



Mind Mapping: Reading Comprehension Technique of Arabic Texts for Students in Higher Education

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Abstract: In the context of the curriculum in Madrasah (Islamic school), using mind mapping in the learning process of Arabic text reading skills is an alternative chosen to improve student's reading competence. This study aimed to describe the design process of learning Arabic text reading skills by utilizing mind mapping techniques, as well as showing the form of mind mapping that has been prepared by students individually and in groups. Qualitative method was a suitable method used in this research with the object of research was students of Arabic language study program. The research data was extracted through observation and documentation. Observation is done by observing the course of the learning process and documentation in the form of student work in the form of mind mapping is analyzed. The International Class Program (ICP) of students selected in this study amounted to 50 students in department of Arabic Language and Literature at Universitas Islam Negeri Maulana Malik Ibrahim, Malang. The findings of this study showed that the compiled mind mapping shows the creativity of students, where each student makes a different and varied mind map, both in shapes, colors, and hyphens. The concept of the Buzan model mind mapping used in this study. This study concluded that learning text reading skills using mind mapping has made students more creative, active, confident, and easy to understand.

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Introduction

Mind mapping has been able to improve student's reading comprehension, especially in Arabic texts. So far, reading comprehension of second language texts has been done by looking up vocabulary through e-dictionaries and hard dictionaries, which are felt to be understanding the text has not been maximized, it is still limited to understanding textually. In contrast to mind mapping which is considered a powerful

technique to help comprehensive reading comprehension of texts.¹ Mind mapping has been able to develop and organize ideas and information in text visually.² As done by university students, they can present and explain the contents of the text using mind mapping. In addition, mind mapping is able to solve student difficulties, remember new vocabulary, take notes, and improve text reading skills.³ Mind mapping is considered a technique that is up-to-date, creative, useful, and very possible to be used by students.⁴

Mind mapping was initiated by Buzan, he stated that mind mapping is the easiest technique to get information into the brain and extract information from the brain.⁵ Mind mapping is defined as a creative, effective note-taking technique.⁶ Mind mapping is basically a way of mapping a child's mind and a natural expression of how the human brain works.⁷ Mind mapping is an outline, where the main categories radiate from the central image and the branch categories are described as larger branches.⁸ Hernacki added that mind mapping is defined as a technique of utilizing the whole brain by using visual images and other graphic infrastructure to form speech.⁹ Mind mapping is made using words, colors, lines, and images to make mind mapping an easy way to get information from inside and outside the brain.

A new way of learning and practicing that is fast and powerful, a way to take notes that are not boring, and the best way to generate ideas -new ideas and planning projects.¹⁰ Mind mapping can be understood as a tool used to stimulate thoughts.¹¹ Mind mapping is also called concept mapping information to represent ideas in diagrams using

¹ Nataliia Orlova, "Efficiency Of Mind Mapping For The Development Of Speaking Skills In Students Of Non-Linguistic Study Fields," *Science and Education*, 2017, <https://doi.org/10.24195/2414-4665-2017-6-23>.

² M. Bambang Purwanto and Marsinah Marsinah, "The Use of Mind Mapping Technique to Improve the EFL Students' Reading Comprehension Ability of Darussalam Polytechnic," *Esteem Journal of English Education Study Programme*, 2021, <https://doi.org/10.31851/esteem.v4i2.5136>.

³ Bita Naghmeah-Abbaspour and Vahideh Rastgoo, "Analysis for Finding the Effect of Mind Mapping Technique on the Iranian English as Foreign Language Learning' Writing Skills," *Texto Livre*, 2020, <https://doi.org/10.35699/1983-3652.2020.24559>.

⁴ Anna Buran and Andrey Filyukov, "Mind Mapping Technique in Language Learning," *Procedia - Social and Behavioral Sciences*, 2015, <https://doi.org/10.1016/j.sbspro.2015.10.010>.

⁵ Tony Buzan, "Tony Buzan and the Human Mind.," *Journal of General Management*, 1975.

⁶ Tony Buzan, "Mind Map Mastery the Complete Guide to Learning and Using the Most Powerful Thinking Tool in the Universe," *Business & Economics - Management & Leadership*, 2018.

⁷ T K Tee et al., "Buzan Mind Mapping : An Efficient Technique for Note-Taking," *World Academy of Science, Engineering and Technology*, 2014.

⁸ Buran and Filyukov, "Mind Mapping Technique in Language Learning."

⁹ Mike Hernacki et al., "Quantum Learning : Membiasakan Belajar Nyaman Dan Menyenangkan," *Null*, 2008.

¹⁰ Muhamad Husni and Zainuddin, "Memahami Konsep Pemikiran Mind Map Tony Buzan (1970) Dalam Realitas Kehidupan Belajar Anak," *Al-Ibrah*, 2018.

¹¹ Tony Buzan, "How to Mind Map with Tony Buzan ,," Ayoa - YouTube, 2015.

the links between these ideas.¹² Mind mapping is a type of graph that can help organize facts and ideas in a map format that includes a central image, main themes radiating from the central image, branches with main images and keywords, and branches that form related node structures.¹³ Mind mapping is a form of graph arrangement which is characterized by using labeled nodes that represent concepts and links that show relationships between concepts.¹⁴

Reading comprehension can be interpreted as the ability to process reading text, understand its meaning, and integrate it with what the reader already knows.¹⁵ Reading comprehension is one of the most complex cognitive activities in which humans are involved, making it difficult to teach, measure, and research.¹⁶ Despite decades of research in reading comprehension, international and national reading scores show stagnant growth for US adolescents.¹⁷ Some of the basic skills needed in reading include: understanding the meaning of words textually and contextually, being able to follow the organization of sections and identify antecedents and references in them, the ability to draw conclusions and identify main ideas.¹⁸ Reading skill is an important skill in human life.¹⁹ There are many benefits obtained from reading, for example, it can improve brain work, increase knowledge, and can hone memory.²⁰

Several existing studies focus on using mind mapping in language learning can be mapped into two domains. First, mind mapping is used as a facility in improving student's abilities in language skills.²¹ The results of the research reported by Karim show

¹² Joseph D. Novak and Alberto J. Cañas, “The Origins of the Concept Mapping Tool and the Continuing Evolution of the Tool,” *Information Visualization*, 2006, <https://doi.org/10.1057/palgrave.ivs.9500126>.

