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Using Mind Mapping to Improve Reading Comprehension Skills: Exploring its Efficiency in the Palestinian Curriculum for 12th Grade

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Abstract: Introduction: Despite its proven based- efficiency in developing reading comprehension skills, mind mapping isn't included as a regular reading routine in the Palestinian curriculum lesson planning for 12th-grade students due to the shortage of studies investigating its impact on them. This study supports integrating the mind-mapping as a reading strategy to develop students' reading skills.

Aims: The research aimed to 1) Investigate the impact of using mind mapping as a reading strategy. 2) Suggest mind mapping as an easy efficient tool for enhancing reading skills. 3) Raise attention to mind mapping as an applicable strategy in Palestinian reading classes. 4) record the student's attitudes to use mind mapping as a reading strategy.

Method: Following the Action research plan, a mixed methods approach combined questionnaires and pre-posttests of 16 girls who are in the 12th grade. The tests assess their understanding of an external text in Inferring, referring, detecting the main idea, classifying, and finding information skills. Results are analyzed via the Palestinian Ministry of Education program for exams. The tests are designed by a group of English teachers in the Ramallah Directorate, and the questionnaire is set by the researcher to probe student's attitudes and responses. The intervention plan is conducted by training students on using mind mapping in four reading sessions on different texts chosen from their textbooks.

Results: The results show remarkable improvement in reading comprehension high scores from 22.5% to 72%. Furthermore, 65% of students report a positive experience in using mind mapping as an effective method of reading comprehension.

Recommendations: policymakers and English teachers in Palestine should develop reading comprehension lesson plans integrating mind mapping as a regular strategy that aims to develop students' reading comprehension skills in English as a second language.

Keywords: Reading Comprehension; mind mapping; English for Palestine; Education in Palestine.

INTRODUCTION

According to experts, most students struggle with reading comprehension in English as a foreign language. The problem deepens due to the recent Coronavirus Pandemic and the interruption in education happening in most countries including Palestine (Awad, 2021). Mastering reading comprehension is a necessary skill that might well affect students' future, and even their ability to earn a living. On their official site, UNICEF warns that 57% of children are unable to read and understand a simple text and it is exacerbated due to the coronavirus restrictions on schools by up to 70% in every country, and this eventually threatens their future economic stability (Dialo, 2023). In Palestine, as in many other countries, students need to excel in this skill, particularly in English to be well-prepared for college courses and their practical life later. Innovative and up-to-date strategies need to be applied to reading classrooms to enhance student's skills. Mind mapping proves to be one of them.

Mind mapping is related strongly to upper cognitive skills, deep understanding, and analytical reading. It is noted that the application of the mind mapping strategy is considered one of the most effective strategies that raise students' critical thinking and enforce metacognitive processes such as planning that make them better readers. Arulselvi mentions that mind mapping is becoming widely practiced in schools and other institutions as a promise. Mind mapping is a great technique because it is an easy way that establishes organized clear connections between internal mental processes and external world resources to ease problem-solving and decision-making skills (Arulselvi, 2017)

Statement of problem:

It is noticed that in Palestine, 12th-grade students in their last year at school and later at college can't handle texts effectively (Hammad, 2021). They may answer questions related to the texts in their textbooks more effectively because they had previously studied them at school. As they don't receive appropriate training on how to read texts effectively, they struggle once they have to deal with new or "external" texts. There are several practices behind this phenomenon. Following the traditional word-to-word translation method in reading comprehension is one of them because it deteriorates the implementation of students' upper cognitive skills to reading comprehension as they can't transfer their knowledge to other texts. Dr. Mortaga in Islamic University in Gaza notes that translating words for students is one of the main causes that create poor readers in Palestine. (Mortaga, n.d). Doing translation in the classroom makes students rote memorizers as they depend on the teacher to feed them ready answers. Sakurai also mentions that refrained translation at the word and sentence level leads to better reading comprehension because it triggers other higher cognitive processes apart from rote learning (Sakurai,2015).

