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Original Research

Demystifying the Impact of Different Advance Organizer Strategies on Reading Comprehension Skill: Checking Iranian EFL Learners' Attitudes

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Abstract

This study aimed to examine the impact of three types of advance organizers (verbal, textual, and graphic) on the reading comprehension skills of 118 intermediate-level EFL learners, both males and females, ranging in age from 19 to 28 (average age of 23). The participants were divided into four groups: the graphic organizer group, verbal organizer group, textual organizer group, and control group. All participants initially took a pretest consisting of 30 multiple-choice questions. After treatment, a posttest was administered to measure reading comprehension achievement. The results of the quantitative analysis of covariance (ANCOVA) indicated that advance organizers significantly improved reading comprehension scores. Specifically, graphic and textual organizers had a significant difference in mean scores. Furthermore, the qualitative analysis of the study revealed that a majority of the students had a positive attitude towards using graphic advance organizers in the classroom. The findings of this study contribute to those who are concerned with teaching.

Keywords*:* Graphic Organizers, Textual Organizers, Verbal Organizers

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1.Introduction

An advance organizer is a cognitive tool used by teachers to help learners connect prior knowledge to new information. It serves as a framework to organize and integrate new material. The purpose is to activate prior knowledge and provide a foundation for understanding. There are different types of advance organizers, including graphic organizers, concept maps, and summaries. Advance organizers enhance learning by supporting comprehension, retention, and knowledge transfer. They help learners make connections, identify main ideas, and recognize patterns.

According to Ausubel's (2000) educational theory, teachers should make sure they have the proper cognitive framework before beginning to teach a new subject. For students to learn new material, the teacher must help them access the information they need ~~to do so~~ (Liu et al., 2010). Students will be able to connect the new lesson to what they already know if they do this, which will result in meaningful learning. When a student learns something, it must have a familiar meaning (Cesur, 2011). This is what is meant by meaningful learning. Therefore, the teaching-learning process should be structured so that the new information and concepts being learned are connected in some way to the student's prior understanding and learning. However, if the student merely memorizes the information through repetition, practice, and word-for-word memorization without considering the cognitive aspects of learning, the content and concepts will not be connected to what he has already learned, and his learning will be referred to as rote learning and pointless. Understanding current concepts and their corresponding construction-related elements is necessary for meaningful learning. If education is meaningful, students will be able to adapt what they've learned to new circumstances (Murphy et al., 2021). However, rote learning does not lead to the development of a cognitive structure that can be relied on to apply learning in new situations. Therefore, in Ausubel's (2000) educational theory, teachers always emphasize not providing new information without introduction; rather, they determine their place and location in the learner's mind (his cognitive construction in that field) and then present new information. Ausubel (2000) proposes the use of advance organizers to achieve this goal, which is to prepare cognitively for the absorption of new material. To connect new subjects to the student's prior learning, the teacher should look for a concept or learning in that body of knowledge (Censur, 2011).

To the researchers' knowledge, the effects of different advance organizers on reading comprehension were not studied in detail. So, the current study aims to determine whether using advance organizers can improve reading comprehension and explore any potential significant and advantageous effects on improving reading comprehension skills. It also tests these approaches' effectiveness to see which improves students' comprehension of the reading passages. In conclusion, the importance of reading proficiency is such that it can serve as a foundation for the development and enhancement of other abilities. Therefore, special attention should be paid to teaching and developing this skill in language learners. The development of reading abilities in a second language does not occur in a vacuum; rather, it is based on the learner's prior experiences, knowledge, skills, and abilities. Reminding language learners that the text's meaning is not merely summed up in its words is crucial. Teaching and reinforcing that the grammar and syntactic structures of the second language also play a significant role in understanding the text, as well as teaching the use of various reading strategies before, during, and after reading the text, are all strategies that both teachers and students should employ to improve reading skills. As a result, the current study provided insight into how advance organizer strategies can more effectively enhance reading comprehension.

2. Literature Review

According to Cesur (2011) reading comprehension is the most crucial learning skill. It will be simpler for us to learn the material thoroughly the better we comprehend it. The degree of ~~our~~ comprehension of a topic presented to us in various ways, such as speech and writing, is known as comprehension (Biler, 2018). Reading in a first language and reading in a second language can differ (Yeung, 2022). Since most of us are proficient readers in our mother tongues, we automatically employ all the necessary reading skills. We make predictions about the text using our prior knowledge of it, cross-check our predictions with textual cues, create metatextual impressions, pose questions about the text in our minds, and search for the answers to those questions. In order to comprehend and recognize the text in L1, learners reconstruct the text's structure in their minds. However, because the majority of these skills are unconscious and automatic, L2 learners frequently are not aware that they are doing these things (Yeung, 2022). A person who is learning a second language with the intention of reading a text written in that language is not aware of this tool and must deliberately practice

and learn many of these automatic processes once more. This is why language learners often rely too much on their knowledge of L2 vocabulary. They frequently use the part-to-whole model, giving words meaning and putting them together to try to understand the meaning of larger components. Unfortunately, this approach is frequently reinforced in language learners by current teaching strategies (Yeung, 2022). Therefore, one of the teachers' key responsibilities is to make the students aware of the tools and procedures they can use to read in the second language.

It has been discovered through the researcher's experience in the field of teaching the English language that students struggle greatly with their reading comprehension abilities. It might be argued that this presents students with a significant challenge during their L2 learning journey. The majority of the passages that students encounter are lengthy and challenging. Deciphering them is, therefore a difficult task for students. These issues may be brought on by ineffective teaching strategies that impair the students' capacity for reflective thought and reading comprehension. Due to these difficulties and challenges, L2 researchers and academics have been working on some techniques to come up with better solutions. Advance organizers were suggested by Ausubel (2000), a renowned expert in the field of education, as a significant and strategic methodology to teach and understand reading comprehension more effectively.

