



Original Article

Using Mind Maps to Improve 4th Graders' Oral Performance in "Speak Out" Lessons: Action Research at a Primary School in Hanoi

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Abstract: This research explores the application of mind maps during speaking lessons, specifically focusing on their impact on enhancing oral performance in primary school students. The study aims to evaluate the effectiveness of mind maps in this context and measure the satisfaction levels of the students. Data collection involved pre-test and post-tests, along with a set of questionnaire administered after the intervention. The research included 29 fourth-grade students, with an 11-lesson treatment duration, each lasting 45 minutes. Results indicated significant improvement in students' speaking outcomes following the intervention, and participants expressed satisfaction with the help of mind maps in their lessons. The paper concludes by suggesting pedagogical implications and recommending further studies, with the goal of providing valuable insights for English teachers, educators and students to optimize the use of mind maps in speaking lessons.

Keywords: Mind maps, oral performance.

1. Introduction

The application of mind-mapping techniques in English language teaching is not new, especially in addressing learners' fear of speaking English in Vietnam. In mainstream literature, speaking is an interactive process, utilizing sound articulations, enabling individuals to convey thoughts, emotions, and

information in communication. [1-4] For Vietnamese students, speaking is considered to be the hardest skill because of their characteristics and personalities. Being a teacher of English at an elementary school, the researcher has faced several challenges, including difficulties in maintaining student engagement during lessons, particularly in speaking activities where responses are lacking. Moreover, the shift to technology-based learning due to the Coronavirus outbreak has led to students' bad habits of learning such as class absences, lack of concentration, and lack

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of learning autonomy when they return to school. Furthermore, students exhibit a constrained level of oral proficiency in English (which includes a limited range of vocabulary, grammar and ideas, etc.), leading to prolonged response times when confronted with teacher's questions. All of those difficulties raise a big concern to the teacher. Among all teaching methods that motivate students to speak up, mind-mapping technique is considered to be one of the most effective ones in helping students in every speaking lesson.

Various studies have explored the application of mind maps in primary school teaching, investigating their use in enhancing oral performance. [5-11] However, there are few studies about using mind maps to improve 4th graders' oral performance in "Speak out" lessons at a primary school in Hanoi. Hence, this study investigates the effectiveness of mind maps in improving students' interactive communication skills. Building on the idea that speaking involves sound articulations and the conveyance of thoughts and emotions, the research aims to explore the influence of mind maps in every speaking lesson. Additionally, the study assesses students' satisfaction and preferences regarding the application of mind-mapping techniques, contributing to a comprehensive understanding of their impact on oral performance.

Research questions

To achieve the above aims, the study will answer the following questions:

Question 1: How does mind map technique influence students' oral performance?

Question 2: How are the students' satisfaction rates of using mind maps?

2. Literature Review

Speaking, in a broader sense, is an interactive process where individuals engage in producing, receiving, and processing information in the presence of both a speaker and a listener to effectively express their thoughts, feelings, and opinions. (Sharma, 2018) [1]. Also, Kiruthiga and Christopher

(2022); Septiyana et al., (2020) [2, 3] pointed out that speaking is a tool of communication in conveying ideas, information, and feelings to others. Moreover, Rizqiningsih and Hadi (2019) [4] stated that speaking is the ability to make some types of sound articulations that are utilized to convey information, expression, ideas, thoughts, and feelings. Nunan (1991; 2003) [12, 13] defines that speaking is a useful oral competence that involves creating orderly vocal utterances to express ideas. To be clearer, Byrne (1986) [14] points out that speaking is an activity involving two or more participants as listeners and speakers in order to interact with each other. It is definitely true to say that speaking satisfies the desire to share ideas and thoughts of human beings. A conversation is considered to be successful with the participation of at least two interlocutors. Speaking is considered as one of the most important skills that a learner should achieve to be a fluent speaker. However, in order to be a successful speaker, Santhanasamy and Yunus (2022) [15] says that there are five components of speaking skill which are comprehension, vocabulary, grammar, pronunciation, and fluency. According to Thornbury (2013) [16], he mentioned 3 stages of the speaking process, which are conceptualization, formulation and articulation. In order to make speaking fluent, speakers and listeners need to have the topic in mind (conceptualization), then formulate the ideas to exchange with their interlocutors (formulation), and produce speech using their articulation.