Bohlin and other researchers confirm that rote learning hinders the development of students' upper cognitive skills because they resort to lower-level learning strategies (Bohlin et al, 2009). In addition, many scholars agree that students' metacognition which is connected to planning in mind mapping is related to high performance and educational goal achievement (Stolp& Zabrucky, 2009). Greeno et al also mention that the more able readers who are self-regulated and reflective are different from their less advanced peers in monitoring and generating information in a passage. (Greeno et al, 1996). Thus, enhancing students' upper cognitive reading skills through applying strategies such as mind mapping is the answer. In this paper, the effectiveness of the implementation of mind mapping strategy in reading comprehension classes in Palestinian schools is investigated. The application of mind mapping enhances students' cognitive abilities and encourages them to approach new texts confidently.

Aims:

Following action research, the intervention plan trains students to create mind mapping for texts in their textbooks. The research aimed to investigate the impact of using mind mapping as a reading strategy, and the ease of applying it in regular reading classes. As a result, mind mapping is suggested as an easy efficient tool for enhancing reading skills in addition to raising the attention of students and teachers to mind mapping as an applicable strategy in Palestinian English reading classes. It also opens doors to include mind mapping in any future lesson planning and curriculum policy.

LITERATURE REVIEW

As a complex skill, reading comprehension encompasses higher cognitive mental processes. According to McNamara "Reading is a highly complex interplay of cognitive processes, including attention, pattern recognition, memory, knowledge, reasoning, and problem-solving" (McNamara.p.944, 2001). Hence, the arrangement of thoughts and the organization of information become a necessity for understanding. Depending on evidence in research, following Mind Mapping as a strategy for reading comprehension leads to a deeper understanding of texts, promotes motivation, and enhances critical thinking. According to Buzán & Abbott (2006), mind mapping is the easiest way to organize thoughts and allow the maximum use of mental capacities because it's a creative tool for planning and absorbing information. Moreover, it enables the reader to quickly scan a text, make choices, gather a large amount of information, and encourage problem-solving. In addition, it creates an amusing environment experience for readers. (Buzan & Abbott, 2006). It is also found that mind mapping strengthens critical reading strategies as an upper cognitive process because it helps link information and ideas to deepen comprehension of the text. (Anderson, 1993). According to Baker et al, many scholars agree that using mind maps in reading comprehension helps readers detect central features of the text and draw relations among ideas. (Baker et al. p.742, 2002).

Much action research and quasi-experimental research has been done at schools and universities worldwide approving the implementation of mind mapping as an effective tool to improve reading comprehension. For example, research done by Dewi (2021) concludes that applying the mind-mapping strategy has proved improvement in reading comprehension. He follows a mind-mapping strategy with 32 students on Sumatra Island. The students who are in eighth grade show remarkable improvement in reading comprehension tests. The results in the pre-test mean is 50,39 and it rises in the post-test mean up to 83,44. (Dewi, 2021)

Another study conducted in Indonesia has proved the same. In his two-cycled action research, Male (2019) concludes that the implementation of mind mapping is an effective tool to develop student's reading comprehension ability and leads to a positive change in overall attitude toward reading by making it an enjoyable task. Male applies the mind-mapping strategy to 25 students studying in 10^{th} grade and majoring in accounting. He reports an increase from 54.4 to 70 to 90 in mean scores on three tests. (Male, 2019)

In the same way, Kusmaningrum's (2016) research shows a significant difference in students who apply mind mapping in reading comprehension and writing. The sample is 40 fourth-semester students of the English Education study program. They are divided into experimental and control groups equally. Students who implement mind mapping show significant improvement in reading comprehension and writing achievement as well. Those students also report positive feedback as the mind mapping strategy leads to a better experience in learning. (Kusmaningrum, 2016)

Another group of researchers in Peru reveal similar results to the above studies. They implement harmonic mind maps, which pleasantly harmonize information, in reading comprehension of narrative texts for first-semester university students. A sample of 83 students out of 1500 is taken and divided into two groups: a control group of 43 students and an experimental group of 40. Researchers collect data by adapting both groups to a pilot PISA test provided by Higher Education and the KR-20 value for reliability is used. 90% of the

experimental group achieves a high comprehension level. The study proves that the use of harmonic mind maps is an adequate technique to develop students' narrative text comprehension because it brings holistic comprehension, and promotes students' hierarchical understanding through branches and sub-branches. (Castillo et al., 2018)

Considering previous studies, and due to a shortage of studies that examine using mind mapping strategy to the 12th-grade texts. This action research investigates the efficiency of using mind-mapping techniques to improve reading comprehension for 12th graders in Palestine.