According to Ausubel (2000), the advance organizer teaching strategy is superior to more conventional teaching strategies like lectures and explanations. He claims that explanation-based teaching and lecture-based passive learning become active teaching strategies with this model. Because teachers' use of advance organizers causes students' minds to strive, according to Ausubel (2000), advance organizer teaching methods give students a chance to be active learners rather than passive ones. Advance organizers accomplish this by connecting the learner's prior knowledge to what needs to be learned. Explanatory and comparative advance organizers are the two main categories introduced by (Ausubel, 2000). In fact, when a student lacks conceptual understanding of a lesson and has a disorganized and disjointed cognitive structure, the explanatory advance organizer is used (Teng, 2022). But with relatively well-known content, comparative advance organizers are used. By comparing new ideas to those already present in the cognitive structure, these precursors can be used to explore new ideas (Teng, 2019). The advance organizer must give the student a conceptual framework so that additional information can be added ~~to it~~. The

advance organizer will likely include the lesson's fundamentals or other information that explains how the new lesson relates to the previous one. According to Teng (2019), Ausubel's (2000) teaching method requires the teacher to first present comprehensive and abstract material and points to the students before teaching the details. This makes the teaching method based on providing an advance organizer at the beginning of the lesson different from the traditional teaching methods in schools. In contrast, teachers in traditional methods ask students to learn the specifics of the lesson first before explaining the general ideas and concepts (Cl, 2005). The three types of advance organizers—graphic organizers (GOs), verbal organizers (VOs), and textual organizers (TOs)—are generally used. To help students associate visual concepts with the unknown information presented in the text and to facilitate simple remembering and understanding of new information, GOs attempt to integrate visual concepts using the text's supporting elements (Grabe & Grabe, 2008). Given the importance of advance organizers and reading comprehension skills, it has been observed that we are faced with the scarcity of a comprehensive and complete study on the impact of advance organizers on reading comprehension in the Iranian context. So, this study conducted a broad overview of this topic in line with other related scholars around the world.

Keraro and Shihusa (2005) conducted a study to analyze the impact of advance organizers on biology students' academic performance. The study involved 166 students from Kenya's Bureti District using the Biology Achievement Test (BAT). The results indicated that students taught with advance organizers had significantly higher test scores. Another study was done by Shihusa and Keraro (2009). This study focused on the impact of advance organizers on students' motivation to learn biology, specifically in the context of pollution. The research design involved a non-randomized Solomon Four group and included 166 students from Kenya's Bureti District. The Students' Motivation Questionnaire (SMQ) was used to gather data. The findings revealed that students taught with advance organizers demonstrated higher motivation compared to those taught using traditional teaching techniques. Additionally, male students showed significantly higher motivation than their female counterparts after the intervention. (IDIONG et al.)conducted a study to explore the use of graphic presentations as advance organizers. The research found that graphic organizers, which scaffold new ideas with pre-existing schema, were effective in improving performance on tests requiring higher cognitive skills. Other studies have been done by Onwioduokit and Akinbobola (2005)and Oloyede (2011). These studies

investigated the effectiveness of different types of advance organizers. Onwioduokit and Akinbobola (2005) found that pictorial organizers were the most helpful, followed by written organizers and non-organizers, in enhancing student achievement. Similarly, Oloyede's research supported the positive effects of written organizers on student achievement.

The study conducted by Ekenobi and Mumuni (2015) aimed to investigate the effectiveness of advance organizer strategies on chemistry students' cognitive achievements in the redox reaction concept. The study utilized a re-test, pre-test control group, and quasi-experimental design in a 3x2 factorial matrix. Three non-equivalent intact classes, totaling 220 senior secondary two (SS2) chemistry students (118 males and 102 females), were purposefully selected from three out of six public co-educational senior secondary schools in Obio/Akpor education zone, Rivers State, Nigeria. The Redox Reaction Concept Achievement Test (RRCAT) was used to collect data. The instrument had a reliability coefficient of 0.90 according to the Kuder-Richardson method. Descriptive statistics, including mean, standard deviation, and percentages, were used to analyze the data. Inferential statistics, specifically ANCOVA (analysis of covariance) and Scheffe's post hoc analysis, were employed to determine the significance of the findings. The results indicated that among the three strategies compared, the graphics advance organizers strategy consistently yielded the highest levels of achievement gain. This strategy was found to be the most effective in promoting meaningful understanding and enhancing higher cognitive achievements in the redox reaction concept across all levels of the cognitive domain. Based on the study's findings, the use of graphics advances organizers in teaching the redox reaction concept in chemistry demonstrated superior outcomes in terms of cognitive achievements among the students.