Among different teaching methods support speaking skill, mind map is considered to be one of them. "Mind mapping", "concept maps", "cognitive map" or "mental map" (Buzan, 2005) [17] is defined in different ways by different researchers. It was pioneered by Buzan in the 1970s, who defined that mind mapping technique is a "creative thinking instrument which reflects natural work. Mind map enables the brain to use all pictures and its association in radial design". (Buzan, 2006, pp. 103) [18]. That means the way of drawing a mind map is similar to the way our brains

work. Key words are represented in the center of the map and the other ideas spread on the branches of the map. Knight (2012) [19] also stated that mind mapping is a note-taking method that uses a graphic to organize words, thoughts, ideas, projects, activities, and other information. According to Tavares et al. (2021) [20], mind maps are effective thinking aids because they make it possible to draw the key concepts and quickly realize how they relate to one another. Guo (2021) [21] also defined that a mind map is a tool for thinking that collects, organizes, and presents information in a graphical style and network structure. Moreover, Wu and Wu (2020) [22] stated that mind mapping is a strategy for creating memory linkages between a topic term and a picture, color, or other links that combine drawings and words. With the help of mind maps, it is easier for learners to organize their thoughts and get a better comprehension of principles involved. Therefore, students can benefit a lot with the help of mind map in speaking lessons.

3. Methodology

The study is set in a private primary school with a focus on enhancing students' English speaking outcomes. The study involved 29 fourth-grade students in one class who shared a similar English proficiency level. The research design adopted a mixed approach, combining both quantitative and qualitative methods. The writer utilized questionnaire and observations, specifically during the intervention, as part of the qualitative research design. Surveys were employed to gather data on students' experiences and perceptions of using mind maps in "Speak out" lessons.

3.1. Research Design and Approach

The project entitled "Using mind maps to improve 4th graders' oral performance in "Speak out" lessons: Action research at a primary school in Hanoi", was conducted in a form of action research which utilized quantitative and qualitative tools with the aims of exploring the

effectiveness of using mind maps to help students to make some improvements in their speaking outcomes.

3.2. Research Procedure

In order to fulfill the study, the researcher followed the following procedure: In the initial phase, a pre-test which followed the Cambridge speaking test format assessed 29 participants' speaking skills through a 10-minute session. Subsequently, a 6-question survey in Vietnamese was administered. By utilizing both the pre-test results and survey responses, lessons were designed with mind map applications, and observations were conducted to refine teaching strategies. The post-test replicated the pretest's format and difficulty, drawing from the same source for result comparison. Following the post-test phase, a 10-question survey in Vietnamese assess students' satisfaction with mind map usage after 11 lessons, using a 5-point Likert scale.

3.3. Overview of Action Research and its Procedure in this Study

According to Greenwood and Levin (2006) [23], action research is social study conducted by a team composed of a professional action researcher and members of an organization, community, or network attempting to improve the current situation of the participants. Also, Williamson and Johanson (2017) [24] defined that action research is a dynamic research approach that is particularly helpful for establishing, ruminating, and assessing change in organizations such as libraries. Key to this method is the collaborative engagement of practitioner groups or the partnership between academic researchers and practitioners. Action research seeks to affect social change by generating data that underpins deliberate change-related activity. The core purpose of doing action research is to investigate, evaluate, analyze, diagnose the problems or weaknesses of the own researcher and then make a change, which leads to better results for schools, teachers or educators.

There are many experts who did research about different stages in doing action research with models of Lewin's Change Management Model, Kemmis and McTaggart's action Research Spiral/Cycle (1988), Reason and Bradburry's model, Stringer's model and Elliott's; however, the study followed Kemmis and McTaggart's model with four steps in their spiral model: planning, action, observation, and reflection, which helps teachers or educators as well as learners easily explore whether actions (plans) have been done earlier suitably fit with the problems facing by teachers or educators, and then figuring out the better solution to fix the problem. Therefore, my study will be applied and follow Kemmis and McTaggart's model of doing action research as follows:

Phase 1: Planning

In the first phase, the researcher identified a problem whether mind maps' application is suitable for students to help them improve their speaking skill or not. The researcher prepared for the study with lesson plan, syllabus, teaching aids, questionnaires, observation checklists for an observer and instrument tests. Then, a pre-test was delivered to students in order to assess their current speaking ability before applying mind maps.

Phase 2: Action

The researcher applied mind maps in teaching process step by step. In these lessons, students were introduced with the topic, exchanged the background knowledge, gained more information through texts or online information, which are then combined together in a mind map in order to facilitate the students' speaking performance. The topics are chosen from the textbook Oxford Discover 3 - the main English material that the students use in English lessons, which consist of topic 1: "Do you want to live in a big city or in the countryside?", topic 2: "Why do people move?", topic 3: "Talk about your favorite poet", topic 4: "Talk about your favorite kind of poem", and topic 5: "Talk about an important invention that makes our lives better".

To start each topic, the researcher activates the students' background knowledge about the

topic, separates them in groups to make sure that they discuss and find more information about the topic with the help of mind maps and then note down information they have found. In order to make sure that the students are going on the right track, the researcher visits each group and listens to their discussion and gives them suggestions if needed. After that, the representatives of each group share the idea with the whole class, which helps students can add more great ideas into their maps. Later on, the students are assigned to draw their own mind map at home and get prepared for upcoming presentation lesson.

