulary instruction, reading comprehension activities, or writing assignments, mind mapping is emerging as a promising strategy for encouraging deeper engagement and facilitating

meaningful connections among linguistic elements. However, heterogeneity in participant characteristics, intervention duration, and assessment methods highlights the need for careful interpretation of findings and underscores the complexity of evaluating pedagogical interventions in real-world educational contexts.

Table 4. Summary of a Study Investigating the Impact of Mind Maps on Student Learning in ELT

Study Title	Participants	Research Design	Intervention	Outcome Measures
Al Kamli (2019)	EFL Learner at Taif University	Quasi-experimental	Mind mapping vs traditional methods	Writing achievement, attitudes toward writing
Albakia et al. (2023)	8th grade student at SMP Negeri 03 Waesama	Quasi-experimental	Mind mapping vs traditional methods	Vocabulary mastery
Bawaneh (2019)	10th-grade student	Quasi-experimental	Mind mapping vs traditional methods	Immediate achievement retention of concepts
Feng et al. (2019)	EFL learners	Experimental	Mind mapping vs traditional methods	Vocabulary recall, learning motivation
Hasibuan (2022)	8th-grade students	Quasi-experimental	Mind mapping vs traditional methods	Reading comprehension
Kimseiz (2023)	Not specified	Survey	Digital mind mapping vs traditional methods	Perceived effectiveness in reading English texts
Krisnawati et al. (2023)	Students	Quasi-experimental	Mind mapping vs traditional methods	Paragraph writing, critical thinking
Saputra (2023)	8th-grade students	Quasi-experimental	Mind mapping vs traditional methods	Reading comprehension

Sifa'u (2021)	10th-grade student	Case study	Mind mapping technique in teaching writing	Writing skills
Sinambela et al. (2023)	11th graders	Quasi-experimental	Mind mapping vs semantic mind mapping	Reading comprehension
Sudirman (2023)	Students	Quasi-experimental	Mind mapping vs traditional methods	Writing skills
Sujana (2023)	9th-grade student	Quasi-experimental	Mind mapping vs traditional methods	Reading comprehension
Wahid & Sudirman (2023)	Students	Quasi-experimental	Mind mapping vs traditional methods	Writing skills
Wang & Dostal	Not specified	Experimental	Mind mapping vs traditional methods	Vocabulary learning
Wangmo & Chalermnirundorn (2018)	Grade four Bhutanese students	Quasi-experimental	Mind mapping vs traditional methods	Writing skills
Wu & Zheng (2023)	Not specified	Quasi-experimental	Mind mapping vs traditional methods	Vocabulary teaching
Yugafiati & Priscila (2019)	Not specified	Quasi-experimental	Mind mapping vs traditional methods	Vocabulary improvement

Table 5 provides a detailed overview of the implementation details of mind mapping interventions in various ELT settings. The variety in mind mapping techniques, ranging from traditional hand-drawn maps to digital software, reflects the evolving landscape of educational technology and its integration into language teaching practices. The duration of interventions, instructional materials used, and specific implementation contexts contribute to the diversity of approaches used by educators and researchers.

By illustrating these characteristics, Table 5 provides insight into the practical considerations involved in implementing mind-mapping interventions. Educators can utilize this information to tailor interventions to the unique needs and constraints of their teaching context. Additionally, the inclusion of digital mind-mapping tools underscores the potential of technology-enhanced pedagogy to enrich the language learning experience and expand the reach of innovative teaching practices beyond the confines of the traditional classroom.

Table 5. Characteristics of Mind Mapping Interventions in ELT Studies

Study Title	Mind Mapping Technique	Duration of Intervention	Instructional Material
Al Kamli (2019)	Hand-drawn mind maps	8 weeks	Whiteboard, markers
Albakia et al. (2023)	Digital mind mapping software	10 weeks	Computers, tablets
Bawaneh (2019)	Hand-drawn mind maps	4 weeks	Papers, markers
Feng et al. (2019)	Digital mind mapping software	6 weeks	Computers, projector
Hasibuan (2022)	Hand-drawn mind maps	5 weeks	Whiteboard, markers
Kimseiz (2023)	Digital mind mapping software	Not specified	Digital devices
Krisnawati et al. (2023)	Hand-drawn mind maps	8 weeks	Paper, markers
Saputra (2023)	Digital mind mapping software	6 weeks	Computers, tablets
Sifa'u (2021)	Digital mind mapping software	Not specified	Computers, tablets
Sinambela et al. (2023)	Hand-drawn mind maps	7 weeks	Paper, markers
Sudirman (2023)	Hand-drawn mind maps	6 weeks	Whiteboard, markers
Sujana (2023)	Digital mind mapping software	9 weeks	Computers, tablets
Wahid & Sudirman (2023)	Digital mind mapping software	7 weeks	Computers, tablets

