Comparing the effects of different advance organizers on EFL learners’ listening comprehension: Key vocabularies, previewing comprehension questions, and multimedia annotations

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Abstract: Listening is a fundamental and challenging component of second language learning. To decrease its difficulty, Advance Organizer activities (pre-listening supports) can be used leading to more effective listening and better comprehension. This study aimed to investigate the effects of three different Advance Organizers (AOs), i.e. pre-teaching key vocabularies (KV), previewing comprehension questions (PQ), and using multimedia annotations (MA), on EFL learners’ listening comprehension. To this end, 128 female high school students at basic proficiency level were randomly assigned to three experimental groups and one control group. A listening comprehension pre-test was administered to all groups before the treatment. Then, the experimental groups received their AO treatments. After listening post-test, covariance analysis (ANCOVA) was used to analyze data. Based on the results, MA and KV groups with the mean score of 8.156 and 6.500 respectively, showed a positive effect on students’ listening comprehension, respectively. Findings of this study make teachers and curriculum developers cautious about the importance of students’ proficiency level in choosing appropriate pre-listening supports.

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PUBLIC INTEREST STATEMENT
Since I am an EFL teacher in high school, I observe many students having serious difficulties with listening comprehension. In order to assist them in improving this challenging skill, I reviewed literature and found out about Advance Organizers (pre-listening supports). Many types of them were introduced and researched in varying contexts but the findings were controversial. So I conducted my own research and chose those Advance Organizers which most of the previous researches had confirmed their effectiveness: pre-teaching key vocabularies, previewing comprehension questions, and using multimedia annotations. To come to a clear result, I straitened the proficiency level of the participants to basic level. The results indicated that using multimedia annotations and pre-teaching key vocabularies had a significant positive effect on students’ listening comprehension, respectively. Findings of this study make teachers and curriculum developers cautious about the importance of students’ proficiency level in choosing appropriate pre-listening supports.
respectively, showed a significant positive improvement in students’ listening comprehension. Although the previewing comprehension questions AO with the mean score of 5.312 did not improve the learners’ listening comprehension significantly, it showed better results than the control group. The implications of this study are useful for future and current language teachers, practitioners, and syllabus designers.

Subjects: Listening; Educational Research; Education Studies; Classroom Practice; Teaching & Learning; Modern Foreign Languages; Language Teaching & Learning

Keywords: advance organizers; listening comprehension; pre-listening supports

1. Introduction

Listening is a fundamental skill in the process of learning second or foreign languages (Gowhary, Pourhalashi, Jamalinesari, & Azizifar, 2015). Listening helps learners in internalizing language rules and other language skills development (Fong & Ho, 2017; Gowhary, et al., 2015; Rost, 2002). According to Rahimirad (2014), Rost (1994), listening provides input for the language learners. Without understanding input, learning cannot begin.

Regarding the important role of listening in communication, Nunan (1998) stated “In fact over 50% of the time that students spend functioning in a foreign language will be devoted to listening” (p. 1). Nation and Newton (2008) indicated that learners use the information provided by listening to build up the necessary knowledge for using the language. They believed, “when this knowledge is built up, the learner can begin to speak” (p. 38).

Despite the importance of listening skill, it is still the least understood, researched, and historically the least valued skill (Vandergrift, 2007; Wilson, 2008). Listening skill has been neglected for a period of time by the dominance of the traditional views on language learning and teaching (Farrokhi & Modarres, 2011). Over the past few decades, however, language researchers have attended to this ability and “Listening comprehension is now becoming a more prominent area in L2 teaching and testing” (Matthews & Cheng, 2015, p. 1).

Listening comprehension is acknowledged as a challenging skill for EFL learners and many language learners believe it to be more difficult than other language skills including reading comprehension, writing, and speaking (Bian, 2017; Dong, 2016; Graham, 2011; Renandy & Farrell, 2010; Wang & Treffers-Daller, 2017). The complexity of the processes involved in listening and the various sub-skills required, make listening a difficult skill (Chang & Read, 2006; Chou, 2013; Fong & Ho, 2017; Graham, 2006; Vandergrift, 2007; Vandergrift & Baker, 2015; Wang & Treffers-Daller, 2017). For language learners, particularly for low-level ones, trying to comprehend oral input can be demanding. Therefore, there should be special assistance for them in order to overcome listening challenges (Rameshianfar, Shahnazari, & Tavakoli, 2015). There are different kinds of pedagogical assistance for this purpose.

To decrease the difficulty of listening comprehension, teachers can provide learners some Advance Organizer activities (pre-listening supports) leading to more effective listening and better comprehension. Some known effective Advance Organizers, in the field of language learning, are: pictorial context, verbal descriptions, pre-teaching key vocabulary, previewing main ideas, scripts, pre-questioning techniques, providing background knowledge, and cultural background cues (Chung, 1999; Jafari & Hashim, 2012).

Findings of previous studies in the field of using AOs as an effective strategy in facilitating listening comprehension are controversial. While some researchers confirmed the positive effects of advance organizers (e.g.: Alavi & Janbaz, 2014; Bagheri & Bahadori, 2014;
Elkhafafi, 2005; Farrokhi & Modarres, 2012; Hsu & Hsu, 2007; Jafari & Hashim, 2012; Rameshianfar et al., 2015), some other researchers indicated some weaknesses for them (e.g.: English, 1993; McAdaragh, 1981). Therefore, more research seems to be needed to shed further light on the effects of advance organizers on listening comprehension. Also, congruent studies have obtained mixed results as to what type of Advance Organizers would be more effective for better listening comprehension. Therefore, more research seems to be needed to shed further light on the effects of advance organizers on listening comprehension. Also, congruent studies have obtained mixed results as to what type of Advance Organizers would be more effective for better listening comprehension.

In order to investigate the effectiveness of AOs and, concurrently, find the most effective ones, many studies were reviewed (e.g.: Alavi & Janbaz, 2014; Farrokhi & Modarres, 2012; Hsu & Hsu, 2007; Jafari & Hashim, 2012; Rameshianfar et al., 2015), and based on their results, three different advance organizers were chosen for present study: pre-teaching key vocabularies, previewing comprehension questions, and multimedia annotations. To the best of the researcher’s knowledge, no research has been done to compare these three Advance Organizers so far.

1.1. Research questions
In order to fulfill the purposes of the present study, the following research questions were formulated:

RQ1: Does pre-teaching key vocabularies, as an advance organizer, improve EFL learners’ listening comprehension?

RQ2: Does previewing comprehension questions, as an advance organizer, improve EFL learners’ listening comprehension?

RQ3: Does Use of multimedia annotations, as an advance organizer, improve EFL learners’ listening comprehension?

RQ4: Is there any significant difference between the mean scores of EFL learners’ listening comprehension in three AO conditions?