¹³ Tee et al., “Buzan Mind Mapping : An Efficient Technique for Note-Taking.”

¹⁴ Tony Buzan, “The Buzan Study Skill Handbook : The Shortcut to Success in Your Studies with Mind Mapping, Speed Reading and Winning Memory Techniques,” in *BBC Active*, 2006.

¹⁵ Ratna Sari Dewi et al., “Reading Interest And Reading Comprehension,” *Talent Development & Excellence*, 2020.

¹⁶ Amy M. Elleman and Eric L. Oslund, “Reading Comprehension Research: Implications for Practice and Policy,” *Policy Insights from the Behavioral and Brain Sciences*, 2019, <https://doi.org/10.1177/2372732218816339>.

¹⁷ Elleman and Oslund.

¹⁸ Dewi et al., “Reading Interest And Reading Comprehension.”

¹⁹ Pamela C. Snow, “SOLAR: The Science of Language and Reading,” *Child Language Teaching and Therapy*, 2021, <https://doi.org/10.1177/0265659020947817>.

²⁰ Kanza Rufaida and Muassomah Muassomah, “Model Pembelajaran Flipped Classroom Dalam Pembelajaran Ketrampilan Membaca Di MTs Al-Hikmah Brebes,” *Tarling : Journal of Language Education*, 2021, <https://doi.org/10.24090/tarling.v5i1.4369>.

²¹ Sitti Rahmaniar Abubakar et al., “Using Mind Mapping Learning Methods for Children’s Language Skills,” *JPUUD - Jurnal Pendidikan Usia Dini*, 2021, <https://doi.org/10.21009/jpud.151.08>; Syeda Saima Ferheen Bukhari, “Mind Mapping Techniques to Enhance EFL Writing Skill,” *International Journal of Linguistics and Communication*, 2016, <https://doi.org/10.15640/ijlc.v4n1a7>; Melor Md Yunus

that student's attitudes to writing have become significantly more positive towards the application of the mind mapping technique.²² Mind mapping is effectively used in learning speaking skills.²³ Where students have systematically generated ideas, compiled important points before they spoke according to the target language.²⁴ The research findings stated that using visual mind mapping strategies has a significant increasing impact on English learner's critical thinking skills and reading abilities.²⁵

Second, learning language elements also uses mind mapping techniques, such as learning vocabulary, *nahwu and sharf*.²⁶ Qawaid Arabic is much more effectively explained by using concept maps, and students are more enthusiastic in participating in the learning process.²⁷ Mind mapping makes it easy to understand grammar concepts and memorize English structures.²⁸ Mind mapping also makes students active in providing feedback and becomes a measure in assessing how far students understand the material and excited to analyze the material.²⁹ Existing studies are limited to the use of mind mapping in learning language skills and language elements.

Therefore, this study intended to complement existing studies by showing the stages that students go through in understanding Arabic texts using mind mapping techniques. This study aimed to show that mind mapping is able to lead students to understand Arabic texts comprehensively and be able to present the results. Accordingly, two problems are formulated how is the process of using mind mapping as a technique to improve reading comprehension of Arabic text and what is the form of mind mapping

and Chan Hua Chien, "The Use of Mind Mapping Strategy in Malaysian University English Test (MUET) Writing," *Creative Education*, 2016, <https://doi.org/10.4236/ce.2016.74064>; Rafidah Abd Karim, "Technology-Assisted Mind Mapping Technique in Writing Classrooms: An Innovative Approach," *International Journal of Academic Research in Business and Social Sciences*, 2018, <https://doi.org/10.6007/ijarbss/v8-i4/4146>.

²² Karim, "Technology-Assisted Mind Mapping Technique in Writing Classrooms: An Innovative Approach." Karim.

²³ Wahyudi Wahyudi and Rika Irawati, "Mind Mapping Technique in Developing Students' Speaking Skill," *Eksos*, 2020, <https://doi.org/10.31573/eksos.v15i2.84>.

²⁴ Wahyudi and Irawati.

²⁵ Wafa' A. Hazaymeh and Moath Khalaf Alomery, "The Effectiveness of Visual Mind Mapping Strategy for Improving English Language Learners' Critical Thinking Skills and Reading Ability," *European Journal of Educational Research*, 2022, <https://doi.org/10.12973/eu-jer.11.1.141>.

²⁶ Azura Binti Abdul Aziz and Hamidah Bt Yamat, "The Use of Mind Mapping Technique in Increasing Students' Vocabulary List," *Journal of Education and Social Sciences*, 2016.

²⁷ M. Sidik, A., & Muassomah, "Implementasi Metode Mind Mapping Dengan Menggunakan Media Power Point Dalam Pembelajaran Nahwu.," *Alsina: Journal of Arabic Studies* 3, no. 2 (2021): 241-260., 10.21580/alsina.3.2.6734.

²⁸ Furqon Edi Wibowo, "A Mind Mapping: A Strategy to Enhance Students' English Grammatical Structure," *Al-Lisan*, 2020, <https://doi.org/10.30603/al.v6i2.1321>.

