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The Use of i-THINK Mapping in Teaching Reading Comprehension among ESL Teachers

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Abstract

This study investigated the use of i-THINK Mapping in teaching reading comprehension by ESL teachers to a group of Form Five students, and the factors and challenges the ESL teachers faced in teaching reading comprehension using i-THINK Mapping. A qualitative approach, specifically a case study design, was employed in this study. Classroom observations, semi-structured interviews, and document analysis of their lesson plans were used to collect the data. Four ESL teachers with a minimum of 5-year teaching experience in a rural secondary school in Hulu Selangor, Malaysia, were selected using a purposive sampling technique to participate in this study. Thematic analysis was used to analyse the data obtained from classroom observations and interviews. The findings show that the teachers had applied five i-THINK maps, including a Circle Map to define in context, a Bubble Map to describe, a Double Bubble Map to compare and contrast, a Flow Map to show the sequence of an event, and a Tree Map to classify different ideas. The i-THINK Mapping motivated the students to discuss, brainstorm, and cooperate with their peers to detect the details from the given reading texts. The teachers' challenges include the time constraints in preparing the lesson with i-THINK Mapping and a low level of student English proficiency. One implication of this study is that teachers' use of i-THINK Mapping to teach reading comprehension could assist students in generating ideas, expanding ideas, and expressing them orally.

Keywords: ESL learners, ESL teachers, higher-order thinking skills, i-THINK Mapping, reading comprehension.

1. INTRODUCTION

In Malaysia, many students lack English language proficiency. One way to master a language is through reading, as it is a multifaceted operation that enhances only with practice (Murray, 2016). Reading skill is viewed as essential skill for second language learners; yet, teaching reading comprehension strategy is still unheeded in English language teaching (Azmuddin et al., 2017). The major problems occur when the students are unable to explain what they have read as they do not understand the text (Kiew & Shah, 2020). Students struggle to comprehend the meaning of the text and hardly can infer from the text (Yunus et al., 2016). Hence, the students cannot answer the reading comprehension questions and give relevant answers. Fitrisia et al. (2015) supported this argument by explaining that students fail to construe information obtained from the text, lack critical thinking, and face difficulty in using contextual clues to acquire the gist and meaning from texts.

To sustain student interest in reading comprehension, i-THINK Mapping was chosen by the ESL teachers in this study as they felt students need an opportunity to explore and discover their own learning styles and build their thinking skills at their own pace. I-THINK Mapping strategies allow students to transfer information by using short words, pictures, images, and designs to help them comprehend better and improve memory. Teachers must explore and use appropriate teaching strategies to enhance student reading skills. Reading comprehension is not an inborn skill, and thus it has to be inculcated by teaching specific reading comprehension strategies (Alfassi, 2004). Some of these i-THINK maps, such as Circle Map, Bubble Map, Tree Map, and Flow Map, promote a better understanding of a

reading comprehension text or task. Furthermore, teachers have to consider different student learning styles. They should recognise that each student is gifted with different kinds of intelligence, as Gardner (1983) propounded that i-THINK maps can bring out the best in student learning styles.

Learning a language involves four skills (listening, speaking, reading, and writing). Reading is considered one of the most vital skills in mastering a language (Chang et al., 2018). Developing substantial reading skills in students is one of the main aims of every early education programme. Harrison (2013) mentioned in her study that the PISA reading scores suggest that Malaysian students need to compete with other countries by improving their reading skills to become proficient readers. In reading, students need to imply and detect the information from the text so that they can answer the reading comprehension test correctly. Reading comprehension necessitates students to grasp a text exposed by responding to some questions associated with the text (Nurjanah, 2018). Ebrahimi (2012) pointed out that readers not only depend on the feature of the given text, but reading also encompasses the aspects of readers and tasks. Reading instruction must be clear to assist students in their reading process effectively to enable answering the reading comprehension questions, and they must know how to interpret, predict, and make inferences.

Teachers, especially ESL teachers, play important roles in helping students engage with the classroom learning process (Dara, 2019; Gopal & Singh, 2020; Madzlan et al., 2022; Ridhoni et al., 2022). Teachers' roles are to guide and disseminate knowledge, so they should understand students' needs and rethink ways to make teaching more creative in terms of providing and engaging students in cooperative strategies or techniques or instructional activities (Balakrishnan 2022; Nurjanah, 2018; Rusli et al., 2022). Iftanti (2012) mentioned that most EFL students lacked good reading habits at the early stage, although they formally learned English at school. According to Rizqiya (2013), students have a shallow reading comprehension level due to poor reading habits, which is the ultimate consequence of inadequate reading exposure and interest. To cultivate students' reading interests, habits, and comprehension, the teacher must find innovative ways to intensify the students' reading awareness and curiosity at the beginning (Malekzadeh & Bayat, 2015). Teachers should be creative in finding suitable techniques that can lessen boredom where reading is concerned. ESL teachers need to use a variety of techniques to improve student reading. One such technique is i-THINK Mapping as it can stimulate students' thinking skills.

