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UTILIZING GRAPHIC ORGANIZERS TO ENHANCE RETENTION OF KNOWLEDGE IN ESL WRITING SKILLS

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ABSTRACT

Purpose - Writing is a difficult skill to master and improve, especially for students who learn English as a second language. Thus, this study explores the impact of employing graphic organizers on the writing performance of Form Four students and their knowledge retention. These students were 16-year-olds at the time of study. Furthermore, the investigation delves into the perceptions of students on writing methods.

Methodology - This study employed a quasi-experimental design. The experimental group received instructions applying graphic organizers and the control group received instructions applying the conventional method. Pre-test, Post-test 1 and Post-test 2 were utilized to collect the data. The sample comprised 120 Form Four students chosen as intact groups from two schools, there were 60 students in each group. The study lasted for 11 weeks. One-way ANOVA and Repeated Measures were used to analyze the data collected from the Pre-test, Post-test 1 and Post-test 2, while the qualitative data gathered from the semi-structured interviews were investigated using thematic analysis for emerging themes.

Findings - The quantitative results indicate that the experimental group performed significantly better than students from the control group in their overall writing skills and retention of knowledge in writing.

Findings from the qualitative data supported the quantitative findings which revealed that incorporating graphic organizers in writing boosted students' motivation in writing and facilitated their learning, especially in the domain of content, organization, elaboration of ideas, and language.

Significance - ESL teachers could use graphic organizers as an alternative method to improve students' writing skills. Teacher training should prepare teachers to use methods that effectively utilize graphic organizers in the writing process.

Keywords: Graphic organizers, retention of knowledge, writing, form four ESL students, teacher training.

INTRODUCTION

Developing proficiency in listening, speaking, reading, and writing is essential to become a competent user in any language. Among these four interconnected skills, writing is the most demanding and challenging skill to master (Peter, 2020; Jusun et al., 2018 and Javadi-Safa, 2018). Considering that writing is a crucial language skill, students have no option but to acquire it. Therefore, teachers and learners have to choose a helpful pedagogical tool that can facilitate the teaching and learning of this particular skill. According to Yamalee et al. (2019) and Javadi-Safa (2018), ESL writing is a skill that requires students to express opinions and thoughts through complex processes, generate ideas, and communicate in diverse, as well as appropriate contexts.

A study carried out by Raoofi et al. (2017) shows that students with high levels of writing skills significantly utilize more cognitive, emotion and effort levels, as opposed to others who are less proficient at writing. Thus, students with average writing abilities and low writing abilities require effective methods to improve their writing. Kansizoğlu (2017) asserts that graphic organizers have positive impacts on student achievement in ESL writing skills. In addition, Coutinho (2014) opined that concept maps can be used to help student thinking processes. As a result, within this thinking-learning process itself, graphic organizers can be used as a visual learning tool in writing per se. Unfortunately, writing is an uphill struggle for many students, and most students at all levels underperform in ESL writing (Affendi et al., 2020). Al-Badi (2015) also adds that a common problem facing most students is their inability to structure their thoughts and information during writing.

As stated by Nurfidoh et al. (2021), students find the process of writing a difficult task to perform. They find it challenging in organizing ideas, expressing their ideas into words, and struggle with the grammar. Such difficulties often lead to frustration and a decline in their writing performance. Therefore, it is important for ESL teachers to employ appropriate pedagogy to help students excel in writing. Unfortunately, Malaysian teachers prefer to use conventional methods and find it hard to adopt a suitable method of instruction that will help to enhance ESL writing abilities (Rahman, 2017).

Other studies have also revealed that most students struggle to organize ideas while writing (Maharani, 2018). Nevertheless, studies have shown that introducing students to the application of graphic organizers in writing can be beneficial as it assists visual learners in constructing the content material of writing and developing the technique of writing; using graphic organizers in writing makes it less complicated for students (Manipuspika, 2020; Rahmat, 2020). When students use graphic organizers, the focus is on the process of writing, rather than the final product. Additionally, the Institute for the Advancement of Research in Education (IARE, 2003) states that the process of developing and using

graphic organizers in writing has shown improvement in students' writing skills and facilitated their retention of knowledge.

Graphic organizers can help students identify the text's primary ideas and important details, as well as the relationships between them. They can also be used to help students organize their thinking and provide structure for writing (Zainudin et al., 2023; Ceylan, 2019; Sulaiman et al., 2018). Thus, to assist ESL students to improve their writing abilities and to reach at least the level of Band B2 of the Common European Framework of Reference for Languages (CEFR), graphic organizers have become important in enhancing students' writing skills and improving their retention of knowledge in writing. It is in the context of the claims made in previous research that the present study aims to ascertain the effects of utilizing graphic organizers on students' writing skills and the retention of knowledge in their writing. The experiences of students from the experimental group regarding the use of graphic organizers and the views of students from the control group on the use of the conventional method in writing will be investigated.

Research Questions

The following questions guide this research study:

1. Is there a significant difference between the mean score of the experimental group (using graphic organizers) compared with the control group (using conventional methods) in Post-test 1?
2. Is there a significant difference in the retention of the writing skills of the experimental group (using graphic organizers) compared with the control group (using conventional methods)?
3. What are the students' views (experimental group) on the utilization of graphic organizers in writing English essays?
4. What are the students' views (control group) on the utilization of conventional methods in writing English essays?

