



## **The Impact of Marginal Glosses and Network Tree Advance Organizers on EFL Learners' Summary Writing Ability**

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In light of the difficulties inherent in EFL/ ESL summary writing teaching and learning, it is of paramount importance to probe into the instructional techniques to enhance summary writing ability. This study investigated the relative impact of two instructional techniques: Network Tree Advance Organizers (NTAOs) and Marginal Glosses (MGs) on EFL learners' summary writing ability. First, the Oxford Quick Placement Test was administered to ensure the homogeneity of all of the participants. Sixty language learners were then randomly assigned to three groups: The two experimental groups and one control group. One of the experimental groups was exposed to the MG instructional technique; the other experimental group received the NTAOs; while the control group was provided with neither of them and merely followed the traditional procedures of a writing class. The student-generated summaries at the beginning and end of the instructional period were evaluated by two different raters based on the TOEFL iBT scoring criteria (Baba, 2009). To analyze the data, the researchers used one-way ANOVA and paired-samples t-tests. The results revealed that learners in the NTAO group outperformed their counterparts in the other two groups (i.e., the MG group, and control group). The study points to the relative effectiveness of the utilization of different instructional techniques to promote the learners' summary writing ability. It is also argued that the visual sketch of the materials presented through the NATOs could pave the way for more elaborate and detailed information processing and prompt language learners to properly prioritize, organize, and classify information.

**Keywords:** marginal glosses, network tree advance organizers, instructional techniques, summary writing

### **Introduction**

Mastering second or foreign language writing skill is commonly regarded as the most challenging skill in ESL and EFL settings. (Negari, 2011; Unzueta, 2009) Educators typically report on the students' complaints concerning their limited ability to come up with well-written compositions reflective of their thoughts, emotions, and ideas concerning various issues such providing the most appropriate direct and indirect corrective feedback, conceptualization of writing strategies, cooperative writing and strategy training (Bailey, 2019; Bailey & Judd, 2018; Oh, Lee, & Moo, 2015; Tan & Manochphinyo, 2017). From

among the important subcategories of writing in a second language, summarization has always been a bone of contention among interested researchers within the field of applied linguistics. Accordingly, many researchers have highlighted the pivotal role it plays in promoting students' writing abilities and believe that it may not develop on its own without paying due attention to the existing instructional techniques (e.g., Keck, 2006; & Spack, 2004). Although there are several techniques to teach writing suitably, there are still controversies about what constitutes the most appropriate one.

On the one hand, there are some studies indicating the constructive and positive impact of summarization instruction on the learners' summary writing ability (e.g., Chen & Su, 2012; Choy & Lee, 2012; McDonough, Crawford, & De Vleeschauwer, 2014; Wichadee, 2013). On the other hand, a few studies (e.g., Yu, 2008) point to the reverse results and are indicative of the fact that the learners' challenges and deficiencies in reading and writing ranging from identifying the key words to integrating and organizing the ideas into a coherent restatement of the original text might either problematize or complicate the summary writing process.

Considering the intimate and intricate connection between reading and writing, the two important skills have commonalities with regard to the generative nature and cognitive processes involved (Fitzgerald & Shanahan, 2000). The inherent similarities between reading and writing allow interested researchers to apply the same instructional techniques alternatively and interchangeably. Hence, employing the already-established reading instructional techniques (e.g., glosses and advance organizers) to teach summary writing may be of great help and benefit to both language learners and teachers and speed up, enhance, and expedite the summary writing progress as well.

As far as the previous studies are concerned, glosses and advance organizers (AOs) dealt with the teaching of reading, grammar, vocabulary learning, and listening (Jourdenais, Ota, Stauffer, Boyson, & Doughty, 1995; Lin & Huang, 2008; McClelland & Patterson, 2002; Shook, 1994). In other words, summary writing through marginal glosses (MGs) and network tree advance organizers (NTAOs) is an underexplored topic, which needs further analysis and investigation.

