THE EFFECT OF GRAPHIC ORGANISERS IN ENHANCING READING COMPREHENSION SKILLS AMONG ESL FORM 2 SECONDARY SCHOOL STUDENTS

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ABSTRACT

This study examines the effect of graphic organisers in enhancing reading comprehension skills among English as Second Language (ESL) Form 2 secondary school students. This study is essential for both teachers and stakeholders to implement graphic organisers in reading lessons that motivate the learners to be interested in reading comprehension lessons and resolve the encountered problems by the learners in improving their reading comprehension skills. This quantitative study emphasises quasi-experimental design. Eighty secondary school students were selected from two intact classes and assigned to the experimental and control group. The researcher employed pre-test and post-test and to perceive the students' improvement in test scores and a questionnaire to find students' views towards the use of graphic organisers in reading lessons. The tests were administered during class hours, and a questionnaire was distributed via Google Form to sustain the validity and reliability of instruments. In addition, descriptive statistics are used to analyse the test scores; meanwhile, inferential statistics are used to analyse the questionnaire. Based on the results obtained, the respondents seem to have a positive notion that graphic organisers are helpful to enhance their reading comprehension skills.

Keywords: graphic organisers, reading comprehension skills, English as second language (ESL) secondary school students.

INTRODUCTION

A definitive goal of reading is comprehension. Reading is all about understanding the text and completing the tasks associated with it, which assesses the extent to which learners could connect to what they are reading. Reading comprehension skills play a crucial role in enlarging ESL learners' language proficiency in English language learning as it provides a clear understanding for the students to obtain the content of a reading text (Alvermann, 2003). Pundits highlighted that reading comprehension skills are fundamental, especially for second language learners, to unite and expand one's information about the language (Putranti, 2015).

However, readers encounter many problems on the road to comprehend what they are reading. This decreases their motivation and lets them stop engaging in reading. Without comprehension skills, it is considered that students merely read a blank sheet of paper. This research suggests that graphic organisers are a helpful strategy for teachers to improve students' reading comprehension skills in reading lessons. Tracey Hall & Nicole Strangman highlighted that "A graphic organiser is a visual and graphic representation that depicted the relationships among facts, concepts, or ideas within a learning task. In addition, Sorenson (1991), cited in "The Use of Graphic Organisers...." (2001), stated that graphic organisers provide an optional way to

represent knowledge and understanding for students who have difficulty finding the connections between texts.

Graphic organisers highlight the connections in thought and help students to understand the main ideas of a text. Therefore, this research highlights that graphic organisers are more helpful for the students, especially those facing problems in reading comprehension (Ermis, 2008). Different types of coordinators could be used for other purposes, for example:

- **Hierarchical organisers**: represented main ideas and supporting details in ranked order,
- **Comparative organisers**: represented similarities between crucial concepts,
- **Sequential organisers**: illustrated a series of steps or put events in chronological order,
- **Diagrams**: described actual objects and systems in the real world of science and social studies (Marchand-Matella et al., 1998)
- **Cyclical organisers**: represented a series of events that have no beginning or end,
- **Conceptual organisers**: contained the central concept with supporting facts, evidence, or features (Bromley et al., 1998)

("Graphic organizers", n.d.).

In conclusion, graphic organisers play a significant role in enhancing students reading comprehension skills. In this case, the researcher suggests that graphic organisers would be an effective material to help the students improve their reading comprehension skills. Simmons, Griffin, and Kameenui (1988), as cited in Kim, Vaughn, Wanzek, and Wei (2004), graphic organisers stimulate the reader's understanding through ideas and text connections. Thus, learning through graphic organisers supports students' comprehension more successfully than reading through skimming, scanning, and note-taking. However, graphic organisers are not broadly used in the Malaysian classroom to improve reading comprehension skills.

LITERATURE REVIEW
Graphic organisers as an educational tool
According to past studies, graphic organisers brought many positive changes in language learning. Graphic organisers are considered visual guides that help students capture the data from informative content and stand out from the most challenging deeds they experience in school. Graphic organisers guide students' thinking when they expand a visual guide or outline thoroughly. In Ermis' (2008) research, graphic organisers aid students to select main ideas from a text. Therefore, this study also clarifies that graphic organisers are more helpful for students who need guidance to identify the information from content. Therefore, the researcher highlights graphic organisers in the classroom content as visual and hierarchical tools to encourage students to comprehend descriptive content from a comprehension text. Graphic organisers promote understanding by clearly showing basic ideas and demonstrating connections between primary ideas and supporting subtleties. Griffin et al. (1995) also support that graphic organisers draw essential connections of understanding from a text.