2. Literature review

2.1. Advanced organizers
The concept of Advance Organizer was first proposed by Ausubel in 1960. He, as a cognitive theorist, claimed that mental structures or schemata are the basis of learning which help students organize their perceived environment. He believed that in order to make a meaningful interpretation, a relationship should be made between the main message and preexisting background knowledge. Based on Ausubel and Robinson (1969), advance organizers are complex sets of concepts that are about to prepare a stable cognitive structure and should be presented to the learner before the presentation of the main material. In his Assimilation Theory of Meaningful Learning, Ausubel described an advance organizer as “introductory material at a much higher level of abstraction, generality, and inclusiveness than the learning material itself” (as cited in Wilberschied & Berman, 2004, p. 535). Based on Jafari and Hashim (2012), advance organizers make the instructional process meaningful by activating the learners’ prior knowledge in a new educational context.

According to Chung (2002), background knowledge provided by AOs may improve learners’ foreign language comprehension. Ausubel (1967) claimed that advance organizers connect the new material that is to be learnt to the learner's cognitive structure and are especially useful when the learners use them to compensate for their lack of knowledge in arranging a not well-organized material for themselves.
Goh (2002), argued that pre-listening supports enable listeners to make decisions about what to listen for and to focus their thinking on meaning while listening. Based on Githua and Nyabwa (2008), by the use of AOs in teaching process, lessons get interactive and learners’ motivation toward learning increases. Also, learners expand their own ideas since AOs direct and fortify their thinking.

According to Mayer (1979), those advance organizers that present principles, key terms, illustrations or generally concrete models are more effective. He pointed out four characteristics of effective advance organizers:

- Making the learners able to create all or most of logical relationships in the content that is to be learnt.
- Indicating the relationship between familiar and less familiar material.
- Being relatively simple to learn.
- Being used in situations in which they will not be used spontaneously by the learners.

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There have been a number of studies supporting the use of AOs as an effective strategy in facilitating listening comprehension (e.g.: Alavi & Janbaz, 2014; Bagheri & Bahadori, 2014; Elkhafaifi, 2005; Farrokhi & Modarres, 2012; Hsu & Hsu, 2007; Jafari & Hashim, 2012; Rameshianfar et al., 2015). Some researchers, however, indicated some weaknesses for advance organizers (e.g.: English, 1993; McAdarag, 1981). According to Anderton and Steiner (2003), studies that aimed to investigate the effectiveness of AOs, have used advance organizers in varying contexts. These contexts include quality, content, and type of AOs, and participants’ age. This may be the reason of contradiction in the findings of those studies. This contradiction makes it difficult to compare the studies and their findings to come to a unified conclusion about the effectiveness of AOs. Therefore, more research seems to be needed to shed further light on the effects of advance organizers on listening comprehension. Also, congruent studies have obtained mixed results as to what type of Advance Organizers would be more effective for better listening comprehension.

In an attempt to investigate the effectiveness of AOs and, concurrently, find the most effective ones, three different advance organizers were chosen for the present study based on the results of many reviewed studies. These AOs will be discussed sequentially: pre-teaching key vocabulary, previewing comprehension questions, and using pictures.

### 2.2. Pre-listening vocabulary support

Most probably, many FL listeners have experienced situations in which they did not know the meaning of a word in a listening text and, unintentionally, lost the thread of speech while thinking about the word. According to Chang and Read (2006), Chung (2002), Chung and Huang (1998); Farrokhi and Modarres, (2011), unfamiliar vocabulary is the most acknowledged factor in bottom-up model of processing that impedes successful listening comprehension.

#### 2.2.1. Empirical studies on pre-listening vocabulary support

A large and growing body of literature has investigated the relation between vocabulary knowledge and listening comprehension and has found strong correlations (e.g.: Andringa, Olsthooorn, van Beuningen, Schoonen, & Hulstijn, 2012; Bonk, 2000; Matthews & Cheng, 2015; Mehrpour & Rahimi, 2010; Staehr, 2009; Teng, 2014; Wolfgramm, Suter, & Gökael, 2016).
Wolfgramm et al. (2016) used three vocabulary batteries and two listening tests in their study. Based on their results, the effect of vocabulary knowledge on listening performance transcended the other tested factors including working memory, concentration, and academic self-concept.

Matthews and Cheng (2015) used Word Recognition from Speech as their lexical measurement which included pronunciation, meaning, and spelling of a word. The power of accounting for 54% of the variance and the significant correlation, .72 ($p< .01$), gave a critical role to the recognition of the most frequent 3,000-word family level for listening comprehension.

Mehrpour and Rahimi (2010) conducted a study in order to compare the impact of familiarity with specific vocabulary and general vocabulary knowledge on listening performance. The results showed that difficult lexical items’ knowledge had positive effects on participants’ listening performance while their general vocabulary knowledge failed to benefit them. For the purpose of measuring participants’ general vocabulary knowledge, they employed an adopted form of an old version of TOEFL sample tests. This may be the reason for the discrepancy between their findings and the results of the majority of studies since most researchers have used highly valid and reliable vocabulary tests which were designed by experts (Bian, 2017).

Staehr (2009) conducted a similar study to Teng’s (2014, 2016). He investigated the role of vocabulary knowledge, including vocabulary size and vocabulary depth, on 115 advanced Danish EFL learners’ listening comprehension. He used a five sectioned vocabulary size test in which each section contained 60 words and 30 definitions and played the audio twice. He found a significant correlation of .70 between the size of one’s vocabulary and one’s listening comprehension and correlation of .65 between the depth of vocabulary and listening test scores. Vocabulary explained 51% of listening variance. He concluded that the predictability of vocabulary breadth was more than vocabulary depth. Although both studies confirmed the positive relation between vocabulary knowledge and listening comprehension, their findings are in direct contrast regarding the aspect of vocabulary explaining the variance of listening scores. This may be due to the difference between their measures of vocabulary size and listening comprehension.

One question that needs to be answered, however, is whether only the existed vocabulary knowledge is beneficial for LC or pre-teaching unknown vocabularies of the intended text is also effective.

Chastain (1988) emphasized on linguistic knowledge as the first effective factor in prelistening phase. In order to help the listeners manage the situations that they lack enough linguistic knowledge, Chastain claimed, we have to promote unknown vocabulary and structures.

There have been a number of studies focusing on supporting learners by teaching them unfamiliar words of the listening text as a type of pre-listening activity but they have not been confirmed or rejected conclusively. While some studies confirmed its values (Bonk, 2000; Chung, 2002; Chung & Huang, 1998; Farrokhi & Modarres, 2012; Hsu & Hsu, 2007; Jafari & Hashim, 2012; Pan, 2012; Rameshianfar et al., 2015; Tsai, 2002), some other studies doubted its effectiveness (Chang & Read, 2006; Chung, 2002).