## Literature Review

### Summary Writing

Summary writing is counted as an integrative activity that involves the interaction of the two major sub-components: the comprehension element that enables readers to synthesize the most crucial constituents and abide by the organizational rhetorics of the original text and the summarizing component that enables the readers to restate the intended meaning coherently and succinctly (Enright, Grabe, Koda, Mosenthal, Mulcahy-Ernt, & Schedl, 2000). Friend (2001, p. 3) defined summary writing as "the method of figuring out which information in a text is the most essential and transforming it into a simple statement in one's own words". The summarizing techniques allow the learners to come up with the most appropriate restatement of the main ideas of the original content materials reasonably enough, and to retain important information in the long-term memory for later recall and application (Jensen, 2010; Otero, 2008).

When preparing a written summary, four major considerations should be observed: First, a clear purpose must be born in mind and ideas are not to be personalized as much as possible. Second, almost all the major points of the source material must be maintained, rendered into and transferred in the target language. Third, the main concepts should be given equal weight and considerations. And finally, a well-written summary should stick to and observe brevity and clarity issues as well (Melton, 2003).

## Network Tree Advance Organizer

An advance organizer (AO) can be regarded as a pedagogic instrument that applies symbolic visualizations to describe knowledge, concepts, thoughts, and the interrelations among them (Ellis, 2004). Advance organizers (AOs) can be used both in reading comprehension and summary writing and represent textual materials graphically or spatially and allow the language learners to specify the missing elements or non-existing links in an individual's strategic thoughts (Ellis, 2004). AO is founded upon Ausubel's assimilation theory of cognitive learning (1978) which states that systematic presentation of incoming information and its organized storage in the long-term memory leads to better retention and more meaningful learning on the part of language learners (McElroy & Coughlin, 2010).

NTAOs are designed to categorize information hierarchically and reflect superordinate or subordinate connections between and among conceptual elements. This type of AOs allows the learners to organize the most important elements of the text into each related module. For instance, if the topic is air pollution and the text deals with different kinds of sources for air pollution, the word AIR POLLUTION will be placed in the superordinate category and then industry, nature, transportation, fuels, and other types of sources fall into the subordinate subcategories.

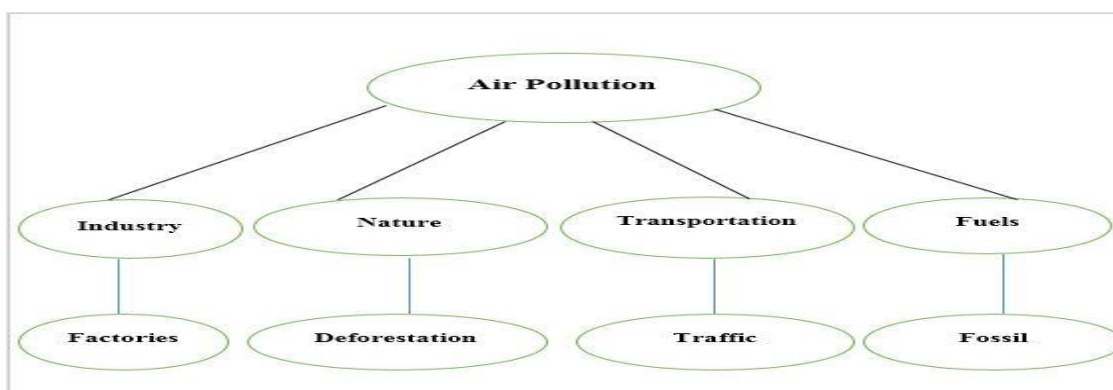


Figure 1. NTAO of Air Pollution

According to Ellis and Howard (2005), NTAOs enjoy a number of characteristics: First, the textual information will be less complicated and the inherent ambiguities will be removed so that a better retention will take place as a result. Second, the semantic load of the presented information will be lessened so that a more successful understanding of the textual information is achieved. More specifically, this type of AOs allows language learners to adopt a more strategic approach to thinking and help them prioritize new information in an organized fashion. Similarly, not only will the incoming information be arranged, sequenced, outlined coherently, but also a link will be made and established with prior knowledge or schemata of the learners so that the information will be recalled more vividly (Stull & Mayer, 2007).