Hassan et al. (2016) mentioned that the ultimate aim of introducing i-THINK is to produce human capital who are critical, creative, innovative, and competitive in the future. This was supported by Anh (2017) and Okafor (2021) who discovered that effective, determined, and vigilant attention in attaining information and knowledge from others is very important to be adopted by teachers to trigger active learning in the classroom. Thus, this study investigates the use of i-THINK Mapping to teach reading comprehension in the classroom. This study was based on the following research questions:

1. What were the i-THINK Mapping strategies used by ESL teachers to teach reading comprehension?
2. What were the factors that influenced the teachers to use i-THINK Mapping to teach reading comprehension?
3. What were the challenges faced by ESL teachers in teaching reading comprehension using i-THINK Mapping?

2. LITERATURE REVIEW

2.1 Theoretical Justification of This Study

Schema theory (Carrell & Eisterhold, 1983) and Benjamin Bloom's taxonomy for educational objectives, known as Bloom's taxonomy (1956) theory for the instructional purpose, were used in this study. Understanding a text requires readers to conceptualise and grasp its meaning by using their existing knowledge (schemata) to construe and decipher the reading texts so that they can create meaning from it. For teaching and learning English in reading comprehension, ESL teachers can infuse and experiment with various approaches or strategies to assist students with different pre-existing schemas and knowledge in escalating the attainment of the students' learning. A classroom has typically thirty to forty students, and sometimes more. The students come with different learning experiences, abilities, interests, attitudes, and socio-economic backgrounds (Tomlinson & Masuhara, 2017). Because of students' differences in many aspects, ESL teachers' pedagogical strategies are limited and therefore lead to an effortless determination on how to teach a student one-by-one in teaching reading comprehension. ESL teachers can adopt and experiment with different effective strategies to fulfil student learning needs in a spectrum and provide more activities in the classroom to encourage active student participation. This was supported by Venita et al. (2010) who divulge that supplementary comprehension skills are required and must be introduced to facilitate learners to organise and find meaning from words or a collection of words if the reader is instructed to maximise the meaning of what a paragraph entails of various sentences and choose one main idea to which all the sentences denote. Reading comprehension can function in two directions, from the bottom up to the top and from the top down to the bottom of the hierarchy. These two types of processing occur concurrently, and collaboration or understanding occurs between the bottom-up and top-down processes (Carrell & Eiserhold, 1983).

Bottom-up processing focuses on lower-level skills, such as matching sounds with letters, syllables, and word recognition, where the meaning of the text is constructed based on the reader's prior knowledge of linguistic items, such as vocabulary, grammar, and syntax. On the other hand, top-down processing focuses on higher-level skills, such as the background knowledge a reader uses to understand a written text. Readers habitually activate and apply their knowledge of vocabulary or lexical items, sentential points, and linguistics patterns to interpret the meaning in a text (Rastegar et al., 2017). Bloom's taxonomy was established and created by Benjamin Bloom in 1956 to show the classification of thinking, learning outcomes, and objectives. Most teachers apply Bloom's taxonomy because it provides them with a technique to activate thinking about their instructional practices and students' learning attainment. In Bloom's taxonomy, comprehension is the second classification level assessed through reading comprehension skills.

2.2 i-THINK Mapping

i-THINK Mapping refers to the teaching tools used in teaching reading comprehension to help students understand the passage better and boost their thinking skills (Mahamod et al., 2019). As a result, it will develop the students' higher-order thinking skills (HOTS). Hyerle (2008) proposed eight types of Thinking Map, in which every type has its own function, i.e. circle, bubble, double bubble, tree, brace, flow, multi-flow, and bridge.

2.2.1 Approaches to teaching reading

ESL teachers have a major role in assisting students in activating and developing their reading comprehension skills. At present, however, systematically-based reading instruction programmes are still not practised and emphasised in the classroom by teachers (Koch & Spörer, 2017). Reading strategies including asking questions or summarising are frequently employed and used by teachers to assess reading comprehension, but these strategies are infrequently imparted (Hollenback & Kalchman, 2013). Beginners are introduced to the Language Experience Approach (LEA) in terms of how to read and students can relate their real-life context experiences by constructing written words. The LEA relies on the learners' expressing their own words, decoded or applied as they explained the task or activity given. This permits the learners to communicate using the text and attain knowledge and comprehend meaning through their own learning experiences (Nestle & Dixon, 2008). The LEA is an approach where the child's specific language and experiences are blended to develop reading material. The learners will be allowed to fully develop knowledge of pronunciation, word formation, and verbs. The LEA approach is reported to be highly encouraging and inspiring, and it increases self-esteem, and integrates excitement and fun. It can be applied to create sight vocabulary and comprehension through cloze exercises. The other approach is Phonics Approach as the teachers teach the relation of the letters known as graphemes to the sound or phonemes they present (Bald, 2007). This approach helps beginning readers recognise familiar words precisely and inevitably "decipher" original words. Readers can articulate printed words by combining the sounds. On the other hand, the sight Word Approach is where words are identified instantaneously and without any analysis as they represent high-frequency words (Buckingham, 2016).

