Facilitating Reading Comprehension among ESL Learners Using Graphic Organizers

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ABSTRACT

Efficiency in reading permits students to grasp their understanding of reading materials better. Nevertheless, previous research illustrates that ESL students face difficulties in understanding the reading materials assigned to them. The current approach which focuses on students lifting specific information in the text to answer the reading comprehension questions at the end of the text hinders students' understanding of the text as well as does not encourage students to experience reading as meaningful and engaging activity. Thus, this exploratory study attempts to bridge the gap by employing graphic organizers or GOs as a tool to facilitate students' reading comprehension skill. A quasi experimental study was used for this study on Form Four students at one of the schools in the east coast of Peninsular Malaysia. Form Four students from four different classes were chosen randomly. Prior to the study, a pre-questionnaire and a reading test were distributed to the students and at the end of the study, they were given a post-questionnaire and a post-reading test. The findings showed that the students in the experimental groups gained positive results in their reading test compared to their other counterparts in the control group. In addition, the students' perception of reading also differs. This study highlights the potential of employing graphic organizers to facilitate ESL students' comprehension skill.

Introduction

The ability to read efficiently is critical for successful academic pursuit among students (Alvermann, 2002; Bernhardt, 2011; Grabe, 2010). As asserted by Guthrie (2004), reading is the window to all knowledge. Although scholars of reading (e.g. Bernhardt, 2011; Grabe, 2010) have stressed the importance of students acquiring effective reading skills for successful academic pursuits, several researchers found that students struggle with their academic reading materials (Baldi, 2006; Burt & Peyton, 2003). These researchers discovered that the majority of the students fall below expected proficiency level in reading. Thus, the need for strong reading skills continues to increase (Bernhardt, 2011; Grabe, 2010). This illustrates the urgency of the matter.

Ahmad Mazli (2007), Isarji and Ainol Madziah (2008), Jamaliah and Faridah Noor (2001) and Samsiah (2011) reported that Malaysian students have problems in approaching their academic reading texts. They face difficulties coping with the reading text because they do not really understand what they are reading and, as a result, they are unable to link appropriate ideas from their readings to the assigned tasks given (Ahmad Mazli, 2007; Isarji, Ainol Madziah, Mohd Sahari & Mohd Azmi, 2008; Jamaliah & Faridah Noor, 2001; Samsiah, 2011; Wallace, 2007).

According to Bernhardt (2011) and Grabe (2010), the prevailing trend of teaching L2 reading consists of pre-teaching vocabulary and relevant background knowledge to students, followed by post-reading questions. As a result, L2 reading instruction is limited to primarily extracting information from texts which has downplayed the role of students in constructing meaning with the reading text (Grabe, 2010; Smith, & Goodman, 2008). Bernhardt (2011), Han and Anderson (2009) and Nassaji (2011) asserted that this pedagogical approach, which is inspired by top-down models, has not examined how students would benefit most through the employment of suitable pedagogical instruction such as the use of graphic organizer throughout the teaching and learning process and how such employment may facilitate L2 students in becoming engaged readers.

Thus, this study intends to answer the following research questions:
i.   How do the students respond to the use of graphic organizers in the reading classroom?
ii.   What is the impact of graphic organizer on students' reading performances?

The importance of reading comprehension

Reading is an essential skill for students of English as a second or foreign language and for many, reading is the most important skill to master out of the four skills in a second language (Alvermann & Earle, 2003; Bernhardt, 2011). A report from the U.S. Department of Education (as cited in Kamil et al., 2008) indicated that reading ability is the key predictor of achievement and currently, the global information economy requires that the present generation have far more advanced literacy skills than those required by any previous generation. Additionally, readers with strengthened reading skills will make greater progress and attain greater development in all academic areas (Bernhardt, 2011; Grabe, 2010; Nassaji, 2011).

Given the current prevalence of English in work and professional fields internationally, the Malaysian Ministry of Education has emphasized that students need to attain a solid command of English language as one of its ultimate goals in the National Higher Education Strategic Plan in 2007 (National Higher Education Action Plan: 2007-2010, n.d.). Additionally, to be commercially viable in the world economy, Malaysians need to develop a *knowledge economy* based society (National Higher Education Action Plan: 2007-2010, n.d.). Therefore, to ensure Malaysians are proficient in the language, the ministry has included English language as part of the curriculum in school and tertiary level institutions. Some universities in Malaysia have also taken the initiative to introduce English for Specific Purposes (ESP) courses in their curriculum to tailor to the highly competitive industry and global needs.