## Marginal Glosses

More recently, text modification has become a typical technique to enhance and rectify students' attainments in different language skills through adding the annotations to various textual materials. Glosses can be defined as any notes that are written in L1 or a simpler form in L2, to facilitate the learners' reading comprehension ability (Lin & Huang, 2008). The primary objective of this technique is to lessen the gap between the lack of sufficient L2 comprehension of the content materials, therefore, the underlying features and key elements of the original text can be better understood and grasped. Besides, Nation (2001) maintained that in order to ease the demanding task of reading comprehension for the learners, glosses may come in first language or in a simpler style in the second language too. There are

different classifications for glosses, which can be explained as first language versus second language glosses (e.g., Ko, 2005), paper-based versus computerized glosses (e.g., Bowles, 2004), multimedia versus textual glosses (e.g., Chun & Plass, 1996) and multiple-choice versus single glosses (e.g., Rott, 2005). Likewise, the glosses might differ in the degree of metalinguistic explicitness they provide and come in various shapes, for example a synonym of a word or a simple definition (e.g., Guidi, 2009), a mixture of some definitions and their use in a sentence (e.g., Hulstijn & Laufer, 2001), and a combination of a translation accompanied by a video clip or a relevant picture (e.g., Al-Seghayer, 2001).

Robby (1999) described glosses as more than mere explanations or translations of the new information. He further argued that they can be located in various parts of a text: Interlinear, footnote/endnote, glossary, appendix, margins, etc. In the same vein, Richgels and Mateja (1984) describe glosses as precise definitions, or translations of the unfamiliar words or phrases. Moreover, Nation (2002) defines glosses as “synonyms or brief definitions of the new words in learners’ L1 or L2 in the text” (p. 175). Although different types of glosses have their own specific features, MGs can be used in such ways that the key semantic concepts and elements of the text (a single word/a phrase) are adequately explained and defined on the right-side margin of the passage.

### **Some Relevant Studies**

AOs and MGs have a number of characteristics in common as they both might enhance comprehension, reduce semantic ambiguities, and lessen and mitigate the cognitive demands of either reading or writing-related pedagogic tasks. The following relevant studies point to the effectiveness and usefulness of the application of both in promoting L2 reading comprehension. To show the effect of media-rich computerized glosses in reading comprehension and vocabulary acquisition, Ben Salem and Aust (2007) exposed their Spanish learners to five different gloss types: 1) translation and text-equipped glosses 2) translation and text-equipped glosses accompanied by audios (spoken in Spanish and English), 3) translation and text-equipped glossed with pictures and audios, 4) translation and text-equipped glossed with pictures, audios, and writing, and 5) no gloss. The participants were provided with a 608-word Spanish story equipped with 25 glossed words to read and were asked to complete reading comprehension-check and vocabulary questions. The results revealed that gloss users outperformed their non-gloss user counterparts in answering comprehension-check and vocabulary questions.

Al-Jabri (2009) compared the impacts of different gloss types on idea recall and text comprehension. A total of 90 sophomore male English students participated in the study, who were randomly assigned to one of the three following conditions: L2 (English) gloss, L1(Arabic) gloss, and no-gloss. The students read an English text containing 470 words equipped with 19 glosses. The findings of the recall protocol indicated that the participants in L1 gloss group and no-gloss group recalled ideas more successfully than those in the L2 gloss group. Furthermore, the findings demonstrated that the L1 gloss group significantly outperformed those in the L2 gloss group in terms of reading comprehension, but no significant difference was observed between L1/ L2 gloss, and no-gloss groups.

Cheng and Good (2009) compared the effects of glossing on text comprehension and vocabulary learning. To this end, 135 Taiwanese undergraduate students at majoring in engineering and business were required to complete the reading comprehension tasks. The impacts of different gloss types including L2 plus L1 glosses, L1 marginal glosses, L1 in-text glosses, and no-gloss on reading comprehension and vocabulary learning were compared and contrasted. The participants were presented with a vocabulary pretest, a reading text, a posttest, and two delayed vocabulary recall tests. The results revealed that L1 glosses significantly improved learners' vocabulary recall and mastery. Furthermore, the participants' overall retention decreased significantly between the immediate posttest and the first delayed recall tests. Although an improvement was seen in vocabulary retention and recall of all the participants between the first and second delayed recall tests, no significant difference could be observed in their reading comprehension performances.