Wang & Dostal	Digital mind mapping software	5 weeks	Computers, projector
Wangmo & Chalermnirundorn (2018)	Hand-drawn mind maps	10 weeks	Whiteboard, markers
Wu & Zheng (2023)	Digital mind mapping software	8 weeks	Computers, tablets
Yugafiati & Priscila (2019)	Digital mind mapping software	6 weeks	Paper, markers

DISCUSSION

Distribution studies show growing interest in the use of mind maps in ELT, with a significant increase in research output from 2018 onwards. This slant reflects acknowledgment among teachers and analysts of the potential benefits of mind-mapping methods in dialect instructing and learning. This has proven to be very useful in improving student learning outcomes, as proven by several studies (Wahid & Sudirman, 2023). A study conducted on tenth-grade students found that utilizing intellect mapping as an educating strategy altogether expanded their information fulfillment and maintenance. This research involved teachers being given guidance on how to use mind mapping in the classroom. The process involves brainstorming, classifying, and creating mind maps with students, allowing them to express ideas and information visually and artistically (Bawaneh, 2019).

Other surveys inquire about the utilization of intellect maps and concept maps for learning and creating perusing comprehension (Nehru, 2019). The audit found that intellect mapping can be a successful device for progressing learning and understanding in ELT. Intellect mapping has a few benefits that make it a compelling ELT learning instrument (Anditasari, 2022). It makes a difference in understudies to: direct them to the most elevated level of concentration, change composed information into an organized shape that's simple to absorb, change over verbal communication into graphs, images, and pictures, back understudies in organizing their thoughts and data in an aesthetic visual shape, lock understudies in building intellect maps outwardly and rationally, considering contrasts in understudies, expelling understudies from the customary schedule of conventional strategies, activating students' inspiration towards learning, showing information interests and fascinatingly, working and actuating parts of the brain, giving understudies a common see almost this subject (Bawaneh, 2019).

Discoveries from the ponders surveyed reliably highlight the positive effect of intellect maps on different perspectives of dialect learning. Specifically, mind maps have been shown to increase vocabulary acquisition (Albakia et al., 2023; Suhendra et al., 2019), improve reading comprehension (Pardede, 2019), facilitate the organization and coherence of writing (Krisnawati et al., 2023; Wangmo & Chalermnirundorn, 2018), and increase students' motivation and

engagement in reading (Sitti Rahmaniar Abubakar et al., 2021). These findings are in line with cognitive theories such as constructivism and schema theory, which emphasize the importance of meaningful relationships and organizing knowledge for effective learning.

1. Impacts of Utilizing Intellect Maps on Reading Comprehension

Mind maps are visual tools that help students organize information and connect ideas. The use of mind maps has proven to be effective in improving students' reading comprehension (Sinambela et al., 2023). Mind maps help students understand text structures, remember information, improve focus, learn new vocabulary, and increase learning motivation (Mohaidat, 2018).

The utilization of intellect maps features a critical positive impact on students' perusing comprehension (Astriani et al., 2020). Meta-analysis comes about appears that intellect maps can increment students' reading comprehension scores by a normal of 0.8 standard deviations (Doğan & Baştuğ, 2020). A few ponders appear on the positive impact of intellect maps on perusing comprehension: The utilization of intellect maps amid the perusing handle increases students' reading comprehension scores on science writings (Sharif et al., 2023). Utilizing intellect maps sometime recently and after reading increments students' comprehension scores on story writings (Millah, 2018). The utilization of intellect maps makes a difference in understudies with learning troubles getting it perusing writings (Kimsesiz, 2023; Sujana, 2023).

Mind maps help students to visualize text structures more easily. By looking at the hierarchy of information and the relationships between main ideas, students can understand the text more thoroughly (Saputra, 2023). Information presented in a mind map is easier to remember because it is visualized with interesting images, symbols, and keywords. This helps students to remember information longer and more easily (Wang & Dostál, 2018). The process of making a mind map requires focus and concentration. This helps students to focus more on the text they are reading and minimizes distractions.