Smith and Goodman (2008) state reading without comprehending is not reading. It was not until the 1980s that reading comprehension started to take hold in the field of theory, research, curriculum, and assessment (Pearson, 2009).

Research in language acquisition and sociolinguistics affected research on the reading process (Langer & Allington, 1992) still with emphasis on the construction of meaning during the reading process (Chomsky, 1970; McDermott, 1977). This resulted in a new perspective in viewing reading that is the constructivist view of comprehension, referred to as cognitive psychology of reading (Smith, 1971), and it dominated reading research from the turn of the century. Smith (1971) views reading as a social practice. The focus then had altered the initial view to depict comprehension. By emphasizing the affective dimension of viewing reading, it resulted in presenting reading as a joyful experience of self-discovery (Sivasubramaniam, 2004). At this juncture, the role of the reader became the forefront of reading development, and it put emphasis on the interaction between the reader and the text (Langer, 1986). Thus, the role of the teacher in selecting suitable pedagogical instruction to suit and facilitate L2 students in reading is important.

Past research in L2 reading

A considerable number of interesting studies have been conducted on second language (L2) learners. These studies have contributed to the growing literature on the subjects of second-language learners (Grabe & Stoller, 2002; Kelly, Gomez-Bellenge, Chen & Schulz, 2008). The growing research on second-language learners provide avenues for researchers to examine how second-language learners process reading. In the L2 context, earlier research conducted by international researchers had focused on word-level issues in reading development which included word-recognition skills, automaticity, fluency, and vocabulary knowledge (e.g. Pulido, 2003, 2007; Rott, 1999). For example, in Pulido's (2007) study on the relationship between text comprehension and second language, she investigated whether background knowledge moderated the relationship between passage comprehension and lexical processing outcomes, such as intake and receptive gain and retention of target-word meanings. The results showed that as learners become more efficient in engaging in the various activities during L2 reading, their linguistic memory is enhanced during reading such as orthographic forms and semantic aspects.

In another study done by Kelly, Gomez-Bellenge, Chen and Schulz (2008) on grades 1 through 8, 581 ESL students and 121, 961 native English speakers (NESs) investigated the efficacy of Reading Recovery. The result of the study indicated that 76% of NESs and 69% of ESL students who had completed the intervention program achieved grade-level performance. Reading Recovery in this context benefited the students, particularly ESL students, in accelerating them to reach average levels of performance. For the studies

mentioned above, it could be concluded that L2 students' reading comprehension can be facilitated through suitable pedagogical approach. Most of these studies focused on explicit strategy training aimed at improving comprehension and have proven to be successful in experimental settings.

Graphic organizer

Graphic organizer (GOs), was primarily introduced by Richard Barron (Barron, 1969), was originally called advance organizers. There are various definitions of GOs but the commonly used by educators GOs as "visual representation of information in the text" (Jiang & Grabe, 2007, p. 34). Based on research (Jiang & Grabe, 2007), GOs can be used in education in different ways in all reading stages producing different effects on comprehension. They further explained that instructional procedures vary depending on the position of GOs in relation to reading (pre-reading, post reading stage) and the constructor of GOs (teacher-constructed, student-constructed, teacher/student constructed). Students need to be exposed to reading strategies to facilitate their understanding of the reading text assigned to them. According to Jiang and Grabe (2007) GOs has received recognition among educators in facilitating students' reading comprehension. This is because through GOs students are allowed to interact with the text in a meaningful manner.

As posited by Guthrie, Wigfield, and Perencevich (2004) engaged readers interact with the printed text in a meaningful manner with different reading strategies employed. They further asserted that as the students experience constant and concrete interaction throughout the teaching and learning process they perceive reading not as a chore to complete but as a process to enhance and broaden their knowledge. Other studies that have employed GOs to facilitate reading comprehension were studies conducted by Chularut and DeBacker (2004) and Suzuki, Sato and Awazu (2008). Chularut and DeBacker (2004) revealed that GOs had facilitative effects on ESL students' text learning, self-efficacy and self-monitoring. Suzuki, Sato and Awazu (2008) investigated the benefit of the spatial graphic representation of an English sentence over a linear sentential representation. The study revealed that the spatial graphic display enhanced ESL readers' comprehension of sentences more than the sentential display did. Recognizing the positive effects of GOs the researchers have decided to investigate further on the employment of GOs to L2 students.