The researcher has a constant update for the lesson plan if there is any feedback of the observer or the researcher's self-observation to make sure that the students are gaining the best of mind mapping technique.

Phase 3: Observation

After 11-lesson intervention, a post-test was delivered to students in order to examine the effectiveness of using mind maps in enhancing students' speaking outcomes. Then the questionnaire focused on the students' opinions or students' satisfaction rates after mind mapping utilization.

Phase 4: Reflection

In this phase, the collected data from pre-test and post-test, and the questionnaire after the intervention are analyzed to find out the effectiveness of mind mapping application as well as students' satisfaction rates of using mind maps. The comparison of pre-test and post-test results was completed. Then, the mind mapping technique would be considered to apply in enhancing students' speaking performance in current condition.

4. Results and Discussion

4.1 The Students' Improvement of English-speaking Level after Mind Mapping Application

The results of pre-test and post-test were marked based on the criteria using CEFR which includes marking students' language, pronunciation and their communication skills. Then, the pre- test scores were converted into

the scale of 100 following the following formula: A student's core =

$$\frac{\text{The gain score} \times 100}{\text{The maximal score}}$$

Note: The maximal score is 5

After that, the test scores were classified into 5 levels followed by Excellent, Good, Fair, Poor and Very poor.

According to the results of pretest and posttest scores, it was easy to find out the

difference before and after applying mind maps in teaching speaking skills. The tests' scores of each student after the intervention have increased noticeably. There's no student who gets lower marks in the post test compared to the pre-test.

Table 1 below indicates the overall score of students when they are classified into 5 categories: Very poor, Poor, Fair, Good and Excellent.

Table 1. Comparison between the students' overall scores of pretest and posttest

Group	Pre-test score		Post-test score	
	Number of students	%	Number of students	%
Very poor	22	76	6	20
Poor	4	14	6	21
Fair	3	10	13	45
Good	0	0	4	14
Mean	37,7		56,6	

As we can see in the pre-test score, the majority of students got a "Very Poor" mark which ranged below 40. Meanwhile, there was no student who got good marks, which was surprisingly unbelievable. The number of students who got scores ranging from 56 to 70 is 3 students (accounting for 10%). After getting the total score of the students, the total marks of the pretest were 1093, so the students' mean score is 37,7.

In addition, the result of the post-test after the treatment was different. There were four (14%) students getting good scores which was really impressive. The number of those getting a fair score was 13, which showed 10 more students than it in the pre-test. Surprisingly, the number of students who got "Very Poor" marks have decreased dramatically (from 22 down to 6 students), which made big progress in the learning process. However, 6 students (21%) was the number of students who belong to the "poor" group, which increased two students in comparison with the pre-test. That shows students' levels have been upgraded in some students' cases (from "Very poor" to "Poor" level. In the post-test, the researcher found out

that the highest score was 80, and the lowest score was 27. The total score in the post-test was 1643, which leads to the increased mean score 56,6.

This result proved that there was major increase in the students' scores when comparing the pretest score and posttest score because the mean score in the post test was considerably higher than that in the pretest.

Comparing the result of the pretest and posttest in terms of three criteria (Vocabulary and Grammar, Pronunciation, Communication), it indicates that all criteria have been improved. The improvement is clearly shown in the bar chart below (Chart 1).

It can be seen clearly that the mean score of criterion 1 and 3 (Vocabulary and grammar; communication) increased together accounting for 57.24% and 59.31% respectively. In the meanwhile, the pronunciation's mean score increased slightly from 35,17% to 52,05%. Overall, the criteria's mean scores of post-test have shown that the students made big progress to their speaking scores after applying mind maps.

