



## The Effects of Graphic Organizer Strategy on Improving Iranian EFL Learners' Reading Comprehension

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### Abstract

For many learners, reading is certainly the most vital language skill. It even turns into a more challenging issue when it comes to EFL learners with their incomplete exposure to the target language and inadequate opportunity to make use of target language in real circumstances. There is no uncertainty that Graphic Organizers are effective instructional tools for language teaching. Graphic Organizer is a visual and graphic display that represents information in a variety of ways. A graphic organizer establishes the relationships between facts, terms, and ideas within a learning task and makes incremental growth. Therefore, the current study aimed at investigating the effect of Graphic Organizer Strategy on Improving Iranian EFL learners' reading comprehension. Sixty female learners contributed in this quasi-experimental research which lasted for one academic semester. For the purposes of this study, 60 learners were divided into two groups. Before the treatment, both groups were administered a reading comprehension pretest. The experimental group ( $n=30$ ) was taught reading comprehension through Graphic Organizers. Nevertheless, the control group ( $n=30$ ) received the traditional instruction of reading comprehension. At the end of the study, a post-test was administered to both groups. The results of t-test designated that Graphic Organizers had a significantly positive effect on reading comprehension of Iranian EFL learners. The positive effects of Graphic Organizers are due to their effectiveness in matching the mind and making reasonable links between concepts and facilitating the process of meaningful learning.

**Keywords:** graphic organizer strategy, Iranian EFL learners, reading comprehension

### INTRODUCTION

The purpose of reading is comprehension namely getting meaning from written text. Thus, a chief goal of reading comprehension instruction, consequently, is to help students develop the knowledge, skills, and experiences they must have if they are to become competent and enthusiastic readers. Though many children have the ability to read, reading and reading comprehension are extremely different objects. While reading involves translating and decoding text into sounds and spoken words, reading

comprehension involves taking what was just read and deriving meaning from those words. In simpler terms, reading comprehension is the ability to read, understand, process, and recall what was just read (Rutzler, 2017). For Daniel Willingham (2008 cited in Sam & Rajan 2013) learners can be classified into three different types: Those who learn through looking, those who learn through listening, and those who learn through manipulating things namely visual, auditory, or kinesthetic learners respectively. When the teacher knows what sort of a learner, a child is, s/he can enhance her or his learning through presenting the most appropriate material. Through using graphic organizers as instructional tools for visual learners, their comprehension would be enhanced significantly.

## REVIEW OF THE RELATED LITERATURE

Graphic organizer occasionally mentioned as knowledge maps concept maps, story maps, cognitive organizers, advance organizers or concept diagrams (Hall & Stranyman, 2008). There are varied types of Graphic Organizers: Star, Spider, Fishbone, Cloud/Cluster, Tree, Chain of Events, Continuum/Timeline, Clock, Cycle of Events, Flowchart, Venn Diagram, Diagram, T-Chart Diagram, Fact/Opinion, PMI Diagram, Decision Making Diagrams, Semantic Feature Analysis Charts, Cause and Effect Diagrams, KWHL Diagram, Pie Charts, Vocabulary Map, Paragraph Structure, 5 W's Diagram, Story Map, Traits, Biography, Animal Report Diagrams, Geography Report Diagrams, Diagrams, and Scientific Method Diagrams. Graphic organizers are known as visual ways to represent information. Variety of shapes, graphs and charts can be created to elaborate information for teaching/learning purposes (Fairchild, 2013).

Graphic organizers contribute to learning. GO was initially introduced by Ausubel (1960) as a practical application of theory of meaningful learning.

Advantages of Graphic Organizers:

- ✓ Content would be easier to understand and to learn
- ✓ Reduced information processing demand
- ✓ Students become more strategic learners

The principal point in using Graphic Organizer is offering a visual assistance to ease learning and teaching. Most Graphic Organizers form a powerful visual picture of information and allow the mind to see patterns and connections. Consequently, selecting a suitable Graphic Organizer is one of the most vital phases in using graphic organizers in teaching different areas of language. Graphic organizers *match the mind*. As researcher, Ausubel (1960) has shown the mind places and stores info in a settled manner. New information about a notion is filled in to an available frame of category called a schema. A schema now comprises preexisting knowledge about the concept. Graphic organizers place information in a visual shape that complements this frame, makes it easier to comprehend and to learn. Organizers reveal how concepts are linked to previous knowledge to aid in comprehension. Organizers aid the memory not in form of recalling key point from an extended text. Organizers aid keeping information, and make them organized to use when higher taught processes are involved. They engage the learner

with a combination of the spoken word with printed text and diagrams (Griffin *et al.* 2001).