Theoretical framework

The choice and use of the theoretical framework of Vygotsky's socio-cultural theory in this exploratory study is informed by three tenets. First, Vygotsky's socio-cultural theory, as postulated by Crookes and Schmidt (1991), is relevant to classroom learning and useful in describing course-specific motives in relation to the L2 (second-language) classroom. The construction of learning is not confined to an individual and the perspectives of learning also emphasize the central role of social interaction. The second reason in selecting Vygotsky's theory is the tenet of the More Knowledgeable Other (MKO). The MKO which is the second broad component of Vygotsky's perspective of learning refers to anyone who has a better understanding or a higher ability than the learner on a particular task. Thirdly, in the Vygotskian perspective of education, the importance of social interaction is often associated with another theoretical notion proposed by Vygotsky called the *Zone of Proximal Development* (ZPD).

Method

This study aims to investigate the use of graphic organizer as a visual tool to facilitate students' comprehension skills. The study employed a quasi experimental design to two control and experimental groups. Two techniques were employed to answer the research question. The first technique used was a set of pre-teaching and post teaching questionnaire. Prior to exposing students on GOs the students were given a set of pre-teaching questionnaire. The pre-teaching questionnaire consists 15 questions which focussed on the students' perspective of reading, strategies employed when reading (if they were any), what do they do when faced problem in reading. For the post-reading questions there were 15 questions which consists questions on their responses of GOs, their likes and dislikes of GOs.

The second technique used was a pre-test and post-test. Prior to the study the students in both the experimental and control groups were given a pre-test on reading passage. The passage selected was chosen from past year SPM English paper. By the end of April 2016 the group of students were given a post-test on another reading passage of similar level.

A group of 78 students were chosen for this research. The group consisted of students from diverse academic and English proficiency levels. Two classes were in control groups while the other classes were the experimental groups. There were 34 students in the control group and 44 students in the experimental groups. The latter group was given exposure to graphic organisers to determine whether graphic organisers could facilitate the students' reading comprehension. The procedures were carried out by one of the English language teachers teaching at the school. Prior to the study, the researcher briefed and explained to the teacher what she needed to do.

When it comes to reading tasks, the biggest challenge for students is their ability to understand and make the information acquired from the reading to be useful and meaningful to them. However, to students the most important thing when reading a text is to be able to answer questions on comprehension that come after the passage or text.

The study started in the third week of January and lasted until end of April. These students were given pre-reading questions as to get some background of the students as well as a pre-test. The next step was selecting the type of text used in the reading classroom. The selection of passage or text was determined by the themes specified in the curriculum specification. In the first week, a factual essay was used and a few choices of graphic organisers were given to the experimental group. Among the graphic organisers used were KWL chart, KWLH Chart and 5Ws and 1H.

Figure 1. Sample of KWL chart

Figure 2. Sample of KWLH chart

The teaching and learning process

Students were asked to fill the information in the KWL chart and they applied the "Fill in the column" strategy. Within the classroom, the students shared what they have written to the class. At this point, students started being engaged with the topic that they were discussing. Then, the students were asked to read the passage. The purpose of this study was to determine whether the use of graphic organizer will enhance students' comprehension skill thus they will do better in answering comprehension questions.

The second text was given after two weeks. The text was given to four classes. The experimental groups were given the graphic organizer in the form of i-Think Map as to start their connection with the text. This time the text was narrative. The i-Think map helped students to explore the characters and the events that took place in the passage/story. Some students were eager to write what they predicted and this helped the students to be curious to read more.

In the third meeting, another narrative text was given and students were provided with graphic organisers. Students were allowed to choose the one they like. Using the graphic organizer, students explore the text as they read. Teacher was to guide them with what they had to do. The students were given a few selection of graphic organizers like the timeline, flower petal and other interesting charts which guided students to look for information as they read and make prediction at the same time.

Repeated procedures were done for the whole two weeks of April before their mid-term exam. Different text types were used. By then, the students were familiar with the graphic organizer and reading comprehension became an interesting activity because they get to learn new things from the text. The post test was given in the third week of April and this are the findings of the study (refer to Table 1).