Farrokhi and Modarres (2012) designed a study to examine the effects of “glossary of unknown vocabulary items” and “content related support” on listening comprehension performance of Iranian EFL language learners across low proficiency and high proficiency levels. Sixty learners formed one control group and two experimental groups. The results showed that, at low proficiency level, the vocabulary group performed better than two other groups while content group outperformed others in high proficiency level. Findings of this study revealed the important role of language proficiency level in pre-listening supports’ efficiency. However, the number of participants in this study seems not to be sufficiently enough to be able to generalize the findings.
In another study, Jafari and Hashim (2012) investigated the effects of two types of written advance organizers, i.e. key sentences and key vocabulary, on 108 EFL university students’ listening comprehension at high and low listening proficiency levels. The results confirmed the significant enhancement in participants’ listening comprehension at both listening proficiency levels in the case of using advance organizers. The results did not show any significant relationship between the type of AOs and students’ performance on the listening comprehension which means that both advance organizers were beneficial for the students. Interestingly, this study’s results showed that “the facilitative effects of AOs were consistent across both higher and lower listening proficiency levels” (p. 279) which is in direct contrast with the findings of Farrokhi and Modarres (2012) and also with one of Ausubel’s assumptions that AOs should help learners with either low prior knowledge or low ability more than other students. Also, this study did not control gender factor which may influence on the results indirectly.

However, there were some researches doubting the effectiveness of pre-listening vocabulary support (e.g. Chang & Read, 2006; Chung, 2002). For instance, Chang and Read (2006) conducted a classroom-based experiment with 160 Taiwanese college students. They compared four types of listening supports, i.e. input repetition, background knowledge about the topic, question preview, and vocabulary instruction. The most effective type of listening support, the results showed, was background knowledge about the topic, the second was input repetition, followed by question preview, and the least was vocabulary instruction.

Due to the importance of this kind of pre-listening support, with an eye on inconclusive results of above-mentioned literature, this study attempted to take up this line of research and investigate the effect of Pre-listening vocabulary support on listening comprehension once more.

2.2.2. Type of vocabulary support
One important issue in the field of vocabulary support is the type of presented vocabularies. According to Berne (1995), decontextualized instruction of single words may draw learners’ attention on listening for single words which leads to being distracted and unable to get the overall content of the passage. In contrast, multiword units (also known as “collocations”, “formulaic sequences”, “lexical phrases”, and “lexical bundles”) play a crucial role in both language use and language acquisition (Biber & Conrad, 1999; Ellis, 2003; Meunier & Granger, 2008; Millar, 2011; Nesselhauf, 2005; Schmitt, 2004; Wray, 2002).

However, far too little attention has been paid to the type of pre-listening vocabulary supports in language researches. As Pan, Tsai, Huang, and Liu (2018) stated “In all of the existing studies on pre-listening vocabulary instruction, with the only exception of Hsu and Hsu (2007), the instruction was on single words” (p. 192).

Pan et al. (2018) administered two types of vocabulary instruction and investigated their effectiveness for enhancing listening ability of 61 Taiwanese EFL college students. There were 56 females and five males whose age ranged from 18 to 20. In this study, expanded vocabulary instruction which focused on multiword units and had a greater quantity of lexical items was compared with an unexpanded vocabulary instruction which only focused on single words. Based on the results of the study, the expanded vocabulary group performed significantly better in comparison with the unexpanded vocabulary group. Also, the lower proficiency level participants benefitted from expanded vocabulary instruction more than unexpanded vocabulary support. Although, it seems that the results of this study support the findings of Hsu and Hsu (2007) study, taking into account the Pan et al.’s (2018) comment will be helpful: “although the expanded vocabulary instruction showed a significantly positive effect on learners’ listening performance, the effect size was relatively small. Therefore, we need to be cautious about the effectiveness of the practice until further research can demonstrate a much larger effect size of this positive effect”.

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Regarding limitations of their study, Pan et al. (2018) stated: “we did not use any measures of degree of association, such as the Mutual Information (MI) score and the T-test, to ensure that the words in each of the selected MWUs indeed often co-occur frequently. This is a weakness of our selection method”. Furthermore, the researchers presented 142 multiword units/syntagmatic patterns of words to the expanded vocabulary group and 85 individual words to the unexpanded vocabulary group. This lack of coordination between the numbers of presented vocabularies may directly influence on the performance of the participants regardless of the vocabularies’ types, since the participants’ immediate vocabulary knowledge differs clearly.

Also, as the researchers claim, only 45 out of 142 multiword units and 28 out of 85 single words actually occurred in the post-test. This means that the number of presented vocabularies were about 3 times more than the tested vocabularies. According to Lin and Chen (2006), for both native and non-native English-speaking learners, presenting many new and unfamiliar concepts in a content may cause a heavy cognitive demand.

Similarly, Pan (2012) attempted to find out the “effects of multi-faceted lexical instruction on the TOEIC aural performance of Taiwanese EFL college students”. Forty-seven first-year technological college students participated in a multi-faceted way of lexical instruction in which the participants get exposed to both multiword units and single lexical items. The results revealed that, as a result of such instruction, the TOEIC aural performance of the students generally improved. However, the generalizability of the findings of this study is under question due to the few number of participants.

Hsu and Hsu (2007) in their study, had two types of vocabulary instruction, i.e. single-item vocabulary instruction and lexical collocations, and compared their effects on the listening performance of Taiwanese college students. The findings of this study indicated that the students outperformed on the listening comprehension test after lexical collocations instruction.

Besides the important evidence for affirmative effects of multi-word units’ instruction on listening comprehension in Hsu and Hsu (2007) study, one point seems worth to be mentioned: researchers used three different comprehension tests in their study and did not use any measurement tool to ensure that the difficulty level of them was the same (Pan et al., 2018). Difference between the difficulty levels of the tests can influence on research consequences.

By considering the evidence for positive effects of multiword units as vocabulary support on listening comprehension through above-mentioned literature, this study used multi-faceted vocabulary instruction as an advance organizer and investigate its effects on listening comprehension.

2.3. Previewing comprehension questions
One of the popular kinds of pre-listening supports is previewing comprehension questions. Alavi and Janbaz (2014) attributed the effectiveness of this kind of advance organizers to a number of factors. Based on them, previewing comprehension questions:

- Emotionally and cognitively prepares learners for engaging in listening tasks.
- Reduces learners’ difficulty when listening to unfamiliar passages.
- Reduces distraction by coming aural input.
- Improves listeners’ self-confidence and motivates them.
- Reduces listeners’ stress by letting them know what would come next.
- Provides a gapped schematic representation of the listening text for listeners.
- Enables listeners to form new schemata or fix the initial ones.
- Enables listeners to selectively attend to the message by affecting on the strategy use of the listeners.
2.3.1. Empirical studies on previewing comprehension questions

Studies that investigated the effect of previewing comprehension questions on listening comprehension generated different findings. Some previous researches noted its positive effects on learners' listening comprehension and approved its value. They claimed that previewing comprehension question assists learners by giving them extra information (e.g. Alavi & Janbaz, 2014; Bagheri & Bahadori, 2014; Chang & Read, 2007; Elkhafaifi, 2005; Wang, 2005). On the other hand, some studies doubted its value since they claimed that question previewing may interrupt listeners' thinking and preoccupy them. They believed that previewing comprehension questions may also keep the listeners away from integrative comprehension by forcing them to pay attention to specific details (Chang, 2008; Chung, 2002).