Graphic organisers help the students connect how to perceive imperative contents from a reading text. Douglas (2011) found that graphic organisers are an extraordinary stimulus for students because they are more likely to imagine using them and make speculations. The use of graphic organisers in the classroom reliably rewarded students, particularly for infrequent demands because of the redundancy and structure. Besides, comprehension is essential for learners to grasp the dimension of content from a reading comprehension text. In past studies, graphic organisers are proven to be a helpful tool to perceive content (Sam, 2013). Simmons, Griffin, and Kameenui (1988) further emphasised that graphic organisers initiate comprehension skills among the readers by defining key terms, concepts, and relationships

between reading and graphic organisers. Then, a graphic organiser is an effective method to be utilised in the classroom context to expand students' understanding of a text (Blachowicz & Ogle, 2001). Jiang and Grabe (2007) stated that graphic organisers are supportive instruments to enhance reading comprehension. Graphic organisers served as visual aids for students to acquire the information way better than the traditional method (Tang, 1992).

Graphic organisers in enhancing reading comprehension skills
Graphic organisers in the classroom context improve students' perception with flawless improvement in terms of test scores and comprehension questions (Nurah, 2019). For example, students can classify and highlight the central idea and main gist of a text independently. Students' independence in answering a comprehension with graphic organisers; demonstrates that graphic organisers support the lesson to be comfortable and persuasive. Graphic organisers help students formulate their ideas and make reading smoother and faster (Wahyu, 2020). Therefore, graphic organisers aid students in comprehending a topic that allows the students to participate enthusiastically and eventually provide feedback. Dedi Aprianto (2020) highlighted that students are not interactive in-class; meanwhile, only teachers are referred before implementing graphic organisers in a classroom context. Therefore, students became more active when they are shown YouTube videos as a secondary tool in highlighting different types of graphic organisers as prior knowledge before initially using the handouts of graphic organisers in the classroom. It helps the students to understand how graphic organisers play an essential role in reading. The more the students understand, the students' tendency to read comprehension would be high.

According to Germinton (2017), graphic organisers allow students to better organise their information when assisted by graphic organisers (Putranti, 2015). Students show a tremendous improvement in their reading comprehension with the assistance of a graphic organiser (Pollock, 2001). Numerous studies demonstrated that graphic organisers help students read the content when the reading materials are beneficial and enjoyable, especially in literacy (Sam, 2013). By using graphic organisers, students presented an improvement in reading skills (Ciascai, 2009). Furthermore, students are highly motivated and showed a deep understanding of the reading text (Cynthia C, 1995).

METHODOLOGY

This study employs a quantitative research design in which a quasi-experimental study was done. The researcher used convenience sampling method to collect data and information from 80 Form 2 students in a secondary high school in Selangor. The researcher employs two instruments, which are tests and questionnaire. The tests were adapted from the Common European Framework of Reference (CEFR) textbook that is provided by the Ministry of Education. Meanwhile, the questionnaire was adapted from a journal entitled 'Reading strategies among ESL Malaysian secondary school students written by Semry Anak Semtin.

After gathering the data, the researcher proceeded with data analysis. Firstly, the tests were carried out among the pupils in the experimental and control group to examine the effectiveness of scrutinise the effectiveness of graphic organisers in enhancing students' reading comprehension skills. The researcher used inferential and descriptive statistics to analyse the data from the tests. Besides, the researcher distributed questionnaire to the experimental group to identify how students' perceived graphic organisers in improving their reading comprehension skills. Hence, to analyse the data in the questionnaire, the researcher used descriptive statistics.

RESULTS

The independent t-test for pre-test

Table 1. Independent t-test for the pre-test.

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Pre-test	Equal variances assumed	.595	.443	2.130	78	.036	6.875	3.227	.450	13.300
	Equal variances not assumed			2.130	77.525	.036	6.875	3.227	.450	13.300

Group	N	Mean	Sd	t	P (significance)
Experimental	40	51.25	13.856		
Control	40	44.38	14.987	2.130	.036
* p < 0.05					

Based on the analysis made, the students in the experimental group (M = 51.25, SD = 13.86) presented a little significant in the pre-test scores than test score obtained by the students in control group (M = 44.38, SD = 14.98), $t(78)$ = 2.130, SEM = 0.036, p < .05. The significance of the test scores highlights that null hypothesis was rejected.