LITERATURE REVIEW

The idea of graphic organizers has its roots in Ausubel's (1968) view of meaningful learning (Novak, 2004). The present study is supported by the theory that graphic organizers help thinking processes on a regular basis because graphic organizers use human-derived graphic techniques that are beneficial in providing universal keys to unlock the brain's potential (Buzan, 2009; & Buzan, 2017). It has been found that information is coordinated in a pecking order and new data is significant to the degree where students can relate it with what they know definitively, which assists to connect new materials with existing related thoughts (schema) in the students' mental design. Similarly, Hameed (2023) claims that graphic organizers are visual representations, such as diagrams, that are used to organize data and concepts to facilitate learning, understanding and presentation. Specifically, graphic organizers are visual representations such as diagrams which help in the organization of data and concepts systematically and structurally.

The application of diagrams as graphic organizers is shown to be a direct manifestation of the fundamentals of cognitive psychology applicable in the field of education. There are four types of graphic organizers, depending on content of the lesson and the objectives of the teacher. They are as

follows: The main ideas and supporting details are presented by Hierarchical Organizers; Comparative Organizers aid in the comparison and contrast of ideas or characteristics; relationships between causes and effects are depicted by Sequential Organizers; and Diagrams for representing systems and real objects in the actuality of science and social research. According to Sulzberger (2015), the prime writing process for these four types of graphic organizers comprises six areas, namely brainstorming, outlining, drafting, evaluating or editing, finalizing and publishing.

Concurrently, Pratama et al. (2017) opined that graphic organizers help learners to understand concepts from beginning to end, document relationships, sort and arrange ideas, sharpen their memory, and compare and accept different points of view. Additionally, teachers can also display and simplify how content links together, create captivating lessons, support visual learners in getting the necessary information they need, inspire students, help them with prewriting, and measure their knowledge. Furthermore, in the study by Pratama et al. (2017) it was posited that although creating graphic organizers requires preparation time prior to a lesson, they facilitated learning and knowledge retention. Similarly, Gallavan et al. (2007) agreed that using graphic organizers improved learners' visualization of information, manipulate ideas, and synthesize ideas, which would enhance both long-term and short-term memory.

Similarly, Peyton (2018) has found that graphic organizers allowed basic-level literacy students (any language) to provide content and information, as well as bring up interesting topics and questions as part of the oral and written language, for example in knowing things and organizing information using graphic organizers. It is also important to note that graphic organizers can accommodate a wide range of ability levels, fluency levels, and reading and writing comfort levels. According to Tayib (2015) implementing graphic organizers would lead to an increase in student's motivation. Since writing has become more fascinating, effortless, and enjoyable when using graphic organizers, this will inspire the students. This positive perception of writing directly influences students' attitudes towards the skill, ultimately resulting in greater motivation to learn English. Therefore, it is advisable to include graphic organizers in the writing curriculum for EFL learners. Along this line of thought about the potential of graphic organizers, textbook authors and curriculum designers can integrate these tools into their learning materials and textbooks to engage students' learning and enhance the experience of learning writing, an experience which is more satisfying for the students.

Kılıçkaya (2019) states that graphic organizers in writing classrooms provide the opportunity to integrate graphic organizers into their overall learning, which is likely to facilitate the learning process, as it is enhanced with visual representations. To put it differently, graphic organizers serve as a teaching, learning and presentation tool that arranges data and ideas in an easy-to-understand manner to embrace and absorb new knowledge. Through blending content and images, graphic organizers are valuable in exhibiting the relationships and associations between ideas, terms, and details. As per Hameed (2023), graphic organizers facilitate in visualizing or exhibiting information in a more comprehensive manner to enhance understanding, by deconstructing larger or intricate ideas and concepts into mini and more straightforward components. Using a graphic organizer also creates the opportunity for students to actively participate and contribute to the learning process. Additionally, graphic organizers assist in developing cognitive abilities like brainstorming, critical and creative thinking, content categorization and prioritization, as well as reflection. It has been clearly spelt out in all the curricula in the nation's schools that it is mandatory to advance higher order thinking skills (HOTS). This is in line with the Malaysia National Education Policy. Thus, there is a need for studies to delve more deeply into the possible strategies and learning preferences to promote HOTS. Furthermore, research is needed on the

strategies for teachers to employ in stimulating HOTS among learners in the classroom (Singh, et al., 2020).

Finally, a major significant advantage of graphic organizers is that they assist students to recall previous knowledge of a topic and quickly connect it with new information. A study by Nair et al. (2020) also stressed that schema would improve ESL students' understanding of literary devices and settings in short stories. Thus, graphic organizers are useful learning tools that help to activate students' schema, promote self-learning and in the process facilitate the retention of knowledge. Taking notes, analyzing, and studying with a graphic organizer gives students access to many learning activities that help develop their cognitive skills. This will help them to apply HOTS. Previous knowledge will be a resource for them to interlink with the new knowledge that they have acquired through their thinking skills while using graphic organizers in writing. In Malaysia there are relatively few studies on the application of graphic organizers in ESL writing. Hamzah et al. (2021) also stressed there is a significant correlation between knowledge and learning experiences using i-Think program. Therefore, future studies should focus on teachers' proficiency and skills in implementing i-Think maps. As such, the current study attempts to look into the effects of using graphic organizers in ESL writing.