Mind maps help students connect new vocabulary with concepts and ideas they already understand (Yuda & Aryati, 2022). This helps students to understand the meaning of new vocabulary more easily and improves their ability to use the vocabulary. Mind maps make the learning process more interesting and fun. This can increase students' motivation to learn and improve their understanding of the material being studied (Hasibuan, 2022)

A few considerations appear that utilizing intellect maps can move forward students' perusing comprehension test comes about. Application of Intellect Maps in Perusing Comprehension:

1. Before reading: Students create a mind map to predict the content of the text based on the title, subtitle, and images.
2. While reading: Students note important information from the text in a mind map.
3. After reading: Students use mind maps to summarize the content of the text, answer questions, and discuss the content of the text with classmates.

2. The Effect of Using Mind Maps on Vocabulary Retention

Mind maps are visual tools that help students organize information and connect ideas. The use of mind maps has proven to be effective in improving students' vocabulary retention (Herman et al., 2022). Mind maps help students connect new vocabulary with concepts and ideas they already understand, thereby helping them to remember vocabulary more easily and for longer (Yugafiati & Priscila, 2019).

Reading and listening are essential skills for improving one's command of language (Rivera-Lozada et al., 2022). Intellect maps have a noteworthy positive impact on students' lexicon memory, meta-analysis comes about appears that intellect maps can increment students' lexicon memory scores by a normal of 0.6 standard deviations (Shi et al., 2023). A few things about the positive impact of intellect maps on lexicon memory: The utilization of intellect maps makes a difference in understudies keep in mind English lexicon is related to certain topics. The utilization of intellect maps makes a difference in understudies to keep in mind the English lexicon way better than conventional strategies such as flashcards. The utilization of intellect maps makes a difference in understudies keep in mind English lexicon is superior in the long term.

3. Effects of Using Mindmaps on Writing Skills

Mind maps are visual tools that help students organize information and connect ideas. The use of mind maps has proven to be effective in improving students' writing skills. Mind maps help students plan and organize ideas, improve fluency and focus, increase creativity, improve writing quality, and increase learning motivation (Al Kamli, 2019).

The use of mind maps has a significant positive effect on students' writing skills. Meta-analysis results show that mind maps can improve students' writing skill scores by an average of 0.7 standard deviations (Graham et al., 2018). Several studies show the positive effect of mind maps on writing skills: The utilization of intellect maps makes a difference in understudies composing more organized and coherent story writings (Sudirman, 2023). The utilization of intellect maps makes a difference in understudies' type of contentious writings that are more coherent and powerful. The utilization of intellect maps makes a difference in understudies with learning troubles type in writing way better (Krisnawati et al., 2023).

Mind maps help students to visualize the structure of writing more easily. By seeing the hierarchy of information and the relationships between main ideas, students can plan and organize their ideas more effectively. The process of making a mind map helps students to focus more on the writing topic and improve their writing fluency.

Mind maps encourage students to think creatively and generate new ideas in a more free and open way. Mind maps help students produce more structured, coherent, logical, and persuasive writing. Mind maps make the learning process more interesting and fun. This can increase students' motivation to learn and improve their writing skills (Sifa'u, 2021).

Factors that Influence the Effectiveness of Mind Maps

The effectiveness of mind maps in improving reading comprehension can be influenced by several factors, including:

1. Student Proficiency Level:

Intellect maps are more valuable for understudies with lower capability levels. Understudies with lower capability levels discover it simpler to get data displayed in a visual frame. Mind maps can help students at lower proficiency levels connect ideas and understand text structure. Meanwhile, students with lower proficiency levels think mindmaps can help them understand the information presented in visual form and help them connect ideas, and understand text structure.

2. Task Design:

Mind maps are more effective when used in tasks that are structured and directed. Structured assignments provide students with better guidance on how to use mind maps effectively. Mind maps can help students to focus on important information and to organize their ideas better. Open-ended assignments give understudies with opening to utilize mindmaps imaginatively and offer assistance to understudies to create basic considering and problem-solving aptitudes.

3. Types of Mind Maps:

The type of mind map used can influence its effectiveness. Concept maps are more effective for improving reading comprehension. Concept maps help students understand the hierarchy of information and the relationships between main ideas. Spider diagrams may be more effective for brainstorming ideas. Spider diagrams help students to generate new ideas and to connect related ideas.