The independent t-test for post-test

Table 2. Independent t-test for post-test.

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Post-test	Equal variances assumed	.083	.774	3.626	78	.001	12.875	3.551	5.805	19.945
	Equal variances not assumed			3.626	77.719	.001	12.875	3.551	5.805	19.945

Group	N	Mean	Sd	t	P (significance)
Experimental	40	62.13	15.396		
Control	40	49.25	16.352	3.626	.001
* p < 0.5					

The students in experimental group (M = 62.13, SD = 15.40) presented a greater significant in their post-test scores compared to the students of control group scores (M = 49.25, SD = 16.35), $t(78)$ = 3.626, SEM = 0.001, p < .05. The significance of test scores highlights that the null hypothesis was rejected, and the alternative hypothesis was accepted.

Paired t-test of the experimental and control group

Table 3. Paired sample t-test for the experimental and control group

			Paired Differences							
						95% Confidence Interval of the Difference				Sig. (2-tailed)
Category			Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	
Experimental Group	Pair 1	Post-test – Pre-test	10.875	8.156	1.290	8.267	13.483	8.433	39	.000
Control Group	Pair 1	Post-test – Pre-test	4.875	14.254	2.254	6.316	9.434	2.163	39	.000

According to the analysis, both groups showed a significant value of ($p = < 0.000$) with ($M = 10.88$, $t = 8.433$) for the experimental group and ($M = 4.88$, $t(39) = 2.163$) for the control group. Both groups achieved a value that lesser than $\alpha = 0.05$ with $t(39) = 8.4333$) and $t(39) = 2.163$), respectively. The mean score difference is 6 as the experimental group obtained 10.875 and 4.875 for the control group. However, the experimental group accomplished a higher mean score and showed a significant improvement in post-test than the control group.

Paired sample t-test for pre-test

Table 4. Paired Sample Test for pre-test

		Paired Differences							
					95% Confidence Interval of the Difference				Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	
Pair 1	Category – Pre-test	-46.312	14.878	1.663	-49.623	-43.002	-27.842	79	.000

Paired sample t-test for post-test

Table 5. Paired Sample t-test for post-test

		Paired Differences							
					95% Confidence Interval of the Difference				Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	
Pair 1	Category – Pre-test	-54.187	17.255	1.929	-58.028	-50.347	-28.088	79	.000

According to the analysis made, paired t-test for pre-test showed a significant value for pre-test is ($p = < .000$) with ($M = 46.31$), $t(79) = 27.84$ and ($p = < 0.000$) with ($M = 54.19$, $t(79) = 28.09$ for post-test. Therefore, the null hypothesis was rejected. This indicates a significant difference of mean score between pre-test (Table 4) and post-test (Table 5) that contributed to $p = 0.000$, $t(27.842)$ for pre-test and $p = 0.000$, $t(28.088)$ for post-test.

Effectiveness of graphic organisers in improving reading comprehension skill
This section was intended to identify the effectiveness of graphic organisers in improving reading comprehension skills. Simmons (1988) stated that graphic organisers stimulate readers' comprehension skills that expand by defining main terms, concepts, and relationships between

content and idea. Before the use of graphic organisers, it could be seen that the students faced difficulties in understanding a reading text. However, after the intervention, the students showed a significant attitude that graphic organisers enlarged their performance tremendously in reading lessons. A total of ten items were prepared and the items were analysed respectively.

Table 6. The effectiveness of graphic organisers in improving reading comprehension skill

No	Statements	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
		N	%	N	%	N	%	N	%	N	%
1.	Graphic organisers are a helpful learning tool that aided me in simplifying information from a text.	0	0.0	0	0.0	2	5.0	17	42.5	21	52.5
2.	Graphic organisers were the suitable scaffold that supported me in improving my reading comprehension ability.	0	0.0	0	0.0	5	12.5	15	37.5	20	50.0
3.	Graphic organisers facilitated me in categorizing the key concepts and analyses the interconnection of ideas in a reading text.	0	0.0	0	0.0	4	10.0	12	30.0	24	60.0
4.	Graphic organisers aided me in constructing understanding through an exploration of the relationship between concepts of reading text.	0	0.0	0	0.0	4	10.0	12	30.0	24	60.0
5.	Graphic organisers gradually improved my reading comprehension skill.	0	0.0	0	0.0	2	5.0	13	32.5	25	62.5

In this section, the researcher discussed about the effectiveness of graphic organisers in improving students reading comprehension skills. Firstly, a total of n = 38 (42.5% + 52.5% = 95%) agreed that graphic organizers are helpful tool that aide them to simplify information from a text. Besides, 35 students (37.5% + 50.0% = 87.5%) mentioned that graphic organisers are suitable scaffold that support to improve comprehension ability. Moreover, 36 students (30.0% + 60.0% = 90.0%) agreed that graphic organisers help to categorise the key concepts and analyse the interconnections of the ideas from a text and explore the relationship between the reading text. Thus, almost half of the students agreed that graphic organisers gradually improved their reading comprehension skills.