Alavi and Janbaz (2014) examined the effects of two pre-listening supports, i.e. topic preparation and question previewing on the listening comprehension of 61 female Iranian foreign language learners whose proficiency level was intermediate. The results of the study indicated that the pre-listening supports had a strong and positive effect on participants' listening comprehension and helped them to have a greater breadth of comprehension. However, no significant difference was found between two pre-listening treatments for both groups, which means none of them was better than the other. As a result, “pre-listening supports employed in this study are equally facilitative for students’ listening comprehension and they can be used alternately by the teachers” (Alavi & Janbaz, 2014, p. 263).

However, there seems to be some points worth discussing: the listening comprehension tests which were used to evaluate the effects of different pre-listening supports, were researcher-made, and were in multiple-choice format. The researchers did not use any measurement tool to ensure about the validity of the test. An invalid test can influence on the results of the research and subsequent implications. Also, in question preview condition of this study, the questions and options were read loudly by the teacher before the beginning of the listening phase while in the topic preparation condition, the researchers presented two written texts in English which were related to topics of the listening passages. This discrepancy in the manner of presenting pre-listening supports may influence on the results of the study.

In another study, Bagheri and Bahadori (2014) investigated the effects of previewing questions and providing background knowledge on listening comprehension of 60 advanced Iranian EFL learners. The researchers stated: “multiple-choice posttests results revealed positive effects of previewing questions, providing background knowledge, and combined treatments” (p.47).

Elkhafaifi (2005) evaluated the effects of pre-listening activities on listening comprehension scores of Arabic students. He used two kinds of activities, i.e. question preview and vocabulary preview. In addition to the effectiveness of pre-listening activities, the results of the study revealed, the participants who received question preview activity outperformed those who received vocabulary preview activity.

Wang (2005) conducted a study to investigate the effects of advance organizers on 180 Taiwanese fourth-year college students' comprehension of an aural passage. There were three experimental conditions: the passage only, the description preview, the question preview. The results showed that the group with question-preview activity had significantly better performance than others.

Chung (2002) tested the effects of question previewing and vocabulary pre-teaching, as Advance Organizers, on listening comprehension of 188 Taiwanese college students' English language videotapes. The group with the combination of vocabulary pre-teaching and question previewing AOs between the two video viewings outperformed the group with vocabulary preteaching AOs only or no treatment at all. Anyhow, Chung (2002) stated: “the effects of question previewing are likely to be assessment task dependent” (p. 231).
Regarding the type of question-previewing, Li et al. (2017) conducted a study to examine the effects of question-preview types and cultural familiarity on the listening comprehension of L2 learners. In their study, three formats of question-preview were tested: full format, answer-option format, and question-stem format. Despite a statistically non-significant difference, the results of the study indicated, the full question-preview format scored higher than the other two groups. Also, the exposure to diverse cultural texts did not influence on participants’ comprehension scores.

However, one researcher has already drawn attention to the paradox in this area. Based on Chang (2008), previewing questions could have both positive and negative effects on listeners’ strategy use. In this regard, he stated:

“On the positive side, previewing questions may reveal content clues and thus encourage listeners to predict possible information rather than plunging into listening texts without any preparation. Furthermore, for more advanced listening proficiency (LP) learners, previewing questions may encourage them to be more selective rather than listening for everything. The negative aspect is that previewing questions may encourage some learners to approach the discourse by focusing on linguistic cues and ignore the main focus”. (p. 10)

As the above-mentioned literature suggests, the issue of previewing comprehension questions has been a controversial and much disputed subject within the field of advance organizers and more research needs to be done to better reveal the different aspects of using it as a pre-listening support. This study used previewing comprehension questions as one of the study’s independent variables and examined its effect on listening comprehension.

2.4. Multimedia annotations

Mayer (2001) was a leading researcher in the field of multimedia and its effects on instruction and learning. He proposed the multimedia model of instruction in which the combination of non-verbal information (pictures, graphs, tables, etc.) with listening texts is highly valued. According to Mayer (2001) for some learners, presenting verbal explanations along with multimedia annotations (images and text) is more beneficial for comprehension and learning, in comparison with the time verbal explanations are presented alone. In other words, deeper processing of a proportion is better facilitated with visual annotations in comparison with verbal annotations (Kashani, Sajjadi, Sohrabi, & Younespour, 2011). Based on Wagner (2007), deficiencies in linguistic knowledge may be rectified by the use of visual materials leading to faster creation of inferences or initial hypothesis. Visual materials may also have influences on the learners’ test performance and affective response due to the learners’ positive attitudes toward them (Wagner, 2010).

Considering listening, as a specific language skill in the field of language instruction, visual inputs enrich and facilitate the process of interpretation of linguistic input, and draw a clear picture of the speech context which may lead to better comprehension. In this sense, visual materials most likely support the listeners’ top-down processes (Elmankush, 2017; Yeldham & Gruba, 2014). Plass, Chun, Mayer, and Leutner (1998) claimed that in facilitating listening comprehension, pictures are more beneficial than other kinds of annotations since the subjects can select the type of input that best fulfills their needs.

2.4.1. Empirical studies on using pictures

The positive effects of visuals on pedagogical processes have been confirmed by a considerable body of research acknowledging visual supports’ positive effects on the promotion of learning in many educational fields (Suvorov, 2013). However, further research about the role of multimedia annotations—images and texts—on listening comprehension and vocabulary acquisition seems to be based on Mayer’s (1997, 2001) work. His work on multimedia research has become a foundation for newer studies of second language listening which are discussed below (Jones, 2003).
Kashani et al. (2011) administered a study to examine the effect of visual annotations on listening comprehension of 40 upper intermediate language learners under different listening conditions with pictures presented before or during the audio materials, and with no pictures presentation. According to their results, the pictures-before listening condition gained the best scores while taking the least time, the pictures-during-listening condition was the second, and the pictures-free-listening condition gained the lowest scores while taking the longest time. In fact, the sole condition that improved listening comprehension significantly was the inclusion of visuals prior to audio materials.