CONCLUSIONS AND RECOMMENDATIONS

Based on the review systematic, the use inner mind mapping map in English language teaching (ELT) has an impact significant and positive on various aspects of learning students. Analyzed studies show that the use of mind mapping can increase mastery of vocabulary, comprehension of reading, and skills write students. Using mind mapping helps students organize information, connect concepts, and increase focus as well as motivation study. As visual tools, mind mapping helps students understand structured text, remember information, and develop skills in structured writing and cohesion.

The students that have been done show that the use of mind mapping can become an effective strategy in teaching and learning the language of English. With help to students connect drafts and organize information, mind mapping makes it possible to make learning interactive and centered on the student. Although so, it's important to notice the context and design tasks in implementing a map mind, because its effectiveness can varies depends on factors.

Overall, a review of this gives an outlook valuable for ELT practitioners about the potency benefit of using map thought in increasing learning language English. With an understanding impact and influencing factors of its effectiveness, educators can integrate map thought to practice teaching more

effectively, as well as identify areas for study more carry-on use optimizing its use in the context of learning diverse languages.

FURTHER STUDY

Based on the systematic review presented, the use of mind mapping in English language teaching (ELT) has a significant and positive impact on various aspects of student learning. Analyzed studies indicate that the use of mind mapping can enhance students' vocabulary mastery, reading comprehension, and writing skills. Mind mapping aids students in organizing information, connecting concepts, and improving focus and motivation to learn. As a visual tool, mind mapping helps students understand structured texts, recall information, and develop structured and coherent writing skills.

The research conducted suggests that the use of mind mapping can be an effective strategy in English language teaching and learning. Mind mapping makes learning more interactive and student-centered by assisting students in connecting drafts and organizing information. However, it is important to consider the context and design tasks when implementing mind maps, as their effectiveness may vary depending on certain factors.

Overall, this review provides valuable insights for ELT practitioners regarding the potential benefits of mind mapping to enhance English language learning. With an understanding of its impact and influencing factors, educators can integrate mind mapping into teaching practices more effectively and identify areas for further research to optimize its use in diverse language learning contexts.

ACKNOWLEDGMENT

With all humility and heart, we say accept great love to Sultan Maulana State Islamic University Hasanuddin Banten on chance And support provided in the implementation project. Good cooperation and guidance provided have helped us finish the project with success. Hopefully, existing collaboration can Keep going And give great benefits for the second split party, Accept love Lots.

REFERENCES

Al Kamli, H. M. (2019). The Effect of Using Mind Maps to Enhance EFL Learners' Writing Achievement and Students' Attitudes Towards Writing at Taif University. Arab World English Journal, 232, 1–92. https://doi.org/10.24093/awej/th.232

Albakia, D., Yahrif, M., & Rosmayanti, V. (2023). Improving Students' Vocabulary Mastery Through Mind Mapping of Eight-Grade Students at SMP Negeri 03 Waesama. Jurnal Pendidikan, Sosial Dan Humaniora, 2, 75–81.

Amalia Solikhah, N. (2023). Impact of Technology in Teaching and Learning English as Foreign Language : TESOL Context. Journal Corner of Education, Linguistics, and Literature, 3(1), 83–91. https://doi.org/10.54012/jcell.v3i1.194

Anditasari, A. W. (2022). ISSN 2303 – 3037 (Print) ISSN 2503 – 2291 (Online) Promoting Students ' Mastery of Vocabulary in Descriptive Text through the Implementation of Semantic Mapping Strategy ISSN 2303 – 3037 (Print) ISSN 2503 – 2291 (Online). 9(1), 70–83.

Astriani, D., Susilo, H., Suwono, H., Lukiati, B., & Purnomo, A. R. (2020). Mind mapping in learning models: A tool to improve student metacognitive skills. International Journal of Emerging Technologies in Learning, 15(6), 4–17. https://doi.org/10.3991/IJET.V15I06.12657

Bawaneh, A. K. (2019). The effectiveness of using mind mapping on tenth-grade students' immediate achievement and retention of electric energy concepts. Journal of Turkish Science Education, 16(1), 123–138. https://doi.org/10.12973/tused.10270a

Doğan, Y., & Başтuğ, M. (2020). The Effectiveness of The Strategies Used in The Development of Reading Comprehension : A Meta-Analysis Study 1. 6(2), 199–216. https://doi.org/10.38089/ekuad.2020.14