Learning to think is an imperative part of learning a language. In point of fact currently teachers typically use methods that students are passive in the process of learning, thus when it comes to use learnt items in real situations students have serious problems; it seems learning materials are not saved in long term memory of learners through using traditional methods. Having a way to arrange ideas and concepts would help learners to learn learnt points in more effective manner. The majority of learners learn better when they learn through visuals. Accordingly having an approach for brainstorming or arranging information seems central. Organizers help learners in making mental pictures and connections for materials, hence comprehension and retention are increased. In Ausubel (1963) the way knowledge is represented influences learning. As a result, suitable Organizer helps learners to find right connections between background knowledge and newly learned information.

Ellis (2004) believes that information is simply learned with visuals. Students with learning difficulties need to different and more effective strategies to being able to learn. The LD students (students with learning disability) have serious problems in understanding new concepts and learning and using them. Learning disabilities are problems that affect the brain's abilities to receive /process/ analyze or store information. These troubles will make it difficult for a student to learn as quickly as someone who isn't affected by Learning Disabilities. Learning Disabilities are of different kinds and most of students have more than one type of LD. LDs are not pertinent to learner's intelligence. The way in which brains set aside information is very complex. For example, while looking at a picture our brains have to shape lines in to an image and simultaneously should recognize what does the image signify and also should connect this image with all kind of information about it that are saved in the memory (Lyness, 2010). Learning disabilities are the most common form of childhood impairment (MENCAP, 2008). 1 in 20 children have learning disability. The term LD is very broad and includes any type of impairment that is linked to physical or medical conditions. LD students have lots of problems in discovering connections among concepts, and consequently in learning successfully (Baxendell, 2005). As it was stated before learning how to think is too important in language learning, having an approach to organize ideas and concepts with all the potential connections facilitates learning for students with and without LD (Ellis & Howard, 2005).

## **METHOD**

### **Design of the study**

The design of the study is quasi-experimental, namely with no random assignment. In a typical experimental study there is at least one control group for comparing the results of the intervention.

## Participants

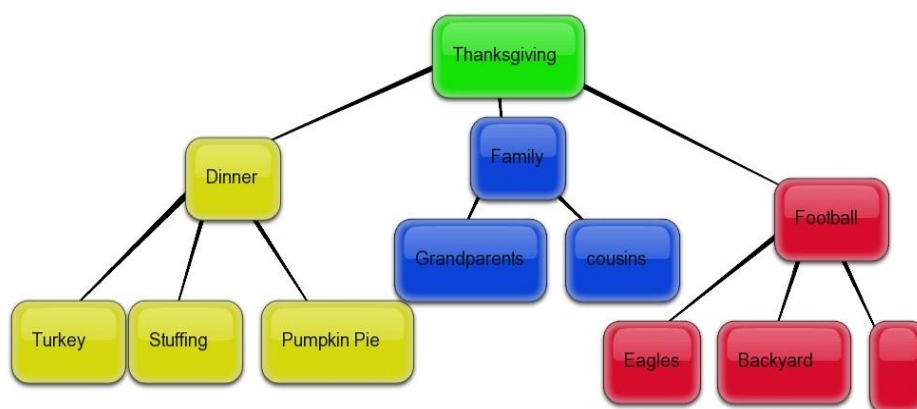
In current study there were sixty female subjects with age range of 18 – 21 with approximately identical years of language background. The subjects are students of the *Irandoostan Language Academy Iran Tabriz* who has classes two times a week. A course has twenty sessions.

## Instruments

With the intention of gathering quantifiable data the researcher made use of the following instruments. First one was a language proficiency test, the second one was pre-test of reading comprehension for assuring the homogeneity of the learners' reading comprehension skill before conducting the program and the last one was post-test on reading comprehension for the sake of measuring the effectiveness of the intervention.