METHODOLOGY

The study employed a quasi-experimental design using quantitative and qualitative data. The purpose of this study was to investigate whether the utilization of graphic organizers could enhance students' performance in writing skills and their retention of knowledge in ESL writing. Qualitative data (from face-to-face interview), was utilized to gather students' opinions about the effectiveness of adopting graphic organizers and the conventional method in learning English writing skills. In addition, the qualitative data explored in-depth information pertaining to students' exposure to graphic organizers. The interview design is similar to that in Keffe et al. (2015), and Ritchie et al. (2003), who had suggested that in cases where depth of meaning was important and the primary objective of the research was to gain insight and understanding, face-to-face interviewing was appropriate.

Sample

The sample consisted of 120 Form Four students (16 years old) from two urban National Secondary Schools (known as school A and School B in this study) located in Cheras, Selangor. These schools had similar characteristics in terms of population and academic performance. The sample was chosen as two intact groups (60 students in the experimental group from school A, and 60 Students in the control group from school B), as randomization would not be allowed because it would interrupt the school timetable. The English proficiency levels of both the groups were considered average, based on their performance in the English PT3 (Form 3 Assessment) results. Students from the experimental group were taught using graphic organizers in writing English essays. Purposive sampling was adapted to choose eight students (four from the experimental group and four from the control group) for focus group interviews to collect the qualitative data on their experience in learning English writing skills.

Instruments

Two types of instruments were used in the study, namely the writing tasks and semi-structured interview questions. Two writing tasks designed by the researchers were used as instruments in the study to gauge the students' writing performance in the pre-test, post-test 1 and post-test 2. The first task requires

students to write one directed open essay of 125 to 150 words on a topic expressing their personal opinion. The second task was one extended essay writing of about 250 words on a story that was prescribed in the English course syllabus. The marking rubrics used for both writing tasks were based on the Malaysian Board of Examination (MBE). In order, to obtain the validity of the marking rubric, a pilot study was conducted on 40 Form Four students from a different school, and two experienced ESL teachers with more than ten years of teaching experience were assigned to mark the essays. An inter-rater reliability test was conducted using Pearson Correlation Coefficients, and the results indicated high reliability ($r=.95$, $p=.000$). In addition, two ESL expert teachers were asked to validate the essay questions on content validity, face validity, construct validity and criterion validity using a validity form. Both the expert teachers gave high rating for all the validity criteria (average score 9.3/10), which indicated that the instruments had high validity and reliability and could be used in the study. The same two expert teachers validated the semi-structured interview questions for students and they confirmed that the interview questions were suitable for the study.

Procedure

Students from the experimental group were taught using graphic organizers over eight weeks whereas the control group received instruction employing the conventional method. A Pre-test was administered before the intervention, and the data from the Pre-test was used as a covariate to remove the differences between the experimental group and the control group prior to the intervention. After the intervention, students from both the groups were given a Post-test 1 and the quantitative data from the Post-test 1 was analyzed using the One-way ANOVA (SPSS Program for Windows version 25.0). After Post-test 1, there was no intervention for either of the groups for three weeks. At the end of the 11th week, both the groups were given Post-test 2. Repeated Measure was used to analyze the students' retention of knowledge in writing using the quantitative data from Post-test 1 and Post-test 2. After Post-test 1, eight students (four from each group) were interviewed (focus group interview) regarding their experiences in learning writing during the intervention. The qualitative data derived from the focus group interview was analyzed using emerging themes.

FINDINGS

The quantitative data were analyzed to answer Research Question 1 and Research Question 2. The qualitative data was analyzed based on emerging themes to answer Research Question 3 and Research Question 4.

Quantitative Data Analysis

RQ1: Is there a significant difference between the mean score of the experimental group using graphic organizers compared with the control group (using conventional methods) in Post-Test 1?

Table 1

Student Mean Scores in the Pre-Test

Group	Mean	N	SD
Experimental	27.20	60	2.02
Control	26.53	60	2.14

Table 1 illustrates the mean scores of the students in writing skills in the Pre-test. The mean score of the experimental group was 27.20, while the mean score of the control group was 26.53. Based on the two scores, it can be seen that the ESL writing proficiency of both groups were almost similar, with a difference of 0.12.

Table 2 reveals no statistically significant difference in the results of the one-way ANOVA between the experimental group and the control group on their mean score for pre-test writing skills ($F=3.07$, $df=1$, $p=.082$).

Table 2

The Results of the One-way ANOVA Test in the Pre-Test

Pre-test	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	13.333	1	13.333	3.070	.082
Within Groups	512.533	118	4.344		
Total	525.867	119			

Note. The level of significance is at $p<0.05$

Table 3

Student Mean Scores in the Post-Test 1

Group	Mean	N	SD
Experimental	30.45	60	.62
Control	27.20	60	2.02

On the other hand, Table 3 displays the mean scores of the students in their writing skills in Post-test 1. The experimental group scored 30.45 on Post-test 1, whereas the mean score of the control group was 27.20, resulting in a 3.05 difference. On the basis of these two mean scores, it can be concluded that the experimental group, which had used graphic organizers, achieved better results than those of the control group, which had used the conventional method.

According to the outcomes of the one-way ANOVA test in Table 4, the experimental group which had used graphic organizers, demonstrated significantly higher scores than the control group, which had used the conventional method ($F=141.39$, $df=1$, $p=.000$). These findings have answered Research Question 1 and affirmed that utilizing graphic organizers facilitated students in their ESL writing.