²⁹ Wibowo.

made by students. These are the focused of this study. To explain the formulation of this problem, a qualitative method needed with the research object of ICP students in department of Arabic Language and Literature, Universitas Islam Negeri Maulana Malik Ibrahim, Malang.

Methods

This study used qualitative methods, namely research that aims to understand phenomena about the conditions and experiences of subjects and research objects, such as behavior, perceptions, motivations, actions, etc.³⁰ Methods that guide research to explore and photograph social situations and conditions that will be thoroughly, broadly and in-depth researched. The research tries to describe the mind mapping that is implemented in the learning process of reading skills.

The object of research is students of the Arabic Language and Literature Study Program, Maulana Malik Ibrahim State Islamic University, Malang. This research is limited to students who take reading skills courses in the first semester. The ICP (International Class Program) class was chosen to implement the use of mind mapping as a means of understanding Arabic texts. ICP students were chosen on the grounds that they have better Arabic competence compared to other classes. They were grouped into two classes consisting of 50 students, each class consisting of 25 students. They are given texts with the same theme to read, understand, and make mind maps, which are then presented in front of the class.

The procedure used in this study went through three stages, namely the pre-field stage, the field work stage, and the data analysis stage.³² The pre-field stage of this research begins with a desk review examining writings that present learning experiences using mind mapping of various language and non-language-related materials. The summary of the research results is used as a basis for mapping the central issues of this research. These materials also form the basis for writing a literature review. The stage of field work, in which research activities are carried out at the location of the research

³⁰ John Gerring, "Qualitative Methods," *Annual Review of Political Science*, 2017, <https://doi.org/10.1146/annurev-polisci-092415-024158>.

³¹ Hans Gerd Ridder et al., "Qualitative Data Analysis. A Methods Sourcebook," *Zeitschrift Fur Personalforschung*, 2014.

³² Margaret R. Roller, "A Quality Approach to Qualitative Content Analysis: Similarities and Differences Compared to Other Qualitative Methods," *Forum Qualitative Sozialforschung*, 2019, <https://doi.org/10.17169/fqs-20.3.3385>.

object. At this stage, as much data as possible is collected according to the focus of the problem and research objectives. The data analysis phase is carried out using all data collected from the research field. At this stage a discussion of the data found during the data mining process in the field is carried out.

The data in this study through observation and documentation. Observation is a data collection technique that is carried out through direct observation of the research object using the five senses.³³ Observations were made by making observations on the process of teaching reading skills by applying mind mapping as a means for students to be able to explain the contents of the text. Observations were made on students reading texts, looking for difficult words, understanding texts and compiling mind maps and presenting them. This type of direct observation is carried out in classes that are used as research objects.

In contrast to documentation techniques, namely techniques that are carried out by collecting data in the form of documents, both written documents, images, and electronics.³⁴ Documentation data in the form of mind mapping that has been prepared by students either individually or in groups. This research document is in the form of an image is given writing as an explanation. The image consists of circles, squares, ovals, and lines (thick and thin) as a link and given a variety of colors.

The data that has been collected is then analyzed with qualitative research stages, namely data reduction, data display, and drawing conclusions. Data reduction is done by selecting and sorting the collected data and classifying it thematically. The data is then displayed in the form of figures in the form of stages of learning reading skills using mind mapping. The stages of learning are given a description according to the observations obtained. The final stage of drawing conclusions, by summarizing the results of research findings and providing interpretation of the data. Thus, data analysis is the process of systematically compiling data on the data collected in the form of photos and video recordings from observations and documentation to get a conclusion in accordance with the research objectives.

³³ Sai Balakrishnan and Ann Forsyth, "Qualitative Methods," in *The Routledge Handbook of International Planning Education*, 2019, <https://doi.org/10.4324/9781315661063-13>.

³⁴ Balakrishnan and Forsyth.

Results and Discussion

The process of using mind mapping as a technique to improve reading comprehension of Arabic texts. Comprehension of reading texts using mind mapping is practiced in reading Arabic texts for students for the 2021-2022 academic year. The assignment consists of 3 texts covering the themes of *tarbawy*, *diny*, and *ijtimaiy*. This mind mapping technique is practiced in semester 2 students. Of the three themes, two are individual assignment texts and one group text. The text is provided by the lecturer in the form of a PDF file which is shared via e-learning. All students can access and download it. There are five stages carried out by students in understanding the text and presenting it with mind mapping.



Figure 1. Stages of the process of understanding the text by using mind mapping

Figure 1 illustrated the five stages that students take in understanding the text using mind mapping. The first stage, reading the text as a whole which consists of 3-5 pages. They were asked to read the entire text aloud and underline the words that were considered difficult. Previously, students took turns reading aloud to find out the truth of the reading according to the rules of Arabic. Students who have not had the opportunity to read aloud, they listen to their friend's readings, and they are involved in providing corrections. Arabic is a second language for research participants, so reading the entire text is required before they understand the meaning of the vocabulary in each text.³⁵ Fluency in text reading cannot be measured by understanding the text read. Thus, they need to read the text by highlighting words that are considered foreign and do not know their meaning.

The second stage is to find the meaning of difficult words that have been marked. Each student is given time to look up the meaning of a word in a dictionary or e-

³⁵ Nicolas Dirix et al., "Reading Text When Studying in a Second Language: An Eye-Tracking Study," *Reading Research Quarterly*, 2020, <https://doi.org/10.1002/rrq.277>.

dictionary. Students understand the meaning textually at this stage. They discuss each other with friends in the same class, in understanding the textual meaning of sentences that are considered difficult or foreign to them. The third stage, students make contextual meaning. Contextual meaning can be understood through a thorough understanding. That is understanding the text in one sentence or in one paragraph. In addition, students can understand the core of a sentence or paragraph and can pick the main idea.