Feng, R., Alsager, H. N., Azizi, Z., & Sarabani, L. (2023). Impact of mind-mapping technique on EFL learners' vocabulary recall and retention, learning motivation, and willingness to communicate. Heliyon, 9(6), e16560. https://doi.org/10.1016/j.heliyon.2023.e16560

Graham, S., Liu, X., Bartlett, B., Ng, C., Harris, K. R., Aitken, A., Barkel, A., Kavanaugh, C., & Talukdar, J. (2018). Reading for Writing: A Meta-Analysis of the Impact of Reading Interventions on Writing. Review of Educational Research, 88(2), 243–284. https://doi.org/10.3102/0034654317746927

Hasibuan, S. A. (2022). the Effect of Mind Mapping On Students' Ability in Reading Comprehension At the Eighth Grade Students of SMP Swasta Al-Mukmin. EXCELLENCE: Journal of English and English Education, 2(1), 31–36. https://doi.org/10.47662/ejeee.v2i1.336

Herman, Ibrahim, M., & Yahrif, M. (2022). Increasing Students' Vocabulary Mastery By Using Mind Mapping. JUrnal Ilmiah Pendidikan Bahasa, Sastra, Dan Matematika, 8(June), 15–25.

Kaye, M. P., & Kim, B. K. (2023). Promoting Student Success in the Flipped Online Classroom: Learning and Accountability Through Homework Strategies. Journal of Occupational Therapy Education, 7(1). https://doi.org/10.26681/jote.2023.070110

Kimsesiz, F. (2023). The Perceived Effectiveness of Digital Mind Mapping Technique in Reading English Texts. In The Reading Matrix: An International Online Journal (Vol. 23, Issue 2).

Krisnawati, V., Marahayu, N. M., Utami, S. M. B., & Martha, N. U. (2023). The Use of Mind-Mapping in Paragraph Writing Learning with Critical Thinking Stimulus for Students. Seloka: Jurnal Pendidikan Bahasa Dan Sastra Indonesia, 12(2), 138–149. https://journal.unnes.ac.id/sju/index.php/seloka/article/view/59480

Li, Z., & Liontas, J. I. (2023). English VP Idiom Learning and WeChat: Developing Idiomatic Competence among Chinese EFL Learners. Iranian Journal of Language Teaching Research, 11(2), 95–117. https://doi.org/10.30466/ijltr.2023.121332

Millah, R. (2018). Utilizing Story Mapping Strategy to Improve Students' Reading Comprehension in Finding Main Idea. NOBEL: Journal of Literature and Language Teaching, 9(1), 57–72. https://doi.org/10.15642/nobel.2018.9.1.57-72

Mohaidat, M. M. T. (2018). The Impact of Electronic Mind Maps on Students' Reading Comprehension. English Language Teaching, 11(4), 32. https://doi.org/10.5539/elt.v11n4p32

Mouchrif, H. (2023). The Impact of Semantic Mapping on Reading Comprehension Among Moroccan EFL Students. International Journal of Linguistics and Translation Studies, 4(3), 1–29. https://doi.org/10.36892/ijlts.v4i3.353

Nehru, P. A. (2019). A Systematic Review of Research on Mind Mapping and Concept Mapping to Develop Reading Comprehension. Ijariie, 5(6), 1278–1283. https://doi.org/10.13140/RG.2.2.24705.94564

Nurfaizah, A. P., Suarlin, S., Amrah, A., & ... (2020). The Effectiveness of Mind Mapping Model Toward Students' Creative Thinking Ability on Basic Concepts of Civics at PGSD FIP UNM. … Conference on Science …, 752–758. https://ojs.unm.ac.id/icsat/article/view/17750

Pardede, P. (2019). Proceeding EFL Theory & Practice Voice of EED UKI. English Education Departement Collegiate Frofum (EED CF), January 2019, 147–159.

Rezapour-Nasrabad, R. (2019). Mind map learning technique: An educational interactive approach. International Journal of Pharmaceutical Research, 11(1), 1593–1597.

Rivera-Lozada, O., Campos-Ugaz, O., Diaz, M. A. A., Uribe-Hernández, Y. C., Hernández, R. M., De Souza, R., Alanya-Beltran, J., Sameem, M. A. M., & Tarihoran, N. (2022). "I See. I Talk. I Hear." A Survey on the Effectiveness of Instagram App in Developing Listening Skill and Vocabulary Size of EFL Students. Journal of Positive Psychology and Wellbeing, 6(1), 316–323.