Table 4

The Results of ANOVA in Post-Test 1

Post-test1	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	316.875	1	316.875	141.393	.000
Within Groups	264.450	118	2.241		
Total	581.325	119			

Note. The level of significance is at $p<0.05$

RQ2: Is there a significant difference in the retention of the writing skills of the experimental group (using graphic organizers) compared with the control group (using conventional method)?

Table 5

Student Mean Scores in Writing Skills in Pre-Test, Post-Test 1 and Post- Test 2

Group	Pre-test		Post-test 1		Post-test 2	
	Mean	SD	Mean	SD	Mean	SD
Experimental	27.20	2.02	30.45	.62	35.17	1.51
Control	26.53	2.14	27.20	2.02	30.45	.62

The findings in Table 5 display the mean scores of the experimental group in contrast to the control group in the Pre-test, Post-test 1 and the Post-test 2. It can be seen that from Table 5 that in the Pre-test, the mean score of the experimental group was 27.20, and the mean score for the control group was 26.53. It is evident that the score of the experimental group and the control group were very similar. Nonetheless, in Post-test 1, the mean of the experimental group was much higher (Mean=30.45, SD=.62) than the control group (Mean=27.20, SD=2.02). Similarly, in Post-test 2 the mean score of the experimental group (Mean=35.17, SD=1.51) was notably higher compared to the control group (Mean=30.45, SD=.62).

Table 6

The Results of the Repeated Measure Showing the Retention of Knowledge in Writing Skills

	Effect	Value	F	Hypothesis df	Error df	Sig.
Test	Pillai's Trace	.94	866.79 ^b	2.00	117.00	.000
	Wilks' Lambda	.06	866.79 ^b	2.00	117.00	.000
	Hotelling's Trace	14.82	866.79 ^b	2.00	117.00	.000
	Roy's Largest Root	14.82	866.79 ^b	2.00	117.00	.000
*Group	Pillai's Trace	.66	112.31 ^b	2.00	117.00	.000
	Wilks' Lambda	.34	112.31 ^b	2.00	117.00	.000
	Hotelling's Trace	1.92	112.31 ^b	2.00	117.00	.000
	Roy's Largest Root	1.92	112.31 ^b	2.00	117.00	.000

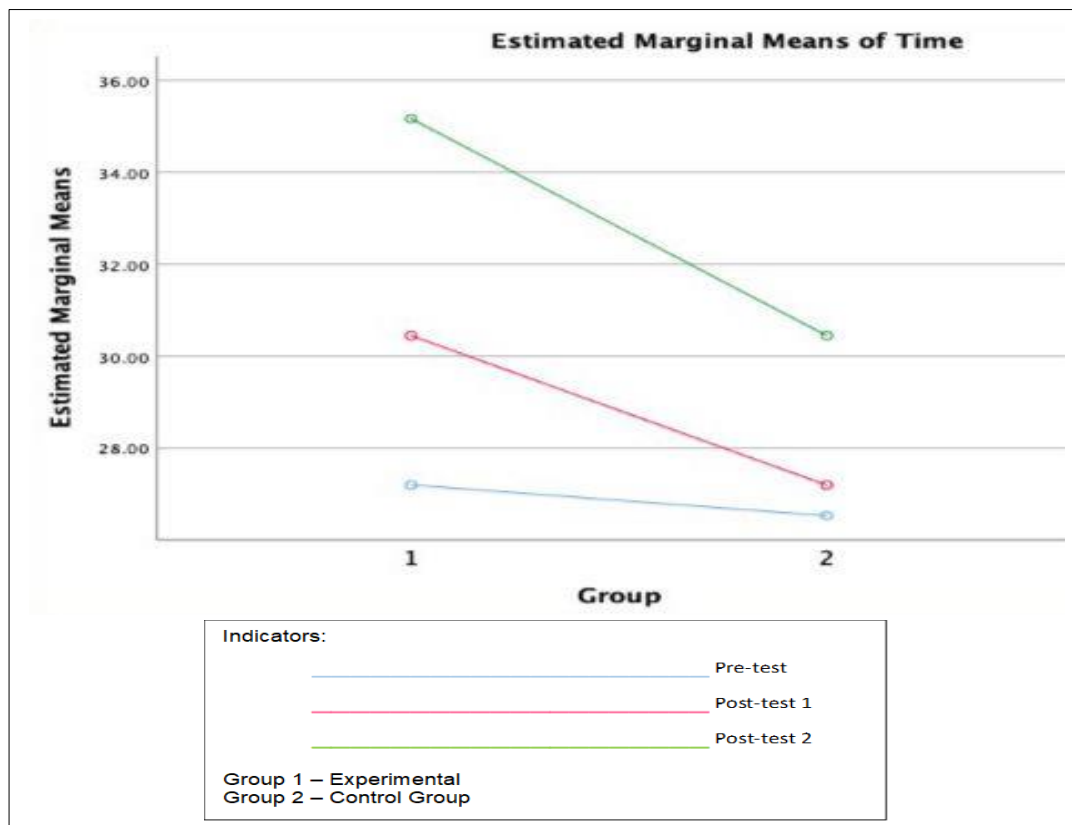
Note. The level of significance is at $p < 0.05$

As shown in Table 6, the results of the Repeated Measure were used to analyze and compare the retention of knowledge in writing skills between the experimental group (using graphic organizers) and the control group (using conventional method) in the Pre-test, Post-test 1 and the Post-test 2. The results of Wilks's Lambda test disclosed a statistically significant difference in terms of knowledge retention ($F = 112.31^b$, $df = 2$, $p = .000$) between the experimental group (using graphic organizers) compared with the control group (using conventional method). These results show that the experimental group's ability to retain knowledge in writing skills was significantly affected by the utilization of graphic organizers compared to the control group. Thus, this answers Research Question 1.

