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## Using Concept Mapping and Mind Mapping in Descriptive and Narrative Writing Classes

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### Abstract

This study was an attempt to investigate the comparative impact of concept map and mind map instruction on EFL learners' descriptive and narrative writing. To fulfill this purpose, 60 intermediate EFL learners were selected from among a total number of 100 through their performance on a pretest, i.e., a piloted sample Cambridge Preliminary English Test (PET). Then, the students were randomly divided into two experimental groups of 30. The scores of the writing part of PET were analyzed separately and the mean scores of the two groups were compared through an independent samples t-test in order to assure that the writing ability of the students was homogeneous at the outset. Both groups underwent the same amount of treatment (14 sessions of 90 minutes) three days a week with one group undergoing the concept map treatment while the other the mind map treatment. A posttest comprising a descriptive and a narrative writing were administered at the end of the treatment to both groups. The result of the Pillai's Trace Test ( $F = 12.73$  and  $p = 0.000 < 0.05$ ) indicated a statistically significant difference between the two experimental groups with the mind map group that gained a higher mean in both posttests outperforming the concept map group.

**Keywords:** Concept map, Descriptive writing, Mind map, Narrative writing, Writing genres

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### INTRODUCTION

The verbal skill of writing which was once exclusive to the elite is now an indispensable apparatus for people of all walks of life (Weigle, 2002). In a sense, it is fundamentally disparate from the other three skills of language "not only because it is visual as contrasted with oral/aural, or productive as contrasted with receptive, but also because of how it is produced and the way it communicates" (Ur, 2012, pp. 150-151). In

recent times, there has been a growing focus on genre-based writing – including descriptive and narrative – with many studies having been conducted on exploring into the most efficient ways of teaching these genres (e.g., Agibuy, 2016; Bijami & Raftari, 2013; Danoff-Burg, Mosher, Seawell, & Agee, 2010; Hasan & Akhand, 2010; Marashi & Yavarzadeh, 2014; Nurlaila, 2013; Park & Lodgson, 2012; Rahman, 2013).

Among the many different methods and techniques of teaching writing, concept mapping (CM) which is an instrument that makes

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ideas visual has been widely researched into. Introduced by Joseph Novak in 1972, CM comprises “graphical instruments that are used for organizing and representing knowledge” (Deylam Salehi, Jahandar, & Khodabandehlou, 2013, p. 243). As noted earlier, CM has been the subject of extensive research (e.g., Eppler, 2006; Fahim & Rahimi, 2011; Jafari & Zarei, 2015; Nobahar, Nemat Tabrizi, & Shaghaghi, 2013; Novak, 2010; Novak & Canas, 2007; Pishghadam & Ghanizadeh, 2006; Tabatabaei & Khalili, 2014).

Alongside CM, another strategy which is used for teaching writing is mind mapping (MM); first used by Tony Buzan in 1970, MM is “a method that uses comprehension/concentration skills to create notes which relate each fact or idea to every other fact or idea being better able to retain information and ideas than by using traditional 'linear' note taking methods” (Akbarnejad, Gorjian, & Nasiri, 2014, p. 417). MM has also been extensively studied (e.g., Khoiriyah, 2014; Murley, 2007; Nemati, Jahandar, & Khodabandehlou, 2014; Padang & Gurning, 2014; Riswanto & Putra, 2012; Supriyanto, 2013).

In line with what has been discussed so far and with respect to the gap existing in the literature regarding the impact of CM and MM on writing genres, the purpose of the present study was to compare the effect of CM and MM on EFL learners' descriptive and narrative writing. Accordingly, the following research questions were formulated:

- 1- *Is there any significant difference between the effect of concept mapping and mind mapping on EFL learners' descriptive writing?*
- 2- *Is there any significant difference between the effect of concept mapping and mind mapping on EFL learners' narrative writing?*

### **Writing Genres**

Writing is indeed an intricate process, the teaching of which is quite demanding (Khabiri & Arabloo, 2014). Writing of course appears in differ-

ent genres; according to Hammond and Derewianka (2001), the term genre which comes from French meaning class or type has a long history dating back to the Greeks and their study of rhetorical structure in different categories of epic, lyric, and dramatic.