The fourth stage is making a mind map and applying mind mapping techniques in the process of understanding the text. Students are given the freedom to use the mind mapping model. Most of them use the Buzan model mind mapping. Where a mind map is made with graphic images, has a different font size between main ideas and explanations, and uses different line thicknesses and graphic scales for clearer mind mapping. Students can understand the contents of the text and can present the contents of the text in mind mapping. The fifth stage, presenting the contents of the text through mind mapping. Students are given special time to present their understanding of the text through mind mapping that has been made. A total of 7 students were randomly selected from each class to visually present their understanding of the text that had been determined.

These five steps are learning techniques that are carried out in providing reading skills material. Learning techniques are a way that someone does in implementing a particular method.³⁶ Learning techniques can also be interpreted as a person's learning style by using specific methods both individually and in groups.³⁷ The way the teacher conveys the subject matter so that it is easily understood by students.³⁸ Donoghue stated that learning techniques are tools, paths, or media used by teachers to direct student activities to achieve predetermined goals.³⁹ In fact, learning techniques are more important than material (lesson substance), this statement implies that no matter how good the material is, a technique or method is needed in its delivery.⁴⁰ The form of mind mapping compiled by students:

³⁶ Christiana Evy Tri Widyahening, "Penggunaan Teknik Pembelajaran Fishbone Diagram," *Pendidikan, Jurnal Komunikasi*, 2018.

³⁷ Irma Martiny Md Yasim et al., "Penggunaan Teknik Pembelajaran Aspek Kosakata Bahasa Arab Dalam Kalangan Murid Using Learning Techniques in Aspects of Arabic Vocabulary Among Students," *ASEAN Comparative Education Research Journal on Islam and Civilization (ACER-J)*, 2017.

³⁸ Muh Arif, "Metode Direct Dalam Pembelajaran Bahasa Arab," *Al-Lisan. Journal Bahasa & Pengajarannya*, 2019.

³⁹ Gregory M. Donoghue and John A.C. Hattie, "A Meta-Analysis of Ten Learning Techniques," *Frontiers in Education*, 2021, <https://doi.org/10.3389/educ.2021.581216>.

⁴⁰ Zulfiah Sam, "Metode Pembelajaran Bahasa Arab," *Nukhbatul 'Ulum*, 2016, <https://doi.org/10.36701/nukhbah.v2i1.16>.

Mind mapping compiled by students individually

Students individually compile a mind map from the reading text that has been determined by the teacher or lecturer. They carry out the stages of learning reading skills, until they produce a mind mapping structure as an illustration of their understanding of the text. All students have the same assignment from several texts with the theme of *tarbawiy* texts, and *ijtima'iy* texts, as shown in the sample in figure 2.

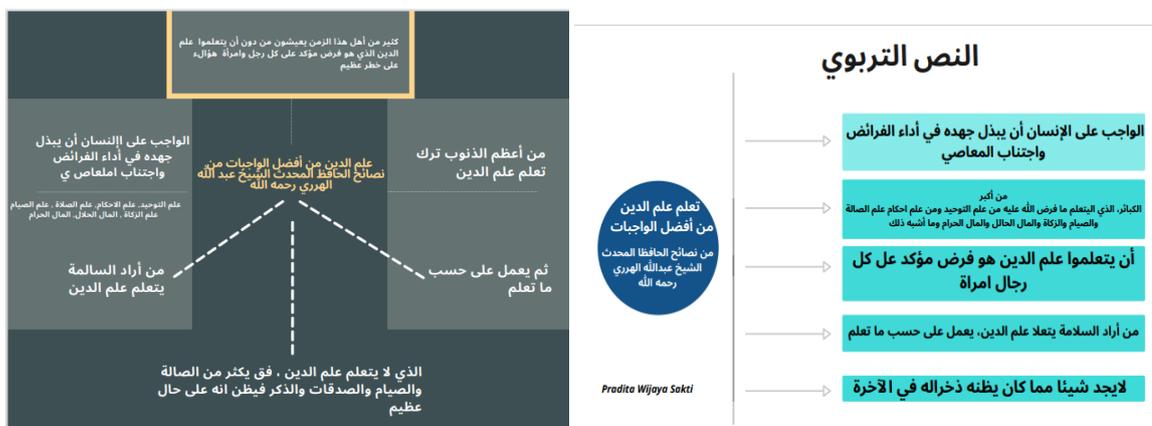


Figure 2. Mind Mapping of Tarbawiy Text

Figure 2 showed the results of mind mapping that has been made and compiled by students in individual assignments in the material of *qiroa'ah muwasa'ah*. Where students are given a simple text reading consisting of 3-5 pages. The themes provided are related to daily activities and are experienced directly by students. Figure 2 showed the *tarbawiy* text, from the two mind mapping samples it can be illustrated that each student is able to map the text according to what they understand, and has extraordinary innovation and creativity in visualizing the understanding of Arabic text. The same text was given to all students, which resulted in various mind mappings that they were able to compose.