Findings

The findings substantiate past research (e.g. Chularut & DeBacker, 2004; Guthrie, Wigfield & Perecevich, 2004; Suzuki, Sato & Awazu, 2008) on the use of GOs (graphic organizer) to facilitate reading engagement. As they interacted with the text and employed the different strategies taught to them the students experienced concrete interaction throughout the teaching and learning process. As a result the process enable them to enhance and broaden their knowledge as well as engaged in the reading activity. This aligns with Vygotsky's social interaction framework in learning. In addition, the concept of More Knowledge Other (MKO) is applied here; the students engaged interactively during the learning process when the teacher provided the scaffolding.

The first research question was to determine how the students responded to the use of graphic organizers in the reading classroom. The students' responses are shown in Table 1.

Table 1. Students' responses of reading prior to and at the end of the study for the Control and Experimental Groups

Students' Responses	Pre-test Questionnaire	Post-test Questionnaire
Experimental Group	Dislike Reading Difficult to understand Boring Many difficult words Only to answer questions Reading is important	Interesting Make reading fun I want to read until the end It is different Not boring Can understand better
Control group	Never like reading Boring Difficult words Like reading Reading is beneficial	Do the same task all over again Dislike reading Difficult to understand

From the responses gained, it can be observed that majority of the students in both the experimental and control groups do not fancy reading materials in English. Although both group of students acknowledged the importance of reading that did not sustain their motivation to read. The majority of the students found reading task boring and indicated that they disliked reading. They claimed this was because they were unable to understand the reading material. Nevertheless, from the findings it can be observed that students from the experimental group showed a shift in their responses towards GOs. They responded positively on reading task assigned after they were exposed to GOs in their reading classroom. The majority of the students perceived using GOs as interesting and what matters most to them was that they were able to understand the reading task assigned to them better.

For the second research question, the focus was to investigate the impact of graphic organizer on students' reading performances. As mentioned under the method section the students in both groups were given a pre-test and a post-test prior to and at the end of the study. This

study is to determine students respond better to the use of graphic organizer and its impact in students' reading comprehension skills, thus they can answer comprehension questions better. The control group is given the text without any use of graphic organizer. The score in the pre-test and post-test showed not much difference (Table 2).

During the lesson in the eighth week, when double periods were used, students had the opportunities to explore GOs in their lessons. Even though it was time consuming for few students, they did not deny the fact that GOs have helped them to understand the reading texts better.

Table 2. Total marks for pre-test and post test for control groups and experimental groups

MARKS	CONTROL GROUPS				EXPERIMENTAL GROUPS			
	CLASS A [20 students]		CLASS B [14 students]		CLASS C [14 students]		CLASS D [18 students]	
	PRE-TEST	POST-TEST	PRE-TEST	POST-TEST	PRE-TEST	POST-TEST	PRE-TEST	POST-TEST
10	0	0	0	0	0	3	2	2
9	0	1	2	3	2	7	2	5
8	4	6	1	4	1	6	1	6
7	13	10	6	2	6	3	6	3
6	3	3	5	5	5	1	7	2
5	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0