Tajeddin (2013) investigated the impact of para-textual AOs on the reading comprehension and recall. Fifty-three EFL students participated in the study. The students' language proficiency was determined by a TOEFL test. After that, three types of para-textual (title, preface, and picture) were used for less and more proficient learners. The experimental group read a text accompanied by the three types of scaffolding para-text, whereas the control group in the two proficiency levels read the text with no para-textual AOs. Then, both experimental and control groups were provided with a recall test in order to examine and delve into the participants' recall of the propositions from the original texts. The results indicated that para-textual AOs positively affected the participants' overall reading comprehension in the more proficient EFL learners of the experimental group. However, neither less proficient nor more proficient members of the experimental group could outperform their counterparts in the control groups in terms of reading recall.

In light of the difficulties inherent in EFL/ ESL summary writing teaching and learning, and dearth of research conducted on the effectiveness of MGs and NTAOs on the summary writing of EFL learners, it is deemed necessary to probe into the usefulness of such instructional techniques to enhance summary writing ability. This study investigated the relative impact of two instructional techniques: Network Tree Advance Organizers and Marginal Glosses on EFL learners' summary writing ability. To attain the above-stated purposes of the study, the following questions were formulated:

1. Does Marginal Gloss as an instructional technique have any impact on the summary writing ability of Iranian EFL learners?
2. Does Network Tree Advance Organizers as an instructional technique have any impact on the summary writing ability of Iranian EFL learners?
3. Which instructional technique (Marginal Gloss/Network Tree Advance Organizers) is more effective in improving summary writing ability of Iranian EFL learners?

## **Method**

### **Participants**

Due to administrative difficulties of randomization, the researchers utilized convenience or available sampling. Sixty participants were selected from three available classes studying English as a Foreign Language (EFL) at Arman Language Institute in Ahvaz, Iran. To specify their language proficiency, the researchers administered OPT (the quick placement test of Oxford University Press and University of Cambridge Local Examinations Syndicate, 2001). The results of the placement test indicated that all the participants were at an intermediate level of language proficiency. The participants' ages varied from 18 to 28 and they shared the same essential demographic features like their L1 and cultural background.

### **Instruments**

To collect the data, the researchers employed various instruments. Quick Oxford Placement Test (2001) was employed to ensure the homogeneity of the participants in terms of language proficiency. The standardized placement test comprised 65 multiple-choice items that incorporated 15 vocabulary items, 20 structure and grammar questions and 30 cloze tests.

### **Select Readings Book (Intermediate Level)**

In order to apply the marginal glosses instructional technique, seven expository passages were adopted from *Select Readings* books. All the texts were equipped with MGs and enjoyed the same difficulty level. The same passages also were used for the NTAOs and the control group as well, but this time without

MGs or NTAOs. The *Select Readings* series includes a four-level reading books written by Lee and Gundersen and were specifically designed for low, intermediate, upper-intermediate, and advanced learners. The series also benefits from a scrutinized level control and interesting passages.

### **TOEFL-iBT Scoring Guidelines**

To evaluate the learners' summary writing performance, the researchers adopted TOEFL-iBT scoring guidelines as used in Baba (2009). The rubric is designed in such a way that makes scoring the written summaries holistically possible. The scoring guidelines assessed the written summaries according to (1) the extent to which major ideas are incorporated; (2) the overall structure and organization; (3) the inclusion of well-made linguistic and structural patterns; and (4) the specification of either word-for-word copying from the original source or appropriate paraphrasing into the target language.

### **Data Collection Procedures**

The following methodological steps were taken to achieve the stated objectives of the research. At first, the Oxford Quick Placement Test (OPT) was administered in order to ensure the homogeneity of all of the participants. Next, from three available classes of twenty, sixty language learners were randomly assigned to three groups: The two experimental groups and one control group. One of the experimental groups was exposed to the MG instructional technique; the other experimental group received the NTAO; while the third group (control group) was provided with neither of such instructional techniques and merely followed the traditional procedures of a writing class with the emphasis on the final written product.