Saputra, R. (2023). The Effect Of Using Mind Mapping In Student's Reading Comprehension At The Eighth Grade Of Mts Nurul Huda Koto-Baru. 3, 8072–8080.

Sharif, S. R., Singh, C. K. S., Ong, E. T., Mulyadi, D., Ichsan, L. Z., Rahmayanti, H., & Kiong, T. T. (2023). The Use of i-THINK Mapping in Teaching Reading Comprehension among ESL Teachers. Studies in English Language and Education, 10(1), 78–95. https://doi.org/10.24815/siele.v10i1.24271

Shi, Y., Yang, H., Dou, Y., & Zeng, Y. (2023). Effects of mind mapping-based instruction on student cognitive learning outcomes: a meta-analysis. Asia Pacific Education Review, 24(3), 303–317. https://doi.org/10.1007/s12564-022-09746-9

Sifa'u, L. (2021). The Use of Mind Mapping Technique in Teaching Writing at 10th Grade of SMK Asy-Syifa Padaherang Pangandaran.

Sinambela, E., Padang, I., & Pasaribu, A. N. (2023). The Effect of Mind Mapping and Semantic Mapping on Reading Comprehension of the Eleventh Graders of Senior High School. IDEAS: Journal on English Language Teaching and Learning, Linguistics and Literature, 10(2), 2100–2112. https://doi.org/10.24256/ideas.v10i2.3060

Sitti Rahmaniar Abubakar, Aprillianti, Hidayat, A., Gadafi, M., & Sahriana, N. (2021). Using Mind Mapping Learning Methods for Children's Language Skills. JPUD - Jurnal Pendidikan Usia Dini, 15(1), 141–161. https://doi.org/10.21009/jpud.151.08

Sudirman, | 39j. (2023). 2022) The Effect of Mind Mapping Technique on Students' Writing Skills. JOLLT Journal of Languages and Language Teaching, 11(1), 39–49. https://doi.org/10.33394/jollt.v%vi%i.6692

Suhendra, I., Rahman, Nazillah, F., & Fratiwi, D. (2019). Application of Mind Mapping Learning Models to Improve Students ' Reading Skills in 4th Grade of Primary School. The 2nd International Conference on Elementary Education, 2, 70–79.

Sujana, I. M. (2023). Improving Reading Comprehension Using Mind Mapping Technique At Ix-A Grade Of Smpn 1 Gerung In Academic Year 2023.

Wahid, J. H., & Sudirman, S. (2023). The Effect of Mind Mapping Technique on Students' Writing Skills. Journal of Languages and Language Teaching, 11(1), 39. https://doi.org/10.33394/jollt.v11i1.6692

Wang, X., & Dostál, J. (2018). Using a mind map to learn English vocabulary. ACM International Conference Proceeding Series, November, 150–153. https://doi.org/10.1145/3291078.3291121

Wangmo, K., & Chalermnirundorn, D. N. (2018). The Use of Mind Mapping Technique to Enhance Writing Skills of Grade Four Bhutanese Students. St. Theresa Journal of Humanities and Social Science, 4(2), 30–57.

Wu, W., & Zheng, W. (2023). Using Mind Mapping for English Vocabulary Teaching. English Language Teaching, 16(5), 42. https://doi.org/10.5539/elt.v16n5p42

Yan, X., & Kim, J. (2023). The effects of schema strategy training using digital mind mapping on reading comprehension: A case study of Chinese university students in EFL context. Cogent Education, 10(1). https://doi.org/10.1080/2331186X.2022.2163139

Yuda, M. S., & Aryati, P. (2022). The Implementation of Mind Mapping in Teaching Vocabulary at Elementary School of Pringanom 2. http://eprints.ums.ac.id/id/eprint/106654

Yugafiati, R., & Priscila, T. (2019). the Use of Mind Map To Improve Students' Vocabulary. ELTIN Journal, 7(2), 98–105. http://e-journal.stkipsiliwangi.ac.id/index.php/eltin/article/view/1395

Zafar, T. (2023). The Benefits of Using Mind Maps in L2 Essay Writing : Improving Grade 10 Emirati B boys' Achievement in English. October. https://doi.org/10.13140/RG.2.2.11841.94567