However, an issue that has not been discussed by the researchers of this study is the reason behind the allowance for participants to take a look over comprehension questions for 15 s before the listening section. Although this procedure was same for all three experimental groups, previewing comprehension questions may have had unknown side effects on the performance of the students specifically the pictures-before-listening condition and the pictures-during-listening condition. In addition, this research was administered on intermediate level learners of English only. It is worth mentioning that since multimedia annotations may function differently in different levels, more studies in different levels of language proficiency are needed to put further light on this issue.

Cottam (2010) investigated “the effects of textual and visual annotations on Spanish listening comprehension, vocabulary acquisition, and cognitive load” through an online multimedia listening activity. Ninety-five first year college and university students of Spanish language participated in this study. The results of the study showed a significant positive effect of textual annotations on listening comprehension and a significant positive effect of visual annotations on the students’ feelings to be successful.

In another study, Wilberschied and Berman (2004) investigated the “effect of using photos from authentic video as advance organizers on listening comprehension in an FLES (Foreign Language in Elementary Schools) Chinese class”. Sixty-one students in an Elementary School (FLES) program participated in this study. Two types of advance organizers were provided to the students: a) major scenes in the video were summarized to written words and sentences in Chinese, and b) the same written words and sentences plus accompanying pictures taken from the video. Although Statistical significance of scores was not established, interview results showed that, from the students’ point of view, pictures were more helpful than texts alone.

In Herron, Hanley, and Cole (1995) study, the effects of two AO conditions namely, Description Only, and Description plus Picture, on 39 English-speaking college students’ retention of information in foreign language videos were compared. The results of the students’ performance with 12 videos showed that the visual support of the second condition improved the students’ comprehension significantly. The investigators interpreted the results as:

“extensive listening is facilitated by the richness of context that visual organizers provide” (p. 387).

However, some researchers are against the inclusion of visual materials in L2 listening. They argue that visuals represent a variable which is irrelevant to the purpose of listening (Buck, 2001; Coniam, 2002). Some researchers highlighted some weaknesses in teaching listening with the help of visual materials. Based on Suvorov (2013), if visuals are incongruent with the verbal input semantically, they may hinder comprehension. Also, Rubin (1995) claimed that if visuals do not fit into the listeners’ cultural expectations, they can be a source of confusion. These points, however, are more related to the choice of appropriate visuals not to their
effectiveness. In this regard, Mayer (1997) found that visuals are not beneficial in all cases and can improve learners’ comprehension in certain instances: when pictures and texts are explanatory, when they are presented closely together, when their content are interrelated, and when there is little background knowledge but the learners’ spatial cognitive abilities are high. In addition, according to Mayer (2005) and Schnitz (2005), if either visually or verbally presented information is large, it can have a negative effect on the comprehension of the listener.

Although previous studies on multimedia annotations are vastly informative, they are relatively few in number in comparison with other kinds of AOs, and they have not adequately searched learners’ listening performance under various conditions in EFL contexts yet (Kashani et al., 2011). Therefore, it seems there is not enough evidence to wrap up the researchers’ debate about the impact of visuals on L2 listening comprehension and more research in this controversial field needs to be undertaken.

This study is a further contribution to the effectiveness of advance organizers and examines the effects of the chosen AOs, i.e. pre-teaching key vocabulary, previewing comprehension questions, and using pictures, independently and in comparison to each other, on students’ listening comprehension. Yet, to the best of the researcher’s knowledge, no study has compared three above mentioned AOs’ effect on listening comprehension. It is therefore interesting to compare the selected AOs to know which one would be more conducive to listening comprehension. There is an attempt to find the most effective one.

3. Methodology

3.1. Participants
The participants of this study were Iranian non-native language learners, studying at high school level. In order to control gender variable, only female students took part in this study. There were 150 students participating in a placement test. According to Krejcie and Morgan sample size table, there should be 108 samples for the population of 150. To increase the accuracy of results, 20% was added to the sample size. Based on the results of the placement test and its ranking scale, about 128 students at basic level were chosen to participate in the study. A consent form was obtained from all learners and their parents were informed about the participation of their children in the study.

3.2. Materials
Six instruments were used in this study:

3.2.1. Placement test
In order to have participants of basic level of language proficiency, Quick Placement Test version 1 was administered containing two parts (Part One: Questions 1–40; Part Two: Questions 41–60). This test was developed by Oxford University Press and University of Cambridge Local Examinations Syndicate in 2001.

3.2.2. Listening passages
The source of listening tracks of this study was basic Tactics for Listening (Third Edition) by Jack C. Richards and Grant Trew. The book has a Tactics for Testing section containing 18 parts. The content validity of these parts was evaluated by the help of 10 experts, using Lawshe CVR (Content Validity Ratio) and CVI (Content Validity Index) by the use of Waltz and Bausell (1981). Based on the results of CVI and Lawshe CVR, two listening passages were selected for listening pre-test and four listening passages were selected to form listening post-test. The length of the passages was between 1 and 4 min.
3.2.3. Listening comprehension questions
For gathering the required data on participants’ listening comprehension, comprehension questions were derived from basic Tactics for Listening (Third Edition) by Jack C. Richards and Grant Trew (Oxford University Press 2010). In order to control participants’ weak writing ability due to their low proficiency level, only the comprehension questions which were in multiple-choice format were chosen.

3.2.4. Key vocabularies list
The researcher prepared a multi-faceted list (containing both multiword units and single lexical items) of vocabulary items that were presented in the book. The vocabularies came with their definition in English (L2) and their equivalence in Persian (L1). The researcher used backward and forward translation by the help of two experts. Also, students were provided with the use of those words in two sample sentences.

3.2.5. Multimedia annotations
The researcher chose about 60 pictures related to the key vocabularies and evaluated their content validity by the help of 10 experts, using Lawshe CVR (Content Validity Ratio) and CVI (Content Validity Index) by the use of Waltz and Bausell (1981). Based on the results of CVI and Lawshe CVR, 29 pictures were selected. The researcher prepared some slides containing the pictures combined with related keywords. There was no translation in this section and the learners tried to understand the keywords’ meaning through their understanding of the pictures. The slides were presented by the use of overhead projector.

3.3. Procedure and data collection
Participants were randomly assigned to four groups containing three experimental groups and one control group. In order to have groups of equal number of learners, 32 learners were placed in each group. To control for initial differences in listening proficiency, a listening comprehension pre-test was administered to all participants. Then, the groups were treated as below:

- The group with pre-teaching key vocabularies AO received and studied the vocabulary lists on their own.
- The group with previewing comprehension questions AO received and studied comprehension questions on their own.
- The group with multimedia annotations AO looked at prepared slides presented by overhead projector.
- The control group did not receive any kind of AOs.