MATERIALS AND METHODS:

To investigate the impact of applying mind mapping to texts as a strategy to develop their comprehension skills in classification, detecting main ideas/sub-ideas, and answering referring, factual, and inferencing questions correctly. The study follows an action research design. It is conducted in December 2022. The participants are 16 female students in the Secondary School in Qibya village following the Ramallah Education Directorate Governmental schools.

The data is collected in two ways. Holding questionnaires in the classroom, and pre/posttests. The research is conducted in the classroom. A pretest is held and later analyzed. The test is an external text in cooperation with four 12th English teachers working in Ramallah and Birzeit Directorate. It assesses five skills in reading comprehension. Factual information, classification, inferencing, referring, and detecting main ideas. After that, an informal discussion is held for students to reflect. The teacher listens carefully to students' reflections and reflects on the problem (Clark et. al, 2020). Based on research in previous literature, the problem emanates from applying traditional word-for-word translation as a strategy for reading texts. As a result, the teacher (researcher) resorts to applying the mind-mapping technique as a solution. Students engaged in four reading sessions. To ensure text diversity, different species of texts are chosen from different units in their textbook. Students read them using the mind-mapping technique. Students are set for the final exam on Wednesday 28th. It is worth mentioning that a group of English teachers has written the exam. Some questions (classification and main idea questions) are added by the researcher for research purposes. After the exam, it is analyzed and a questionnaire is handed out to check students' attitudes about using mind mapping. This is to say that the research adopted the appropriate approach for reaching the results (AbuHamda et al., 2021)

Data analysis

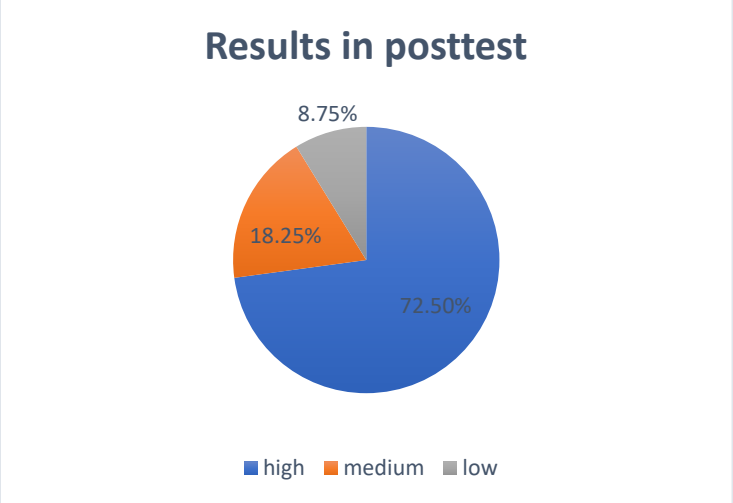
Both pre/posttests are analyzed using the official program the Palestinian Ministry of Education provided. "Test Analysis Program". It provides accurate data for each question, and test results can be compared to other results. Regarding analyzing questionnaires, the researcher uses Excel analysis. Paul provides a method of data analysis via Microsoft Excel on his website. (Paul, 2022)