Bhatia (as cited in Marashi & Rohanimehr, 2012) defines genres in terms of the use of language in conventionalized communication settings and that they tend to establish relatively stable structural forms. Genres are believed to have a dynamic nature; according to Fahnestock (1993, p. 270), “they are not fixed algorithms” and because “a genre is a means of achieving communication goal that has evolved in response to particular rhetorical needs, it will change and evolve in response to changes in these needs” (Dudley-Evans, 1994, p. 219).

The genre-based approach of writing is based on social and cultural activity that its purpose involves the context of writing where the relevant genre knowledge needs to be taught explicitly to the students: “The notion of genre is defined as abstract, socially recognized ways of using language” (Hyland, as cited in Hasan & Akhand, 2010, p. 81).

### **Descriptive Writing**

Descriptive writing is often used in combination with other types of paragraphs and is called as such “if the paragraph is predominantly developed by description” (Bustamante, 2013, p. 187). Wishon and Burks (2005) note that in description, the writer uses the readers' imagination in order to “visualize a scene or a person or to understand a sensation or an emotion” (p. 322) as the prime purpose is to describe a person, place, or thing in such vivid detail that the aforesaid goal would be accomplished (Glencoe, 2005; Meyers, 2006).

More importantly, an overall dominant effect or impression is essential since this genre of writing is not a random piece of information (Nazario, Borchers, & Lewis, 2010) and, in more detail, Rozmiarck (2000) argues that descriptive writing has the following criteria: “a focused topic, an engaging lead, adequate supporting details,

transitions, varied sentence structure and length, several elements of stylistic language (similes, metaphors, adjectives, etc.), and a powerful conclusion” (p. 9).

In an attempt to dichotomize the typology of descriptive writing, Kane (2000) talks about objective and subjective descriptive writing. As the name implies, the former is when the writer sets aside those aspects of the perception unique to himself/herself and concentrates on describing the percept in itself. The latter, however, is when the writer projects his or her feelings into the percept.

### **Narrative Writing**

Another popular genre of writing is the narrative which is applied to portray events in different time intervals. Bustmante (2013) argues that narratives “may center on facts, such as historical background. It may re-create an event, like in a personal essay to relate an anecdote to initiate a discussion or to exemplify a central theme” (p. 179).

According to Bailey and Powell (2008), in narrative texts – which constitute one of the most common and effective ways of communicating – the writer wants to emphasize an opinion to help the readers understand what s/he means. To fulfill this purpose, the writer tells a story as if the readers “are watching a short movie rather than simply reading words” (p. 16) or to use the words of Meyers (2006), “The action, details, and dialogue of a well-written narrative allow your readers to respond to an event almost as if they were experiencing it themselves” (p. 145).

A perhaps indispensable component of narrative texts is that they rely on personal experience and “are told from a defined point of view, often in first person” (Ball, 2013, p. 45). A narrative paragraph tells a story with problematic events leading to a crisis or turning point of some kind which per se finds a resolution and in doing so, the writer tells a story that sets the background for an event, and often comments on the event most often in a chronological order (Hyland, 2009).

### **Concept Mapping (CM)**

Novak (1972) developed the CM based on the David Ausubel’s theory of learning where he believed that learning happens by assimilation of new concepts into an existing concept framework already in the learner’s mind. Driven by the notion that “Meaningful learning underlies the constructive integration of thinking, feeling, and acting leading to empowerment for commitment and responsibility” (Novak, 2010, p. 23), Stoica, Moraru, and Miron (2011) assert that, “A concept is the regularity in objects or events designated by specific label... and diagrammatic representations which show meaningful relationships between concepts in the form of propositions” (p. 568).

In effect, CM is emphasizing organization and instruction of the knowledge that helps meaningful learning and “the creation of powerful knowledge frameworks that not only permit utilization of the knowledge in new context, but also retention of the knowledge for a long period of time” (Novak & Gowin, 2006, p. 104).