Prior to the commencement of the study, all the participants were provided with an already-determined and selected passage and were asked to write a summary of it. All three groups received the same passage without any possible textual enhancement or instructional techniques such as MGs or NTAOs. Their generated written summaries at the outset of the study were evaluated by two raters based on the TOEFL iBT scoring criteria and their gains counted as their pretest scores. Next, the two experimental groups went through a seven-week instructional period for thirty minutes at the end of their regular class hour. Not more than thirty minutes could be allocated as their classes mainly focused on the oral proficiency improvement. The control group received no such treatment and they were merely provided with the texts from the *Select Readings* and were required to write a summary of the provided passage. The participants in the first experimental group were provided with the same passages from *Select Readings* but this time with MGs on the right hand side. The participants in the second experimental group again were presented with the same passages but received different treatment. They were exposed to texts along with their visual sketch or representations otherwise labeled NTAOs. Not only were the participants provided with such textual enhancement and instructional techniques such as MGs or NTAOs but also received instruction as how they would work through multiple examples. At the end of the instructional period, all three groups received the same passages enjoying similar difficulty levels from *Select Readings* and were asked to produce another summary. Their performances were scored by the same two raters based on the Baba (2009) scoring rubric and their gains counted as their posttest scores. The rubric included constituents such as sentence combination, deletion, topic sentence selection, syntactic transformation, paraphrasing, invention, generalization, and major /minor verbatim copying.

### **Treatment**

The learners in NTAO group received their treatment with detailed explanations and descriptions. For example, they were provided with a text about social media, and were taught how to categorize and organize major and minor categories and subcategories. They were asked to discriminate between the major and minor merits and demerits and then classify them according to the importance attached to them

hierarchically. Under the superordinate advantage category, the learners would put two subordinate subcategories namely the interactive nature of social media and the newsworthiness of the social media. Under the superordinate disadvantage category, the learners would point to the addiction the social media might bring about or the crimes that are associated with its addictive use. The hierarchal representation of the passage could continue like this until the learners felt totally at ease with it and fully grasp the materials for later use and future recall. The assumption was that this type of treatment would finally help them remember information more vividly as they were presented with a visual sketch of the textual information and would finally produce a well-written summary. Figure 1 and 2 display instances of NTAOs and the way they were put into practice in the class.

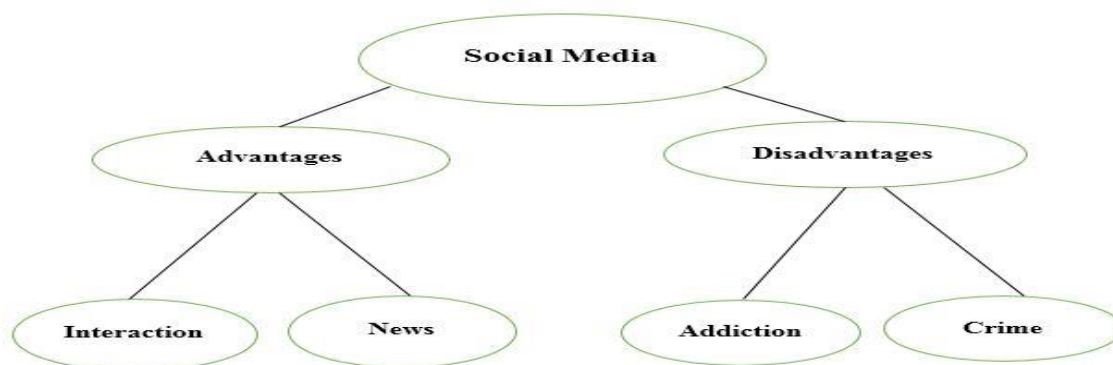


Figure 2. NATO of Social Media

The learners in the second experimental group received treatment differently. For one thing, they were provided with the same passages from *Select Readings* but this time with MGs on the right hand side. Key vocabularies and phrases were glossed and their explanations were presented in the margins so that students’ attention would be drawn to them explicitly by the instructor. The assumption was that the gloss-equipped texts would be better understood and when the students’ comprehension would be facilitated since they would retain information more successfully and produce better written summaries as a result.