In a different study, Chung and Huang (1998)looked into the impact of three aural advance organizers on L2 videotaped material comprehension. The results revealed a significant difference and showed that subjects performed better at comprehension under the advance organizer conditions than under the other conditions. More surprisingly, students performed the least successfully under the combined conditions. These studies primarily demonstrated the efficacy of advance organizer strategies, but there is still work to be done in this area. Teachers look for useful and significant strategies to improve comprehension given the significance of the reading comprehension skill. The linguistic requirements of L2 learners can be met by using a variety of advance organizer strategies in addition to

individual differences and learning preferences. Accordingly, the study tried to answer the following research questions;

1. Does using advance organizer strategies improve Iranian EFL learners' reading comprehension significantly?

2. What are the learners' attitudes toward using three different advance organizers (textual, graphic, and verbal)?

3. Methodology

3.1. Design and Context of the Study

A mixed methods design was chosen to address the research questions and compare the effects of different types of advance organizers on reading comprehension. The quantitative component aimed to measure the participants' achievement in reading comprehension and served as the dependent variable. The independent variables were the different types of advance organizers used in the study. Additionally, the initial ability of the participants to comprehend level-appropriate texts was controlled for as a preexisting difference by using it as a covariate variable. The aim of the qualitative element was to examine the participants' views regarding the use of advance organizers in the classroom. ~~By~~ combining quantitative and qualitative elements, the mixed methods design provided a comprehensive understanding of the research question. Overall, the mixed methods design allowed for a robust examination of the effects of the different advance organizers on reading comprehension while controlling for initial differences.

3.2. Participants

The study involved 118 participants, both male and female, who were English as a Foreign Language (EFL) learners at an intermediate level. They were studying Top-Notch 3A and 3B in four different classes at the Mohaghegh Language Institute in Tabriz. The age range of the participants was between 19 and 28 years old, with an average age of 23 (SD = 3.72). All participants were native speakers of Persian and had an intermediate level of language proficiency. The Oxford Placement Test (second edition) was administered to assess the proficiency level of the students. Those who obtained scores lower than 50% of the total possible score, which was the required score to be considered at the intermediate level, were excluded from the study. The four classes were randomly assigned to three experimental

groups ~~of~~ Graphic Organizer group (GO with 31 learners), Verbal Organizer group (VG with 29 learners), Textual Organizer group (TO with 33 learners) and one control group. The control group consisted of 25 learners who received no specific treatment, and the instruction followed conventional methods. The names and personal information of the participants were kept strictly confidential and were not disclosed in the study. Before the experiment began, the participants and their parents were informed about the study to minimize any misunderstandings. This approach was in line with ethical considerations.

Table 1.

Demographic Background of the Participants

No. of Students	118
Gender	Male and Female
Age Range	19 to 28
Language Proficiency	Intermediate
Native Language	Persian
Language Institution	Mohaghegh
Academic Years	2022-2023

3.3. Instruments

Several materials and instruments were utilized to answer the research questions of the study.

3.3.1. Oxford Placement Test (OPT)

The first instrument was the Oxford Placement Test (OPT), specifically the second edition. The purpose of the test is to provide teachers with a reliable means of determining the proficiency level of their students. The OPT consists of 60 items that cover vocabulary, grammatical points, and reading comprehension. It is divided into two parts. There are two versions of the test available: the computer-Based version (CB) and the Paper and Pen version (P&P). In this particular study, the P&P version was employed due to technical limitations. The P&P version includes the same items on vocabulary, grammatical points, and reading comprehension.

3.3.2. Top Notch 3A and 3B

This study used two training courses from the Top-Notch series, specifically Top Notch 3A and 3B, as the second instrument. The Top-Notch Book Series for Teaching English was initially published in 2006 by Pearson Longman Publishing. It comprises four books that guide language learners from level A1 to level B1. The Top-Notch book series aims to cover

all language skills, including reading, writing, listening, and speaking. However, listening and speaking skills are particularly emphasized. The book includes work-oriented exercises that place learners in practical situations, enabling them to discuss various topics. Practical words and sentences are expressed through short conversations, which also incorporate the grammar of the new lesson. The brevity of these conversations allows students to memorize them in class within a short period. This study used a reading comprehension test as both the pretest and posttest to evaluate the EFL learners' reading comprehension skills before and after instruction. The test was designed based on the content of the Top-Notch courses, which were the focus of the study. The Top-Notch books consist of ten units, each containing a reading comprehension text. From these texts, six were selected for the test.

3.3.3. Reading Comprehension Test

The third instrument in this study was the reading comprehension Test. The reading comprehension test consisted of thirty-four multiple-choice questions that assessed the participants' understanding of information and specific words stated or implied in paragraphs. The test's content validity was ensured by consulting experts in the field of EFL (English as a Foreign Language) teaching. The reliability of the test was established through a pilot study and employing the test-retest method. This test aimed to measure the participants' reading comprehension skills.

3.3.4. Questionnaire

Furthermore, one questionnaire was used for three groups to assess the participants' attitudes toward the use of graphic, textual, and verbal advance organizers for improving reading comprehension skills. The questionnaire contained ten items designed to measure the participants' attitudes toward these three conversational techniques. The items provided five response options, ranging from "strongly agree" to "strongly disagree." The questionnaire was administered to the students after completing all the sessions of teaching speaking.

3.4. Data Collection Procedure

Before the treatment process began, all the selected participants were given a pretest in the form of a multiple-choice English reading comprehension test. The test consisted of 30 items and was based on the Top Notch (2006) book series. The purpose of the pretest was to assess the participants' initial knowledge of reading comprehension texts.

After the pretest, the researcher visited the experimental groups and spent 20 minutes explaining the study to the participants. The explanation included providing information about the study's objectives and what the participants would learn. The researcher attended the classes of the experimental groups two sessions per week, with each session lasting 40 minutes. In the GO group, graphic organizers were used to teach the reading comprehension texts. Graphic organizers are visual tools that help visualize the relationships between ideas, content, and facts. They facilitate learning and teaching by visually representing connections within the content. The researcher incorporated various multimedia elements to enhance the teaching process. For example, before teaching each text, the researcher showed clips, pictures, and videos related to the topic, such as depicting cultures of different countries or showcasing cultural changes over time. Challenging words from the text were introduced using pictures. This approach integrated various visual and auditory stimuli to engage students and help them make connections between the text and real-world experiences, cultural diversity, and vocabulary learning.