## Procedure

Sixty female learners were divided into two groups randomly. One as control group, that received no treatment and the other as experimental group that received treatment. The aim of researcher was to teach reading comprehension skill during sessions with and without treatment and then comparing the results of the both groups to measure the effectiveness of the treatment or in other word the effectiveness of independent variable (Graphic Organizer) on reading comprehension (dependent variable). At the beginning of the study a language proficiency test was applied to the both groups including Listening, speaking, reading, and writing. The *Flyer* listening paper has five parts with 25 questions. The reading and writing have 6 parts, and there are 40 questions. *Flyer* speaking has four parts. After solving the problem of controlling proficiency level of the participants, a pre-test was conducted to agree on the reading comprehension ability of the participants before the treatment, for experimental group, and before traditional instruction for control group, and also reassuring comparability of both groups of Experimental and Control. Then the researcher began the instruction. At the beginning of each session in the experimental group, researcher drew a reading Graphic organizer on the board and asked the students to tell their ideas about the main points of the reading tasks, and then to write the supporting details for every main idea in the relevant Graphic Organizer then to answer the comprehension questions. While in the control group the participants were asked to read the same texts and answer to the relevant questions. At the end of teaching program one post-test was applied to both groups in order to measure the amount of changes and to measure the effectiveness of instructions. The scores were collected and analyzed by mean of SPSS. Here a sample of the Graphic Organizers for categorizing a reading text on thanksgiving is given here:



**Figure 1.** A sample of the Graphic Organizers for categorizing a reading text on thanksgiving

## RESULTS AND DISCUSSION

The present study tried to answer the following question:

**RQ1:** Does Graphic Organizer Strategy result in improving Iranian EFL learners' reading comprehension?

**Null hypothesis:** There are no significant differences in the effect of Graphic Organizer Strategy on Iranian EFL learners' reading comprehension.

In the following part the results of the data analysis will be discussed with the aim of answering the research question of the inquiry.

**Table 1.** Paired Samples Statistics-Control Group

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pretest	13.224	30	1.861	0.307
	Posttest	14.244	30	1.342	0.244

As it is shown in the Table 1, the control group of the study had a mean score of 13.224 ( $SD=1.861$ ) in the pretest. The group, however, scored higher ( $M=14.244$ ,  $SD=1.342$ ) in the posttest. It can be seen that from Pretest to Posttest for the participants scores changed in the control group.

**Table 2.** Paired Samples Test- Control Group

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Posttest - Pretest	-.166	1.116	.203	-.581	0.252	-.815	29	0.420

It is evident in the table 2 that the mean increase in the reading scores of the control group was -.166 with a 95% confidence interval ranging from -.581 to 0.252. It is also pointed out that the mean increase in the writing posttest was not statistically significant ( $t= (29) = -.815$ ,  $P= 0.420$ ).

**Table 3.** Paired Samples Statistics-Experimental Group

		Mean	N	Std. Deviation	Std. Error Mean
Pair 2	Pretest	13.444	30	1.847	0.339
	Posttest	18.288	30	1.244	0.224

Table 3 reveals the descriptive statistics for the experimental group (Graphic Organizer strategy). Having a look at the table it will be noticed that there was a statistically significant increase in the reading comprehension scores from Pretest ( $M= 13.444$ ,  $SD= 1.847$ ) to Posttest ( $M= 18.288$ ,  $SD=1.244$ ).

**Table 4.** Paired Samples Test- Experimental Group

Table 1 Paired Samples Test									
Paired Differences									
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	Posttest - Pretest	-4.200	1.259	0.224	-5.065	-4.144	-19.477	29	0.000

Based on the information given in the Table 4, the mean increase in the reading comprehension scores of the experimental group was -4.200 with a 95% confidence interval ranging from -5.065 to -4.144. The mean increase in the reading comprehension posttest was statistically significant ( $t= (29) = -19.477$ ,  $P= 0.000$ ). While comparing with the control group, the experimental group outperformed in the reading comprehension posttest. Therefore, the Null hypothesis of the study is rejected.

**Table 5.** Descriptive Statistics-Pretest

		Groups	N	Mean	Std. Deviation	Std. Error Mean
Pretest	Control		30	13.224	1.861	0.307
	Experimental		30	13.444	1.847	0.339

Table 5 portrays the descriptive statistics for the reading comprehension pretest. The experimental and control groups of the study had a mean score of 13.224 ( $SD=1.861$ ) and 13.444 ( $SD=1.849$ ) respectively. Explicitly, the two groups did not perform significantly different in the pretest and they were matched in terms of their reading comprehension ability.