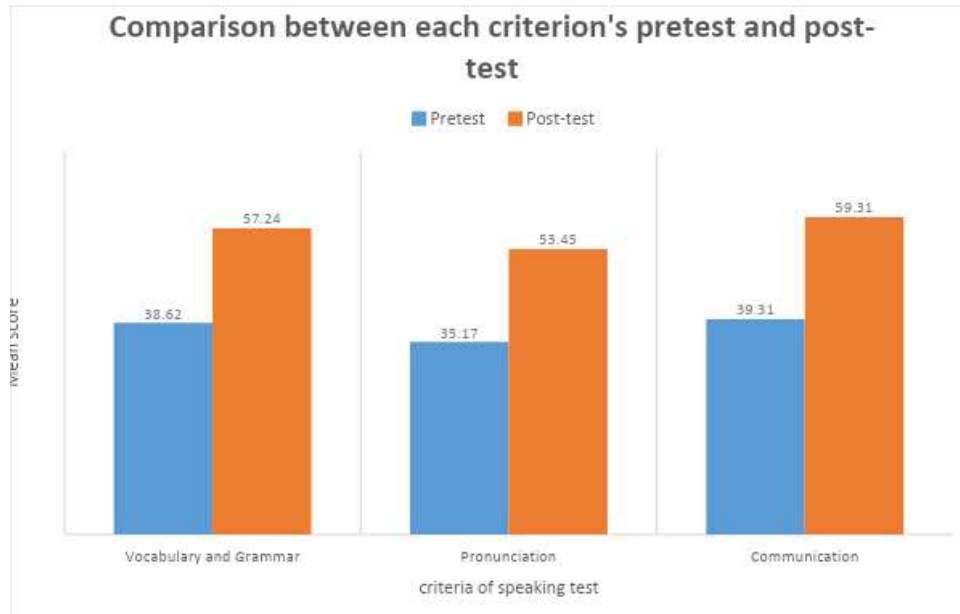


Chart 1. Comparison between each criterion's pretest and post-test.

4.2. Students' Satisfaction with Their Study by Mind-mapping Employment

In order to completely understand students' viewpoint about using mind maps, the

researcher asked all students to do a survey which consists of 10 statements. They need to show their agreement on each of the statements following the 5-Likert scale.

Table 2. Students' satisfaction rate about topic-related mind mapping application

Statements	Strongly Disagree	Disagree	Normal	Agree	Totally agree
a. It's simpler to memorize theme vocabulary and follow the logical flow of a speech while using mind maps.	0	0	0	5	24
c. Mind maps are suitable for all speaking topics.	0	0	1	4	24
h. Mind maps help me to connect prior knowledge with the topic.	0	0	0	10	19

Table 3. Students' satisfaction rate about using mind maps as a way of expanding ideas

Statements	Strongly Disagree	Disagree	Normal	Agree	Totally agree
b. It's easier to expand ideas when using mind maps.	0	0	2	3	24
g. I do not know how to expand ideas.	20	8	1	0	0

Table 4. Students' satisfaction rate about using mind maps as a way of organizing ideas

Statements	Strongly Disagree	Disagree	Normal	Agree	Totally agree
d. It's hard to summarize ideas when using mind maps.	21	5	1	2	0
f. It's easier, shorter and less time consuming to summarize ideas.	0	0	0	10	19
i. Mind maps help my speaking smoother and improve my speed a lot.	0	0	3	9	17

Table 5. Students' satisfaction rate about using mind maps as a way of improving creativity

Statements	Strongly Disagree	Disagree	Normal	Agree	Totally agree
e. Mind maps help me to be more creative.	0	0	2	12	15
j. Mind maps help me think quicker and then I have more time to practice and choose the correct choice of words.	0	0	3	8	18

Table 2 to 5 demonstrate the agreement of students' satisfaction rates using mind maps with the help of 5-point Likert scale. As noted in table 2, students perceived that using mind maps is suitable for all speaking topics accounted for approximately 96%. When looking at the students' satisfaction rates of using mind maps as a way of expanding ideas, the majority of students agreed that they know how to expand ideas when using mind maps, only one student said that he/she got confused with it. As noted by responses in table 4, it showed that idea organization is not a matter for students when they utilize mind maps because it not only helps students to summarize ideas easily, organize them logically but also helps to improve students' speaking speed. Table 5 indicated the number of students' agreement on using mind maps as a way of improving creativity (26 and 27 out of 29 students agree with the statements).

4.3. Research Discussion

After collecting and analyzing data, the three research questions would be discussed to find out the possible answers.

Question 1: How does mind map technique influence students' oral performance?

With the help of pretest and post-test results, it was definitely easy to conclude that there has been a big difference between the students' level of speaking when the scores were compared. These results are consistent with previous studies of (Anggraeni, 2014; AR & Murni Fitra, 2017; Orlova, 2017; Hoa and Trang, 2020; Nasution, 2020) [25- 28] When applying mind maps, students' speaking outcomes have been changed in a positive way in terms of vocabulary and grammar; pronunciation and communication, which shares the same findings of Mirza (2016), Rui et al (2023), and Furqon (2020)[29-31]. However, this result did not come easily to the students because they need to follow the step-by-step procedure, which is: *i) Getting to know the topic; ii) Learning new vocabulary and grammar structures; iii) Reading and comprehending the text related to topic; iv) Searching more information online; v) Summarizing and synthesizing prior knowledge combining with the new information.* That procedure is relevant to Thornbury's three stages of speaking (2013) [16], which are *conceptualization, formulation, and articulation.* When the students get to the topic of speaking, they need to activate their prior

knowledge and make use of information online and then a mind map should be finalized. This procedure takes quite a lot of time, which requires the students to be patient and passionate with what they are learning.