In the second group, a textual advance organizer was utilized to enhance the learning process and achieve educational goals. Before introducing the main text, simple texts related to the main topic were presented to the students, and they were encouraged to express their understanding and perceptions of these texts. For instance, if the main text focused on the effect of the internet on students' learning, various simple texts related to technology's impact on human life, education, and technology, the internet as a modern marvel, and similar topics were presented and taught to the students.

This approach aimed to prepare and activate the students' prior knowledge and engagement before introducing the main text. During the teaching process, relevant and straightforward examples from supplementary texts were incorporated to illustrate further and reinforce the main topic. Doing so gave the students additional context and examples that helped them grasp the content more effectively.

At the conclusion of the lesson, the content was reviewed and summarized once again, and any remaining questions or issues raised by the students were addressed and resolved. This step ensured that the students had a comprehensive understanding of the material and had the opportunity to clarify any doubts or uncertainties.

Using a textual advance organizer, the second group aimed to create meaningful connections and foster a deeper understanding of the main text by building upon related and

simpler texts. This approach helped to contextualize the main topic and promote active engagement and comprehension among the students.

In the third experimental group, a verbal advance organizer was employed. This type of advance organizer involves the researcher discussing the title and topic of the reading texts in detail before presenting and teaching the original texts. The purpose is to engage and prepare the students' minds for the upcoming content. Various approaches, such as storytelling, personal anecdotes, tutorials, and more, can be used depending on the subject matter. For example, if the text in this group focused on earthquakes, the researcher would initiate the lesson by asking students to share their experiences or memories of earthquakes. They would encourage students to discuss whether they or their families have been affected by earthquakes and prompt them to consider what actions should be taken during an earthquake and how to ensure survival. These questions aim to activate the students' background knowledge and create a context for the upcoming lesson. After this initial discussion, the researcher would proceed to explain the concept of earthquakes, providing a scientific explanation of what occurs in the layers of the Earth that leads to earthquakes. They may also share their own (real or imaginary) experiences with earthquakes and describe how they were able to protect themselves. Additionally, the researcher would discuss significant earthquakes that have occurred in the country, providing relevant information about these events to the students. In the second part of the lesson, the main text about earthquakes will be presented to the students. They would be asked to read the text and answer relevant questions to assess their comprehension and engagement with the material. Finally, the content would be reviewed once again to solidify the overall meaning and significance of the topic.

By using a verbal advance organizer, the third experimental group aimed to create a meaningful and engaging context for the reading texts. This approach utilized personal anecdotes, discussions, and explanations to build students' background knowledge and enhance their understanding of the topic at hand. In the control group, no advance organizers were used, and the texts were taught according to the traditional language teaching method. This method relied on question-answer and memorization-repetition techniques. The main texts were presented to the students without any introduction or background information, and they were simply asked to answer the relevant questions after reading the texts. The traditional language teaching method focuses on memorizing difficult structures and

vocabulary and dealing with complex texts to extract meaning. This approach can be tedious and unengaging for students, as it lacks the contextual support and interactive elements provided by advance organizers.

At the end of 14 sessions of treatment, a reading comprehension test was administered as the post-test to assess the participants' achievement in reading comprehension. One week after post-test, one questionnaire was given to the students of three groups to gather their opinions on the effectiveness of the three advance organizers used in the other experimental groups (textual, verbal, and graphic advance organizers). By comparing the performance on the reading comprehension test and analyzing the responses from the questionnaire, the researchers could evaluate the impact and effectiveness of the different types of advance organizers used in the experimental groups compared to the traditional teaching method employed in the control group.

3.5. Data Analysis Procedure

To investigate the first research question, a sample t-test was conducted to examine whether using advance organizers significantly affected Iranian EFL learners' reading comprehension. The sample t-test compares the means of two groups (e.g., learners with and without advance organizers) to determine if there is a significant difference between them. For the second research question, a linear regression was run to cast light on the effectiveness of three kinds of advance organizers on reading comprehension.

4. Results

4.1. Reading Comprehension

Table 2 displays the descriptive statistics of pretest and posttest reading comprehension scores in all four study groups.

Table 2.
Descriptive Statistics of Reading Comprehension Scores in All Groups

Group	Variable	*N*	Range	Min	Max	Mean	Std. Deviation	Skewness	Kurtosis
								Statistics	
TOs	Pretest	28	15	12	27	17.54	3.294	.933	1.302
	Posttest	28	14	14	28	18.93	3.495	.843	.293
VOs	Pretest	27	17	11	28	18.41	4.994	.405	-.689
	Posttest	27	18	11	29	19.04	4.735	.186	-.733
GOs	Pretest	30	13	12	25	18.60	3.169	.143	-.188
	Posttest	30	13	13	26	20.70	3.640	-.265	-.623
Control	Pretest	33	15	11	26	17.55	3.063	.571	1.042
	Posttest	33	15	11	26	17.91	3.422	.401	-.102

Based on the information provided in Table 2, the following observations can be made regarding the pretest and posttest scores, as well as the mean scores and improvements in each group:

1. Pretest and posttest scores:
   - Minimum pretest and posttest scores: 11
   - Maximum pretest score: 28
   - Maximum posttest score: 29
   - Range of pretest scores: 18
   - Range of posttest scores: 17
2. Skewness and Kurtosis:
   - Skewness values: Between -1 and +1, indicating symmetrical distributions around the mean.
   - Kurtosis values: Below 1.5, indicating mesokurtic distributions (close to normal).
3. Pretest mean scores:
   - The highest pretest mean score: 18.60 in the GO group.
   - The lowest pretest mean score: 17.54 in the TO group.
   - Pretest mean scores ranged from 17.54 to 18.60, indicating similar initial achievements across different groups.
4. Posttest mean scores:
   - The highest posttest mean score: 20.70 in the GO group.
   - The lowest posttest mean score: 17.91 in the Control group.