2.2.2 Past studies related to i-THINK Mapping to teach reading comprehension

Many researchers (such as Kumari & Kumari, 2013; Long & Carlson, 2011) have carried out studies explaining how i-THINK Mapping is effective in fostering students' thinking. Saad et al. (2014) and Singh et al. (2017) found that students would fail if the teaching and learning were still delivered using traditional methods, which did not consider thinking skills among students. They stated that a more traditional approach to giving notes and memorising could cause students to fail to understand something meaningful in the lesson, thus causing them to not use the knowledge acquired to solve a problem. According to Mahamod et al. (2019), the drop in student achievement is due to a lack of thinking skills being taught in the teaching and learning process. This view was supported by Yusop and Mahamod (2015) who found that conventional methods used in teaching and learning were less effective in improving students' achievement. Idek (2016) examined the practicability of i-THINK Mapping in fostering students' ability to express their ideas orally in English. The study showed that most students thought that the Thinking Maps helped them generate ideas, expand ideas, and express them orally. Fan (2016) implemented the i-THINK Mapping, especially Circle Maps and Bubble Double Maps, to support students' thinking and decision-making in the elementary school writing program in Taiwan. The results showed that i-THINK Mapping was able to facilitate students in enhancing good structure and providing ideas in their own essay writing.

Thinking Maps are believed to facilitate students hone their critical thinking skills. As stated by Omar and Albakri (2017), thinking maps had a positive impact on student comprehension as well as improvement in English proficiency. Their research findings also

demonstrated that the use of a thinking map increased students' critical thinking skills in generating ideas, productivity, and self-confidence. Earlier, [Omar et al. \(2016\)](#) found that students' critical thinking skill was fostered through the i-THINK Mapping in literature subjects. The researchers explained that thinking maps help students generate ideas, enhance written and oral language proficiency, and develop their self-confidence in presentations. Analysis of past studies showed that most of the studies were mainly focused on: (a) the use of i-THINK Mapping to nurture thinking, (b) conventional instructional strategies, (c) i-THINK Mapping to assist students in expressing orally, (d) embedding i-THINK Mapping to assist students to write better, and (e) increasing student's creative and critical thinking skills. Less attention was given to the use of i-THINK Mapping in teaching reading comprehension among ESL teachers. Therefore, this study is needed to assist teachers in employing i-THINK Mapping, specifically in teaching reading to facilitate students in attaining meaningful comprehension of texts.

3. METHODS

A qualitative research approach, specifically a case study design, was employed in this study. Qualitative research centres on collecting data through open-ended and familiar communication ([Hammarberg et al., 2016](#)). [Fraenkel et al. \(2012\)](#) opined that qualitative research examines the value and aspects of relations, actions, conditions, or resources; a qualitative approach characteristically gathers numerous procedures, such as interviews, observation, and documents rather than depending on a single data source. [Ary et al. \(2010\)](#) defined a case study as an in-depth or profound study about an individual, a unit, a project, a group of people, or an organisation. A case study is an exhaustive study of a specific research problem that seeks to investigate every detail and characteristic of the participant's life and history to investigate the causes and patterns of such behaviour.

In this study, the researchers focused on the use of i-THINK Mapping in teaching reading comprehension in English language classrooms in secondary schools. In this case, the data were obtained only from Form Five English language teachers. The findings were then interpreted descriptively. The focus of this study was to analyse a case of four teachers who had employed i-THINK Mapping in teaching reading comprehension in English language classes. This analysis was conducted by paying attention to the process or the lessons carried out by the teachers through observation and interviews to further obtain insights into the challenges they faced while incorporating i-THINK Mapping in teaching reading comprehension.

3.1 Participants

A purposive sampling technique, or what is also known as judgemental sampling, was used in this study. In this sampling technique, specific settings, people or events are selected to deliver significant evidence that cannot be achieved from other alternatives ([Maxwell, 1996](#)). The researchers selected this sampling technique because the data were required from secondary school ESL teachers who have taught for more than five years. Four ESL teachers were chosen as the participants of this study from a public secondary school in Selangor, Malaysia. The ESL teachers were addressed as Teacher A, Teacher B, Teacher C, and Teacher D. All four participants are senior teachers with more than ten years of teaching

experience, and all of them took English language as their major. The respondents are female ESL teachers, as there were no male teachers in that school.

The researchers sought permission from the Educational Planning and Research Division (EPRD), State Education Departments, and District Education Office before officially carrying out the study. All four ESL teachers were informed that the observation was descriptive in nature, and thus it was not for the evaluative purpose. After the classroom observations, the teachers involved were interviewed to accommodate questions that the researchers could not ask during the classroom observation and teaching hours. Document analyses in the form of lesson plans were also used for triangulation purposes.

3.2 Data Collection

The data for this study were collected from three sources, namely classroom observation, semi-structured interviews, and document analyses.