### Data Analysis

Having collected the data collected, the researchers employed the latest version of the Statistical Package for Social Sciences (SPSS). Both descriptive and inferential statistics were used. To answer the three research questions, one-way analysis of variance (ANOVA) and paired-samples t-tests were utilized. Cronbach’s alpha formula was run to calculate the inter-rater reliability of the two raters and it stood at .83.

### Results

The results for each research question are dealt with separately and both descriptive and inferential statistics are presented to clarify the findings. Table 1 displays the means and standard deviations of the participants’ scores on the pretest and posttest.

TABLE 1  
*Descriptive Statistics of the Groups*

Test	Group	M	SD	N
Pretest	NTAO	5.83	.492	20
	MG	5.92	.520	20
	Control	6.09	.778	20
Posttest	NTAO	11.22	.359	20
	MG	8.58	.474	20
	Control	6.99	.498	20

Table 1 illustrates the mean scores and standard deviations of the participants on the pretest in the control group ( $M = 6.09$ ,  $SD = .778$ ), the NTAO group ( $M = 5.83$ ,  $SD = .492$ ), and the MG group ( $M = 5.92$ ,  $SD = .520$ ). The control group had the highest mean scores on the pretest. Moreover, Table 1 displays the mean scores and standard deviations of the participants' posttest in the control group ( $M = 6.99$ ,  $SD = .498$ ), the NTAO group ( $M = 11.22$ ,  $SD = .359$ ), and the MG group ( $M = 8.58$ ,  $SD = .474$ ). The NTAO group enjoyed the highest mean score on the posttest. To see whether the differences in the descriptive statistics of the three groups were statistically significant or not, a one-way analysis of variance was conducted. Moreover, paired samples  $t$ -tests were also run to explore the simple mean effect of each group on the posttests. The alpha level was set at .05.

### The First Research Question

Concerning the impact of the MGs on EFL learners' summary writing ability, the findings revealed that the participants' performances in the marginal gloss group on the summary writing changed in comparison to those of their pretest. Based on the results displayed in Table 2, it can be observed that the MG group ( $M = 8.58$ ,  $SD = .47$ ) had higher mean on the posttest of summary writing than pretest ( $M = 5.92$ ,  $SD = .52$ ).

TABLE 2  
*Descriptive Statistics; Pretest and Posttest of Summary Writing (MG Group)*

		Mean	N	Std. Deviation	Std. Error Mean
Writing	Posttest	8.58	20	.474	.106
	Pretest	5.92	20	.520	.116

A paired-samples  $t$ -test was conducted to find out whether this amount of change was significant. The results of the paired-samples  $t$ -test ( $t(19) = 19.96$ ,  $p < .05$ ,  $r = .95$  representing a large effect size) (Table 3) indicated that the MG group enjoyed a significantly higher mean on the posttest of summary writing than pretest.

TABLE 3  
*Results of the Paired Sample T-Test for the MG Group*

Mean	Std. Deviation	Std. Error Mean	Paired Differences		$t$	$df$	Sig. (2-tailed)
			95% Confidence Interval of the Difference				
			Lower	Upper			
2.661	.596	.133	2.382	2.940	19.963	19	.000

### The Second Research Question

Concerning the impact of NTAOs on EFL learners' summary writing ability, the findings demonstrated that the participants' performance in NTAO group significantly improved from pretest to posttest. Based on the obtained results displayed in Table 4, it can be discerned that the NTAO group ( $M = 11.22$ ,  $SD$



= .35) had higher mean on the posttest of summary writing in comparison with the pretest (M = 5.83, SD = .49).

TABLE 4  
*Descriptive Statistics; Pretest and Posttest of Summary Writing (NTAO Group)*

		Mean	N	Std. Deviation	Std. Error Mean
Writing	Posttest	11.22	20	.359	.080
	Pretest	5.83	20	.492	.110

The results of the paired-samples t-test ( $t(19) = 38.18, p < .05, r = .99$  representing a large effect size) (Table 5) indicated that the Network Tree Advance Organizers group had a significantly higher mean on the posttest of summary writing than pretest.