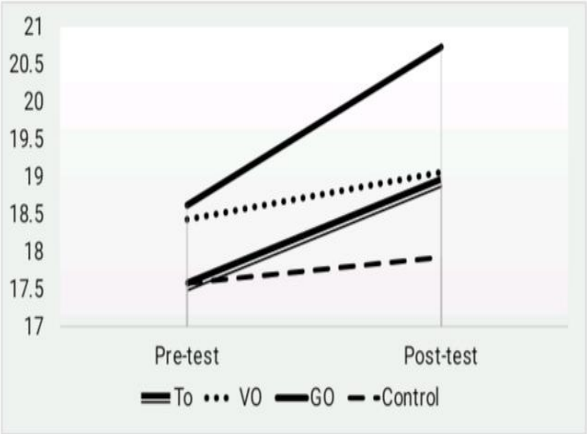
- Posttest mean scores ranged from 17.91 to 20.70, showing a significant increase compared to the pretest mean scores.

5. Improvement in scores:
   - All groups demonstrated some level of improvement from the pretest to posttest.
   - The greatest improvement was observed in the GO group, with a score increase of 2.10.
   - The control group showed the lowest improvement with a score increase of 0.36.

Overall, the results indicate that the GO group had the highest posttest mean score and the greatest improvement in scores, while the control group had the lowest posttest mean score and the least improvement. The findings suggest that the use of graphic organizers (GO) in the teaching process had a positive impact on the participants' achievement in reading comprehension compared to the traditional teaching method employed in the control group. Aforementioned results with regard to the mean scores are shown graphically in Figure 1.

Figure 1.

Pretest and posttest mean scores in all groups of the study.



As ~~it~~ can be seen in Figure 1, the steep increase in the mean scores (from pretest to posttest) in the Go and TO groups, in comparison with the gentle slope of the changes in the VO and control groups, showed more improvement in reading comprehension scores of their participants after receiving the treatment. In order to have an overall evaluation of pretest and posttest scores in two different groups of AOs (received AOs strategies) and control (received placebo), all the experimental groups (TO, VO, and GO) were considered as the

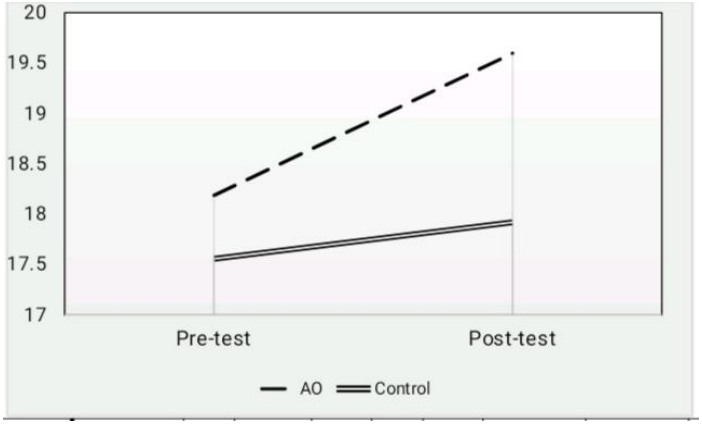
advance organizers groups. Table 3 shows descriptive statistics of pretest and posttest reading comprehension scores in both advance organizers and control groups.

Table 3.
Descriptive Statistics of Reading Comprehension Scores in Advance Organizer and Control Groups

Group	Variable	*N*	Range	Min	Max	Mean	Std. Deviation	Skewness	Kurtosis
								Statistics	
AO	Pretest	85	17	11	28	18.18	3.836	.489	.004
	Posttest	85	18	11	29	19.59	4.016	.137	-.635
Control	Pretest	33	15	11	26	17.55	3.063	.571	1.042
	Posttest	33	15	11	26	17.91	3.422	.401	-.102

Table 3 shows that while the pretest mean scores in the AO group (M = 18.18) and the control group (M = 17.55) were nearly equal, the posttest mean scores in the AO group (M = 19.59) were higher than the control group's (M = 17.991) equivalent scores. Similarly, while the pretest and posttest results within the control group are somewhat similar, those same results within the AO group are different. The aforementioned results are shown graphically in Figure 2:

Figure 2.
Pretest and posttest mean scores in advance organizer and control groups.



As shown in Figure 2, participants from both AO and control groups began the course of study with approximately equal points of proficiency in reading comprehension; however, their performance on the posttest was not the same. The first research question sought to determine whether or not using advance organizer techniques had a significant impact on

Iranian EFL students' reading comprehension. Covariate analyses were carried out to compare the reading comprehension posttest scores in two different groups of AO and control in order to answer this research question. However, it was crucial to verify the underlying assumptions in order to make sure that the data can actually be analyzed using ANCOVA. The first presumption was that the dependent variable (posttest scores) for each category of independent variable (group) should be roughly normally distributed. Table 4 displays the results of the normality tests on the posttest scores for two different groups of AO and control:

Table 4.
Tests of Normality on Posttest Scores in Advance Organizer and Control Groups

Variable	Group	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	*df*	*Sig.*	Statistic	*Df*	*Sig.*
Posttest scores	AO	.116	33	.200*	.967	33	.406
	Control	.136	33	.129	.962	33	.303

As shown in Table 4, both the AO (.200) and control (.129) groups' significance values of the Kolmogorov-Smirnov test were found to be greater than 0.05, indicating the normality of the score's distribution.

