

The Use of EdrawMind Map Application to Generate Student's Ideas in Speaking

Izza Audina¹⁾; Wiwiet Eva Savitri²⁾

^{1, 2} Universitas Negeri Surabaya

*) Corresponding author: izza.18012@mhs.unesa.ac.id

ABSTRACT

Speaking skills might be one of the most difficult skills to master because too many ideas are stuck and a lot of lack vocabulary to explain and produce. This study describes the process of digital mind mapping as the media and tools for arranging ideas in speaking. This method can promote students' speaking skills through analyzing, arranging, and creating to improve their speaking performance. This study aims to investigate how EdrawMind is used to generate ideas in speaking and the effect of using online mind mapping to generate students' ideas in speaking. There have been several studies conducted in developing mind mapping in writing, but yet little research has explored the use of mind mapping in students' speaking and how mind mapping can increase speaking ability by generating an idea in a good organization. Furthermore, EdrawMind as the new online mind mapping application explored related the use of mind mapping in a speaking context. A qualitative method with four phases: pre-test, treatment, post-test, and speech performance evaluation are used in the data collection. Senior high school students are for the subject using semi-structured interviews, worksheets (speech text), and presentations. The data are analyzed and transcribed into descriptions and explanation. The results obtained from the experiment showed that there was an increase in students' speaking performance through mind mapping.

Keywords: Mind mapping, EdrawMind, idea, speaking performance.

INTRODUCTION

Speaking is often considered one of the most difficult skills that students should face because it usually requires a period to achieve it (Bueno, Madrid, and McLaren in Anjum et al., 2019). Having speaking ability seems relatively easy to native language speakers, but it often causes difficulty for students who are learning English as their second and foreign language. According to Yunanda et al. (2013), fluency, understanding, grammar, and vocabulary are the five main components of speaking ability. Specific description related to speaking as a productive oral skill that entails the construction of systematic phonation of words to transmit meaning (Nunan in Ahmad et al., 2019). Those competencies can be acquired as the second language students through regular spoken interactions with people and emphasizing the speaking skill components. Students must master the components of speaking ability to obtain speaking abilities. Besides, some EFL students have difficulty speaking because too many

words are stuck in their minds. Speaking is a common activity, but it is also highly difficult to consider when teaching. In this current era, a person who does not have good communicative skills will suffer greatly in comparison to someone who does (Khan, 2010).

Having communication skills are very important in today's globalized society for success in all sectors. The use of language as a medium of communication is prevalent. For someone who does not understand the language, effective communication is difficult. People can't reach their aims, intentions, or goals if they don't communicate effectively. English is considered an international language and is used worldwide, so it serves to communicate with people living in other parts of the world, states, countries, and continents. On the other hand, speaking also needs critical thinking skills in the process. Students need to compose the word, arrange the sentence then pronounce or produce it. The main problem here, some students know the answers to the questions given, but they have difficulties arranging the words properly so it's hard to get them out or explain them. According to Kayi (2006), speaking is the most important ability needed in communication out of the four competencies of a language because of students' limited vocabulary, timidity, and lack of desire. Also, based on the research conducted in Kenya by Mwamba (2005) as cited in Gudu (2015), many high school students are hesitant and choose to remain silent in class because they are unable to express themselves appropriately in spoken English. This study found that students who lack linguistic competence often speak gradually, take a too long time to consider composing words and expressions, are less interested in effective discussion, their communication in English sounds abnormal, and also have helpless sentence structure and articulation.

To overcome those difficulties in speaking, mind maps can be applied to their speaking practice. This study investigates how EdrawMind is used to generate ideas in speaking and the effect of using online mind mapping to generate students' ideas in speaking.

LITERATURE REVIEW

Tony Buzan, a British psychologist, mathematician, and brain researcher, invented the mind map as a thinking method and note-taking model in the late 1960s by Karaçal (2012) as cited in Naqbi (2011). Margulies (1991) as cited in Balim (2013) noted that mind mapping was a learning technique that considered and integrated all of the brain's functional processes, rather than only the left or right hemispheres. Besides, mind map techniques can be successfully transferred to situations when students are not required to use them. It is can be determined that mind mapping is an outline or diagram that is used to organize and limit ideas related to students' strategic and critical thinking so that they can be more organized in arranging the idea.