3.2.1 Classroom observations

According to Vidhiasi (2018), a researcher can observe what is happening in a class and at the same time carry out the research process. The non-participant observation was carried out when the teachers were teaching. As stated earlier, the objective was to attain information relating to the use of i-THINK Mapping in teaching reading comprehension by ESL teachers. This would allow the researchers to observe the types of i-THINK Mapping that would surface in the study. The teachers were observed based on their teaching schedules. The researchers were given a copy of the teachers' timetables to ensure no class interruptions. The researchers used an observation checklist for collecting important information throughout the observations with the teachers. Three instruments were utilised in this study namely: classroom observation protocol, interview protocol, and lesson plans. The researchers sought teachers' permission to observe and video-record the lessons.

3.2.2 Semi-structured interview

The four teachers were informed that their interview session would take place right after the end of the second classroom observation. An interview protocol was prepared by the researchers to seek further information regarding the i-THINK Mapping used in teaching writing. Teachers were also interviewed to find out the factors that had led them to apply the i-THINK Mapping strategies, and challenges encountered while teaching reading in the classroom. The interview data were important for the triangulation purpose to seek reasons behind the teachers' actions and use of i-THINK Mapping and how they encouraged students to be critical thinkers during the teaching-learning process.

3.3 Data Analysis

The data from classroom observations, interviews, and lesson plans were analysed thematically. The themes obtained were recorded and coded using labels that showed aspects of the i-THINK Mapping in teaching reading, such as "Application of i-THINK Mapping strategies used by the ESL teachers to teach Reading comprehension", "Circle Map, Bubble Map, Double Bubble Map, Flow Map and Tree Map", "teachers' role as a facilitator to activate students' higher-order thinking skills (HOTS)", "questioning strategies from lower-

order thinking skills (LOTS) to higher-order thinking skills”, “Inducing vocabulary through the i-THINK Mapping strategies”, “teaching English can be a challenging task”, “inadequacy in Reading comprehension”, and “incomprehensibility of words”.

Teachers’ lesson plans were also analysed to match and correlate any pertinent themes that would emerge during the classroom observations. The analysis result showed teachers’ proper instructional planning to include the i-THINK Mapping strategies in teaching reading. It was through the lesson plans and students’ work that the researchers were able to confirm that students were given an opportunity to use the i-THINK Mapping strategies to transfer information from a reading text to show their understanding. The examples of the types of i-THINK Mapping used by the students can be seen in Figure 1 – 4.

4. RESULTS

4.1 Application of i-THINK Mapping Strategies Used by ESL Teachers to Teach Reading Comprehension

4.1.1 Circle Map, Bubble Map, Double Bubble Map, Flow Map, and Tree Map

All of the four teachers observed have used i-THINK Mapping in teaching reading. The teachers observed have used five different types of i-THINK Mapping, i.e. a Circle Map to define in context, a Bubble Map to describe, a Double Bubble Map to compare and contrast, a Flow Map to show the sequence of an event, and a Tree Map to classify different ideas. The teachers employed i-THINK Mapping strategies in teaching reading to encourage students to project their visual language to activate their cognitive process to indicate the transfer of knowledge. Through the reading comprehension activities, the teachers were able to simplify content learning, guide students in decision-making and problem-solving, and enable them to create knowledge for verbal and written communication. All four teachers have provided sufficient input to their students in terms of applying the i-THINK Mapping strategies in teaching reading. The teachers mentioned that students must be equipped with proper schemata in i-THINK Mapping before they are instructed to do the task. For example, Teacher A used a Double Map and a Bubble Map for teaching reading comprehension; Teacher B used a Bubble Map and a Flow Map, and for this particular reason Teacher B instructed the students to present their findings based on the paragraphs; Teacher C employed a Bubble Map and a Flow Map, while Teacher D employed a Bubble Map and a Tree Map.

One of the teachers, Teacher C had used an audio recording in her lesson whereby she had instructed the students to read silently while listening to the audio of the reading text. Teacher C wanted the students to interpret the best title for the text given. Teacher C explained that the reading comprehension in Form Five syllabus consisted of five comprehension questions and a summary of a writing task. Because of time constraints, the teacher asked the students to use a Bubble Map to identify the points for the summary task as a discussion activity in the class and gave the reading comprehension questions as the students’ homework. Teacher C explained that the use of Bubble Maps could help the students complete both reading comprehension and summary tasks. Teacher D explained that she had to demonstrate how to use an i-THINK map to transfer information obtained from the reading task assigned. Teacher D instructed the students to discuss in pairs to complete the i-THINK map given. Students were then asked to come forward and paste their

i-THINK map on the board and share their findings with classmates as illustrated in Figure 1-4. Figure 1 shows an example of a Double Bubble Map and a Bubble Map from Teacher A, Figure 2 shows an example of a Bubble Map and a Flow Map from Teacher B, Figure 3 shows an example of a Bubble Map and a Flow Map from Teacher C, and finally, Figure 4 shows an example of a Bubble Map and a Brace Map from Teacher D.