The findings displayed in Table 2 shows that there is a difference between the scores of both the control and the experimental groups. For the experimental group the students showed a better gain in their post-test score for both the experimental groups compared to their counterpart in the control group. Although there was some improvement in the control group, the gain was minimal compared to students in the experimental groups. Figure 3 and Figure 4 further illustrate graphically the difference of the gain.
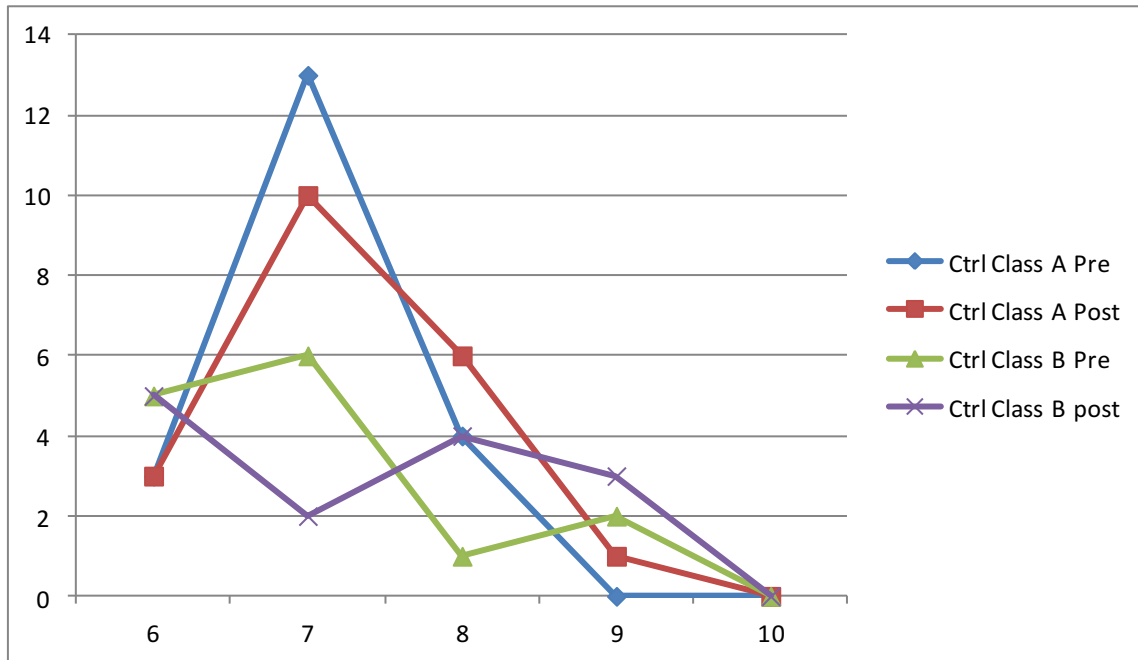
Figure 3. Control group A and B pre and post-test scores

The line graph in Figure 3 of the Control groups for both the groups showed nobody scored 10 for both pre-test and the post-test. There was a gain in students obtaining 9 and 8 marks but only minimal. Prior to the study only two students obtained 9 marks. At the end of the study there was an increase of two more students obtaining 9 marks. A majority of the students obtained 7 marks in their post-test. In addition, a total of 8 students did not show any progress in term of their marks. Before and after the study their score remains the same that was at 6 marks. The mean scores obtained, as shown in Table 3.1, the Pre-Test of Group A was 7.0500 and Group B was 7.0000 and Post-test of Group A was 7.2500 and Group B was 7.0000 respectively. The t-value for the Pre-Test and Post-test from both groups were as presented in Table 4 shows that there was no significant difference between the means of both the tests.

Table 4. Means, standard deviations and t-value of percentage scores of the pre-test and the post-test of the Control groups (Group A & B)

	Mean Scores		t-value	df	p
	Pre-test	Post-test			
Group A	7.0500	7.2500	-2.179	19	.042
Group B	7.0000	7.3571	-2.687	13	.019

Note: Standard deviations are listed in parentheses (Group A .41039, Group B .49725)

For the experimental groups the students in both groups illustrate a better gain. This is shown in Figure 4. Overall, the subjects in the Experimental group obtained better results in Post-test than the Pre-test. The shift indicated that after the training period the students improved their reading skills.

A comparison of the mean scores in Table 5 illustrated the effect of the treatment using Graphic Organizers (GOs) on the students in reading classroom. The scores indicated that overall students obtained a higher score in the Post-test. Table 5 shows the means obtained for

both Group C and Group D. The t-test in Table 5 shows that there is significant difference between the Pre-Test and Post-Test scores for both Group C and D. This indicates that a significant improvement does exist on the Post-test's score of the students in Group C and Group D after the treatment,

Table 5. Means, standard deviations and t-value of percentage scores of the pre-test and the post-test of the Experimental groups (group c & d)

	Mean Scores		t-value	df	p
	Pre-test	Post-test			
Group C	7.0000	8.9286	-15.203	13	.000
Group D	7.2222	8.1111	- 4.973	17	.000

Note: Standard deviations are listed in parentheses (Group C: SD .47463, Group D: SD .75840)

Prior to exposure to GOs a total of 11 students of the Experimental groups scored 5 marks. At the end of the study the students scored better. None of the students scored 5 marks. The majority obtained 7 marks and above at the end of the study. Five students obtained a score of 10 marks compared to at the initial study only two students obtained full marks that is 10 marks.