Mind mapping may be considered an old technique for students. However, currently mind mapping can not only be done using paper and pencil, in this digital era many breakthrough applications can also be used to help students, especially in compiling ideas through mind mapping. One of them is the EdrawMind Application. EdrawMind is a cross-platform mind mapping software that helps users solve problems, generate ideas, organize knowledge and business plans, take notes, and manage projects. In this study, EdrawMind as a new online mind mapping application was explored by prior studies and other studies to acquire data on the use of mind mapping in the context of speaking.

Apart from being a breakthrough application that is used to help students, especially in formulating ideas, mind mapping can also be a new piece of equipment in education. The majority of the education in Indonesia still relies on conventional methods and so many students are still unfamiliar with the use of technology. Conventional teaching methods make the students less motivated to learn English in the classroom (Harmer, 2004, as cited in Puspitasari & Panggabean, 2016). The use of media can simplify the language teaching and learning process, reduce the use of the mother tongue, increase motivation, make it easier to explain a new concept, improve the quality of the teaching and learning process, and make it more attractive and interactive. It can be stated that EdrawMind is advantageous in teaching and learning English allowing the students to understand the materials presented by the teacher. This can be a breakthrough to overcome the unpreparedness of educational components such as teachers, students, and learning media. The features available in the EdrawMind application include real-time collaboration, offline, and sync, you can edit folders, share and export them, make an interesting presentation, embed an image in a map topic, customize icons and styles, theme, colours, themes, and others.

According to the research conducted in Kenya by Mwamba (2005) as cited in Gudu, (2015), many high school students are hesitant and choose to remain silent in class because they are unable to express themselves appropriately in speaking English. Taking into consideration the mentioned issues, speaking is one of the most difficult and complicated language skills to learn in EFL (Al Hosni, 2014) that it makes teaching speaking a challenging task (Bueno Madrid McLaren in Leong et al., 2017). This study also found that students who lack linguistic competence often speak gradually, take too long to consider composing words and expressions, are less interested in effective discussion, their communication in English sounds abnormal, and have helpless sentence structure and articulation. This shows that students speaking skills affect their speaking performance. Furthermore, various factors influence the speaking performance process. Teachers should identify the factors that may affect students' speaking

performance to assist students in overcoming difficulties in learning to speak. Performance circumstances (time pressure, planning, standard of performance, and amount of support), affective factors (such as motivation, confidence, and anxiety), listening ability, and feedback during speaking activities are all factors that can affect students' speaking performance (Tuan & Mai, 2015).

The mind map is a reasoning system and note-taking model created by Tony Buzan, the British clinician, mathematician, and mind analyst, toward the finish of the 1960s (Karaçal in Čoban & Tokatli, 2017). The mind mapping was a learning method dependent on not just either left or right halves of the globe of the mind, but rather on considering and coordinating all working cycles of them. In addition, mind mapping was a note-taking procedure. Chmielewski & Dansereau (1998) found that the knowledge-map strategy could be effectively transferred to situations in which students are not asked to use strategies. In conclusion, mind mapping is an outline or diagram used to outwardly sort out data. While using mind mapping, students can use a point that they want to talk about and discuss. It can help students to generate ideas and limit ideas based on the topic.

The use of mind mapping to create writing skills in UEA schools has been noticed. Naqbi (2011) suggests that mind mapping helps students to design and gather their thoughts to structure tested assignments conditions. Meanwhile, Simonova (2014) states that scientists use mind mapping techniques in a less conventional structure when students are given a pattern of eight measurements of Khan's e-learning and characterize measures that reflect their single e-learning idea.

Some previous research about mind mapping has demonstrated that mind maps affect students' understanding and retention. It can be concluded that mind maps are successfully applied to the decision-making process and help students discover a more balanced approach to the problem. Students use this technique for retelling text. They also use mind maps to easily arrange words into sentences, paragraphs, or maybe written text that can be explained both written or orally. Using a mind map to prepare a presentation admit students to persuade and allure the audience, follow and not lose sight of the main idea, when speaking in public. This also can lead students to have an improvement in their speaking ability and good speaking performance in speaking.

METHOD

This study aims to describe the process of digital mind mapping as a medium and tool for constructing ideas in speaking skills. The generation of ideas in making mind maps can be classified as divergent or convergent thinking. The first is the process of coming up with various ideas or solutions, while the second is the process of deciding which one is the best. However, ideas can also be raised in the social environment through group discussions that have many aspects, including the nature of the work, group composition, group processes, and contextual circumstances, through discussions that establish communication that can trigger the emergence of new ideas or connections for mind mapping.