However, not all the students' speaking outcomes have been improved after applying mind maps (6 students with "Very Poor" marks, 6 students got "Poor" marks), which indicated that mind-mapping application in speaking was not enough in order for boosting students' speaking levels. Even though mind maps can help the students improve their vocabulary and grammar, organize their ideas in a logical way, facilitate faster learning, faster brainstorming, and more efficient communication, mind maps cannot help those who lack of self-learning abilities. Hence, for these students' cases, looking back at the records of their learning process, the researcher realized that those students are the ones who normally lack of concentration on learning, frequently forget doing homework, and have a very limited English basic foundation. If the students lack vocabulary and grammar combined with the limited ability of pronunciation (lack of English basic foundation), they definitely feel it is impossible to improve their speaking level. Therefore, mind maps can be a good supporter if the students are scaffolding with a good range of vocabulary, grammar structures related to the topics. Therefore, for those students, the researcher will focus more on helping them improve their vocabulary and grammar structures first, then gradually expand their ability to speak from scratch, which means that the researcher will constantly ask questions and motivate them to answer with short answers and then full-sentence answers. Hopefully, they can get the best of it.

In sum, the result in the post-test compared to that in the pretest has approved that mind-mapping technique is effective to most of the students (mean score in the post-test ($M = 56.6$) was higher than that in the pretest ($M = 37.7$)). Hence, it is concluded that mind-mapping technique has a huge effect on students' speaking performance.

Question 2: How are the students' satisfaction rates of using mind maps?

After the intervention, the students were asked to complete a survey to show their opinions of using mind maps with the help of 5-Likert scale. The survey demonstrated the students' agreement of the effectiveness when using mind maps.

On the one hand, most of the students agreed with the idea of using mind maps and accepted it as a useful technique when it comes to boosting speaking skills. Mind maps not only help the students "expand ideas, link the topic with prior knowledge, boost their creativity" but also "summarize the ideas easily and especially relevant with all the speaking topics". These results aligned with Buzan (2005:17); Maruf, Wintarsih, and Rimayani (2017) [17, 33] that Mind Mapping aids in effective communication, enhances creativity, and accelerates the learning process.

On the other hand, there still exist some obstacles that some of the students face in the process of mind-mapping application, which was about "lack of ideas, time management, use of suitable phrase expressions when speaking" and summary of ideas is quite challenging for students, which was shown by few of the students' responses. However, this problem can only be solved when students are equipped with enough vocabulary, grammar and knowledge related to topics.

In conclusion, it was clearly seen that the students are satisfied with the use of mind maps in speaking; however, they need to be prepared with enough vocabulary, grammar structures and background knowledge related to the speaking topics.

5. Conclusion

5.1. Suggestions for a Speaking Lesson using Mind Map

Based on the results of questionnaire analysis, the following recommendation is made for applying mind maps in teaching speaking lessons effectively.

The data of the students' questionnaire and tests' scores indicated that applying mind maps enhanced students' English speaking outcomes. The students learned better with the help of mind maps; however, it was advisable for teachers and students to follow these steps in order to achieve the best benefit of mind maps: i) *Getting to know the topic*; ii) *Learning new vocabulary and grammar structures*; iii) *Reading and comprehending the text related to topic*; iv) *Searching more information online*; v) *Summarizing and synthesizing prior knowledge combining with the new information*. With each step mentioned above, teacher should instruct students to use mind maps in order to help students get familiar with mind maps (*note that students will use the same mind maps during the time they learn one topic*). In the first step "getting to know the topic", teacher may ask students draw a mind map and write as many things they have in their mind about the topic as possible (including vocabulary, ideas or facts). The students will be equipped more with new topic-related vocabulary and useful grammar structures in the second step, and then teacher asks students to add them in their previous mind maps. "Reading and comprehending the text related to topic" step serves as a model which the students learn new ideas and learn how to connect them together. Every idea that students have achieved in the reading text will be added in the previous mind map. More ideas will be written down after the students utilize the informative tool - Internet in step 4. Finally, step 5 is the step when students review their own mind maps, edit, practice and rehearse themselves before having a real presentation about their topic.

5.2. Strengths and Weaknesses of the Study

The study is considered to have the following strengths. Firstly, following an 11-lesson period of implementing the mind mapping technique in speaking classes, the researcher identified specific speaking criteria where students need further improvement. Additionally, the study highlighted students

whose speaking proficiency did not notably improve despite the use of mind maps. This underscores the need for further research to enhance speaking outcomes in the classroom. Last but not least, the research findings underscore the efficacy of mind maps in enhancing students' speaking skills, positioning this study as a significant contribution to existing research on the subject.