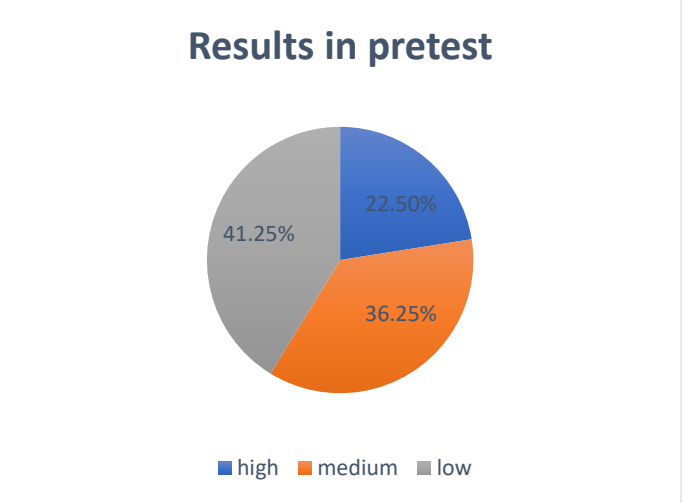
Action Plan

Students are engaged in four reading sessions. Clear instructions are given to the students. Students scan the text carefully and draw a central shape in the center (it could be a circle, a square, or any other shape they choose). Students try to connect different ideas, sequences, and concepts. They also classify information carefully. (Buzan & Abbott, 2006) In the first class, guided lines are afforded by drawing a mind map with them on the board. Students work on texts in pairs in the second, third, and fourth classes. The teacher answers their questions and helps them, particularly with some vocabulary. After the 4th session, students complete the questionnaires.

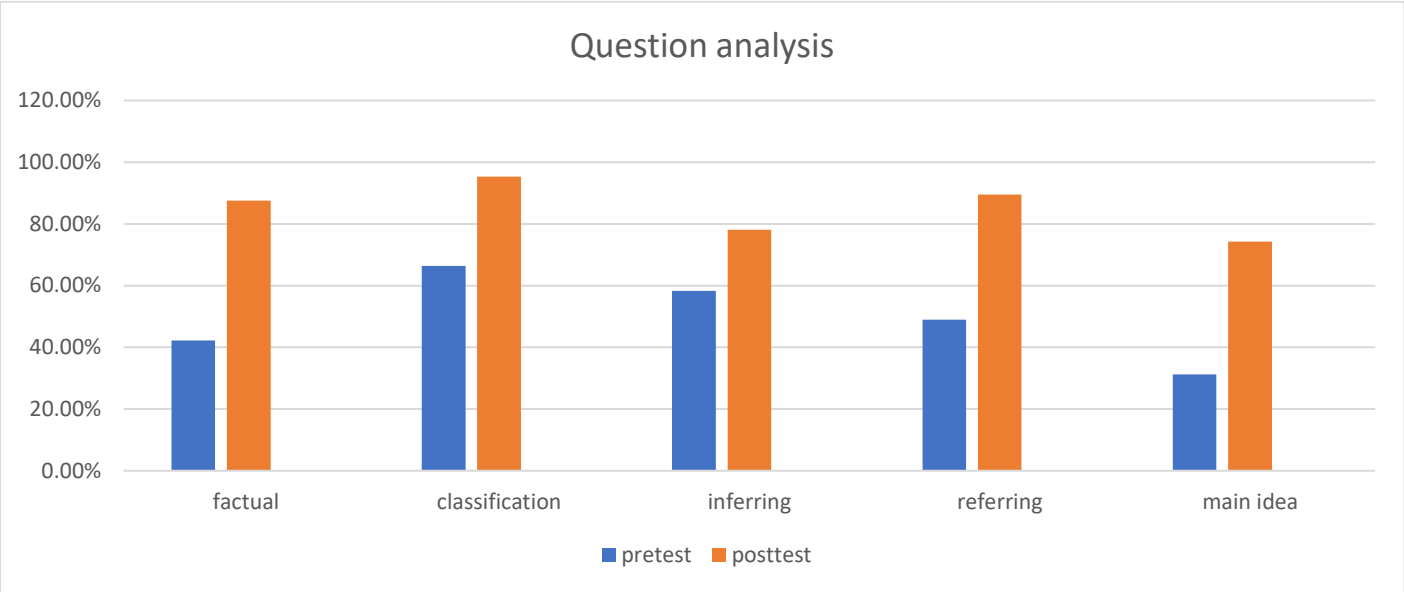
Findings

There is notable progress in students' results after the implementation of the mind mapping technique. Furthermore, students report positive experiences following it. The student's high scores have risen from 22.5% to 72.5%.