This research involved students in senior high school students. For the interview, the researchers asked a quarter of the total number of students in one class. This study collected the data to answer and discussed the research formulation where each research question has different data and data sources. In answering the first research question, the data were taken from the 2 steps treatment reports and the researchers' observations of the treatment results. While the data source for the second question comes from the appearance of students' speeches after using EdrawMind to formulate their ideas. To score the student's work a rubric as shown in table 1.

Table 1. Level descriptor rubric

No	Category	Levels and Level's Descriptor			
		Poor (Scale 60-70)	Fair (Scale 71-80)	Good (Scale 81-90)	Excellent (Scale 91100)
1.	Keywords	None or very limited in keyword selection	Limited use of keywords, all ideas are written in sentence form	Ideas in the form of effective keywords	Ideas in the form of highly effective keywords
2.	Alignment between topics and subtopics	Only use 1 branch and the subtopic deviated from the topic	Use 2 branches and some subtopics deviated from the topic	Use 3 branches and the subtopic in line with the topic	Use more than 3 branches and the subtopic in line with the topic
3.	Relationship between the main branch and other branches	The topics and subtopics have no elaboration	Some topics and subtopics have no elaboration	All topics and subtopics have a good elaboration	All topics and subtopics have very good elaboration

4.	Material completeness	The contents are not really clear and impossible to be presented in oral form	The contents are not really complex and difficult to be presented in oral form	The contents are quite complex and can later be presented in oral form	The contents are complex and can later be presented in oral form
----	-----------------------	---	--	--	--

The rubric uses a scale of 60-100 because the researchers use the KKM value or minimum completeness criteria for the respondents. The minimum value is 60 and the maximum is 100. The value of this minimum criterion is also seen from the questionnaire as preliminary study data obtained from student responses, most of the students have used mind mapping. So, the research expectations from this field are quite high. However, from the categories above, in the first and second steps of treatment, researchers have not found respondents who can provide inline, limit, and complex ideas.

In addition, the data sources are also student final assignments, student responses, and interview transcripts. To achieve this goal, qualitative research was used in four stages: pre-test, treatment, post-test, and speech performance assessment. In this study, the research instruments used were questionnaires, field notes, and interviews. Questionnaires were used to find out whether the research subjects had used mind mapping before writing speaking texts, while field notes were used to record and observe students' mind mapping results before and after using mind mapping in their speaking texts which were also the answers to the first research questions. Furthermore, interviews were used to determine the effectiveness of mind mapping in speaking for students. In this case, the researcher asked the participants to answer several questions focusing on analysis, organization, creativity, and interviews with some of the students mentioned. This will also be the answer to the second research question. Data analysis techniques used in this study include familiarizing, coding and interpreting.

RESULTS AND DISCUSSION

This research used 4 phases, namely pre-test, treatment, post-test, and also speech performance assessment. There are two results of this research.

How to Use EdrawMind to Generating Ideas in Speaking

Speaking is a complex skill that includes creating, receiving, and processing information. The meaning is spoken and produced through a participatory process. At the very least, English speaking skill necessitates the presence of a partner who can communicate in a genuine context (Sun et al., 2017). From the previous research, we can conclude that speaking

is a complex skill whereas not all students in ESL/EFL can master it because of some difficulties such as generating ideas. EdrawMind as one of the digital media can be used to help students to generate ideas in speaking. In this study, students were given the assignment to compose a speech text. Then the researchers gave treatment in two steps about mind mapping. After the treatment, students were asked to compose a text speech and a video speech.

In making mind mapping using EdrawMind, participants must have a systematic flow of thinking. This will be used to structure one idea with another as well as create topics and create topic branches. Practor (2012), as cited by Hanif (2020), announced that mind mapping was a note-taking procedure. So, in making mind mapping, students determine the discussion points that will be discussed in detail. The details are arranged according to the level of the material. Starting from the beginning, namely the main theme, then sub-themes, and points of elaboration of the speech text that will be compiled. Those ideas compiled for speech texts can be of higher quality and have a structured weight. EdrawMind as an online platform supports the accessibility of students in developing mind mapping. The EdrawMind feature can make it easy to add videos, photos, comments, change themes, etc. All of these accessibility makes it easier for students to develop mind mapping about speech text in a structured manner and provide a means to increase students' speaking creativity.