TABLE 5  
*Results of the Paired Sample T-Test for the NTAO Group*

Paired Differences		Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
Mean	Std. Deviation		Lower	Upper			
5.389	.631	.141	5.094	5.684	38.186	19	.000

### The Third Research Question

The third research question sought to find out which instructional technique (the MG or the NTAO) was more effective in improving EFL learners' summary writing ability. Table 6 displays the main results of the one-way ANOVA. Based on these results ( $F(2, 57) = .946, p > .05$ , partial eta squared = .032 representing a weak effect size), it can be concluded that the means of the three groups on the pretest of summary writing did not differ significantly from one another. Thus, it can be concluded that the three groups were homogenous in terms of their summary writing ability prior to the administration of the instructional techniques.

TABLE 6  
*Results of the Analysis of Variance for the Pretests*

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.705	2	.352	.946	.394
Within Groups	21.231	57	.372		
Total	21.936	59			

Table 7 displays the main results of the one-way ANOVA. Based on these results ( $F(2, 57) = 456.04, p < .05$ , partial eta squared = .941 representing a large effect size), it can be concluded that there were significant the means of the three groups differed significantly from one another on the posttest of summary writing.

TABLE 7  
*One-Way ANOVA; Posttest of Summary Writing by Groups*

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	182.847	2	91.424	456.056	.000
Within Groups	11.427	57	.200		
Total	194.274	59			

Based on the results displayed in Table 8, it can be concluded that the MG group (M = 8.58) significantly outperformed the control group (M = 6.990) on the posttest of summary writing (Mean Difference = 1.59,  $p < .05$ ). Furthermore, The NTAO group (M = 11.22) significantly outperformed the

control group ( $M = 6.99$ ) on the posttest of summary writing (Mean Difference = 4.23,  $p < .05$ ). Finally, the NTAO group ( $M = 11.22$ ) significantly outperformed the MG group ( $M = 8.58$ ) on the posttest of summary writing (Mean Difference = 2.63,  $p < .05$ ).

TABLE 8

*Post-Hoc Scheffe's Tests for the NTAO Group and the MG Groups*

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Network	MG	2.639*	.142	.000	2.28	2.99
	Control	4.233*	.142	.000	3.88	4.59
Marginal	NTAO	-2.639*	.142	.000	-2.99	-2.28
	Control	1.594*	.142	.000	1.24	1.95
Control	NTAO	-4.233*	.142	.000	-4.59	-3.88
	MG	-1.594*	.142	.000	-1.95	-1.24

\*. The mean difference is significant at the 0.05 level.

## Discussion

EFL learners' exposure to various instructional techniques in classroom settings can reasonably enrich and enhance their overall summary writing ability, however, such instructional techniques are mostly paid insufficient attention to. Not only is there a need to further raise students' awareness on summary writing instructional techniques, but also a workplan or scheme will have to be prepared by teachers to clarify and elucidate how such instructional techniques can be best implemented within classroom settings in the most appropriate way. Accordingly, this study aimed to determine whether the instructional techniques (i.e., MGs and NTAOs) were relatively effective to enhance EFL learners' summary writing ability. The general findings of this study, consistent with the results of previously-conducted research (e.g., Chen & Su, 2012; Choy & Lee, 2012; Graham & Perin, 2007; McDonough et al., 2014; Mohammad Hosseinpour, 2015; Wichadee, 2013) point to the relative effectiveness of the utilization of different instructional techniques to promote learners' summary writing ability. The results indicated that learners in NTAO group outperformed their counterparts in the other two groups (i.e., the MG group, and control group).

One probable justification for the advantage of the NTAO group over the MG group and control group can be attributed to the fact that the classifications and sub-classifications of the presented information might have lessened the semantic ambiguities and syntactic complexities involved in such information. Likewise, such categorizations and sub-categorizations of presented materials might have prompted EFL learners to properly prioritize, organize, and classify information accordingly. As a result, a more vivid and clear image of the provided materials might have been developed in EFL learners' minds so that information recall could have been enhanced and facilitated.