Repeated Measure was used to analyze the retention of knowledge in writing skills between the experimental group (using graphic organizers) versus the control group (using conventional method) in the Pre-test, Post-test 1 and Post-test 2. The results of Wilks's Lambda test as shown in Table 6 shows that there was a significant difference in their retention of knowledge between the experimental group (using graphic organizers) in comparison with the control group (using conventional method) ($F=112.31^b$, $df=2$, $p=.000$). These results show that the utilization of graphic organizers had a significant effect in the retention of knowledge in writing skills of the experimental group in comparison with the control group. Thus, the findings answer Research Question 2.

Figure 1

The Results of the Repeated Measures in Pre-test, Post-test 1 and Post-test 2



Results in Figure 1 show the performance of the experimental group and the control group in their retention of knowledge in writing skills. Both groups achieved almost similar scores in the Pre-test. However, in Post-test 1, the efficacy of the experimental group was superior to that of the control group, and the experimental group performed significantly higher in Post-test 2. Hence, there was a noteworthy distinction between the experimental and the control group in their performance in Post-test 1 and Post-test 2.

Qualitative Data Analysis

The purpose of obtaining the qualitative data was to explore how students viewed the use of graphic organizers as a visual aid for writing. In conducting the comparative analysis, valuable insights were gathered from both the experimental group and the control group, which provided pertinent information

for this study. Two semi-structured interview questions were posed to each group in a semi-structured interview format. The qualitative data was analyzed based on the thematic analysis of emerging themes.

RQ3: What are the students' views (experimental group) on the utilization of graphic organizers in writing English essays?

Interview question 1:

What were your experiences using graphic organizers in writing? Please explain.

Respondent A

...helps us with thinking of writing.... now, easier to come out with ideas.... Our writing will be more interesting and have creative content through this method... aided me in visualizing the writing... help me to view the primary points of interest... aid the creation of a composition... Now... I was able to see major ideas... at higher level... benefited my writing. I can write better.

Respondent B

I... draw the map first... elaborate the ideas... I will use graphic organizers method because I think it's more way easier than the notes method... I usually elaborate my ideas using the bubble map and multi flow map...and KBAT essay question... It helped me to analyzed the key words in the question... also... improving my understanding of the question... resulting in a good essay that fulfills the needs of the question...

Respondent C

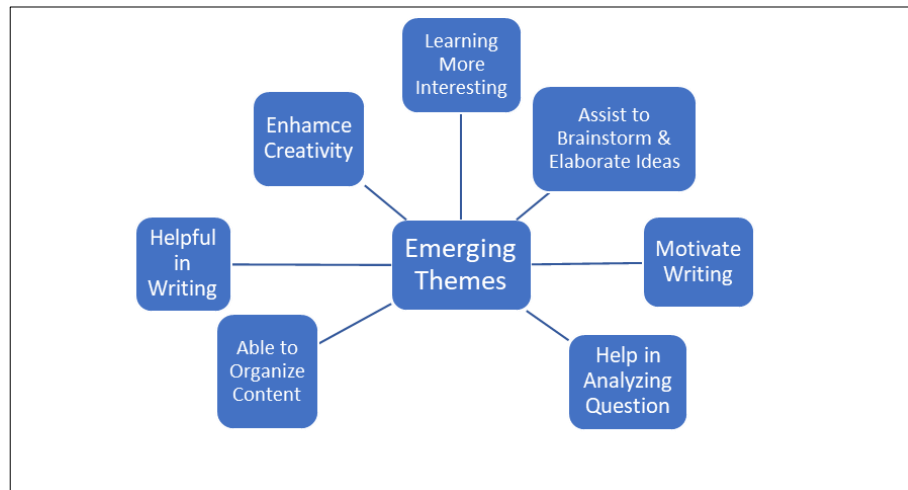
... read the question and highlight the requirements... list out the points... using bubble map... write my essay... bubble map... more about facts... graphic organizer is very useful because can improve my writing skills and brainstorm ideas... able to manage my time wisely by using bubble map... bubble map will save my time in exam... maybe people don't know how to use bubble map usefully and have insufficient experience to use it... graphic organizer really aids me... think a lot of ideas.... Besides I can put some idioms and vocabularies into my essay.

Respondent D

I prefer using graphic organizers to comprehend...itself helps a lot in writing... Now... by looking and thinking at the boxes and arrows, ...ideas come... graphic organizers helps me to develop ideas and to think out of the box... because it enhances my thinking skills...it motivates me to write. I find it good coz I can see and think of what to write... no more stuck at my ideas.... At least most of the time.