Effectiveness of graphic organizers reading comprehension skills

Table 7. The effectiveness of graphic organisers after the intervention

No	Statements	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
		N	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**
1.	I can predict the significance of unfamiliar words.	0	0.0	0	0.0	6	15.0	16	40.0	18	45.0
2.	I can predict the content of the upcoming idea while reading a text based on the topic discussed in a text.	0	0.0	0	0.0	7	17.5	13	32.5	20	50.0
3.	I can skim the text rapidly to understand the general idea of the reading text.	0	0.0	0	0.0	4	10.0	16	40.0	20	50.0
4.	When a given text become difficult, I revise the text again to get the gist for better understanding.	0	0.0	0	0.0	3	7.5	18	45.0	19	47.5
5.	I can activate my prior knowledge to relate the ideas with the content of the text to have a better understanding.	0	0.0	0	0.0	9	22.5	13	32.5	18	45.0

As we can see that, most of the students agreed that they could predict the meaning of unknown terminologies and phrases in a text given was 85% (45.0% + 40.0% = 85.0%) contributed to 34 students. Therefore, 82.5% (32.5% + 50.0%) of students agreed that graphic organisers helped them predict the imminent idea while reading a text based on the topic discussed in a text. In addition, 36 students agreed that they skill a text fast to understand the concept of the text given, which contributed to (40.0% + 50.0% = 90.0%). Besides that, 37 (45.0% + 47.5% = 92.5%) agreed that when the given text becomes difficult, they revise the text again to acquire the gist to have a better understanding, and 31 students contributing to 77.5% (32.5% + 45.5) agreed that graphic organisers helped them activate their prior knowledge of content to have better lenience of a text. Students' views on the use of graphic organisers are optimistic that they can activate their prior knowledge to connect their idea with the content of a reading text.

DISCUSSION

First and foremost, this study demonstrated that the effectiveness of graphic organisers in enhancing students' reading comprehension skills had improved that emphasised by the variances in test scores between the experimental and control groups. The mean score difference is 6, and it is significant because the experimental group recorded a higher mean score, which is 10.875, than the students in the control group. The improvements in this study were supported by a few journals, which can be explained as follows. Praveen and Rajan (2018) stated that students could improve their reading ability with the assistance of graphic organisers. It helps students engage in deep text connectivity by identifying the main gist and central idea. Besides, graphic organisers enhance students' reading comprehension skills by attracting their attention and dramatically increases their engagement during language learning.

In this study, most students significantly improved their reading comprehension skills after using graphic organisers as an effective instrument. Hence, Rahat and Rahman (2020) cited that graphic organisers are used to chunk ideas from a text to have a better understanding that also aids students to enhance their reading comprehension ability. In this study, graphic organisers hugely supported the students in expanding their vocabularies and text connectivity knowledge. This method helps the students to identify the main gist and central idea of a text that helped achieve the study's objectives. As overall, test scores signified that 95% of the probability of the test revealed a significant p-value that is 0.000, respectively, indicated there is a significant difference in post-test. Finally, it can be concluded that the experimental group presented a significant improvement in reading comprehension with the support of a graphic organiser. It is proven that graphic organisers enhanced students' reading comprehension skills.

Furthermore, the focus is to identify the effectiveness of graphic organisers in reading comprehension lessons and students' improvement after the utilization of graphic organisers. Based on the survey conducted, the researcher agreed that students enjoyed their learning when graphic organisers are integrated with MS Word's innovative art tools in various shapes and relationships, computer-designed graphic organisers and YouTube videos to how different types of graphic organisers. The YouTube videos are used as a secondary tool to help the student understand the essential roles of graphic organisers in improving their reading comprehension skills.