In listening section, four listening tracks were represented to all groups alongside with comprehension questions. All participants had the opportunity to ask questions and were allowed to take notes during the listening section. All groups listened to the tracks two times. After data collection, the obtained scores were submitted to SPSS and the results of four groups were compared with each other to find the effects of three different Advance Organizers on listening comprehension.

3.4. Design of the study
Based on Farhady (1995), there are certain characteristics that a study should have in order to qualify as experimental, including “randomization, pretesting, having experimental and control groups, offering a treatment to the experimental group and a placebo to the control group, and posttesting” (p.169). According to him, if all these characteristics exist, the method is called true experimental. Therefore, this study used a true experimental (quantitative) research design (a between group design) in order to examine the effects of three different Advance Organizers on the EFL learners’ listening comprehension. In this research, the dependent variable was the EFL learners’ listening comprehension. The independent variable was the type of Advance Organizer activity.
3.5. Data analysis
After data collection, the obtained scores were submitted to SPSS software. Kolmogorov–Smirnov test was applied to check the normality of the scores. Also, the homogeneity of variances was tested with the use of Levene test. Then, the homogeneity of regression slope was verified. Furthermore, the linearity of the correlation between the covariant variable and the independent variables were checked. Covariance analysis (ANCOVA) was used to test the first three research hypotheses. The researcher chose this statistical method to control the effect of intervening or covariant variable, which was listening pre-test scores, and extracted it from the equation to ensure that the learners' previous listening skills do not affect the research results. Also, to verify that to what percent the advance organizers improved the listeners' listening comprehension, the range was calculated. In order to check the significance of the ranges, independent T-tests were run. Furthermore, an ANOVA and a Tukey test were used to test the fourth research hypothesis.

4. Results

4.1. Descriptive analysis
Descriptive indexes related to the scores of different AO conditions in three experimental groups and one control group were calculated. Results are presented in Table 1. Also, in Figure 1, the means of pre-tests and post-tests of all groups are compared.

4.2. Inferential analysis
In this section, the gathered data from the test implementation were analyzed using inferential statistics. Also, based on the results of the analysis, the research questions were examined one by one. Covariance analysis (ANCOVA) was used to test the research hypotheses. By using covariance analysis, the effect of intervening or covariant variable, which was listening pre-test scores, was controlled and extracted from the equation.

4.2.1. The assumptions of covariance analysis
1. Normality of scores:

   In this research, Kolmogorov–Smirnov test was used to check the assumption of normality of the scores. The results are presented in Tables 2 and 3.

   Considering the obtained Sig. values in Table 2, all of which are more than 0.05, the normality of the intended variables (pre-test) was supported at a significant level of 0.05.

   Considering the obtained Sig. values in Table 3, all of which are more than 0.05, the normality of the intended variables (post-test) was supported at a significant level of 0.05.

2. Homogeneity of variances:
All groups of the study should be homogeneous in terms of variance. In this research, the Levene test was used to test the consistency of variances, and the results are presented in Tables 4 and 5.

   As reported in Table 4, all of the obtained Sig. values were more than 0.05. As a result, the assumption of homogeneity of variances was supported at a significant level of 0.05.

   As reported in Table 5, all of the obtained Sig. values are more than 0.05. As a result, the assumption of the homogeneity of variances is accepted at a significant level of 0.05.
Table 1. Descriptive statistics of the scores of pre-test and post-test of listening comprehension in different groups

<table>
<thead>
<tr>
<th>Group</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean ± Std. Deviation</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean ± Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>KVG pre</td>
<td>2.00</td>
<td>6.00</td>
<td>3.22 ± 1.070</td>
<td>KVG Post</td>
<td>5.00</td>
<td>8.00</td>
</tr>
<tr>
<td>PQG pre</td>
<td>2.00</td>
<td>7.00</td>
<td>4.344 ± 1.096</td>
<td>PQG Post</td>
<td>3.00</td>
<td>7.00</td>
</tr>
<tr>
<td>MAG pre</td>
<td>3.00</td>
<td>6.00</td>
<td>4.469 ± 0.879</td>
<td>MAG Post</td>
<td>6.00</td>
<td>10.00</td>
</tr>
<tr>
<td>Control pre</td>
<td>3.00</td>
<td>7.00</td>
<td>4.161 ± 1.344</td>
<td>Control Post</td>
<td>3.00</td>
<td>7.00</td>
</tr>
</tbody>
</table>

Note: KVG: keyword vocabulary group, PQG: previewing question group, MAG: multimedia annotations group.
Figure 1. Comparison of the means of pre-test and post-test of listening comprehension in all groups.

Table 2. Normality test of pre-test in different groups

<table>
<thead>
<tr>
<th>Variable</th>
<th>KVG Pre</th>
<th>PQG Pre</th>
<th>MAG Pre</th>
<th>Control Pre</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>32</td>
<td>32</td>
<td>32</td>
<td>31</td>
</tr>
<tr>
<td>Kolmogorov–Smirnov Z</td>
<td>1.048</td>
<td>1.104</td>
<td>1.325</td>
<td>1.254</td>
</tr>
<tr>
<td>Asymp. Sig. (2-tailed)</td>
<td>0.222</td>
<td>0.099</td>
<td>0.060</td>
<td>0.086</td>
</tr>
</tbody>
</table>

Table 3. Normality test of post-test variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>KVG Post</th>
<th>PQG Post</th>
<th>MAG Post</th>
<th>Control Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>32</td>
<td>32</td>
<td>32</td>
<td>31</td>
</tr>
<tr>
<td>Kolmogorov–Smirnov Z</td>
<td>1.217</td>
<td>1.015</td>
<td>1.132</td>
<td>1.274</td>
</tr>
<tr>
<td>Asymp. Sig. (2-tailed)</td>
<td>0.104</td>
<td>0.270</td>
<td>0.154</td>
<td>0.078</td>
</tr>
</tbody>
</table>

Table 4. Homogeneity analysis of variance between the control group and the experimental groups in the pre-test

<table>
<thead>
<tr>
<th>Variable</th>
<th>Levene Statistic</th>
<th>df1</th>
<th>df2</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>KVG Pre</td>
<td>.954</td>
<td>1</td>
<td>61</td>
<td>.333</td>
</tr>
<tr>
<td>PQG Pre</td>
<td>2.963</td>
<td>1</td>
<td>61</td>
<td>.090</td>
</tr>
<tr>
<td>MAG Pre</td>
<td>3.586</td>
<td>1</td>
<td>61</td>
<td>.063</td>
</tr>
</tbody>
</table>

Table 5. Homogeneity analysis of variance between the control group and the experimental groups in the post-test

<table>
<thead>
<tr>
<th>Variable</th>
<th>Levene Statistic</th>
<th>df1</th>
<th>df2</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>KVG Post</td>
<td>3.806</td>
<td>1</td>
<td>58</td>
<td>.056</td>
</tr>
<tr>
<td>PQG Post</td>
<td>1.049</td>
<td>1</td>
<td>58</td>
<td>.310</td>
</tr>
<tr>
<td>MAG Post</td>
<td>.191</td>
<td>1</td>
<td>58</td>
<td>.663</td>
</tr>
</tbody>
</table>
3. Covariate run before starting the research

This assumption has been met and a pre-test has been performed before running an independent variable.