### **Mind Mapping (MM)**

Appearing under a variety of names such as semantic mapping, knowledge mapping, think-links, graphic organizers or cognitive maps, MM “is a brain-friendly way to study, memorize and take notes since it uses both left and right brain skills in order to make the best use of the brains and is based on the results of modern brain research” (Farrand, 2000, as cited in Hofland, 2007, p. 12). Furthermore, Riswanto and Putra (2012) note that MMs show facts and also show the overall structure of a subject together with the relative importance of each of its individual parts thereby encouraging students “to associate ideas, think creatively, and make connections that might not otherwise make” (p. 60).

Murley (2007) believes that MMs encourage creativity and memory retention and in his comparison of MM and CM, Davies (2010) regards MM as being a spontaneous way of showing the explicit and implicit association between ideas while CM as a more deliberate and structured

way of representing the relationship between ideas.

## METHODS

### Participants

To respond to the research questions of this study, 60 intermediate EFL learners within the age range of 14 to 30 who attended a language school in Tehran were selected from among 100 participants based on their performance on a sample PET. The 60 students were those whose scores fell one standard deviation above and below the mean on this pretest and were randomly divided into two experimental groups of 30. Prior to the study, the sample PET had been piloted among 30 intermediate students. Moreover, the two researchers participated in rating the writing tests. Their inter-rater reliability had been established a priori ( $r = 0.847$ ,  $p = 0.0001 < 0.05$ ).

### Instrumentations and Materials

#### Preliminary English Test (PET): Pretest

A sample PET was administered for the participant selection process as described above. The test covers all the four language skills of reading, writing, listening, and speaking. PET is part of a group of examinations developed by Cambridge ESOL called the Cambridge Main Suite. PET consists of the four parts of reading and writing (paper 1), listening (paper 2), and speaking (paper 3). As this research was focused on the writing ability of the learners, the speaking section of the PET was not administered. Furthermore, the test originally contained 75 items but 13 items were discarded as a result of the item analysis following the piloting.

For the assessment of parts two and three of the writing section, the researchers used the PET general mark scheme which is used as a rubric for a summative score. According to the PET rating scale, the criteria include language range, variety, complexity message communication, grammatical structure, vocabulary, spelling, punctuation, content points, length, and target reader and the maximum overall score would be five.

### Writing Posttest

At the end of the course, the participants in each group wrote two essays: a descriptive writing on the topic of *Describe your ideal apartment* while the other was a narrative essay on the topic of *A memorable birthday*. The learners were given 20 minutes for each task and had to write around 100 words for each essay on the posttest.

### Materials

All the participants in both experimental groups received instructions based on *American English File 2* (Oxenden & Latham-Koenig, 2011), units 4-6 which consist of grammar, vocabulary, reading, pronunciation, speaking, listening, and writing. Moreover, the *Oxford Word Skills* (Gairns & Redman, 2008) designed for intermediate language learners was used. The learners also used unit 3 sections 9 and 10 of *Composing with Confidence* by Meyers (2006) as the supplementary book which is helpful for the learners' descriptive and narrative writing.

### Procedure

Once the participants selection was over and the two experimental groups were in place (as described above), the researchers made sure that there was no significant difference between the two groups in their writing performance; accordingly, the mean scores of both groups on the writing section of the PET were compared through an independent samples *t*-test. The results ( $t = -0.194$ ,  $p = 0.847 > 0.05$ ) indicate that there was no significant difference between the mean scores of the two groups at the outset. Hence, any possible difference in the writing of the two groups at the posttest could be attributed to the treatment.

The instruction commenced after the above process. The course consisted of 14 sessions of 90 minutes three days a week and both groups were taught by the same teacher (one of the researchers). The first two sessions of the course were used for introducing the learning strategies (one group CM and the other group MM).

### CM Group

Harris and Graham (2007, as cited in Nosratinia, Amini, & Sarabchian, 2013) introduce five stages for CM: strategy description, discussion of goals and purposes, modeling of the strategy, student mastery of strategy, and guided practice and feedback. The descriptions of the abovementioned stages are as follows:

1. *Strategy description.* As an introduction, the students were told that they were going to learn about the strategy of CM that could be used to categorize information in a graphic form through drawing.
2. *Discussion of goals and purpose of strategy.* CM was described as a strategy that could help learners develop their writing.
3. *Modeling the strategy.* In this stage, the following steps for creating a CM was described:

#### Step 1:

The teacher introduced a topic from the course book that all the students were familiar with, such as family. Then, the teacher drew a square in the center of the board and wrote “family” on it.