The homogeneity of variances is another presumption needed to use ANCOVA. In order to verify the presumption that the dependent variable will have comparable variances for all groups, Levene's test of equality of variance was performed. The results of Levene's test for homogeneity of variance are reported in Table 5.

Table 5.
Test of Equality of Variance on Posttest Scores in Advance Organizer and Control Groups

	F	*df1*	*df2*	*Sig.*
Levene's Test	.971	1	116	.326

Levene's test's p-value (.326) exceeded the.05 level of significance, as shown in Table 5. As a result, the underlying assumption of homogeneity of variance for the one-way ANCOVA was satisfied, and the assumption of equality of variances was verified. The covariate (pretest scores) and the independent variable (group) do not interact, according to the other supposition that regression slopes are homogeneous. An ANCOVA was performed to determine whether there was an interaction between the treatment and the pretest scores in order to test this supposition.

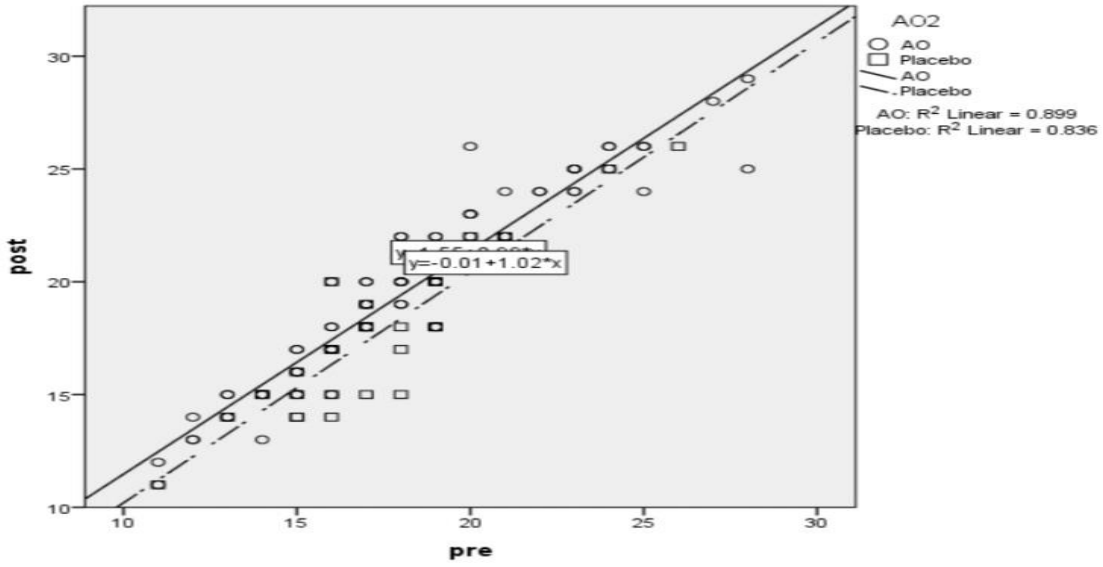
Table 6.
Analysis of Covariance on Reading Comprehension Scores for the Interaction Effect

Source	Type III Sum of Squares	*Df*	Mean Square	F	*Sig*.
Corrected Model	1598.321[a]	3	532.774	306.721	.000
Intercept	1.761	1	1.761	1.014	.316
Pretest	979.801	1	979.801	564.077	.000
Group * pretest	.202	1	.202	.116	.734
Error	198.018	114	1.737		
Total	44928.000	118			
Corrected Total	1796.339	117			

a. R Squared = .890 (Adjusted R Squared = .887)

As previously stated, F =.116, p =.734 indicated that the treatment for the pretest scores was not significant. In other words, there was no significant interaction between the treatment and the pretest scores, and the slope of the regression line was similar in each group. This suggests that, prior to the treatment, there was no discernible difference between the participants' knowledge of reading comprehension in the two groups. In addition, in order to check the relationship between pre and posttest scores in advance organizer and control groups, a Pearson correlational test was run;

Figure 3.
A Pearson Correlational Test



According to Figure 3, at each level of the independent variable (group), the covariate (the pretest scores) was linearly related to the dependent variable (the posttest scores). There

are two straight lines and no hint of a curved relationship, as can be seen. As a result, it was okay to carry out the analysis of covariance because the aforementioned assumption was not falsified. A one-way covariate test was run to answer the study's first research question. The reading comprehension posttest results were used as the dependent variable, with the pretest results serving as the covariate. The AO and control groups were regarded as the independent variables. The error was originally set at .05. The results of analysis of variance for the treatment effect are reported in Table 7.

Table 7.

Analysis of Covariance for the Treatment Effect on Posttest Reading Comprehension Scores

Source	Type III Sum of Squares	*df*	Mean Square	*F*	*Sig.*	Partial Eta Squared
Corrected Model	1598.119[a]	2	799.060	463.586	.000	.890
Intercept	3.875	1	3.875	2.248	.137	.019
Pretest	1531.096	1	1531.096	888.287	.000	.885
Group	26.010	1	26.010	15.090	.000	.116
Error	198.220	115	1.724			
Total	44928.000	118				
Corrected Total	1796.339	117				

a. R Squared = .890 (Adjusted R Squared = .888)

According to Figure 3, at each level of the independent variable (group), the covariate (the pretest scores) was linearly related to the dependent variable (the posttest scores). As evidence, there are two. After adjusting for potential differences in the students' pretest scores, the results in Table 6 showed that the study's intervention (advance organizer strategies) had a significant impact on the students' posttest reading comprehension scores. The p-value was higher than.05, F = 15.090, p =.000. An estimated margin means for the advance organizer and control groups was run in order to demonstrate the superiority of the groups;

Table 8.