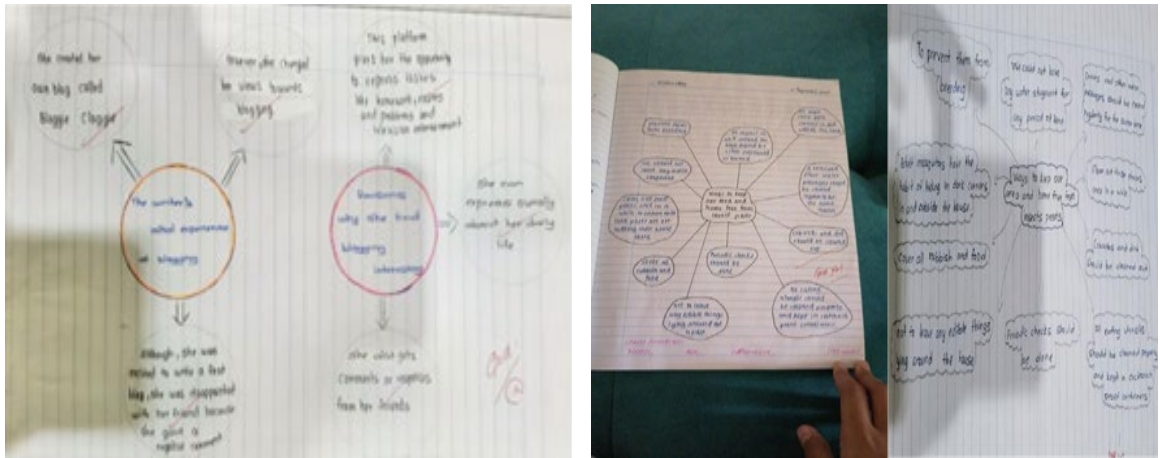


Figure 1. Double Bubble Map and Bubble Map (Teacher A).

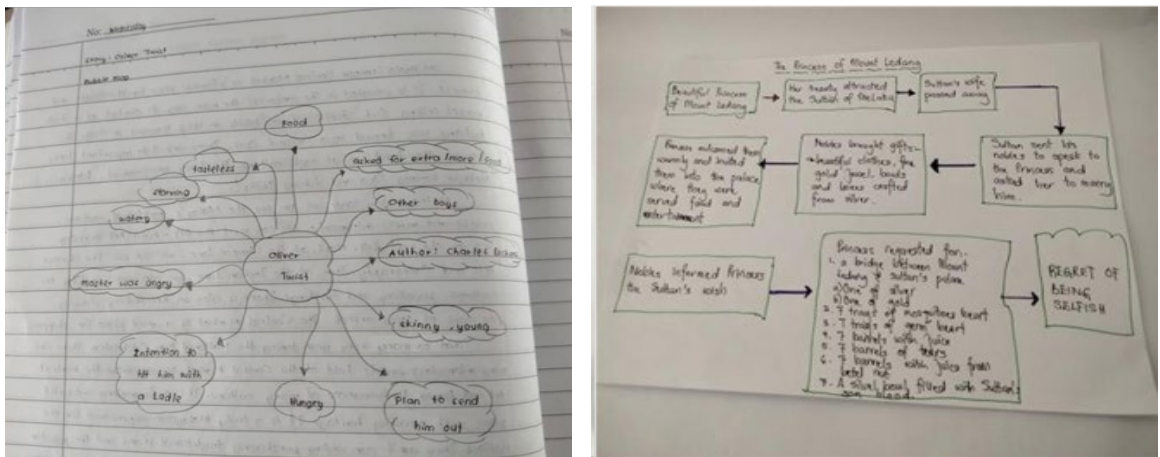


Figure 2. Bubble Map and Flow Map (Teacher B).

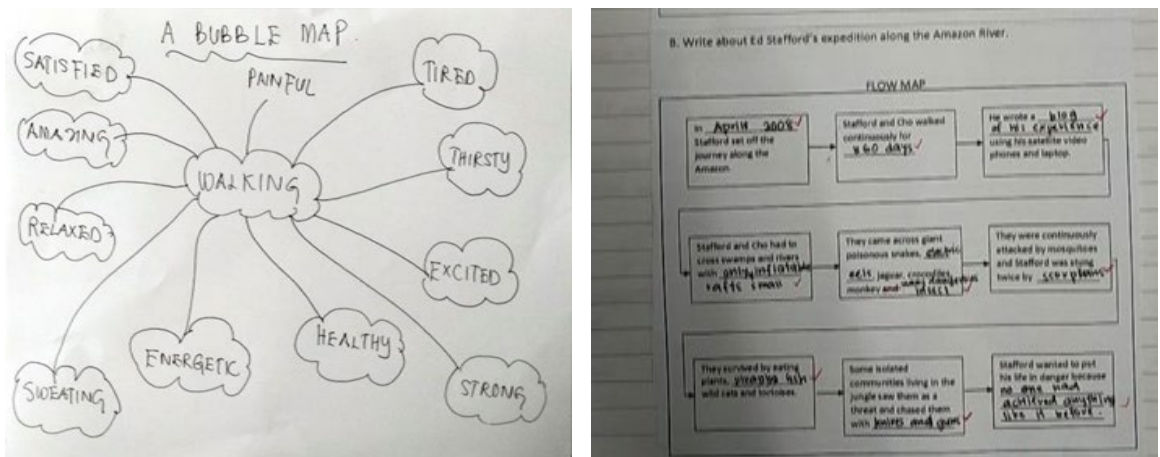


Figure 3. Bubble Map and Flow Map (Teacher C).