Figure 2

Emerging Themes of Student Writing Experiences from the Experimental Group (Interview Question 1)



After using graphic organizers, the respondents in the experimental group (respondent A, respondent B, respondent C and respondent D) found it helpful in their writing. Respondent A said that graphic organizers helped him with the thinking process in writing, which made the writing piece more interesting. In addition, the writing content was more creative as the graphic organizers aid respondent A to visualize the content while writing. Respondent A was able to view the primary points of interest, and how they could help the construction of a composition. Respondent A was able to see major ideas and to connect ideas at a higher level which benefitted him in his writing.

Respondent B used graphic organizers by drawing a map first, then elaborated on the ideas. Respondent B claimed that utilizing graphic organizers did make writing easier compared to the conventional method (in respondent B's case, writing through notes). Respondent B preferred to elaborate and write her ideas using the bubble map and multi-flow map. Respondent B discovered that graphic organizers did help in answering HOTS essay questions. Graphic organizers helped the student in analyzing the key words in the question, hence improving her understanding of the question and addressing the needs of the question. So, it helped her to write a good essay. According to the responses of students in the experimental group, graphic organizers assisted them in a number of ways. Students could clearly see the main point when using graphic organizers (respondent A, and respondent B). Graphic organizers enabled the students to comprehend the connection between significant points, prevented them from overlooking any details, and could monitor their writing advancement.

Interestingly before writing, respondent C read the question and highlighted the requirements of the essay question. Respondent C then laid out the points using a bubble map. Respondent C found graphic organizers (in respondent C's case, bubble map) to be very useful because it did improve his writing. Respondent C was able to brainstorm ideas and managed his time wisely by using the bubble map. Respondent C also found graphic organizers to be time saving, especially during exams. Interestingly, respondent D vouched that graphic organizers assisted in the comprehension of how to construct writing. Similar to respondent B, graphic organizers helped respondent D to develop ideas and think outside the box. Respondent D reported that graphic organizers enhanced her thinking skills and motivated her to write better.

The thematic analysis resulted in seven emerging themes, which were generated through an inductive process from the students' answers to the semi-structured interviews. These themes were as follows: (i) help in writing, (ii) enhance creativity, (iii) make learning more interesting, (iv) assist to brainstorm and elaborate ideas, (v) motivate ideas, (vi) help in analyzing questions, and (vii) organize content. From the emerging codes in the transcript, these themes had been generated inductively. These results suggest that the graphic organizers were essential tools in helping students to enhance the retention of knowledge in writing.

RQ 4: What are the students' views (control group) on the utilization of conventional methods in writing English essays?

Interview question 1:

What were your experiences when using the current method in writing? Please explain.

Respondent E

...list down the important details or ideas that comes to mind... using point form because it's more effective and easier for me... I like it...formal and teacher teach me on sets of grammar rule... boring ... but I sleep sometimes... I don't use my mother tongue

Respondent F

... usually use my mother tongue... think about the points and contents... develop new set of skill such as narrowing down the topic so I have a clear focus on what should I write. Lastly, I can plan my essay. Organizing my ideas by making notes before writing let my essay easier to write... however, I sometimes do get confused of the points... I don't like to make long notes...

Respondent G

... I need to understand by translating words or use dictionary to know its meaning... write without being confused... for KBAT essay question, I will focus on the question and understand it... figure out what to write... I will write an essay...at times I wonder why it's difficult to have more marks...

Respondent H

...the method is tedious...time consuming... I have to make notes of what to write... get tired and bored sometimes... sometimes I get confused when writing... difficult to see connections of my points... I write what comes to my mind... my essay is not achieve at a high level if compare with someone...

Owing to the absence of graphic organizers, the control group employed the conventional method in writing. Respondent E planned her writing by listing down the important details or ideas that came to her mind, using point forms which she believed to be effective and easy for her. Respondent E favoured formality and the teacher who taught her sets of grammar rules, although the lesson could be boring and sometimes resulted in total disengagement. Total disengagement could be problematic as the student was not engaged with the lesson and could therefore, be detrimental to the completion of tasks or overall academic performance.

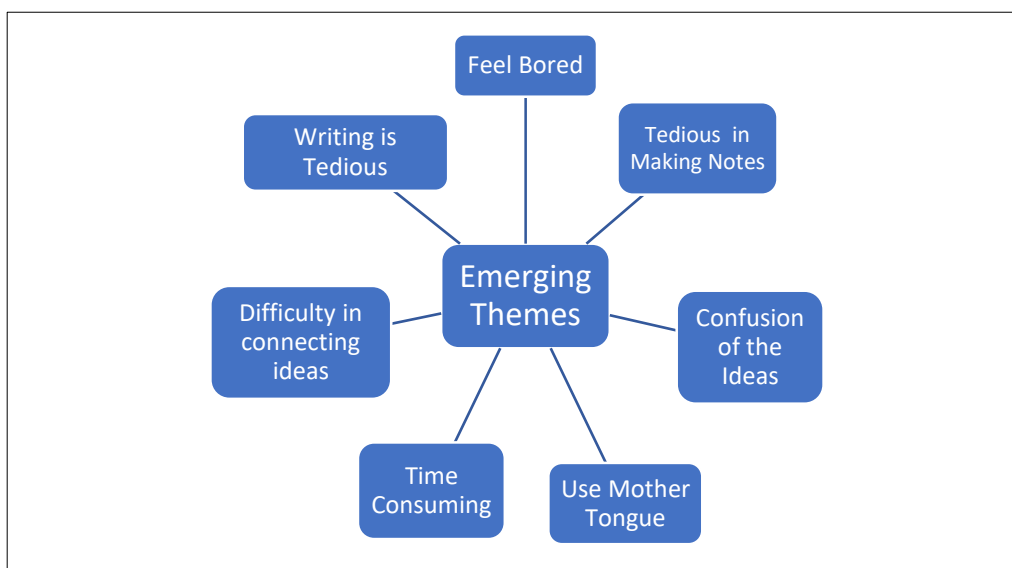
However, respondent F felt safer to use his mother tongue. By using the mother tongue, respondent F was able to think of points and contents before developing a new set of skills, such as narrowing down a topic. Respondent F declared that he had a clear focus on what to write. Besides, respondent F planned his writing by organizing ideas and making notes before writing. Respondent F expressed the view that the conventional method helped him to write. However, respondent F sometimes did get confused about the points and did not like to make lengthy notes.