Estimate Margin Means for Advance Organizer and Control Groups

Group	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
AO	19.412[a]	.143	19.130	19.694
Control	18.363[a]	.229	17.909	18.817

The AO group (M = 19.412) outperformed the control group (M = 18.363) on the posttest, according to the estimation marginal means, which show the adjusted means on the dependent variable for each of the groups. The findings showed that the posttest scores of the learners who used advance organizer strategies increased significantly in comparison to those of the control group.

4.2. Learners' Attitudes

Additionally, to respond the second research question, students were given one 5-point Likert scale questionnaire to see how they felt about the three advance organizers (verbal, graphic, and textual advance organizer). Below is a description of the outcomes;

4.2.1. Graphic Advance Organizer

In order to verify students' attitudes toward graphic advance organizer, one sample t-test was run, and the findings are presented below;

Table 9.

Frequency of Mean Students Related to Using Graphic Advance Organizers

	N	Mean	Std. Deviation	Std. Error Mean
GO	118	4.07	1.048	.271

The above table shows that the frequency mean of students related to using graphic advance organizer is 2.25. The following table shows that if students 'attitude toward role play are positive or not.

Table 10.

One-Sample Statistics of Graphic advance organizer

	Test Value = 3					
	T	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
GO	3.967	117	.001	1.073	.49	1.65

Table 10 demonstrates that the majority of students found graphic advance organizers to be enjoyable. In addition to not finding the implementation of the graphic advance organizer to be time-consuming, they also found it to be beneficial for enhancing reading comprehension. It shows that the majority of students strongly support or support the use of graphic organizers in the classroom.

4.2.2. Textual Advance Organizer

One sample t-test was run to determine the students' attitudes toward Textual Advance Organizer. The following tables show the results.

Table 11.
Frequency of Mean Students Related to UsingTextual Advance Organizer

	N	Mean	Std. Deviation	Std. Error Mean
TO	118	4.03	.291	.075

This table shows the frequency mean of students related to using Textual Advance Organizer. Table 12 shows whether students' attitudes toward using Textual Advance Organizer are positive or not.

Table 12.
One sample T-test Regarding to students' Attitudes Toward Using Textual Advance Organizer

	Test Value = 3					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
TO	13.642	117	.000	1.027	.87	1.19

According to table 12, the majority of students have a significantly positive attitude toward using the textual advance organizer (Sig = .000). It demonstrates that using a textual advance organizer can help students learn to read more fluently, and most of the students supported doing so.

4.2.3. Verbal Advance Organizer

To check students' attitudes toward using Verbal Advance Organizer in class one sample t-test was also run.

Table 13.
Frequency of Mean Students Related to Using Verbal Advance Organizer One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
VO	118	2.28	.490	.127

The above table shows the mean of the students who used Verbal Advance Organizer. The frequency of mean score is 2.28. The following table shows the students' attitudes toward using Verbal Advance Organizer in the class.

Table 14.
One sample T-test Regarding to Students' Attitudes toward Using Verbal Advance Organizer

	Test Value = 3					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
VO	-5.689	117	.000	-.720	-.99	-.45

The above table shows that the sig is below ~~to~~ .05(00), which shows that the students attitudes toward using Verbal Advance Organizer is significantly negative. These results show that maybe using Verbal Advance Organizer is not useful in improving EFL learners' reading comprehension knowledge.

5. Discussion

The findings of the study indicate that the use of advance organizers had a significant impact on the reading comprehension abilities of EFL learners. These results suggest that incorporating advance organizers into the instructional process positively influenced the participants' understanding and interpretation of written texts in English. By demonstrating the benefits of using advance organizers in EFL learning environments, the study contributes to the existing body of research on effective instructional strategies. The positive effects observed in the study highlight the potential of advance organizers as an effective tool for enhancing language learners' comprehension skills. By providing a framework for organizing information and making connections, advance organizers can support learners in navigating complex texts and extracting meaning from them. This can be particularly valuable for EFL learners who may face challenges in comprehending texts written in a non-native language.The study's findings add to the understanding of how advance organizers can be applied in EFL contexts and emphasize their importance as a pedagogical strategy. Educators and curriculum developers can consider incorporating advance organizers into their instructional practices to enhance reading comprehension outcomes for EFL learners. By providing a structure and activating prior knowledge, advance organizers can help learners engage with texts more effectively and improve their overall comprehension abilities.

The study's results indicated that all types of advance organizer strategies (TO, VO, and GO) had a significant positive effect on the reading comprehension achievement of EFL learners compared to the control group. This effect remained significant even after adjusting for potential group differences, such as the learners' pretest scores. The findings suggest that using advance organizers activated relevant ideas or facilitated the formation of new mental frameworks (schemata) for integrating and comprehending new information presented in the reading passages. By providing background knowledge and context, advance organizers served as a warm-up exercise, preparing learners for the upcoming passage and enabling them to make reasonable inferences about the topic development and potential conclusions. This aligns with the theoretical basis of advance organizers, which propose that activating prior knowledge and creating a framework for organizing new information can enhance comprehension and learning. The advance organizer strategies employed in the study likely facilitated the learners' ability to connect the new information in the reading passages with their existing knowledge and schema, leading to improved comprehension. Overall, the results suggest that incorporating advance organizers as a preparatory step before reading can have a positive impact on EFL learners' reading comprehension. By activating prior knowledge and providing a cognitive framework, advance organizers can enhance learners' ability to understand and interpret written texts effectively. The results of the present study align with previous research and are supported by findings from other studies in the literature. The study's findings corroborate the idea that using introductory strategies, including advance organizers, can enhance students' reading comprehension skills. The mentioned studies, such as Mede (2010), Sunasuan and Songserm (2021), Muiruri et al. (2016), and Ni et al. (2016), all provide additional evidence in support of the effectiveness of advance organizers in improving learning outcomes.