#### Step 2:

The students named the different members of the family and the teacher drew lines from the square for each of the members involved. After that, she drew a circle at the end of each of the lines and wrote each member in one circle.

#### Step 3:

The teacher chose one of the members (such as daughter) and described her. Then she wrote each characteristic on the whiteboard and drew a circle around each in the same line associating the circles with lines toward the previous circle (daughter).

#### Step 4:

The teacher wrote some sentences on the board describing the daughter of the family based on her characteristics written earlier, such as:

*The family has one daughter. She is a doctor. She is so beautiful. She has long brown hair with blue eyes.*

Then the teacher put those sentences in the format of a paragraph.

#### Step 5:

The teacher gave students enough time to state the other characteristics of the daughter and complete the paragraph about her in the same manner.

4. *Students' mastery of strategy.* During this stage, the teacher encouraged the students to draw the other parts of the CM for the rest of the members. Then, the teacher selected some students to show their maps to the classmates.
5. *Guided practice and feedback.* In this stage, the teacher collected the maps of the students and after reviewing them and correcting the mistakes, returned the corrected CMs to the students. Subsequently, the teacher gave the students a copy of a CM from *Learning How to Learn* (Novak & Gowin, 2006) to use it as a guide and become more familiar with the strategy.

### MM Group

For the MM group, the *Mind Mapping Writing Center Learning Guide* by the University of Adelaide (2014) was adopted. The students were instructed to make the MM through the following steps: Place the central theme/main idea in the center of the page, use lines, arrows, speech bubbles, branches, and different colors as ways of showing the connection between the central theme/main idea, choose different colors to symbolize different things, and leave some space on the page in order to add to the diagram over a period of time.

Next, the MM was described as a strategy used to categorize information in colorful graphics through drawing to help learners develop their writing. To encourage the students to participate in the learning process, the teacher wrote the ideas on the whiteboard. The descriptions of the aforementioned stages are as follows:

1. *Place the central theme/main idea or controlling point in the center of a blank page.* The teacher asked the students to pick an A4 sized paper and place it in landscape position.
2. *Use lines, arrows, speech bubbles, branches, and different colors as ways of showing the connection between the central theme/main idea and the ideas which stem from that focus.* The relationships are important as they may form the essay paragraphs. In the MM group too, the teacher introduced the topic of *family* to the students. Then, the teacher drew a circle in the center of the board and wrote “family” on it with a pink pen. After that, the teacher asked the students about the members of their family and drew a picture of each member of the family with different colors around the circle. Next, she associated the members to the circle by arrows with the members’ specific color, for example, red for daughter. Each member who had the more important role in the family was associated with the thicker arrow.
3. *Avoid creating an artistic masterpiece and draw quickly without major pauses or editing.* Most often, the first idea was fine and it was placed in the direction or on the branch that made the most sense. It is important in the initial stages of MM to consider every possibility even those that may not be used; hence, the teacher drew some pictures about the daughter’s education, work, and personal characteristics, for example, a mortarboard, a stethoscope, blue eyes,

and long brown hair. Then, the teacher wrote some sentences on the board in order to describe the daughter based on her characteristics (as explained in the CM group). Subsequently, the teacher put those sentences in the format of a paragraph and gave the students enough time to state the other characteristics of daughter and complete the paragraph about her in the same manner.

4. *Choose different colors to symbolize different things, e.g., choose blue for something that must incorporate in the paper, black for other good ideas, and red for the things that need to be re-searched or checked with the teacher.* The method is up to the teacher but it is best if it would remain consistent to better reflect the MM at a later stage. During this stage, the teacher encouraged the students to draw other parts of the MM for the rest of the members. Then, the teacher selected some students to show their maps to the classmates.
6. *Leave some space on the page.* This would allow the class to continue to add to the diagram over a period of time.
7. *Collect the students’ maps and after reviewing them and correcting the mistakes, return the corrected CMs to the students.* After that, the teacher gave the students a copy of an MM from *The Mind Map* by Buzan and Buzan (1994) to use it as a guide and become more familiar with the strategy.