Unlike respondent E who did not use her mother tongue, but almost similar to respondent F, respondent G used translation at the word level. Respondent G used translation or a dictionary only when he found the word to be troublesome, so that he could write without getting confused. Respondent G also mentioned that in tackling HOTS essay questions, he focused on the question and tried to understand it. Respondent G then figured out what to write. At times, respondent G was puzzled as to why it was difficult to gain better scores in writing.

Despite the claims made by respondents E, F and G, respondent H stressed that the conventional method was tedious and time consuming. Respondent H did not like to make notes while planning what to write and became tired and bored sometimes. Occasionally, respondent H did get confused when writing because it was difficult to see connections between points. A lack of cohesion, coherence and transition between ideas resulted in confused writing which did not help in making logical connections. Respondent H wrote what comes to her mind. Similar to respondent H, respondent G also noticed that it was difficult to achieve higher writing scores through the conventional method.

Figure 3

Emerging Themes of Student Writing Experiences from the Control Group



Note. Correction done in the figure

In summary, seven themes were generated inductively from the students' responses to the semi-structured interviews. The themes were as follows: (i) writing is tedious, (ii) feel bored, (iii) tedious in making notes, (iv) confusion of ideas, (v) use mother tongue (vi) time consuming, and (vii) difficulty in connecting ideas. These themes were generated inductively from emerging codes within the transcript. As a result, it was found that conventional methods had limited capacity to maximize

students' potential in accumulating knowledge in writing. Learning was not effective when students were provided limited verbal knowledge and writing skills.

DISCUSSION

The purpose of the current study was to investigate the effects of utilizing graphic organizers on students' writing skills, their retention of knowledge in writing and their views of utilizing the graphic organizers. The findings of the study suggest that graphic organizers can be used as an effective tool for assisting students to promote their writing skills. These findings are in line with the findings in Selvaraj et. al. (2020), which indicated that graphic organizers encouraged students to communicate and develop their thoughts in creative ways in writing that were found to be readable by others. By using graphic organizers to organize their thoughts, students could write better paragraphs. The current findings are also collaborated in the study by Rahmat (2020) which revealed that utilizing graphic organizers was a great way to teach students how to write. It could be used to construct better written sentences which had more complex structures with better phrases and sentences (Kılıçkaya, 2019). The graphic organizer is a powerful tool to help students in mastering writing. According to Hameed (2023), students could achieve higher writing quality with regard to their essay content, communicative achievement, and organizational and language writing components. These were the factors that have been found to improve the quality of students' writing.

In relation to the retention of knowledge, graphic organizers evidently do offer assistance to students in advancing their writing abilities since they can facilitate learning and the retention of knowledge as has been asserted by Pratama et. al. (2017). Additionally, the students could visualize better by deconstructing more complex concepts into smaller, simpler parts, which in turn, encouraged brainstorming, critical thinking and creativity. This deconstruction could help cultivate cognitive abilities such as content categorizing and prioritizing content, and reflection (Hameed, 2023). Graphic organizers benefit students during writing because they are visual tools for students in constructing the content of writing and developing the process of writing, and making it easier for students to compose (Manipuspika, 2020 & Rahmat, 2020). Thus, graphic organizers do facilitate students in visual representations, organize information and ideas, particularly with regard to the areas of content, communicative achievement, organization and language in their writing performance.

Based on the above findings in previous studies, it can be established that graphic organizers can enhance the students' ability to generate ideas for writing essays. The students' ability to come up with ideas to write essays improved after they had been taught using graphic organizers. This enhancement is clearly seen in the increase of the mean score of Post-test 1 and Post-test 2 of students. The findings are as follows: firstly, the students have developed the capacity to think and write more main ideas to explain the topic (content); secondly, the students had fewer difficulties in exploring ideas to support their main ideas (communicative achievement); thirdly, the students were able to apply the proper cohesive devices in their sentences (organization); and fourthly, students could write coherent paragraphs (language).

Students writing performance showed improvement when they used graphic organizers. This has become evident from the students' writing scores and the results of the Repeated Measure, retention of knowledge and interview. The results indicated that the retention of knowledge of the experimental group in terms of overall writing was significantly higher than the control group (within the areas of content, communicative achievement, organization, and language). The study's findings also illustrate

that graphic organizers made a statistically significant difference in the students' overall writing performance in the experimental group. This finding has confirmed the impact of the graphic organizers as a learning tool to boost students' writing abilities. Students' writing performance had improved because of the instructional intervention.