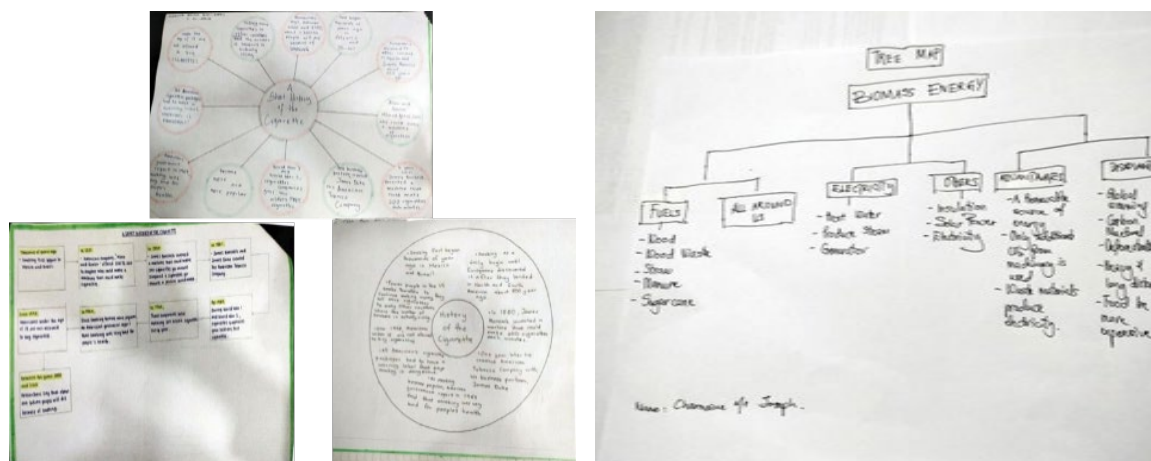


Figure 4. Bubble Map and Brace Map (Teacher D).

4.1.2 Teachers' role as a facilitator to activate students' higher-order thinking skills

The teachers agreed that they have an important role as a facilitator in guiding the students to detect the main ideas and supporting ideas and examples from the text. The teachers believed that i-THINK Mapping should be applied cognitively and graphically steadily to ensure students are given ample support for continuous cognitive development to build further their confidence to be able to function in the real-world context. All four teachers started their lessons with an explanation of the learning objectives to inform students what they should achieve at the end of the lesson. Teachers emphasised the importance of directing the student's attention to the lesson so that the students could state the title of the reading passage and provide some examples from the first paragraph to the last paragraph to test their schemata.

4.1.3 Questioning strategies from lower-order thinking skills to higher-order thinking skills

Teachers ensured that students read the passage carefully before moving to the task of transferring information from the reading passage using the i-THINK Mapping strategies. The teachers repeated the instructions to ensure that students understood the task. This was to double-check the students' attention and understanding of the task so that they would be focused and quickly detect the supporting details of the main idea to complete their Double Maps and Bubble Maps (Teacher A). The teachers discussed the points with the students and asked them at random to state the points aloud. Based on all the points identified by the students, they were instructed and advised to transfer the points discussed using the i-THINK Mapping to ensure all points were written in their final summary. This shows how the students comprehended and applied the information from the text and discussed it to complete the selected i-THINK map.

Furthermore, i-THINK Mapping was not uncommon for all students. The students had previously been exposed to i-THINK Mapping in other subjects. Based on the observations, for example, Teacher B applied a Bubble Map to elicit more information from the students to transfer information from the reading passage in pairs and individually. The i-THINK Mapping motivated the students to discuss, brainstorm and cooperate to detect the details from the given reading texts. The students gained more confidence from the i-THINK Mapping as they could comprehend the text better. It also encouraged peers' cooperation

and creativity. The teacher helped the students by asking LOTS and HOTS questions which led to the details of the texts, and finally helped the students to transfer the ideas into the i-THINK Mapping. Teacher B believed that i-THINK Mapping could increase and develop students' understanding to comprehend the text. Teacher B guided the students by asking LOTS questions to attract students' attention and interest in the topic that they were going to discuss. Teacher B directed the students' focus by showing how to use a Bubble Map to comprehend a text. She used a series of questions to guide the students to fill in the Bubble Map and to stimulate the students' thinking skills.