Effect of EdrawMind on Students' Speaking Ability

This study used 25 respondents but only 15 respondents were willing to complete the stages. The data then were analyzed using a vocabulary comparison. The benchmark used in this study is the ability to improvise vocabulary in compiling speech text. The results of the analysis are used as a benchmark regarding the influence of EdrawMind on the speaking ability of students.

The four phases—pre-test, treatment, post-test, and also speech performance assessment—were used to see the results and differences in mind mapping treatment on students' speaking skills. In addition, the four phases are closely related to each other in forming valid and accurate data analysis. To formulate the results students are given treatment in the form of making mind mapping about the speech text that will be compiled. Students use EdrawMind to compose a simple mind map to give a structured and good description of speech. The treatment in the form of mind mapping was given in two steps to students. When the first step was given, the results were considered still insufficient because some of the students' mind maps were written in simple charts and the ideas had not developed well. The second treatment was given and students were able to develop ideas on detailed mind mapping charts. The results obtained are shown in table 2.

Table 2. Student Pre-Test and Post-Test Results

No.	Category	Pre-Test Result		Post-Test Result	
		Score	Explanation	Score	Explanation
1.	Keywords	84	Good	86	Good
2.	Alignment between topics and subtopics	75	Fair	80	Good
3.	Relationship between the main branch and other branches	80	Good	85	Good
4.	Material completeness	85	Good	85	Good
Average results		81	Good	84	Good

The results obtained from the experiment showed that there was an increase in students' mind mapping. Based on the results of the pre-test and post-test, four categories were be classified to assess the data, namely keywords, alignment between the main topic and subtopics, the relationship between the main branch and other branches, and the completeness of the material. From table 2, it can be seen that from the first and the second mind mapping used as pre-test and post-test, students made some progress. The first one is in the keyword category. Based on the results of the pre-test taken from the results of students' mind mapping, students were able to find keywords of 84. This was shown from the keywords that students made in their mind mapping using effective keywords and sentences. In the next mind-mapping step, which was used for the post-test, students were able to find keywords of 86 for the post-test. This was shown from the keywords that students made in their mind mapping using very effective keywords and sentences. Students were also able to develop their sentences from the ideas or keywords they created.

Then, the second category is the alignment between topics and subtopics. From the results of the pre-test, the alignment between topics and subtopics is 75. This can be seen from the branches that have been prepared by students in the form of mind maps that are still not aligned with the topics and keywords they have made. Some subtopics go out and deviate from the theme or keywords. Students have not been able to arrange ideas in this mind-mapping description. Meanwhile, the results of the post-test show that students made progress. The results of the alignment between topics and subtopics are 80, where the branches that have been arranged by students are in the form of mind mapping by the topics and keywords they have created. Students were also able to arrange several sub-topics according to the theme topic or mind-mapping keywords.

The third category is the relationship between the main branch and another branch. From the pre-test results, this category is worth 80. This can be seen from the branch that they made more than 3 branches and have elaboration on each topic and subtopics. Branches usually contain one topic and two to three subtopics. One branch to another must be related according to the keywords or topics or ideas that have been compiled. In the pre-test, the results show that students have not been able to adjust the compatibility between one branch and another. Meanwhile, in the post-test, students experienced an increase. This category is worth 85. This can be seen from the branch which is made more explored by students and has several sub-topics that are aligned. Students can arrange each branch according to their respective topics and sub-topics so that when the mind mapping is read everything is in line with the main idea.

The last category is material completeness which has a good score of 85 on the pre-test and post-test. This can be seen from the students' mind maps whose contents are quite complex and can later be presented in oral form.