### **Both Groups**

After the first two sessions, besides the textbooks which are taught, the students in both groups wrote two essays of about 150-200 words (one descriptive and one narrative) based on the topics which exist in their textbooks or were assigned by the teacher per session. Prior to this, the essential characteristics of descriptive and narrative

writing were of course taught based on unit 3 sections 9 and 10 of Meyers (2006) to both groups.

The students wrote the essays at home and in class in 30 minutes (one session they wrote the narrative in class and the descriptive one at home in order to save the time of the class, and the next session vice versa). The teacher asked the students of each group to use their specific strategy in five minutes (by using one sheet of paper and one pencil for the CM group and one sheet of paper and several pencils with different colors for the MM group) in class for their pre-writing in order to be sure that they used the strategies and they mastered each strategy.

During this time, the teacher checked their CM and MM shapes and helped them to have better products; the students had online access to their teacher if they had any problems. The next session, the teacher gathered their writings and their specific strategies and gave them feedback directly and individually for about 20 minutes. This procedure continued for 10 sessions and each student wrote one descriptive and one narrative essay in about 150-200 words for each session: 20 essays totally in the course.

It should be mentioned that the topics for the descriptive essays were as follows:

1. *Describe yourself.*
2. *Describe your favorite photo.*
3. *Describe where you live.*
4. *Describe a building.*
5. *Describe your favorite vacation.*

**Table 1.**  
*Descriptive Statistics for the PET Administration*

	N	Minimum	Maximum	Mean	Std. Deviation
PET Administration	100	15	74	50.00	14.172
Valid N (listwise)	100				

### Posttests

The researchers administered the two posttests in the two CM and MM groups once the treatment was completed. As shown in Table 2 below, the mean and standard deviation of the CM group on

6. *Describe one of your perfect days.*
7. *Describe your best friend.*
8. *Describe your favorite food.*
9. *Describe a frightening event.*
10. *Describe a family tradition.*

The topics for narrative essays were as follows:

1. *An experience or event that had an unexpected ending.*
2. *An event happened to a person you dislike.*
3. *An event that influenced your life.*
4. *A day that you were sick.*
5. *A dangerous or risky experience.*
6. *A significant memory.*
7. *One of your serious disadvantages.*
8. *A memorable vacation.*
9. *A frightening experience from your childhood.*
10. *The experience of shopping.*

On the final session, the writing posttest (described earlier) was administered to both groups.

## RESULTS

### PET Administration

Following the piloting of the PET, the PET test was administered to 100 students with the aim of selecting 60 of them for the study. The descriptive statistics of this process are presented below in Table 1 with the mean and standard deviation being 50.00 and 14.17, respectively. Furthermore, the reliability stood at 0.89.

the descriptive writing posttest were 19.15 and 3.54, respectively. In the MM group, however, the mean was 20.05 while the standard deviation stood at 3.64.

**Table 2.****Descriptive Statistics for the Descriptive Writing Posttest in Both Groups**

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
Descriptive Writing Posttest – CM Group	30	11	25	19.15	3.538	-.377	.427
Descriptive Writing Posttest – MM Group	30	12	25	20.05	3.644	-.240	.427
Valid N (listwise)	30						

Following the administration of the descriptive writing posttest, the narrative writing posttest was given to the two groups with the descriptive statistics of this administration appearing in Table 3 below. As displayed in the table, the

mean and standard deviation of the CM group were 19.80 and 3.36, respectively. In the MM group, however, the mean was 20.07 while the standard deviation stood at 3.68.

**Table 3.****Descriptive Statistics for the Narrative writing Posttest in Both Groups**

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
Narrative writing – CM Group	30	11	25	19.80	3.357	-.683	.427
Narrative writing – MM Group	30	13	25	20.07	3.683	-.399	.427
Valid N (listwise)	30						

**Responding to the Research Questions**

To respond to both research questions of the study, the researchers conducted a one-way multivariate analysis of variance (MANOVA). Running a MANOVA requires certain preliminary measures. The first prerequisite is checking the

normality of the distribution of the scores on the two posttests within each group. As Table 4 shows, all the four sets of scores of the two groups fell within the acceptable range (between  $\pm 1.96$ ).