Although the two research questions are addressed and the aims of the research are achieved, the study has some limitations. First of all, the study was carried out with a limited number of students in one class, so the result is true for this class situation only. Secondly, the study occurred in a short period of time (11 lessons), so there is not too much improvement in the students' speaking outcomes. Last but not least, mind-mapping application technique is utilized in speaking lessons only and there's only one speaking lesson in a week. Therefore, it is challenging for teachers to apply all 5 stages mentioned earlier in 1 lesson, which leads to the cause of skipping some of the teaching stages.

5.3. Conclusion

The study demonstrated that using mind mapping techniques enhanced students' English speaking outcomes when both students and teachers followed recommended procedures combined with uninterrupted learning. However, there still exists some limitations of the study such as limited numbers of students participating in the study, short-period of time along with limited teaching lessons.

Basing on the research findings, the following recommendations are proposed: Firstly, future studies should explore the effectiveness of mind maps in various grades or classes across the entire school. Secondly, longitudinal research spanning grades 1 to 5 is suggested to assess the enduring impact of mind maps on teaching and learning. Lastly, further studies can investigate the suitability of mind-mapping techniques for teaching other English-related skills.

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APPENDIX 1. PRE-TEST AND POST TEST RESULTS

SS	Vocabulary and Grammar		Pronunciation		Communication		Score	
	Pre-	Post-	Pre-	Post-	Pre-	Post-	Pre-	Post-
1	60	70	60	80	60	80	60	76.7
2	40	70	40	60	60	70	47	66.7
3	40	60	20	60	40	60	33	60.0
4	40	80	40	60	40	80	40	73.3
5	40	80	40	80	60	80	47	80.0
6	40	60	40	50	20	60	33	56.7
7	40	40	20	40	20	40	27	40.0
8	40	60	20	50	20	60	27	56.7
9	40	60	40	60	40	60	40	60.0
10	40	60	40	60	40	60	40	60.0
11	40	50	40	50	40	60	40	53.3
12	40	40	20	40	40	40	33	40.0
13	20	40	20	40	20	40	20	40.0

14	40	60	20	40	40	60	33	53.3
15	40	50	60	60	40	60	47	56.7
16	20	40	40	40	40	40	33	40.0
17	40	60	40	60	40	60	40	60.0
18	40	40	20	40	20	40	27	40.0
19	20	50	20	40	20	50	20	46.7
20	60	70	60	60	60	80	60	70.0
21	40	60	40	60	60	60	47	60.0
22	40	60	20	40	40	60	33	53.3
23	40	60	40	60	40	60	40	60.0
24	20	40	40	60	40	60	33	53.3
25	40	60	20	60	40	60	33	60.0
26	40	60	40	60	40	60	40	60.0
27	40	60	40	40	40	60	40	53.3
28	60	80	60	60	60	80	60	73.3
29	20	40	20	40	20	40	20	40.0

APPENDIX 2. PRE-TEST NEWTON PRIMARY SCHOOL ORAL TEST

Student's name:D.O.B:.....Issued date:

PERSONAL QUESTIONS

What's your name?

How many people are there in your family?

What's the weather like today?

What are you wearing?

What's your favorite food?

SPEAKING

Find the differences: The examiner shows the student the candidate's copy of the Find the differences picture and gets familiarized with the picture. The examiner then makes a series of statements about the examiner's picture and the student has to respond by making statements showing how the candidate's picture is different.

Example:

Examiner: In my picture, the man is pointing at a cloud on the map.

Student: In my picture, he is pointing at the sun.



Examiner's picture



Candidate's picture

Information Exchange: The examiner asks questions related to the information the student has and the student answers. Then the student needs to ask the examiner questions and the examiner answers.

<p>Robert's favourite restaurant</p> <table border="1"> <tr><td>Name</td><td>The Black Cat</td></tr> <tr><td>Like eating</td><td>pasta</td></tr> <tr><td>Where</td><td>North Street</td></tr> <tr><td>Time / open</td><td>12 o'clock</td></tr> <tr><td>Cheap / expensive</td><td>expensive</td></tr> </table>	Name	The Black Cat	Like eating	pasta	Where	North Street	Time / open	12 o'clock	Cheap / expensive	expensive	<p>Sarah's favourite restaurant</p> <table border="1"> <tr><td>Name</td><td></td></tr> <tr><td>Like eating</td><td></td></tr> <tr><td>Where</td><td></td></tr> <tr><td>Time / open</td><td></td></tr> <tr><td>Cheap / expensive</td><td></td></tr> </table>	Name		Like eating		Where		Time / open		Cheap / expensive	
Name	The Black Cat																				
Like eating	pasta																				
Where	North Street																				
Time / open	12 o'clock																				
Cheap / expensive	expensive																				
Name																					
Like eating																					
Where																					
Time / open																					
Cheap / expensive																					
<p>Robert's favourite restaurant</p> <table border="1"> <tr><td>Name</td><td></td></tr> <tr><td>Like eating</td><td></td></tr> <tr><td>Where</td><td></td></tr> <tr><td>Time / open</td><td></td></tr> <tr><td>Cheap / expensive</td><td></td></tr> </table>	Name		Like eating		Where		Time / open		Cheap / expensive		<p>Sarah's favourite restaurant</p> <table border="1"> <tr><td>Name</td><td>Rainbow</td></tr> <tr><td>Like eating</td><td>pizza</td></tr> <tr><td>Where</td><td>East Street</td></tr> <tr><td>Time / open</td><td>11:30</td></tr> <tr><td>Cheap / expensive</td><td>cheap</td></tr> </table>	Name	Rainbow	Like eating	pizza	Where	East Street	Time / open	11:30	Cheap / expensive	cheap
Name																					
Like eating																					
Where																					
Time / open																					
Cheap / expensive																					
Name	Rainbow																				
Like eating	pizza																				
Where	East Street																				
Time / open	11:30																				
Cheap / expensive	cheap																				