Findings from the qualitative data also revealed that retention of knowledge had occurred among the experimental group when they could demonstrate their thought processes in organizing ideas, recording relationships and understanding the concept of part to whole (Pratama et al., 2017). The study found that the students were interested in using graphic organizers in writing because it helped them create paragraphs that were coherent, well-focused, structured and easily comprehensible. Graphic organizers also provided them the opportunity to facilitate their learning process, as it was enhanced with visual representations which assisted them to become strategic learners (Kılıçkaya, 2019). The visual representations helped them to analyze the question, brainstorm and elaborate ideas, organize content and enhance their creativity. In addition, the adoption of graphic organizers also motivated students to embrace writing as they began to view writing positively as simple, engaging, and thrilling (Tayib, 2015). Graphic organizers also promoted HOTS and enhanced creative thinking skills among students engaged in writing (Hameed, 2023). The students mentioned how the usage of connecting phrases in the graphic organizers was able to help their learning. This might have resulted from the experimental group's students utilizing the graphic organizers, which provided them with ideas for the upcoming lesson. Additionally, during class presentations, students utilized the graphic organizers to help them conceptualize their learning experience. Student interviews yielded excerpts that demonstrated how graphic organizers had supported learning, facilitated understanding and enabled them to write well.

However, when students in the control group used the L1 structure to write in English, the sentence structures were bound to be incorrect (Ghulamuddin et al., 2021). This was because the target language, that is English, would be influenced by the grammatical rules, and syntactic structures of the first language. In addition, students often failed to rightly use subject-verb agreement and the correct tenses when writing because such concepts are not part of their L1. Similarly, concepts that do not exist in their L1, such as articles and gender pronouns, would result in problems for the students in using the correct parts of speech. Additionally, students who tended to directly translate words or sentences from their L1 to English might produce writing that is ambiguous or not reader friendly. If they try to translate directly from their L1 to English, they would be more prone to making errors in diction, morphemes, sentence structure as well as grammar.

These findings demonstrate that the significant challenges for writing in English for these students were their lack of vocabulary and grammar (Goldsmith et al., 2020). The lack of vocabulary and a lack of proficiency in spelling, structure and grammar of the English language prevents students from expressing and organizing their thoughts in writing. Other problems such as L1 interference, punctuation, spelling and use of rhetorical devices further add to the challenge of writing effectively to express themselves. Conventional methods have proven tedious and time consuming as they require boring notetaking to organize ideas before and during writing. Despite a careful approach, taking notes does not make it easier to connect ideas or analyze HOTS questions. It follows that writing is perceived as a complex process that requires multifaceted knowledge.

CONCLUSION

The results of this study indicate that the usage of graphic organizers offers support for students in the context of enhancing the retention of knowledge in writing skills. The qualitative findings indicate that after the utilization of graphic organizers, students revised and improved their writing because learning becomes more interesting. Furthermore, graphic organizers have helped the students to brainstorm and develop ideas, motivate their writing, help to analyse their writing tasks, and enable them to organize content and enhance their creativity.

Therefore, it is proposed that graphic organizers which offer a high proportion of sensory learning through visual representation, are crucial for the development of thinking skills and engagement of students while they are learning to write. It is also recommended that graphic organizers are essential when developing thinking skills, because they provide a high percentage of sensory learning through visual representation. Graphic organizers regularly provide opportunities during the thinking processes and enable the use of mental abilities to the fullest extent through a mental map. The mental map makes it easy for students to organize ideas in writing.

This study presents useful insights that have theoretical, pedagogical and practical implications for using graphic organizers. Graphic organizers enhance the retention of knowledge in writing skills and as a process to assist in writing. Consistent with the theoretical implications, this study supports the observations and findings by Novak (2004) and Buzan (2017). As stated by Ausubel (1968), during meaningful learning, students' concept formation based on their experiences takes place which leads to constructing their structure of knowledge. This is a fundamental component of Ausubel's learning theory.

In addition, the pedagogical implications in the usage of graphic organizers is that they can enhance students' writing skills and create a more enjoyable and fun learning environment. Fundamentally, graphic organizers can be used as a secondary technique in teaching writing by ESL teachers. In terms of practical implications, it is crucial for ESL teachers to be familiar with the usage of graphic organizers in the classroom. As such, the Ministry of Education, Malaysia and the Teachers' Training Division need to provide training to teachers on the effective use of graphic organizers as a pedagogical tool for teaching ESL writing. Furthermore, to assist students in writing, book publishers could incorporate in their publications more writing tasks that utilize graphic organizers. In order to better engage the current generation of students, eye-catching graphic organizers could be designed for pedagogical purposes because students are more likely to engage with content that is visually appealing. Graphic organizers can help students in the meaning making process through the fun way.

There are certain limitations in this study that can be investigated by future researchers. First and foremost, this study focuses on the use of graphic organizers in ESL writing. So, future studies can utilize it in order to enhance other ESL receptive and productive skills, namely listening, speaking and reading. Second, the treatment period of this study was eleven weeks. This time frame could be extended to explore if a longer duration utilizing graphic organizers helps students to perform better in essay writing. Thirdly, this study was carried out in two secondary schools among 120 Form Four pupils. Consequently, a larger number of samples can be used for future research for a better generalization of the findings. Finally, future researchers could explore the potential benefits of graphic organizers beyond the teaching of writing in English, and include other disciplines such as History, Geography and Science. This will be in alignment with 21st century learning and quality of education.

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