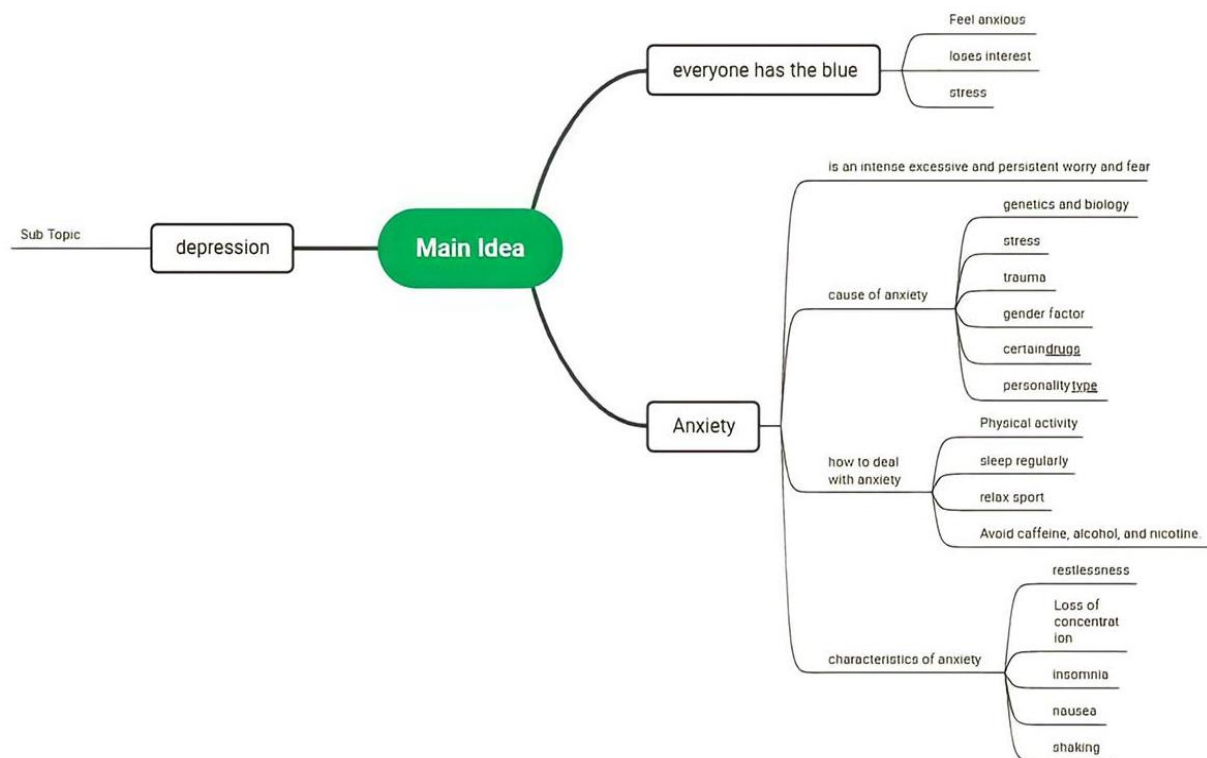
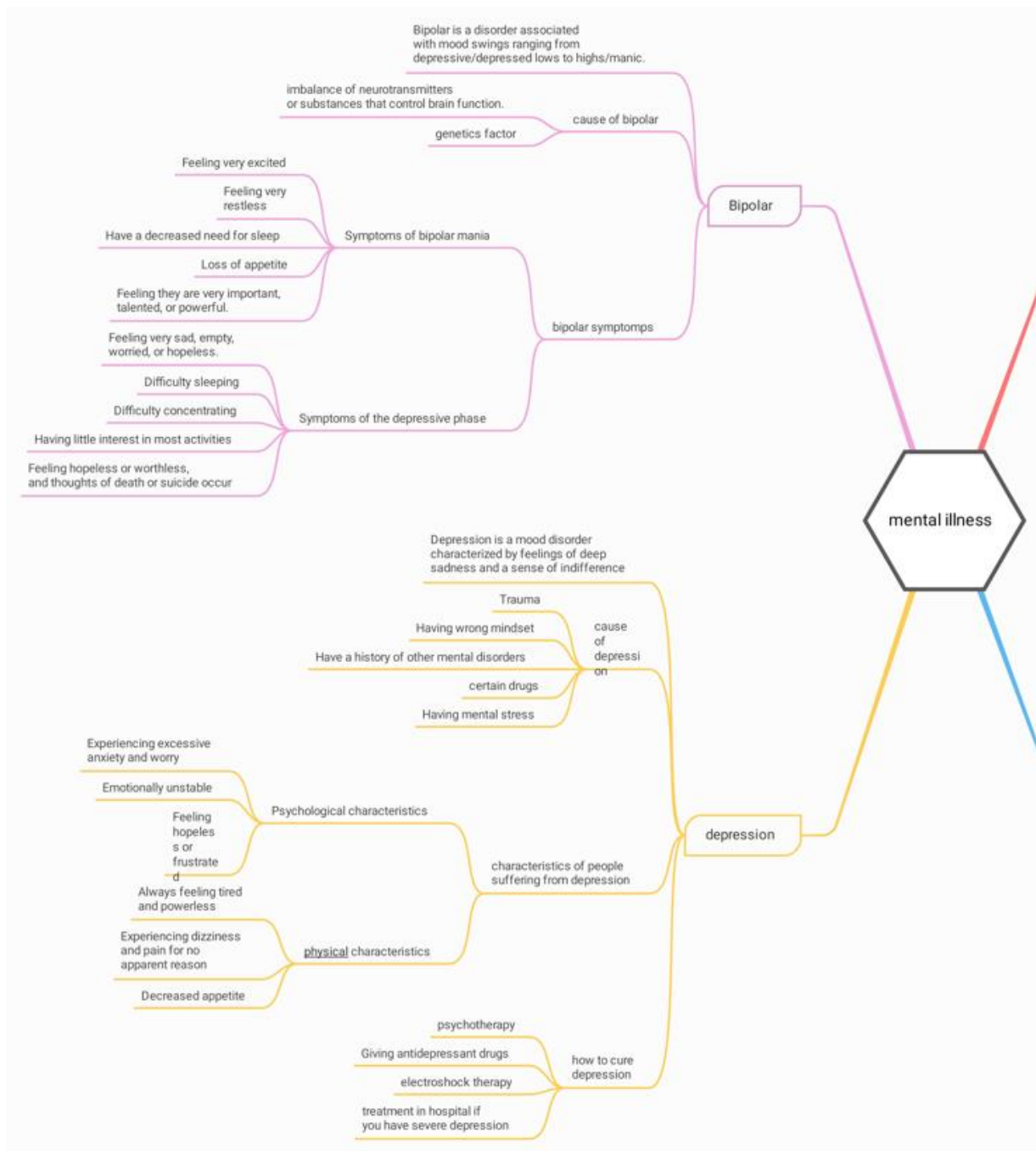