The studies by Mede (2010), Sunasuan and Songserm, (2021), Muiruri et al. (2016), Ni et al. (2016)all provide evidence of the positive impact of advance organizers on different aspects of learning, such as English language teaching, reading comprehension, meaningful learning, achievement in poetry, and cognitive instructional strategies. The consistent findings across these studies indicate that advance organizers can be a valuable tool for promoting meaningful learning, improving comprehension, and enhancing academic achievement. These results have implications for educators and curriculum designers, suggesting that the integration of advance organizers into instructional practices can be

beneficial in facilitating students' learning and performance. Additionally, considering the specific context and characteristics of the Iranian EFL learners in the study by Ayoobi and Hashamdar (2015), the findings can be particularly relevant and applicable to similar educational settings.

By integrating advance organizers, educators can enhance students' learning outcomes, activate their prior knowledge, and foster connections between new information and existing knowledge. The consistent findings across different studies provide further evidence that advance organizers can be a valuable tool for promoting meaningful learning, improving academic achievement, and enhancing various aspects of language learning. Educators and curriculum designers can consider integrating advance organizers into their instructional practices to support students' learning processes and enhance their overall academic performance.

The second research question tried to determine participants' attitudes toward these three advance organizers (textual, graphic, and verbal advance organizer) which were applied and used in this study. The information provided highlights the positive attitudes of students towards graphic and textual advance organizers, particularly the graphic advance organizer. The use of advance organizers aligns with cognitive theories such as Ausebel's theory, which emphasizes the importance of relating new information to existing knowledge. Graphic advance organizers, in particular, provide a visual-spatial representation of text concepts, aiding in the connection of new material to prior knowledge. The development of advance organizers was driven by the goal of enhancing comprehension and recall. Schema theory, which suggests that individuals organize knowledge into mental frameworks or schemata, has influenced the understanding of the facilitative effects of advance organizers. By providing a pre-made schema, advance organizers help readers integrate new information with their existing knowledge, freeing up cognitive space and reducing the cognitive burden. Additionally, advance organizers assist in highlighting the most important relationships and structures in a text while removing extraneous details. This process, known as the "macrostructure deletion rule of reading," allows readers to focus on the text's overall structure and main ideas. Overall, the use of advance organizers, particularly graphic advance organizers, can enhance comprehension by providing visual representations of text concepts, aiding in the connection of new information to prior knowledge, and reducing cognitive load by highlighting important information and removing unnecessary details.

6. Conclusion

The results of the study revealed that the use of advance organizer strategies had a significant impact on learners' reading comprehension scores. The study found that employing different types of advance organizer strategies made a noticeable difference in the reading comprehension scores of the learners. Specifically, the study revealed a significant difference in reading comprehension mean scores between learners who used graphic organizer strategies and those who used textual organizer strategies. However, no significant differences were observed between the reading comprehension scores of learners who used graphic organizer and verbal organizer strategies and between those who used verbal organizer strategies and textual advance organizers. These findings suggest that the use of advance organizer strategies, particularly graphic and textual organizers, can be beneficial in improving learners' reading comprehension abilities. Graphic organizers, in particular, may offer advantages in facilitating comprehension, while verbal organizers and textual advance organizers may have comparable effects in enhancing reading comprehension. The effectiveness of advance organizer strategies may vary depending on various factors, such as learners' characteristics, instructional context, and the specific tasks or materials involved. Overall, advance organizers serve two key purposes for students. Firstly, they help students establish connections between new materials and their existing cognitive structures. Secondly, advance organizers aid in increasing recall, preventing forgetting, and understanding the complexity of previously learned material. It's important to note that advance organizers can be a valuable tool in teaching and learning, but their effectiveness may vary depending on various factors such as the specific instructional context and the characteristics of the learners.

The study's results provide evidence-based support for the integration of advance organizers in Iranian EFL classrooms and suggest that this instructional strategy can lead to improved reading comprehension outcomes. Language teachers and curriculum designers in Iranian EFL contexts can consider incorporating advance organizers into their instructional practices based on the evidence from this study. By implementing advance organizers, educators can provide students with a structure and framework for organizing information, activating prior knowledge, and making connections within the texts. This, in turn, can contribute to improved reading comprehension skills and overall language proficiency.

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The Questionnaire

Questions	SA	A	N	DA	SD
1. Using small group discussion motivate me to learn language					
2. By using small group discussion, I can communicate with my classmates					
3. Small group discussion is a good technique to improve speaking					
4. Small group discussion helps me to speak in front of the class					
5.Small group discussion helps to enhance speaking ability.					
6. Small group discussion helps to overcome nervousness.					
7. Small group discussion gives an opportunity to express emotions freely.					
8. Small group discussion in groups is helpful as ideas can be shared.					
9. Small group discussion is fun and interesting.					
10. I suggest to use small group discussion techniques to other skills in addition to speaking.					