All four teachers encouraged the students to complete their own i-THINK Maps based on their discussion. A Bubble Map was not only used to help the students to understand the story but also to help them deal with the comprehension questions which were prepared as their homework. The teachers in this study agreed that they had instructed their students to recall their existing knowledge. For example, Teacher C asked her students to recall what they felt when they were working on their Bubble Map. The students were required to complete a Bubble Map in which they could share and compare their findings with their friends. Teacher D explained the need to raise questions to the students based on topics taught in the lesson.

4.1.4 Inducing vocabulary through the i-THINK Mapping strategies

All four teachers agreed that they managed to induce vocabulary through the i-THINK Mapping strategies in teaching reading. They ended the lessons with a vocabulary activity in which the students had to match the words that were related to the text with the correct meaning as a closing activity. The students managed to complete the vocabulary exercise as the vocabulary was taken from the texts that have learned. One of the i-THINK maps is the Bubble Map, which enabled the students to comprehend the text quickly and gain ideas of the meaning of some words used in the text.

Teacher C instructed her students to identify unfamiliar words from the text. The teacher believed that once the students were able to comprehend the vocabulary, they would be able to associate the main ideas in each paragraph. Teacher C taught English to a group of low-proficiency students. She mentioned that a Flow Map was more suitable for low-proficiency students as they had to fill in the blanks with suitable words or phrases from the text. Teacher C divulged that she usually gave some time for students to think, comprehend and complete the task. According to Teacher C, the Flow Map showed the important details in the text accordingly (refer to Figure 4 Bubble Map and Flow Map used by Teacher C). This helped the students comprehend the reading questions.

4.2 Factors Influencing Teachers to Use i-THINK Mapping to Teach Reading Comprehension

4.2.1 Teaching English as a challenging task

The four teachers agreed that teaching English can be a challenging task. The teachers mentioned that the students' different socio-economic and educational backgrounds could have some impact on the ways they view the learning of English. The teachers also explained that parents' educational background could also impact the students' performance and achievement in English. Students' variables, including attitude, interest, confidence, and motivation were reported to have some effect on the students' performance in class, and the

teachers had to find ways to fulfil students' different needs and learning styles. Despite exposing students to a variety of texts and books to spark their interest will lead to developing their reading skills, students need a fun and conducive learning environment. A large number of students was another issue that the teachers had to face. All of them ensured that students worked in groups and with peers using the i-THINK Mapping strategies to assist in envisioning the concepts found in selected reading texts. Teachers also mentioned that they had to give clear, proper, and comprehensible instructions to teach reading comprehension.

4.2.2 Inadequacy in reading comprehension

Inadequacy in reading comprehension could affect students' academic performance in both the summative assessment and national examinations which are compulsory for students to pass to enter the tertiary level. According to the teachers, students could read texts, but they found it difficult to visualise the deliberated ideas and discuss new concepts or views to express themselves through the reading text. Teachers shared that they were accountable for student learning, and for this purpose, they had to employ i-THINK Mapping strategies to ensure students read, extract, transfer ideas and explain using their own words. This shows that most students could read, but they were unable to apply it for self-development. It was apparent from the classroom observations in terms of the individualised feedback provided to the students through the teachers' questioning strategies to activate their lower-order thinking to the higher-order thinking skills. By doing so, the teachers were able to monitor each student's progress and provide corrective feedback.

4.3 Challenges Faced by ESL Teachers in Teaching Reading Comprehension in Using I-THINK Mapping

4.3.1 Incomprehensibility of words

Teacher A divulged that reading comprehension became a complex task for students when they did not have an adequate amount of vocabulary. Students' inability to comprehend the words in texts would make it difficult for them to understand the text. When this problem surfaced, the students were unmotivated to read the text or attempt the reading comprehension task. The students would then have problems identifying the topic sentence and main idea in each paragraph of the given text. Teacher B explained that her students had similar problems whereby they were unable to understand the meanings of certain difficult words. Her students had difficulties reading between the lines and pronouncing unfamiliar vocabulary.

4.3.2 Student attempts at translation using L1

Teacher C, who taught students with low-level of English proficiency, said that their problem was a result of the difficulty in understanding simple words, and this became more complicated when they tended to translate word by word using their mother tongue to understand the text. Teacher D associated her students' problems in terms of comprehending words or their inability to understand the topic or content. Nevertheless, all four teachers agreed that i-THINK Mapping could help enhance students' understanding of the text because the students could detect the main ideas and supporting details from the text. In the end, it helped the students answer the questions correctly. However, producing a correct and

complete i-THINK Mapping based on the text would take more time, especially for low-proficiency students who lacked vocabulary.