Creating an atmosphere in the classroom environment that motivates students to be dynamically involved in the learning process. Mind mapping is considered as a teaching strategy that has led to student activity.⁴¹ Students are encouraged to understand the text, to be able to organize the main ideas, and set it in the form of a mind map. They

⁴¹ Naghmeh-Abbaspour and Rastgoo, "Analysis for Finding the Effect of Mind Mapping Technique on the Iranian English as Foreign Language Learning' Writing Skills."

can be assisted in organizing ideas and writing in a more effective way.⁴² Mind mapping can also increase critical thinking skills and reading comprehension skills for students.⁴³ In line Kholida Munasti shows that mind mapping has been able to develop student's creativity in expressing ideas, initiatives, skills, high curiosity, actualizing imagination, and courage in expressing opinions.⁴⁴

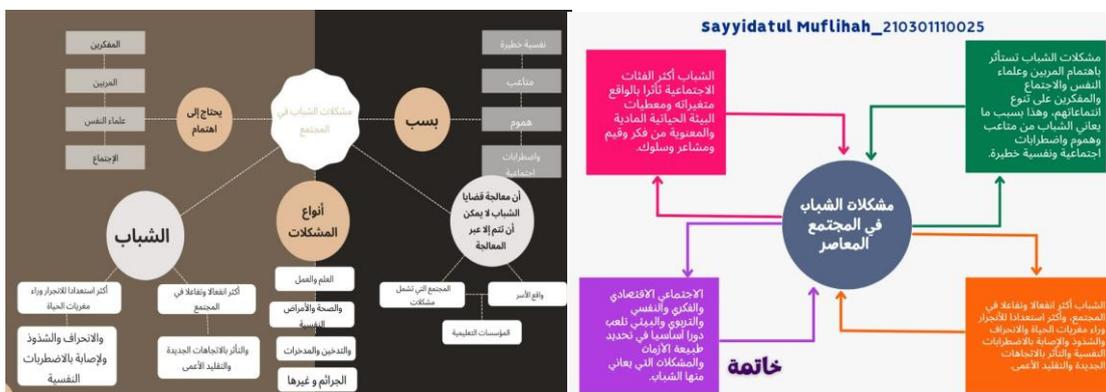


Figure 3. Mind Mapping of *Ijtima'iy* Text

Figure 3 showed the results of student work in making mind maps from reading *ijtima'iy* texts. The two mind mapping samples showed student's understanding of the text they had read. Mind mapping can be presented in detail with bullet points, and can also be presented globally as illustrated in figure 3. The two mind mappings have different characteristics. Image 1 showed a very detailed and detailed explanation in showing the important points that need to be explained. In addition, it provides connecting lines that can provide an understanding to the reader of the synergy between one point and another. Coloring images have matching colors, from harmonious color gradations. In contrast to image 2 which provides a simple understanding by displaying four boxes containing points that are part of what is in the circle. Mind mapping can be described by lines that emit the main and branch images of a discussion theme.⁴⁵

Several research results corroborate that mind mapping has succeeded in helping students solve problems, generate creative ideas, easily remember new vocabulary,

⁴² Hazaymeh and Alomery, "The Effectiveness of Visual Mind Mapping Strategy for Improving English Language Learners' Critical Thinking Skills and Reading Ability."

⁴³ Hazaymeh and Alomery.

⁴⁴ Kholida Munasti, Hibana Hibana, and Susilo Surahman, "Penggunaan Mind Mapping Sebagai Media Pengembangan Kreativitas Anak Di Masa Pandemi," *Aulad: Journal on Early Childhood*, 2021, <https://doi.org/10.31004/aulad.v4i3.104>.

⁴⁵ Buzan, "How to Mind Map with Tony Buzan ."

improve reading skills, organize assignments and prepare presentations.⁴⁶ Tony Buzan as the originator of concept maps stated that concept mapping is an efficient recording system that makes revision a fun thing that students can do, and is a magic formula that students can do in class.⁴⁷ Applying mind mapping techniques can improve reading comprehension of middle-level students.⁴⁸ Mind mapping which is applied in the syntactic learning model can also improve students' metacognitive skills.⁴⁹ Through mind mapping students have a higher reading level, increase reading speed to get information accurately and quickly.⁵⁰ Empirical results show that mind mapping training is an effective method for improving student's reading skills.⁵¹ Mind mapping helps readers identify the problem being solved. Mind mapping automation can help digital indexing and navigation systems such as Scopus, PubMed or CiteSeer to increase the efficiency of reading and understanding scientific literature.⁵²

Mind mapping compiled by students collaboratively

The use of mind mapping in learning reading skills can also be implemented in collaborative learning systems. Where one reading text is discussed by each group consisting of four students. Collaborative assignments are carried out outside of class hours. Students can discuss with their group teams offline and online. The results of the mind mapping that have been compiled collaboratively can be shown in figure 4.



Figure 4. Mind Mapping of Diniy Text

⁴⁶ Buzan.

⁴⁷ T K Tee et al., "Buzan Mind Mapping : An Efficient Technique For," *International Journal of Social, Behavioral, Educational, Economic, Business and Industrial Engineering*, 2014.

⁴⁸ Dyah Astriani et al., "Mind Mapping in Learning Models: A Tool to Improve Student Metacognitive Skills," *International Journal of Emerging Technologies in Learning*, 2020, <https://doi.org/10.3991/IJET.V15I06.12657>.

⁴⁹ Ting Liu and Takaya Yuizono, "Mind Mapping Training's Effects on Reading Ability: Detection Based on Eye Tracking Sensors," *Sensors (Switzerland)*, 2020, <https://doi.org/10.3390/s20164422>.

⁵⁰ Liu and Yuizono.

⁵¹ Liu and Yuizono.

⁵² P. Guerrero J. M., & Ramos, "Mind Mapping for Reading and Understanding Scientific Literature," *International Journal of Current Advanced Research*, 2015, <https://doi.org/10.1002/da>.

Figure 4 can illustrate that the assignment of reading texts in groups can also be used as a means of understanding students in reading Arabic texts. They read the text alternately for each member in the group, listen to each other, and provide corrections for mistakes. Then, together they look up difficult words in the dictionary and explain the contents of the text. They continued the discussion regarding understanding the entire content of the text and compiling the main mapping. At the end of the mind mapping structure, there are names of personnel in each group, as well as pictures of group discussions being carried out.