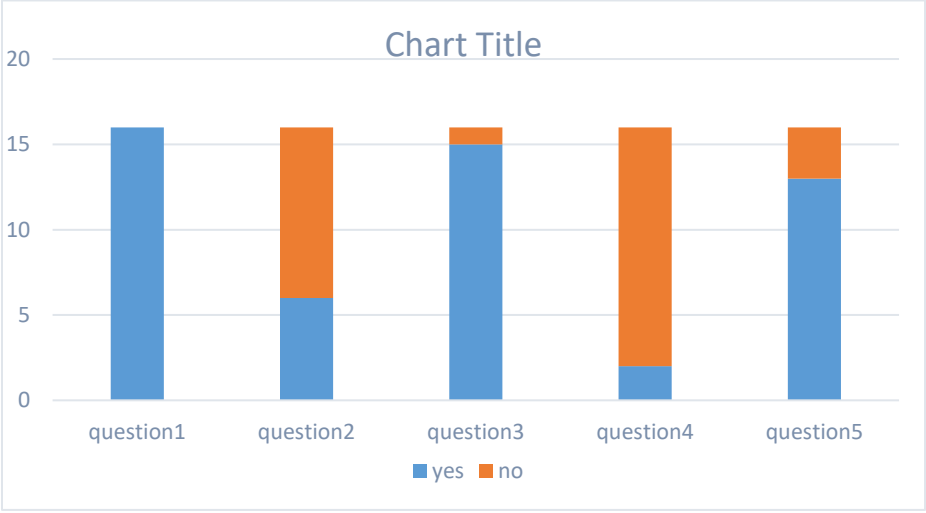


Students' results have risen in five questions as follows:



65% of Students also report overall positive experiences after using the mind-mapping technique to understand the text and answer questions related to it. The results are analyzed via Microsoft Excel, and it reveals that students have a general feeling of improvement in the following areas: Factual questions / main idea questions/ inferring questions/classification questions / referring questions. The questions in the questionnaire are as follows:

1-Does mind mapping help you to understand the main idea
2-Does mind mapping help you to answer T/ F question?
3- Does mind mapping help you to classify information?
4-Does mind-mapping help you to answer the "refer to" question?
5-Does mind-mapping help you to answer wh questions?



As the above diagram demonstrates, Students find mind-mapping very useful in detecting main ideas, and answering Wh questions, but not very helpful in answering "referring" and "inferring" questions although their overall test results show remarkable progress in all questions. It seems that students view mind mapping as a resource for detecting main ideas and getting information, due to its shape maybe, but they are unconscious that they are very helpful in other areas as well. This point needs further research in the future.

Implications:

Based on the evidence above, mind mapping is an effective technique for improving reading comprehension for 12th-grade students. Other students and teachers in 11th and 10th grades may benefit from mind mapping because texts are very similar in English For Palestinian textbooks curricula and it is applied to different kinds of informative and narrative texts. It is recommended to implement it in a wider sample of overcrowded classrooms and apply it to more texts to approve its efficiency on a wider scale. This research reports remarkable improvement in results under the following circumstances. First, it is applied to a relatively small classroom of only 16 students. Secondly, students show high motivation to learn because they are scientific stream girls in their last year at school.

Teachers also must be prepaid to for online learning give appropriate task that meet students needs (Ismail and Dawoud, 2022). Therefore, the Palestinian textbooks should designed in a flexiable way to allow teachers create better teaching for students (Ismail et al., 2022; Ismail and Naqib). For example, teachers can ask students to read a novel at home which may also develop students writing skill through learning grammar, new vocabs, linking words, and sentence structure (see Ismail and Mallemari, 2020).

CONCLUSIONS:

Mind mapping is found to be an efficient tool for improving reading comprehension skills for 12th graders in Palestine. The participants are 16 girls who follow the mind mapping technique to understand the texts and answer a wide variety of questions including Wh, True/False, main idea, referring, and classifying questions. The results based on pre/posttests and questionnaires show a notable improvement in high scores from 22,50 to 72,50, and a positive attitude toward using mind mapping in the future as 65% have found it helpful in answering most of the questions.