Figure 1. Mind Mapping Treatment 1

Source: Respondent Mind Map



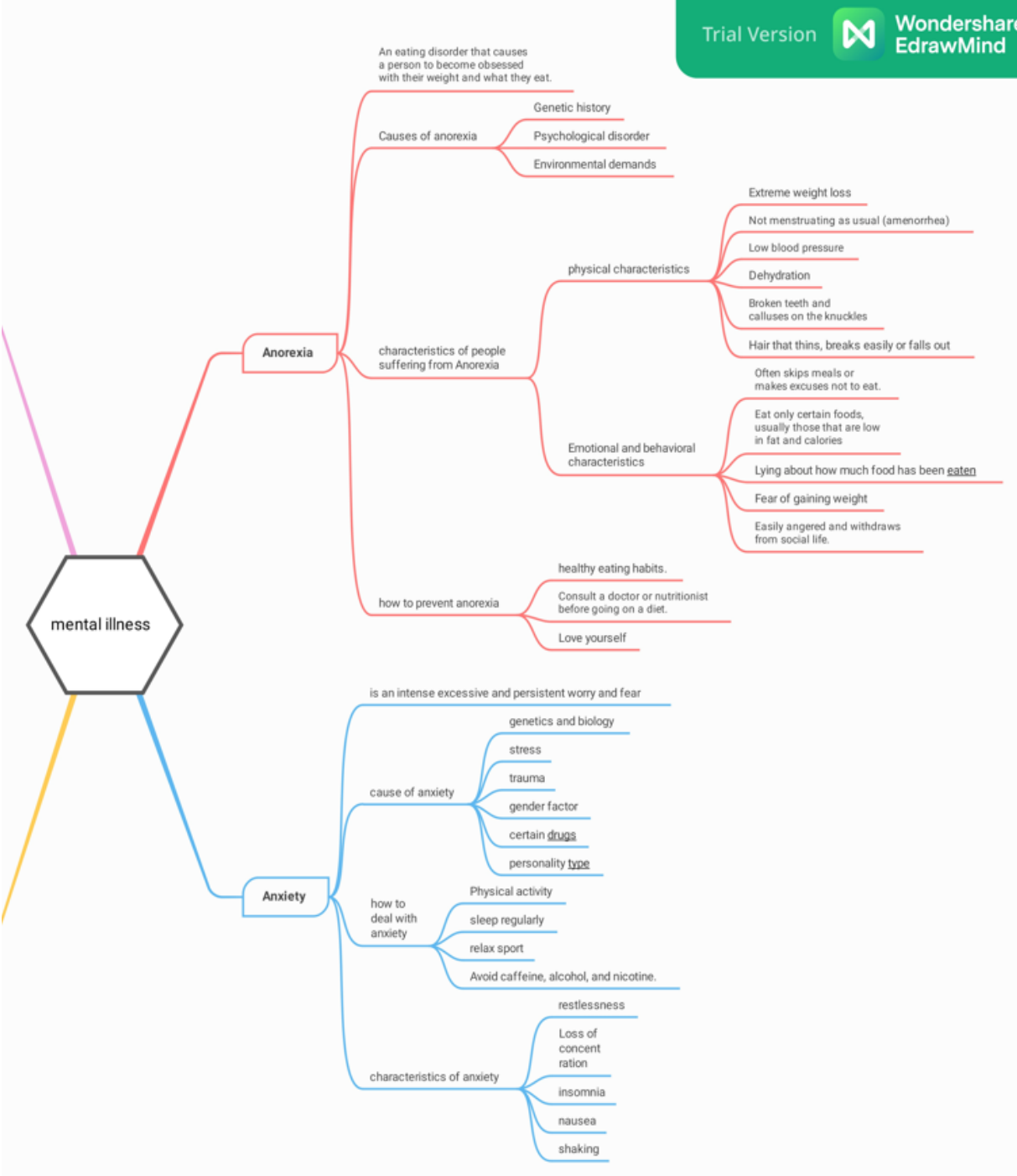


Figure 2. Mind Mapping Treatment 2
Source: Respondent Mind Map

Figures 1 and 2 are examples of mind mapping made by one of the research respondents. The treatment in Figure 1 provides a stimulus for students to find keywords from the theme raised in the speech text. The keywords are in the form of main ideas and sub-main ideas which are the basis of thinking in the preparation of speech text. Furthermore, Figure 2 shows a detailed explanation of the pre-determined sub-main idea. Figure 2 which is the treatment of

stage 2 provides an overview and rationale for the preparation of each paragraph to the sentence that will be written in the speech text.

The last phase is the assessment of speech work. This assessment is done by looking at the speech videos that students have made. The videos that have been collected by the respondents show fluency and the expressions displayed are quite well organized. Vocabulary and a coherent line of thought from a speech are delivered with pronunciation, intonation, and expressions that match the core of the material presented.

Table 3. Student Speech Video

No.	Category	Score	Explanation
1.	Alignment between mind mapping and content speech video	86	Good
2.	Idea limitation	80	Good
3.	Pronunciation	85	Good
4.	Intonation and Expression	85	Good
	Average Speech video results	84	Good

From table 3, the researchers conclude that students have started to develop their speaking skills through mind mapping. This can be seen from the alignment between the video content and the mind mapping that has been made, which is worth 86. This is observed from the video speech that has been collected by students. Almost 80% of students make their video content according to what they wrote in mind mapping. Students also provide explanation that is in line with mind mapping. Likewise with the limitation of ideas which is worth 80. This is seen from the limitation of student ideas whose explanations do not deviate from the mind mapping topic that students have made so that this can minimize word stuck and lack of vocabulary in speaking which is their obstacle. In addition, their pronunciation sounds good in the video with an average score of 85. They can explain and pronounce English vocabulary well. The last one is intonation. With a score of 84, it is shown from the clarity of the sound of the pronunciation of English words and in the students' videos. They also emphasized some words that became the main idea, or mind topic from their mind mapping in their video.