The mind mappings that were successfully compiled by each group had different characteristics, as the two samples shown in figure 4. The mind mapping in image 1 was prepared by marking a large circle and a small circle. Large circles provide an indication of the existence of sub-themes of the topics discussed and are discussion parts of the theme or title of the text. Small circles provide explanations regarding the points described in the sub-themes. Each sub-theme is given a variety of colors. Unlike the mind mapping in image 2, it is arranged with elongated oval circles, the main theme is placed in the middle and connected by lines to explain the parts discussed in the theme. Each section or sub theme is given a different color to make it more interesting and the points are clearer. Mind mapping is arranged as attractively as possible by using words, colors, lines, and pictures.⁵³

Mind mapping practiced in collaborative learning shows more effective success than traditional techniques.⁵⁴ Collaborative learning strategies using mind mapping can help students understand a second language better.⁵⁵ Mind mapping is a creative tool, which keeps students engaged in collaborative learning and active knowledge representation can be realized.⁵⁶ In addition, mind mapping also helps teachers to

⁵³ Husni and Zainuddin, "Memahami Konsep Pemikiran Mind Map Tony Buzan (1970) Dalam Realitas Kehidupan Belajar Anak."

⁵⁴ Özgül Polat, Türker Sezer, and Nevra Atış-Akyol, "Collaborative Learning with Mind Mapping in the Development of Social Skills of Children," *Participatory Educational Research*, 2022, <https://doi.org/10.17275/per.22.25.9.1>; I Gede Margunayasa et al., "The Effect of Collaborative Learning Aided by Mind Mapping Method on Science Learning Achievement," 2019, <https://doi.org/10.4108/eai.21-11-2018.2282049>.

⁵⁵ Carolyn F. Pardo-Tolentino and Rischelle G. Aggabao, "Collaborative Instructional Strategies and Attitudes toward Second Language Learning," *International Journal of Linguistics, Literature and Translation*, 2020, <https://doi.org/10.32996/ijllt.2020.3.5.7>.

⁵⁶ J. S. Awati, Seema S. Desai, and Suvarna Tope, "Mind Mapping: An Effective Teaching Learning Evaluation Tool in Engineering Education," *Journal of Engineering Education Transformations*, 2020, <https://doi.org/10.16920/jeet/2020/v33i0/150071>.

evaluate student's acquisition of knowledge effectively.⁵⁷ Accordingly, the potential of using CollaboWrite with Mindmeister has been revealed to facilitate student's active collaboration in writing and increase their level of motivation both in the classroom and through online connections.⁵⁸

This research has limitations on the reading text and mind mapping that must be made. Where every student and every group is given the same text with various mind maps. So that, the expected reading competence is less varied, and less challenging for students individually and in groups. In line with that, this study provides suggestions for further research by providing opportunities for students to improvise reading materials. That is students search for reading texts from the internet with themes determined by the teacher, which they then compile mind maps and present their reading results. Thus, their reading competence is more challenged and honed.

Conclusion

The research concluded that the use of mind mapping techniques in language learning, especially in learning reading skills, has an extraordinary positive impact. Where students are able to understand Arabic texts easily and effectively, namely students can compile a mind map of the text they have read and able to present the contents of the text in a comprehensive manner through mind mapping. The use of mind mapping can be implemented in individual and collaborative learning activities. Individually, each student prepares a mind map from the text that has been determined. Meanwhile, collaboratively, each group consisting of 4-5 students compiled a mind map of the text given in each group. Each mind map that has been prepared is then presented in front of the teacher and friends in the learning class.

This research has limitations on the reading text and mind mapping that must be made. Where, every student and every group are given the same text with various mind maps. So that, the expected reading competence is less varied and less challenging for students individually and in groups. In line with that, this study provides suggestions for further research by providing opportunities for students to improvise reading materials.

⁵⁷ Iuliia Papushina, Olga Maksimenkova, and Andrei Kolomiets, "Digital Educational Mind Maps: A Computer Supported Collaborative Learning Practice on Marketing Master Program," in *Advances in Intelligent Systems and Computing*, 2017, https://doi.org/10.1007/978-3-319-50337-0_2.

However, students search for reading texts from the internet with themes determined by the teacher, which they then compile mind maps and present their reading results. Thus, their reading competence is more challenged and honed.

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Author Contributions Statement

MM designed the study, drafted the manuscript, conceived the study and took responsibility for the integrity of the data and the accuracy of the data analysis, and interpreted the data. PR collected data, mapped data, and classified data. MF has written literature review and organized discussion.

References

- Astriani, Dyah, Herawati Susilo, Hadi Suwono, Betty Lukiati, and Aris Rudi Purnomo. "Mind Mapping in Learning Models: A Tool to Improve Student Metacognitive Skills." *International Journal of Emerging Technologies in Learning* 15, no. 6 (2020): 4-17. <https://doi.org/10.3991/IJET.V15I06.12657>.
- Aziz, Azura Binti Abdul, and Hamidah Bt Yamat. "The Use of Mind Mapping Technique in Increasing Students' Vocabulary List." *Journal of Education and Social Sciences*, 2016.
- Bukhari, Syeda Saima Ferheen. "Mind Mapping Techniques to Enhance EFL Writing Skill." *International Journal of Linguistics and Communication* 4, no. 1 (2016): 58-77. <https://doi.org/10.15640/ijlc.v4n1a7>.
- Buran, Anna, and Andrey Filyukov. "Mind Mapping Technique in Language Learning." *Procedia - Social and Behavioral Sciences* 206, (2015): 215-218. <https://doi.org/10.1016/j.sbspro.2015.10.010>.
- Karuppan, Corinne M., Nancy E. Dunlap, and Michael R. Waldrum. *Operations Management in Healthcare: Strategy and Practice*. Alabama: UAB Health System, 2022.