4. Homogeneity of regression slope

To verify the regression slope coherence, we need to calculate the F value of the interaction between the covariant and independent variables. If this index is not significant (sig. > 0.05), this assumption will be observed. The results are presented in Table 6:

As appeared in Table 6, all of the obtained Sig. values were more than 0.05. Therefore, the assumption of homogeneity of the regression slope between the covariant and independent variables was supported at a significant level of 0.05.

9. Linearity of the correlation between the covariate variable and the independent variable

To verify the linearity of the correlation between the covariant variable and independent variable, we must compute F of the covariant variable. If this index is meaningful, this assumption will be observed. The results are presented in Table 7.

### Table 6. Regression slope homogeneity test between covariate and independent variable

<table>
<thead>
<tr>
<th>Variable</th>
<th>Test statistic F</th>
<th>sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>KVG *group</td>
<td>1.450</td>
<td>0.071</td>
</tr>
<tr>
<td>PQG *group</td>
<td>1.596</td>
<td>0.470</td>
</tr>
<tr>
<td>MAG *group</td>
<td>1.775</td>
<td>0.727</td>
</tr>
</tbody>
</table>

### Table 7. Test of linearity of correlation between covariant and independent variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Test statistic F</th>
<th>sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>KVG Pre</td>
<td>20.049</td>
<td>0.000</td>
</tr>
<tr>
<td>PQG Pre</td>
<td>30.870</td>
<td>0.000</td>
</tr>
<tr>
<td>MAG Pre</td>
<td>39.736</td>
<td>0.000</td>
</tr>
</tbody>
</table>

### Table 8. The result of covariance analysis for the KVG variable

Tests of Between-Subjects Effects

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III sum of squares</th>
<th>df</th>
<th>Mean square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>63.327a</td>
<td>2</td>
<td>31.664</td>
<td>32.653</td>
<td>.000</td>
</tr>
<tr>
<td>Intercept</td>
<td>78.819</td>
<td>1</td>
<td>78.819</td>
<td>81.282</td>
<td>.000</td>
</tr>
<tr>
<td>KVG pre</td>
<td>19.441</td>
<td>1</td>
<td>19.441</td>
<td>20.049</td>
<td>.000</td>
</tr>
<tr>
<td>group</td>
<td>61.666</td>
<td>1</td>
<td>61.666</td>
<td>63.593</td>
<td>.000</td>
</tr>
<tr>
<td>Error</td>
<td>55.273</td>
<td>57</td>
<td>.970</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2068.000</td>
<td>60</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>118.600</td>
<td>59</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. R Squared = .534 (Adjusted R Squared = .518)
As it is clear from Table 7, all of the obtained Sig. values were less than 0.05. Therefore, the assumption of the linearity of the correlation between the covariant variable and the independent variable was supported at a significant level of 0.05.

4.3. Test of research hypotheses

Hypothesis 1: pre-teaching keyword vocabularies improves EFL learners’ listening comprehension.

The results of the covariance analysis (ANCOVA), as presented in Table 8, revealed that the mean score of KV group (6.500) and the control group (4.786) in post-test were significantly different after the modulation of the pre-test scores. It can be concluded that by eliminating the covariant (pre-test), the pre-teaching key vocabulary Advance Organizer had
a meaningful and significant effect on the learners’ listening comprehension. In order to verify the amount of improvement in learners’ listening comprehension, the range of both groups, i.e. KV group and control group, were calculated. This was done by calculating the difference between the posttest scores and the pre-test scores of both groups. Then, in order to make them comparable, the range of both control group and KV group was divided into the largest number in these groups. The results, which are presented in Table 9 and Figure 2, revealed that pre-teaching key vocabulary AO improved the learners’ listening comprehension about 49%, while the range was about 6% in control group. Also, an independent t-test, showing the Sig. value to be 0.000, proved that ranges in control and KV groups were statistically significant at 5% level.

Hypothesis 2: previewing comprehension questions improves EFL learners’ listening comprehension.

Table 11. The mean of coefficient variation in the control group and the PQ group

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>Std. deviation</th>
<th>Std. error mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>PQG</td>
<td>32</td>
<td>.1863</td>
<td>.26710</td>
<td>.04722</td>
</tr>
<tr>
<td>Control Group</td>
<td>28</td>
<td>.1026</td>
<td>.20211</td>
<td>.03819</td>
</tr>
</tbody>
</table>

Table 12. The result of covariance analysis for the MAG variable

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>209.387a</td>
<td>2</td>
<td>104.693</td>
<td>100.808</td>
<td>.000</td>
</tr>
<tr>
<td>Intercept</td>
<td>36.323</td>
<td>1</td>
<td>36.323</td>
<td>34.975</td>
<td>.000</td>
</tr>
<tr>
<td>MAG pre group</td>
<td>39.736</td>
<td>1</td>
<td>39.736</td>
<td>38.262</td>
<td>.000</td>
</tr>
<tr>
<td>group</td>
<td>155.126</td>
<td>1</td>
<td>155.126</td>
<td>149.370</td>
<td>.000</td>
</tr>
<tr>
<td>Error</td>
<td>59.197</td>
<td>57</td>
<td>1.039</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2869.000</td>
<td>60</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>268.583</td>
<td>59</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a R Squared = .780 (Adjusted R Squared = .772).

Figure 3. The mean of coefficient variation in the control group and the PQ group.
The results of the covariance analysis, as presented in Table 10, indicated that the mean score of the group supported with previewing comprehension questions (5.312) was not significantly different from the mean score of control group (4.785). It can be concluded that by eliminating the covariant (pre-test), the previewing comprehension questions AO did not improve the listening comprehension of the listeners. In order to verify the amount of improvement in learners’ listening comprehension, the range of both groups, i.e. PQ group and control group was calculated. As reported in Table 11 and Figure 3, the results revealed that previewing comprehension questions AO improved the learners’ listening comprehension about 18%, while it was 10% for control group. An independent t-test showed Sig. value as 0.181 which means that the ranges of control group and PQ group were not statistically significant at 5% level.

Hypothesis 3: use of multimedia annotations improves EFL learners’ listening comprehension.