**Table 6.** Independent Samples Test-Pretest

		Levene's Test for Equality of Variances				t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval	
									Lower	Upper
Pretest	Equal variances assumed	0.335	0.562	0.431	58	0.661	0.200	0.454	-.713	1.117
	Equal variances not assumed			0.431	57.505	0.661	0.200	0.454	-.713	1.117

As it can be found in the table.6 an independent-samples *t*-test was conducted to compare the statistics scores of experimental and control groups in the reading comprehension pretest. The mean difference in statistics scores was 0.200 with a 95% confidence interval ranging from -.713 to 1.117. The results reported no significant difference between the mean scores of experimental and control groups in the reading comprehension pretest  $t(58) = 0.431, p = 0.661$ . At that moment, the two groups executed constantly in the reading comprehension.

**Table 7.** Descriptive Statistics-Posttest

	Groups	N	Mean	Std. Deviation	Std. Error Mean
Posttest	Control	30	14.244	1.342	0.244
	Experimental	30	18.288	1.244	0.224

According to the descriptive statistics made known in the Table7, the experimental group high scored in the reading comprehension posttest. The mean score for the former was 18.28 ( $SD= 1.244$ ) whereas for the latter the mean score is 14.24( $SD= 1.342$ ).

**Table 8.** Independent Samples Test-Posttest

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Posttest	Equal variances assumed	0.00	0.99	-12.73	58	0.00	-4.23	0.31	-4.90	-3.55
	Equal variances not assumed			-12.73	57.31	0.00	-4.23	0.31	-4.90	-3.55

Another independent-samples *t*-test was applied to compare the statistics scores of the two groups in the reading comprehension posttest. The mean difference in statistics scores was -4.23 with a 95% confidence interval ranging from -4.90 to -3.55. The results identified considerable difference between the mean scores of experimental and control groups in the reading comprehension posttest  $t(58) = -12.73, p = 0.00$ . Hence, the Null hypothesis is rejected. The findings of the current study are in line with those of Sam and Rajan (2013) who reported that Graphic Organizers are influential in the process of teaching reading and in classifying the essential information from the material, categorizing or placing them in patterns which are imaginatively built by the readers and GOs also help readers in gathering similar information from different parts of text. The findings also are agreement with Kintsch and Rawson's (2005 cited in Shoari & Farrokhi 2014) reports concerning the effectiveness of the graphic organizers they assert that comprehension skills aided by Graphic Organizers, affect the readers' reading skill. The results are in line with Slavin R.E's (1991 cited in Shoari & Farrokhi 2014)'s beliefs given

that he believes that Graphic Organizers are considerably effective in pedagogy and psychology since help learners in comprehending the main message of the texts.

## CONCLUSION

The objective of the present study was to examine the effectiveness of the Graphic Organizers on reading comprehension skill of Iranian EFL learners. It was affirmed that Graphic organizers are communication strategies that demonstrate the organization or structure of concepts and also relations amongst concepts. It was also confirmed that arrangements portraying the structure of the information lessen the cognitive load on the part of the learner. The learner did not have to process that much semantic info to comprehend the information. This was approved as one of the reasons why graphic organizers are influential strategies and tools for students with language-based learning disabilities. It is safe to claim that the information inclines to be less “ambiguous” and more accurate. Graphics really helped students separate what is central and important to comprehend from what might be interesting, but not essential.

The most important implication of the present study which needs to be taken into account by TEFL teachers is that Graphic Organizers are considerably effective in teaching reading comprehension. Given that one of the most serious problems of the EFL learners in the process of learning is that they cannot perceive the reading materials, through using GOs they could make sense of the materials- they can create reasonable connections amongst different parts of the texts and connect them to their background information- and since there is a close relationship between reading and writing this helps learners to improve their writing skill too. Namely through finding out the main points and the relevant supporting details, they learnt how write coherently.

As a result of the limitations of the current study there are number of issues that need more investigations, as follow: Firstly: The present study’s participants were all from one of the institutes of Tabriz, in order to generalize the findings to a wider population, more students should be included from different areas. Secondly: given that this study includes only females, consequently further studies should on male Iranian learners. Thirdly: This research was applied on pre-intermediate level learners; further studies should be on higher levels. Fourth one is that: because the study investigated learners’ progress only with one post-test, further studies with delayed post-tests are required to measure the long-term effects of Graphic Organizers. And the last one is that: Further longitudinal studies are need to be conducted to test different reading comprehension teaching strategies, to decide on which strategies are more effective to Iranian learners than others.



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