REFERENCES

1. Abdullah Hammad, E. (2021). Palestinian EFL University Students' problems with the reading sections of the TOEFL internet-based test and the revised Toefl paper-delivered test. *Arab World English Journal*, *12*(3), 51–65. https://doi.org/10.24093/awej/vol12no3.4
2. AbuHamda, E., Ismail, I. A., Bsharat, T. (2021). Understanding quantitative and qualitative research methods: A theoretical perspective for young researchers. *International Journal of Research International Journal of Research 8*(2):71-87 DOI: 10.2501/ijmr-201-5-070
3. Anderson, J. (1993). Mind mapping: A tool for creative thinking. *Business Horizons. 36(1), 41- 46.*
4. Arulselvi, E. (2017). Mind Maps in Classroom Teaching and Learning. *The Excellence in Educational Journal. 6 (2). 50-65.*
5. Awad, O. (2021). *Education in COVID-19: From disruption to recovery*. Palestine Economy Portal. https://www.palestineeconomy.ps/en/Article/17670/Education-in-COVID-19-From-disruption-to-recovery
6. Baker, S., Grossen, B., & Gersten, R. M. (2002). Interventions for students with reading comprehension problems. In *Interventions.* (pp.731-755). The University of Oregon.
7. Bohlin, L., Durwin, C., & Reese-Weber, M. (2009). Metacognition. In *EdPsych modules*. (pp.215-220). essay, McGraw-Hill Higher Education.
8. Buzan, T., & Abbott, S. (2006). *The ultimate book of mind maps: Unlock your creativity, boost your memory, and change your life*. Thorsons.
9. Castilo, N.F.P., Cancino, F.R., Sotelo, F.S.W., Gamboa, N. J., & Orbegoso, V. O. C. (2018). The Harmonic Mind Map in the Comprehension of Narrative Texts in University Students. *Propósitos y Representaciones. 6 (2). 541-606.*
10. Clark, J. S., Porath, S., Thiele, J., & Jobe, M. (2020). Collecting data in your classroom. In *Action Research*. Pressbooks. Retrieved December 27, 2022, from https://kstatelibraries.pressbooks.pub/gradactionresearch/chapter/chapt5/
11. Dewi, S. P. (2021). Implementation of mind mapping technique to improve students' reading comprehension in descriptive text. *Inova's Pendidikan*, *8*(1a). https://doi.org/10.31869/ip.v8i1a.2748
12. Dialo, G. (2022, June 23). https://www.unicef.org/press-releases/70-cent-10-year-olds-learning-poverty-unable-read-and-understand-simple-text
13. Greeno, J. G., Collins, A. M., & Resnick, L. B. (1996). Cognition and learning. In D. C. Berliner & R. C. Calfee (Eds.), *Handbook of educational psychology* (pp. 15–46). New York: Macmillan
14. Ismail, I. A., Bsharat, T., Nabhan, F. (2022). Reading on Palestinian English Textbooks. *The journal of liberal arts education, 1*(2).
15. Ismail, I. A., Dawoud, L. (2022). Preparedness for Online Learning in the Context of Monkeypox Virus: A Literature Review. *International Journal of TESOL & Education*, *2*(5), 14-19.
16. Ismail, I. A., Mallemari, V. (2020). Teaching Writing Skill through English Literature: Palestine as an Example. *International Journal of Science and Research (IJSR) 9*(9):274 – 278.
17. Kusmaningrum, M. (2016). USING MIND-MAPPING TO IMPROVE READING COMPREHENSION AND WRITING ACHIEVEMENTS OF THE 4TH SEMESTER STUDENTS OF STAIN CURUP. *JOURNAL OF ENGLISH LITERACY EDUCATION. 3 (2). 187-201.*
18. Male, H. (2019). Using Mind Mapping to Improve Students' Reading Comprehension at SMK BPS&K II Bekasi. *Conference: English Education Collegiate Forum*. Jakarta.
19. McNamara, D. S. (2001). Reading comprehension difficulties: Processes and intervention. *Journal of*

Pragmatics, *33*(6), 943–956. https://doi.org/10.1016/s0378-2166(00)00026-6
20. Mortaga, K. (n.d). *Some Reading Problems of Arab EFL Students.* alaqsa.edu.ps. https://www.alaqsa.edu.ps/site_resources/aqsa_magazine/files/122.pdf
21. Paul, D. (2022, September 22). How to Analyze Survey Data in Excel (with Quick Steps). exceldemy. https://www.exceldemy.com/analyze-survey-data-in-excel
22. Sakurai, N. (2015). The influence of translation on reading amount, proficiency, and speed in extensive reading. *Reading in a Foreign Language, 27 (1), 96-112.*
23. Stolp, S., & Zabrucky, K. (2009). Contributions of metacognitive and self-regulated learning theories to investigations of calibration of comprehension. In *International Electronic Journal of Elementary Education. 2 (1), 7-31.*