The results of the covariance analysis, as presented in Table 12, revealed that the mean score of the group supported with multimedia annotations (8.156) and the control group (4.786) in post-test was
significantly different after the modulation of the pre-test scores. It can be concluded that by eliminating the covariant (pre-test), multimedia annotations Advance Organizer improved the learners’ listening comprehension significantly. In order to verify the amount of improvement in learners’ listening comprehension, the range of both groups, i.e. MA group and control group was calculated. The results, which are presented in Table 13 and Figure 4, revealed that using multimedia annotations AO improved the learners’ listening comprehension about 52%, while the range in the control group was only 9%. Also, an independent t-test, showing the Sig. value to be 0.000, proved that ranges in control and MA groups were statistically significant at 5% level.

Hypothesis 4: the mean scores of the learners’ listening comprehension in three AO conditions (i.e. use of multimedia annotations, pre-teaching keyword vocabularies, and previewing comprehension questions) are significantly different.

An ANOVA test was used to compare the means of three independent groups. Based on the results, as reported in Table 14, the Sig. value was 0.000 (p < 0.05). Therefore, the assumption of the equation of mean scores was rejected with 95% confidence. In other words, the mean score of students’ listening comprehension tests in three AO conditions was significantly different. The
results also showed that the multimedia annotations AO with the mean score of 8.156, the pre-teaching key vocabularies AO with the mean score of 6.500, and the previewing comprehension questions AO with the mean score of 5.312, had the most effect on learners’ listening comprehension, respectively (Figure 5). The results of a Tukey test, as presented in Table 15, also revealed that the difference between the mean scores of PQ group and KV group was statistically significant at the level of 5% since the amount of Sig. was 0.000 (p < 0.05). Also, the difference between the mean scores of KV group and MA group was statistically significant at 5% level with respect to the Sig. value of 0.000 (p < 0.05). Furthermore, the difference between the mean scores of MA group and PQ group was statistically significant at the 5% level, due to the sig value of 0.000 (p < 0.05).

5. Discussions
The present study attempted to investigate the effects of three Advance Organizers namely, pre-teaching key vocabulary, previewing comprehension questions, and using multimedia annotations, on EFL learners’ listening comprehension.

Regarding the use of pre-teaching key vocabulary Advance Organizer, the result of this study showed that the KV group outperformed the control group. Finding of this study is in line with many researches supporting the effective role of vocabulary support (Bonk, 2000; Chung, 2002; Chung & Huang, 1998; Farrokhi & Modarres, 2012; Hsu & Hsu, 2007; Jafari & Hashim, 2012; Osada, 2001; Pan, 2012; Rameshianfar et al., 2015; Tsai, 2002; Vandergrift, 2003).

However, the finding of this study is not in line with that of those researchers who doubted the effectiveness of pre-listening vocabulary support (e.g. Chang & Read, 2006; Chung, 2002). For instance, Chang and Read (2006) compared four types of listening supports i.e. input repetition, background knowledge about the topic, question preview, and vocabulary instruction. The most effective type of listening support, the results showed, was background knowledge about the topic, the second was input repetition, followed by question preview, and the least was vocabulary instruction.

In regard to the use of previewing comprehension questions Advance Organizer, the results of the current study showed that the previewing comprehension questions AO did not improve the listening comprehension of the listeners. This finding is in line with that of Chang (2008) who stated about the negative points of previewing questions. Also, the result is not in line with that of the studies which approved the value of previewing questions on listening comprehension (e.g.: Alavi & Janbaz, 2014; Bagheri & Bahadori, 2014; Chang & Read, 2007; Elkhafaifi, 2005; Wang, 2005).

Regarding the use of multimedia annotations Advance Organizer, the results revealed that this AO improved the learners’ listening comprehension significantly. This finding is in agreement with the findings of those researches that support the effective role of visual supports on listening comprehension (e.g. Herron et al., 1995; Kashani et al., 2011; Wilberschied & Berman, 2004). However, finding of this study is not in line with that of those researchers who doubted the effectiveness of visuals on listening comprehension (e.g. Buck, 2001; Coniam, 2002; Rubin, 1995; Suvorov, 2013).

Considering the comparison of three mentioned AOs, the results revealed that the multimedia annotations AO was the most effective Advance Organizer on learners’ listening comprehension, followed by the pre-teaching key vocabularies AO. The previewing comprehension questions AO was the least effective one.

To the best of the researcher’s knowledge, no research has been done to compare these three Advance Organizers so far. Therefore, finding of this study seems to be the first in its kind and does not confirm nor reject findings of any other researches.
6. Conclusions and implementations

The current study indicated that, generally, Advance Organizers (pre-listening supports) improve EFL learners’ listening comprehension. The results of this study confirm findings of previous studies in effectiveness of Advance Organizers on listening comprehension. Regarding the type of AOs, the pre-teaching key vocabularies and multimedia annotations turned out to be significantly beneficial for the improvement of the EFL learners’ listening comprehension. Considering the third type of AOs, i.e. the previewing comprehension questions AO, two points are worth mentioning here: first, although the previewing comprehension questions AO did not improve the learners’ listening comprehension significantly, it showed better results than the control group which means that it is better than nothing. The second point is that the participants of this study were in basic level of language proficiency. Similarly, in Chang’s (2008) study, the participants’ listening proficiency level was between beginning and low intermediate and their language proficiency level was not reported by the researcher, while the participants of Alavi and Janbaz (2014) study were in intermediate level and advanced learners took part in Bagheri and Bahadori (2014) study. This point may explain the weak performance of this study’s participants in the PQ group. Being in low proficiency level may have caused the learners have difficulty in understanding the comprehension questions. In this case, there is no difference whether they preview the questions or not, they cannot understand them without the help of others. This can make teachers and curriculum developers cautious about the importance of learners’ proficiency level in choosing appropriate pre-listening supports.

Since, to the best of the researcher’s knowledge, no research has been done to compare three mentioned Advance Organizers so far, the finding of the current study seems to be the first in its kind and opens new prospects for a deeper look at the use of visuals as Advance Organizers to facilitate listening comprehension.

Based on the results of this study, some pedagogical implications can be drawn in order to be used by future and current language teachers, practitioners, syllabus designers, and curriculum developers. Teachers need to be conscious of the importance of listening comprehension in language learning/acquisition process and the challenging nature of listening and the importance of providing assistance to the language learners. Findings of this study are a further confirmation to the effectiveness of advance organizers which inform language teachers and curriculum developers about the value and effectiveness of these activities on improving the listening comprehension of EFL learners. This study compared the influence of three popular kinds of AOs on the listening comprehension of low proficiency level students who seem to need listening supports more than other groups. Findings of the current study show the types of AOs which benefit these groups of students more and make teachers and curriculum developers cautious about the importance of learners’ proficiency level in choosing appropriate pre-listening supports.

This study also broadened our understanding of the use of visuals in facilitating learners’ listening comprehension. Results of this study revealed that the multimedia annotations group outperformed other AO groups which is an evidence in support of using visual materials.

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Correction
This article has been republished with minor changes. These changes do not impact the academic content of the article.

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