Examiner's picture

Candidate's picture

Ex

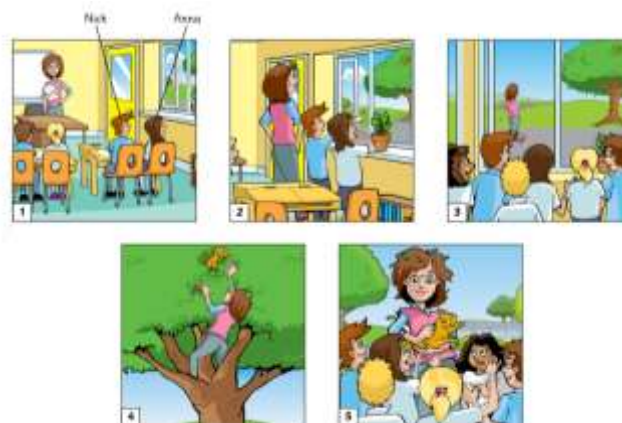
Examiner: What is the name of Sarah's favorite restaurant?

Examinee: Rainbows

Examinee: What is the name of Robert's favorite restaurant?

Examiner: The Black Cat

Storytelling: The examiner asks the student to tell a story using the provided picture.



Free topic: The examiner asks questions about a topic. (weather, months, hobbies,...)

APPENDIX 3. POST-TEST NEWTON PRIMARY SCHOOL ORAL TEST

Student's name:D.O.B:

Issued date:

PERSONAL QUESTIONS

What's your name?

How many people are there in your family?

What's the weather like today?

What are you wearing?

What's your favorite food?

SPEAKING

Find the differences: The examiner shows the student the candidate's copy of the Find the differences picture and gets familiarized with the picture. The examiner then makes a series of statements about the examiner's picture and the student has to respond by making statements showing how the candidate's picture is different.

Example:

Examiner: In my picture, a man is wearing a uniform. It's blue.

Student: In my picture, the man's uniform is red.





Examiner's picture



Candidate's picture

Information Exchange: The examiner asks questions related to the information the student has and the student answers. Then the student needs to ask the examiner questions and the examiner answers.

																					
<p>Anna's sister</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Name</td><td>Lily</td></tr> <tr><td>Age</td><td>10</td></tr> <tr><td>Tall / short</td><td>tall</td></tr> <tr><td>Like doing</td><td>computer games</td></tr> <tr><td>Favorite food</td><td>chicken</td></tr> </table>	Name	Lily	Age	10	Tall / short	tall	Like doing	computer games	Favorite food	chicken	<p>Anna's brother</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Name</td><td>Michael</td></tr> <tr><td>Age</td><td>7</td></tr> <tr><td>Tall / short</td><td>short</td></tr> <tr><td>Like doing</td><td>riding his bicycle</td></tr> <tr><td>Favorite food</td><td>chicken</td></tr> </table>	Name	Michael	Age	7	Tall / short	short	Like doing	riding his bicycle	Favorite food	chicken
Name	Lily																				
Age	10																				
Tall / short	tall																				
Like doing	computer games																				
Favorite food	chicken																				
Name	Michael																				
Age	7																				
Tall / short	short																				
Like doing	riding his bicycle																				
Favorite food	chicken																				
Examiner's picture	Candidate's picture																				

Ex

Examiner: What is Anna's brother's name?

Examinee: Michael

Examinee: How old is Anna's brother?

Examiner: 7

3. Storytelling: The examiner asks the student to tell a story using the provided picture.



Free topic: The examiner asks questions about a topic. (weather, months, hobbies,...)

APPENDIX 4. OBSERVATION CHECKLIST 1

(Please note that the observation checklist 1 is used for the teaching lesson by an observer.)