The researchers also conducted interviews with the respondents about the impact of using mind mapping through EdrawMind to improve respondents' speaking skills. Interviews were conducted via WhatsApp Voice Recorder. There were 9 questions given to the respondents to identify the advantages and disadvantages of using EdrawMind. Based on the

questions given, 14 respondents have completed the four phases. Respondents found it helpful and easy to compose speech text when using EdrawMind. However, when compiling mind mapping, some students found it difficult to determine the vocabulary that would be used as keywords. Then the students' opinions about the ability to speak in English when using EdrawMind, on average felt a significant change. The respondents found it helpful to explain their thoughts in a structured and more confident manner.

CONCLUSION

Based on the results of the analysis and data presentation about the use of EdrawMind to assist students in generating ideas in speaking, conclusions can be drawn: First, EdrawMind is an online-based mind mapping application that is open source. This online application provides convenience in the form of feature options that can be reached by various groups. In addition, it is supported by its open-source nature which means it can be accessed without incurring registration or purchase fees. The use of EdrawMind makes it easier for students to create a structured mind map and have a good flow of ideas. Second, EdrawMind is used as a mind mapping application that has a positive impact on students' ability to speak well. This can be seen from the quality of speech text and speech videos that have been produced by students. These results indicate that the continuous use of EdrawMind can provide good stimulation in improving the ability to form coherent ideas. Furthermore, these ideas can be developed into a unified reading or thought in speaking. The use of EdrawMind also increases the confidence level of students in expressing opinions in public.