⁵⁸ Alvin Wong et al., "Collaborative Writing Strategy: CollaboWrite with MindMeister," *International Journal of Academic Research in Business and Social Sciences*, 2019, <https://doi.org/10.6007/ijarbss/v9-i2/5530>.

- Buzan, Tony. *Mind Map Mastery: The Complete Guide to Learning and Using the Most Powerful Thinking Tool in the Universe*. Watkins Media Limited, 2018.
- Buzan, Tony. "The Buzan Study Skill Handbook : The Shortcut to Success in Your Studies with Mind Mapping, Speed Reading and Winning Memory Techniques." *In BBC Active*, 2007.
- Swann, Ken. "Entrepreneurship in Large Companies." *Journal of General Management* 2, no. 4 (1975): 48-54.
- Čoban, Sibel, and Ekin Selçuk Tokatli. "The Effect of Mind Mapping Technique on Students' Achievements in Music Lesson and on Their Attitudes towards the Mind Mapping Technique." *Education and Science* 42, no. 190 (2017): 423-435. <https://doi.org/10.15390/EB.2017.6856>.
- Delatu, Tara A., Diane Wowor, and Sarah Kamagi. "Increasing Students' Vocabulary by Using Mind Mapping Technique at SMP N 2 Bitung." *Journal of English Culture, Language, Literature and Education* 8, no. 2 (2021): 88-96. <https://doi.org/10.53682/eclue.v8i2.1621>.
- Dewi, Ratna Sari, Fahrurrozi, Uswatun Hasanah, and Apri Wahyudi. "Reading Interest and Reading Comprehension." *Talent Development & Excellence* 12, no. 1 (2020): 241-250.
- Dirix, Nicolas, Heleen Vander Beken, Ellen De Bruyne, Marc Brysbaert, and Wouter Duyck. "Reading Text When Studying in a Second Language: An Eye-Tracking Study." *Reading Research Quarterly* 55, no. 3 (2020): 1-63. <https://doi.org/10.1002/rrq.277>.
- Donoghue, Gregory M., and John A.C. Hattie. "A Meta-Analysis of Ten Learning Techniques." *Frontiers in Education*, 2021. <https://doi.org/10.3389/educ.2021.581216>.
- Elleman, Amy M., and Eric L. Oslund. "Reading Comprehension Research: Implications for Practice and Policy." *Policy Insights from the Behavioral and Brain Sciences* 6, no. 1 (2019): 3-11. <https://doi.org/10.1177/2372732218816339>.
- Moore, B. "Social origins of Dictatorship and Democracy: Lord and Peasant in the Making of the Modern World." *Beacon Press* 268, (1993).
- Nevo, G. A., and Manassis K. "Outcomes for Trated Anxious Children: a Critical Review of Long-Term-Follow-Up Studies." *Depression and Anxiety* 26, no. 7 (2009): 650-660.
- Hazaymeh, Wafa' A., and Moath Khalaf Alomery. "The Effectiveness of Visual Mind Mapping Strategy for Improving English Language Learners' Critical Thinking Skills and Reading Ability." *European Journal of Educational Research* 11, no. 1 (2022): 141-150. <https://doi.org/10.12973/eu-jer.11.1.141>.
- Hernacki, Mike, Bobbi Deporter, Awiyah Abdurrahman, Sari Meutia, Sari Meutia, _____ translator Alwiyah Abdurrahman, Alwiyah Abdurrahman, Alwiyah Abdurrahman, _____
Jurnal Al Bayan: Jurnal Jurusan Pendidikan Bahasa Arab, 14 (2): 438-455 (2022)| 452

- and translator Sari Mutiah. "Quantum Learning : Membiasakan Belajar Nyaman Dan Menyenangkan." (2006).
- Husni, Muhamad, and Zainuddin. "Memahami Konsep Pemikiran *Mind Map* Tony Buzan (1970) dalam Realitas Kehidupan Belajar Anak." *Al-Ibrah* 3, no. 1 (2018): 110-126.
- Karim, Rafidah Abd. "Technology-Assisted Mind Mapping Technique in Writing Classrooms: An Innovative Approach." *International Journal of Academic Research in Business and Social Sciences* 8, no. 4 (2018): 1092-1103. <https://doi.org/10.6007/ijarbss/v8-i4/4146>.
- Liu, Ting, and Takaya Yuizono. "Mind Mapping Training's Effects on Reading Ability: Detection Based on Eye Tracking Sensors." *Sensors* 20, no. 4422 (2020): 1-15. <https://doi.org/10.3390/s20164422>.
- Margunayasa, I Gede, Ni Nyoman Kusmariyatni, Ni Luh Sri Surya Wisma Jayanti, Ni Made Daini Vitra Sinta Sari, and I Made Hendra Sukmayasa. "The Effect of Collaborative Learning Aided by Mind Mapping Method on Science Learning Achievement." *ICTES*, (2019): 1-6. <https://doi.org/10.4108/eai.21-11-2018.2282049>.
- Munasti, Kholida, Hibana Hibana, and Susilo Surahman. "Penggunaan *Mind Mapping* sebagai Media Pengembangan Kreativitas Anak di Masa Pandemi." *Aulad: Journal on Early Childhood* 4, no. 3 (2021): 179-185. <https://doi.org/10.31004/aulad.v4i3.104>.
- Naghmeah-Abbaspour, Bitaa, and Vahideh Rastgoo. "Analysis for Finding the Effect of Mind Mapping Technique on the Iranian English as Foreign Language Learning' Writing Skills." *Texto Livre: linguagem & Tecnologia* 13, no. 2 (2020): 102-116. <https://doi.org/10.35699/1983-3652.2020.24559>.
- Novak, Joseph D., and Alberto J. Cañas. "The Origins of the Concept Mapping Tool and the Continuing Evolution of the Tool." *Information Visualization* 5, no. 3 (2006): 175-184. <https://doi.org/10.1057/palgrave.ivs.9500126>.
- Orlova, Nataliia. "Efficiency Of Mind Mapping For The Development Of Speaking Skills In Students Of Non-Linguistic Study Fields." *Science and Education*, no. 6 (2017): 151-161. <https://doi.org/10.24195/2414-4665-2017-6-23>.
- Papushina, Iuliia, Olga Maksimenkova, and Andrei Kolomiets. "Digital Educational Mind Maps: A Computer Supported Collaborative Learning Practice on Marketing Master Program." In *International Conference on Interactive Collaboration Learning* 544, (2017). https://doi.org/10.1007/978-3-319-50337-0_2.
- Pardo-Tolentino, Carolyn F., and Rischelle G. Aggabao. "Collaborative Instructional Strategies and Attitudes toward Second Language Learning." *International Journal of Linguistics, Literature and Translation* 3, no. 5 (2020): 60-67. <https://doi.org/10.32996/ijllt.2020.3.5.7>.