Name _____ Date _____

Class observed _____ Time _____

Please put a tick (✓) for each criterion below. Give comments if any

Criteria	Yes	No	Observation
Teacher guides students in a way of using mind maps.			
The lesson is supported with video materials in which students can expand ideas with the use of mind maps.			
Teacher takes advantage of familiar topics to instruct students to utilize mind maps.			
Teacher lets students work in groups to discuss about the topic using mind maps' frame provided.			
The lesson allows students to present ideas using their mind-map work in previous group-work.			
Teacher takes notes students' ideas on the board using one kind of mind maps provided.			
Students are motivated to use mind maps in brainstorming ideas.			
Teacher asks students to read the reading texts they have learned			

again and then summarize the ideas of the texts in the form of mind maps.			
Teacher provides a clear example of using mind maps.			
It is optional for students to use different kinds of mind maps.			

APPENDIX 5. OBSERVATION CHECKLIST 2

(Please note that the observation checklist 2 is used for the presentation lesson by an observer.)

Name _____ Date _____

Class observed _____ Time _____

Please put a tick (✓) for each criterion below. Give comments if any

No.	Student's name	Oral performance						Comments
		Gr	Vocab	Pro	Fl	Com	Acc	
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								

Note: The abbreviation for the above table:

1. Grammar (Gr): Mind maps help increase the accuracy of grammar.
2. Vocabulary (Vocab): Utilizing mind maps helps enhance vocabulary in a specific topic.
3. Pronunciation (Pro): Mind maps help students focus on pronouncing words correctly that they are learning.
4. Fluency (Fl): Mind maps help increase fluency when speaking English.
5. Communication (Com): Mind maps help enhance the ability to interact and communicate with other people in English effectively.
6. Accuracy (Acc): Mind maps help increase accuracy when using vocabulary and grammar.

APPENDIX 6. SURVEY QUESTIONNAIRE AFTER USING MIND MAPS IN VIETNAMESE AND ENGLISH

PHIẾU KHẢO SÁT

A. Thông tin cá nhân

Họ và tên:

Giới tính:

☐ Nam

☐ Nữ

B. Khảo sát về mức độ hài lòng của học sinh sau khi sử dụng biểu đồ tư duy trong tiết học Speak Out

Em vui lòng cho biết mức độ đồng ý với các phát biểu dưới đây bằng cách cho điểm từ 1 đến 5 ứng với mỗi câu trong bảng câu hỏi dưới đây. Trong đó, thứ tự các số thể hiện mức độ đồng ý từ thấp đến cao. Cụ thể:

1	2	3	4	5
Hoàn toàn không đồng ý	Không đồng ý	Bình thường	Đồng ý	Hoàn toàn đồng ý

Phát biểu	1	2	3	4	5
a. Sử dụng biểu đồ tư duy giúp cho việc nhớ các từ vựng trong các chủ đề và bám sát mạch văn của bài nói dễ dàng hơn.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Biểu đồ tư duy giúp cho việc mở rộng ý tưởng dễ dàng hơn.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Biểu đồ tư duy phù hợp với tất cả các chủ đề nói.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Việc tóm tắt các ý chính trong biểu đồ tư duy rất khó.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Biểu đồ tư duy giúp em sáng tạo hơn.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Biểu đồ tư duy giúp em tóm tắt các ý chính dễ dàng, ngắn gọn hơn, tiết kiệm thời gian hơn.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Em không biết cách mở rộng ý khi nói.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Biểu đồ tư duy giúp em dễ dàng liên kết kiến thức nền với chủ đề hơn.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i. Sử dụng biểu đồ tư duy giúp bài nói của em mượt hơn, cải thiện tốc độ nói hơn.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j. Biểu đồ tư duy giúp em tư duy nhanh hơn và có nhiều thời gian hơn để luyện nói và trau chuốt câu từ.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Cảm ơn em rất nhiều!

SURVEY AFTER USING MIND MAPS

A. PERSONAL INFORMATION

Name:

Gender:

☐ Male

☐ Female

C. A survey about the students' satisfactory rate after using mind maps in their speaking lessons.

Please rate your satisfaction with these following statements by using 5-point Likert scale. The satisfactory rate follows the order from totally disagree to totally agree:

1	2	3	4	5
Totally disagree	Disagree	Normal	Agree	Totally agree

Statement	1	2	3	4	5
a. It's simpler to memorize theme vocabulary and follow the logical flow of a speech while using mind maps.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. It's easier to expand ideas when using mind maps.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Mind maps are suitable for all speaking topics.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. It's hard to summarize ideas when using mind maps.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Mind maps help me to be more creative.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. It's easier, shorter and less time consuming to summarize ideas.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. I do not know how to expand ideas.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Mind maps help me to connect prior knowledge with the topic.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i. Mind maps help my speaking smoother and improve my speed a lot.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j. Mind maps help me think quicker and then I have more time to practice and choose the correct choice of words.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Thank you very much!