REFERENCES

- Ahmad, M., Shakir, A., & Siddique, A. R. (2019). Teacher-student interaction and management practices in Pakistani English language classrooms. *Journal of Language and Cultural Education*, 7(3), 115–134. <https://doi.org/10.2478/jolace-2019-0024>
- Al Hosni, S. (2014). Speaking Difficulties Encountered by Young EFL Learners. *International Journal on Studies in English Language and Literature (IJSELL)*, 2(6), 22–30.
- Anjum, M. H., Kayani, M. M., & Jumani, N. B. (2019). The Effect of Task Based Language Learning (TBLL) on Developing Speaking Skills of Secondary School Learners in Pakistan. *International Journal of English Linguistics*, 9(2), 283. <https://doi.org/10.5539/ijel.v9n2p283>
- Balim, A. G. (2013). Use of technology-assisted techniques of mind mapping and concept mapping in science education: a constructivist study. *Irish Educational Studies*, 32(4), 437–456. <https://doi.org/10.1080/03323315.2013.862907>
- Chmielewski, T. C., & Dansereau, D. F. (1998). Enhancing the recall of text: Knowledge mapping training promotes implicit transfer. *Journal of Educational Psychology*, 90, 407–

413. <https://doi.org/10.1037/0022-0663.90.3.407>

- Čoban, S., & Tokatli, E. S. (2017). The effect of mind mapping technique on students' achievements in music lesson and on their attitudes towards the mind mapping technique. *Eğitim ve Bilim*, 42(190), 423–435. <https://doi.org/10.15390/EB.2017.6856>
- Gudu, B. O. (2015). Teaching Speaking Skills in English Language Using Classroom Activities in Secondary School Level in Eldoret Municipality, Kenya. *Journal of Education and Practice*, 6(35), 55–63.
- Hanif, J. (2020). *Effect Of Mind Mapping Techniques On Fifth Grade Students While Teaching and Learning Science*. 19(4), 3817–3825. <https://doi.org/10.17051/ilkonline.2020.04.764788>
- Kayi, H. (2006). Teaching Speaking: Activities to Promote Speaking in a Second Language. *The Internet TESL Journal*, XII(11), pg 1.
- Khan, S. (2010). *Strategies and spoken production on three oral communication tasks :a study of high and low proficiency EFL learners*. September, 395.
- Leong, L., Inglés, S. A.-D. de investigación en educación en, & 2017, U. (2017). An Analysis of Factors Influencing Learners' English Speaking Skill. *International Journal of Research in English Education*, 2(1), 34–41.
- Naqbi, S. Al. (2011). The use of mind mapping to develop writing skills in UAE schools. *Education, Business and Society: Contemporary Middle Eastern Issues*, 4(2), 120–133. <https://doi.org/10.1108/175379811111143855>
- Puspitasari, R. A., & Panggabean, C. I. T. (2016). The Use of Comic As Media in Teaching Speaking of Narrative Text for the Eighth Graders of Junior High School. *Jurnal Teladan: Jurnal Ilmu Pendidikan Dan Pembelajaran*, 1(2), 73–80.
- Simonova, I. (2014). Concept of e-learning Reflected in Mind Maps of University Students. *Procedia - Social and Behavioral Sciences*, 116(February 2014), 1394–1399. <https://doi.org/10.1016/j.sbspro.2014.01.404>
- Sun, Z., Lin, C. H., You, J., Shen, H. jiao, Qi, S., & Luo, L. (2017). Improving the English-speaking skills of young learners through mobile social networking. *Computer Assisted Language Learning*, 30(3–4), 304–324. <https://doi.org/10.1080/09588221.2017.1308384>
- Tuan, N. H., & Mai, T. N. (2015). Factors Affecting Students' Speaking Performance at Le Thanh Hien High School. *Asian Journal of Educaitional Research*, 3(2), 8–23.
- Yunanda, S., Asib, A., & Setyaningsih, E. (2013). Improving Students' Speaking Skill Trough Talking Ball Game (TBG). *Fkip.Uns*, 63, 120–129.