5. DISCUSSION

This study was focused on the application of i-THINK Mapping strategies in teaching reading comprehension as it is closely associated with ESL teachers and students. That interest is focused mainly on literature concerning i-THINK Mapping. Literature on teaching reading strategies abounds, but very little is related to an individual teacher's pedagogical strategies in employing i-THINK Mapping. [Ishak \(2015\)](#) stated that the Thinking Maps method improved students' enthusiasm for learning. [Haerazi and Irawan \(2020\)](#) detailed that reading comprehension can be facilitated effectively through visual mapping, relationship connections between concepts, and exposure to the appropriate strategies that are modelled and practised. Although teachers' beliefs impact how they teach, teachers have to adjust, redesign, and rethink teaching reading to support student mastery of reading. Teacher pedagogical practices of teaching reading will improve and develop students' mastery in reading comprehension. After a thorough analysis of data, some interesting strategies, including the use of the i-THINK map that facilitated students' ability to identify the main idea in a text, text organisation, cohesive devices, and summarising ideas in the text, were identified through Circle Map, a Bubble Map, a Double Bubble Map, a Flow Map, and a Tree Map. Teachers' role in assisting students in comprehending a written text was insufficient, but they had to expose the students to locate selected linguistic evidence or clues to the comprehensive meaning of the reading text. This was supported by [Yue et al. \(2015\)](#) who explained that teachers must instruct students to highlight the reading passage for students to identify important concepts, ideas, and information to self-regulate learning from the text. Teachers in this study agreed that they had trained students to skim and scan a text, identify the main ideas and topic sentences in each paragraph and identify unfamiliar words, but students still need to master comprehension skills. Moreover, this is an active, meaning-making process that facilitates comprehension as it helps the students to develop a global understanding of the whole text and remember important information ([Hagaman et al., 2016](#)). According to [Keleş \(2012\)](#), this helps students learn new information, think and develop their conceptual schema. The purpose of the i-THINK program which was introduced by the Malaysia Ministry of Education was to motivate students by using Thinking Maps as learning tools in Malaysian primary and secondary schools ([Omar et al., 2016](#)). i-THINK maps show the students' ability to display critical thinking skills ([Yaakub et al., 2018](#)). According to [Hassan et al. \(2016\)](#), to stimulate their thinking, questioning could be used as a tool to promote the students to think outside their normal thinking box. [Wang et al. \(2015\)](#) mentioned that students who are engaged in the questioning process will be able to clarify their thinking, share and verbalise their thoughts with new ideas, and enhance problem-solving skills. The act of asking questions could help the teacher and the students involve actively in the lessons and motivate them to keep thinking ([Meng et al., 2012](#)).

[Saori \(2020\)](#) revealed that reading activities need learning activities that promote HOTS among students. Students are required to practice and explicitly apply the level of thinking from the i-THINK Mapping ([Hassan et al., 2016](#)), and thinking maps are effective in fostering students' interest ([Kumari & Kumari, 2013](#)). This was supported by [Setianingsih et al. \(2018\)](#) who argued that a complex interaction between texts and readers is shaped by the readers' schemata, attitude, and language community. Moreover, one of the most

important aspects of the i-THINK maps is the students' ability to display critical thinking skills to complete the maps (Alomari, 2019). Research conducted by Hassan et al. (2016) on 11th-grade students found that the thinking levels of analysing and synthesising were the strengths of the concept map while a particular strategy also strengthened students' mastery of information on HOTS (Awofala, 2011). Sattar and Salehi (2014) reported the need to have adequate control over different lengths of text and the ability to deal with them and apply appropriate strategies to those texts. Mahamod et al. (2019) added that applying conventional methods was less effective in improving students' achievement. Factors such as students' learning ability with different levels of competence and their attitude toward learning English can delay the pace of teaching using i-THINK Mapping because the students are slow at grasping concepts. The challenges faced by the ESL teachers in this study in using i-THINK Mapping in teaching reading comprehension in the classroom were time constraints in lesson preparation and the students' low language proficiency level. Another challenge was that the teachers were aware of the benefits of using i-THINK Mapping in teaching reading comprehension. Furthermore, the teachers also had sufficient knowledge of i-THINK Mapping; but because of the time constraints and the influence of students' low proficiency, they thought it was not practical to apply i-THINK Mapping in all their teaching classes.

6. CONCLUSION

i-THINK Mapping could improve students' understanding and achievement in reading comprehension skills even though students faced difficulties given their low proficiency level. Furthermore, i-THINK Mapping encouraged the ESL teachers to instill more group activities, use a variety of questioning techniques, and encourage active student participation, which in the end led them to HOTS. Students need to collaborate to transfer the ideas and details from the reading text to their i-THINK maps and to make it easier for them to deal with the reading comprehension questions later on. The factors that encouraged the use of i-THINK Mapping in teaching reading comprehension to Malaysian students include an injection from the Malaysia Ministry of Education with the incorporation of HOTS in the English language syllabus and the teacher's guidebook. The ESL teacher's perspective of i-THINK Mapping, time constraints, and the level of students' proficiency were the major challenges faced by the ESL teachers in applying i-THINK Mapping in teaching reading comprehension.

The results of this study are unfitting to be generalised to ESL populations in other settings. This study explored only four teachers from one rural secondary school in Hulu Selangor; hence, it is inappropriate to assume that similar actions or answers would be derived from other populations, such as ESL teachers at primary schools or educators teaching in universities. Future research can be carried out with more participants studying at the lower secondary school levels to discover the effect of i-THINK Mapping in comprehending reading skills.

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