Finally, the focus was on the effectiveness of graphic organisers after the intervention process. The data shows that 85% (n=34) of the students can predict the meaning of unknown vocabularies and phrases in a text given. Graphic organisers ease students' understanding that allows them to design influential acquaintances by using their prior knowledge to improve their language achievement (McNamara, 2001). Vocabulary maps are an essential handout to expand students' knowledge of words that provide unlimited access to new information. In reaction to this condition, the researcher incorporated a vocabulary map to develop the students' understanding of vocabulary in this study. The aim is to increase students' foundation in knowledge of words and supported by Chelle (2017). Chelle further highlighted that vocabulary knowledge is vital in reading comprehension. Concerning this, 45.0% of students agreed that they could predict the meaning of unfamiliar terminologies according to the text given.

Therefore, 82.5% (n=33) students had expanded their understanding of the topic discussed in a comprehension test. This result aligned with the zone of proximal development that connects variances among students who could get information from a text independently. It helps the researcher keep track of the student's improvement in reading (Virk and Wik, 2011). The researcher further emphasised that the richer the information is, the better the students learn language comprehension. The plethora of advantages emphases on graphic organisers provides an effort to comprehend the inherent denotation of a text given, scrutinise the connections between a text and sequence, and predict upcoming ideas based on the topic discussed in a text. It is not surprising when the teachers started using graphic organisers in their teaching and learning development to enhance students' reading comprehension skills significantly. When a student reads a text given, it indirectly enhances the student's prior knowledge of content and idea.

Moreover, 92.5% of students indicated that they had improved their ability to identify the main gist and central idea. Graphic organisers help students verbalise their thoughts, make lessons smoother and faster (Aprianto and Syarifaturrahman, 2020), and aid students to comprehend

the topic. Graphic organisers allow students to better organise their information and be more confident in highlighting the crucial points from a reading text (Gonzalez, 2017). This statement explains how effectively graphic organisers improved students quality in their reading comprehension with the help of graphic organisers (Pullupaxi, 2012). Numerous studies demonstrated that graphic organisers helped the students in reading content (Sam, 2013). Wegner's research revealed that using graphic organisers would increase the intellectual capability of students (Wegner, 1995). For instance, when a student reads a text given, it indirectly enhances the student's prior knowledge of content and idea. It explained how most students (n= 31) contributed 77.5% improved text connectivity by relating the content with their prior knowledge and taking notes to perceive the text connectivity. However, only (n=7) students stated that they partially enhanced their ability to connect themselves to a reading text.

Lastly, the researcher firmly mentioned that graphic organisers provide an influential learning clue to enhance students reading comprehension skills in a language lesson. Therefore, graphic organisers are effective. The students from the experimental group strongly agreed that graphic organisers create an engaging and immersive educational experience for them, whereby students could comprehend a text with the support of graphic organisers. Biria (2013) stated that graphic organisers are providing a unique learning environment. The emphasises of this study is on the effectiveness of graphic organisers in enhancing students' reading comprehension skills in terms of improvements as vocabulary knowledge, identifying the main gist, and central idea by using graphic organisers to chuck the main points more straightforwardly.

CONCLUSIONS

Based on the discussion above, it can be concluded that the use of graphic organisers in improving reading comprehension skills was effective and efficient as the students results improved tremendously. In addition, the students performed better in language lessons when graphic organisers used in comprehension lessons, as it contains videos, pictures and subtitles. The authentic content of the graphic organisers and videos guided students to understand text better, as reading comprehension is very difficult to be mastered among the students especially the weaker ones who consistently have difficulty comprehending text passages without guidance. For these types of students, graphic organisers play an essential role in helping them to engage with the information. A graphic organiser is an apparatus that provides thinking and monitors data in a manner that is communicated through pictures, diagrams, or visual illustrations rather than just barking at a printed copy of texts. It inspires students to complete the graphic organisers by filling in the data from the passage. The researchers found a significant variation and improvement in post-test than pre-test scores among the students from the finding of this study. Although the test scores are low for the pre-test, their post-test marks significantly improved, highlighting those graphic organisers perhaps the best device to enhance students' reading comprehension skills.

Hence, for further research, language teachers should start experimenting with the importance of graphic organisers and understand how effective the use of graphic organisers in improving students' reading comprehension skills would help them perform better in reading lessons. It would help the students experience, engage in classroom activities, and improve their performances in reading assessments. Further research should be carried out focusing on graphic organisers, especially among the ESL secondary school students. Students should be

allowed to create their graphic organisers and not be too dependent on teachers. When students write out their graphic organisers, they are furthering their reasoning skills as well.

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