- Polat, Özgül, Türker Sezer, and Nevra Atış-Akyol. "Collaborative Learning with Mind Mapping in the Development of Social Skills of Children." *Participatory Educational Research* 9, no. 1 (2022): 463-480. <https://doi.org/10.17275/per.22.25.9.1>.
- Purwanto, M. Bambang, and Marsinah. "The Use of Mind Mapping Technique to Improve the EFL Students' Reading Comprehension Ability of Darussalam Polytechnic." *Esteem Journal of English Education Study Programme* 4, no. 2 (2021): 52-62. <https://doi.org/10.31851/esteem.v4i2.5136>.
- Ridder, Hans Gerd, Matthew B. Miles, A. Michael Huberman, and Johnny Saldaña. "Qualitative Data Analysis. A Methods Sourcebook." *Zeitschrift Fur Personalforschung* 28, no. 4 (2014): 487-487.
- Roller, Margaret R. "A Quality Approach to Qualitative Content Analysis: Similarities and Differences Compared to Other Qualitative Methods." *Forum Qualitative Sozialforschung* 20, no. 3 (2019). <https://doi.org/10.17169/fqs-20.3.3385>.
- Rufaida, Kanza, and Muassomah. "Model Pembelajaran *Flipped Classroom* dalam Pembelajaran Ketrampilan Membaca di MTS Al-Hikmah Brebes." *Tarling: Journal of Language Education* 5, no. 1 (2021): 93-108. <https://doi.org/10.24090/tarling.v5i1.4369>.
- Sam, Zulfiah. "Metode Pembelajaran Bahasa Arab." *Nukhbatul 'Ulum: Jurnal Bidang Kajian islam* 2, no. 1 (2016): 206-220. <https://doi.org/10.36701/nukhbah.v2i1.16>.
- Sidik, Anwar, and Muassomah. "Implementasi Metode Mind Mapping dengan Menggunakan Media Power Point dalam Pembelajaran Nahwu." *Alsina: Journal of Arabic Studies* 3, no. 2 (2021): 241-260. [10.21580/alsina.3.2.6734](https://doi.org/10.21580/alsina.3.2.6734).
- Abubakar, Sitti Rahmaniar, Aprillianti, Ahid Hidayat, Muamal Gadafi, and Nanang Sahriana. "Using Mind Mapping Learning Methods for Children's Language Skills." *Jurnal Pendidikan Usia Dini* 15, no. 1 (2021). <https://doi.org/10.21009/jpud.151.08>.
- Snow, Pamela C. "SOLAR: The Science of Language and Reading." *Child Language Teaching and Therapy* 37, no. 3 (2021): 222-233. <https://doi.org/10.1177/0265659020947817>.
- Tee, T K, M N A Azman, S Mohamed, M M Mohamad, J Yunos, M H Yee, and W Othman. "Buzan Mind Mapping: An Efficient Technique For." *International Journal of Social, Behavioral, Educational, Economic, Business and Industrial Engineering* 8, no. 1 (2014): 28-31.
- Wahyudi, Wahyudi, and Rika Irawati. "Mind Mapping Technique in Developing Students' Speaking Skill." *Eksos* 17, no. 2 (2019): 77-84. <https://doi.org/10.31573/eksos.v15i2.84>.

- Wibowo, Furqon Edi. "Mind Mapping: A Strategy to Enhance Students' English Grammatical Structure." *Al-Lisan: Jurnal Bahasa* 5, no. 2 (2020): 213-229. <https://doi.org/10.30603/al.v6i2.1321>.
- Widyahening, Christiana Evy Tri. "Penggunaan Teknik Pembelajaran *Fishbone Diagram* dalam Meningkatkan Keterampilan Membaca Siswa." *Jurnal Komunikasi Pendidikan* 2, no. 1 (2018): 11-19.
- Wong, Alvin, Daisy Kunang Anak Kuah Jebi, Yii Hung Ying, and Melor Md Yunus. "Collaborative Writing Strategy: CollaboWrite with MindMeister." *International Journal of Academic Research in Business and Social Sciences* 9, no. 2 (2019): 146-158. <https://doi.org/10.6007/ijarbss/v9-i2/5530>.
- Yunus, Melor Md, and Chan Hua Chien. "The Use of Mind Mapping Strategy in Malaysian University English Test (MUET) Writing." *Creative Education* 7, no. 4 (2016). <https://doi.org/10.4236/ce.2016.74064>.