There was also an increase in students' scoring 9 marks. Before the study only four students obtained 9 marks but at the end of the study 12 students from both groups obtained 9 marks. The students in the Experimental groups showed a better gain when they were exposed to GOs. The change in the response pattern in the Experimental group provides evidence that there was a marked improvement in the students' understanding and awareness in the reading skills.
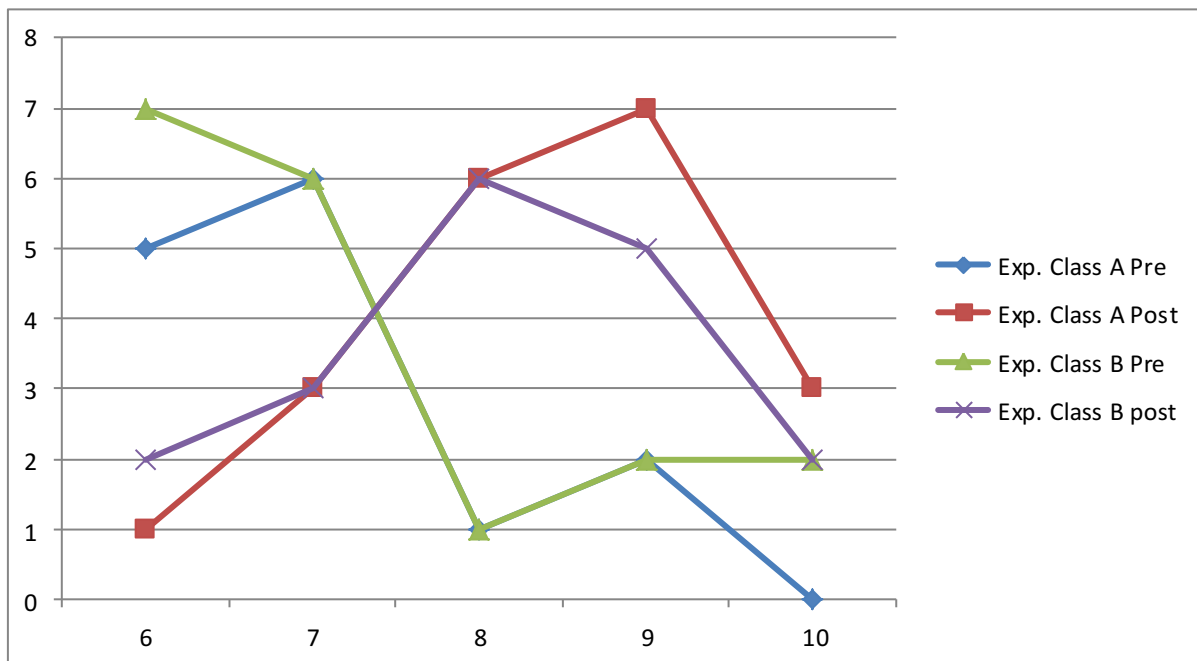

Figure 4:. Experimental group A and B pre-test and post-test scores

Conclusion

The findings from this study demonstrated that the provision of GOs has helped facilitate students' reading skills. In addition, through this approach the students move away from the teacher-centred approach, where students were asked to read a text and answer questions, to learner-centred approach has resulted in active student participation. From our study, we can conclude that there is a noticeable difference in teaching reading comprehension in ESL classrooms with the help of Graphic Organisers (GOs). Students find it fun and they feel that they can understand whatever they are reading a lot better. There is a shift in their responses of reading. They reported at the end of the study that reading seems easier and enjoyable. Other remarks that students gave are they feel motivated to read more and will not easily give up if they face challenges in understanding. Some students acknowledge the process of reading becomes interesting and not boring anymore. The study has suggested an approach, GOs, as an alternative strategy to current reading instructional approaches.

In conclusion, our study shows that graphic organisers can be used as a tool to facilitate the teaching of reading comprehension to students in ESL classrooms. It can be a form of reading strategy that can be used in classrooms to students of various levels of proficiency. Other than that, the use of graphic organisers can break the routine of only answering questions at the end of the passage. The researchers believe with proper guidance and training of using GOs students will be able to progress as independent readers. Nevertheless, the study has not considered other factors, such as students' background and time duration. It would be interesting to observe whether a longer period of study on the employment of GOs has a conclusive findings.

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