Another likely explanation for the more successful performance of the NTAO group in comparison to the MG and control group could be ascribed to the fact the learners might have resorted to their prior knowledge of the world and language and such activation of their schemata might have enabled the learners to establish the right links between old and new information. Moreover, the learners could have been able to properly decode the main ideas of each text through the massive and long chains of words, phrases, and paragraphs and finally organize these key concepts hierarchically and sequentially.

It can further be argued that the visual representation of the information through NTAOs might have reduced the cognitive load imposed upon the learners while reading and producing a written summary. Therefore, processing cognitively less demanding information might have become easier for the learners and resulted in better comprehension as well. Such visual sketch of the materials via NTAOs could have paved the way for more elaborate and detailed information processing.

The relative disadvantage of the MG group in producing well-written summaries compared to the NTAO group can emanate from the fact that synonyms and vocabularies provided in the margins might have simply added to the confusion and further complicated the comprehension process of language

learners. In other words, the words presented in the margins might have worked to their disadvantage since the learners' attention were drawn to both familiar and unfamiliar vocabularies and as a result, the learners might have been distracted and digressed from the main issue of coming up with a well-written summary. Another contributing factor that might have accounted for such relative ineffectiveness of the MGs in comparison to the NTAOs could be the cognitive demands imposed by the vocabularies presented in the margins upon the learners' working memory. In the same vein, processing such vocabulary items might have put a heavy burden on EFL learners' short-term memory and resulted in less successful performances with regard to producing well-written summaries.

However, it can be reasonably argued that those MGs could have drawn the learners' attention to the textual enhancements and manipulations. In fact, words or concepts that were marginally-glossed might have played the role of signposts in the whole passage. Once the learners had been done and over with reading the text, they would have traced a pattern in their minds and drawn mental linkages between the glossed concepts. The glosses might have acted or served as a proper hinting tool to better grasp and comprehend the text and unravel the hidden linkages between and among the key components of the text. Consequently, the learners could have envisaged a precise mental map of the key concepts for themselves. The results of the present study concurred with those of Jacobs (1994), Lomicka (1998), and Ko (2005). In contrast, the results were inconsistent with Jacobs, Dufon, and Fong (1994), Bell and LeBlanc (2000), and Cheng and Good (2009)'s.

## Conclusion

The present study was set up to investigate the possible impact of MGs and NTAOs on the EFL learners' summary writing ability. The findings of the study indicated both NTAOs and MGs impacted the summary writing of the participants. However, the NTAO group outperformed the MG group in generating well-written summaries.

The instructional techniques utilized in this research can be regarded as helpful instruments to be appropriately applied under different circumstances. Learners will have to be familiarized with and systematically exposed to such techniques. Furthermore, they will have to be enabled to make proper use of them in order to enhance their summary writing ability. In fact, EFL learners will have to be cognizant of the underlying cognitive processes inherent these techniques so that not only will a more acceptable and well-written summary be produced and generated, but also the learners' active participation, involvement, and interaction with the text can be promoted. Accordingly, learners will be able to make meaningful linkages among the key concepts of the text and teachers can utilize such techniques in their writing classes to see how they work under different circumstances. Furthermore, teachers might gain possible insights into the way such techniques can best be implemented in classroom settings and will be provided with a model of how they might work under various settings. Finally, the learners' awareness about the most significant segments of the text will be raised, the students will be encouraged to trace logical and meaningful linkages among the fundamental elements of the passages and comprehend the possible hierarchical interrelationships among them.

One potential limitation of the study concerns the nature and theme of the instructional techniques (i.e. the NTAOs and the MGs). The NTAOs predominantly put the emphasis on the role of information organization and the interrelationships between the concepts of the passage, while the MGs having some indirect overlap with AOs mostly deal with vocabulary learning or the semantic aspect of language learning. Another possible limitation which might, in turn, undermine the generalizability of findings is the small sample size included in this research. Future research can be conducted with larger samples to boost the reliability of the findings. Investigating other types of glosses (e.g., footnote gloss, pictorial gloss, etc.) and AOs (i.e., cyclical, conceptual, etc.) can be regarded as promising lines of enquiries to further delve into and can provide the intended audience with valuable insights into possible venues for future research.

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