**Table 4****Normality Checks of the Scores Obtained on the Two Posttests by Both Groups**

	N	Skewness	Skewness ratio
	Statistic	Statistic	Std. Error
Descriptive writing – CM Group	30	-.377	.427
Descriptive writing – MM Group	30	-.240	.427
Narrative writing – CM Group	30	-.683	.427
Narrative writing – MM Group	30	-.399	.427
Valid N (listwise)	60		

The next assumption is checking the multivariate normality. According to Table 5, the Mahalanobis maximum distance is 6.538 which is

less than the critical value of 13.82 (Pallant, 2007). This means that there are no multivariate outliers in the data and thus the assumption of

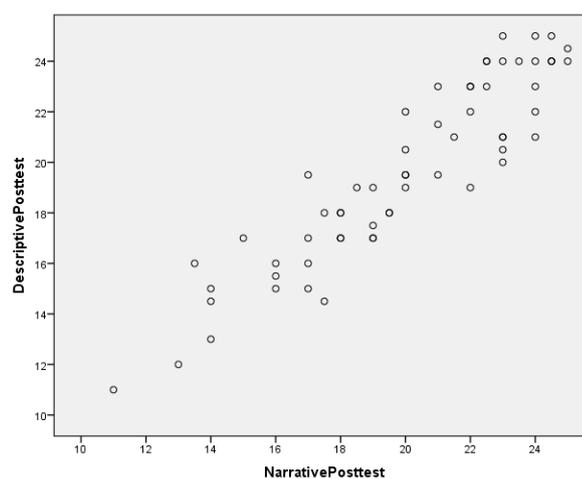
multivariate normality has not been violated.

**Table 5.**  
*Regression Output: Residuals Statistics*

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.95	2.15	1.50	.280	60
Std. Predicted Value	-1.952	2.308	.000	1.000	60
Standard Error of Predicted Value	.056	.152	.092	.026	60
Adjusted Predicted Value	.95	2.16	1.50	.282	60
Residual	-.635	.773	.000	.419	60
Std. Residual	-1.490	1.812	.000	.983	60
Stud. Residual	-1.515	1.844	.002	1.004	60
Deleted Residual	-.657	.800	.001	.438	60
Stud. Deleted Residual	-1.533	1.885	.004	1.012	60
Mahalanobis Distance	.018	6.538	1.967	1.677	60
Cook's Distance	.000	.132	.015	.021	60
Centered Leverage Value	.000	.111	.033	.028	60

The next assumption is linearity. As Figure 1 demonstrates, there is no obvious evidence of

non-linearity and thus the assumption is satisfied.



**Figure 1.** *Scatterplot of the Narrative Writing and Descriptive Writing Posttest Scores Obtained*

The next assumption is equality of covariance matrices. According to Box's test, the significance value is 0.991 which is larger than 0.05 and thus the assumption is not violated. The final

assumption is the Levene's test of equality of error variances. According to Table 6, neither significance value is smaller than 0.05 and thus the assumption is met.

**Table 6.**  
*Levene's Test of Equality of Error Variances*

	F	df1	df2	Sig.
Descriptive writing Posttest	.795	1	58	.376
Narrative writing Posttest	2.100	1	58	.153

With the above assumptions in place, the MANOVA could be performed. Table 7 below demonstrates the Multivariate test: the result of the Pillai's Trace Test specified that  $F = 12.73$  and  $p = 0.000 < 0.05$ . It could thus be concluded

that there was a statistically significant difference between the two experimental groups with the MM group which gained a higher mean in both posttests (Tables 2 and 3) outperforming the CM group.

**Table 7.**  
*Multivariate Tests*

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.993	4168.404 <sup>a</sup>	2.000	57.000	.000
	Wilks' Lambda	.007	4168.404 <sup>a</sup>	2.000	57.000	.000
	Hotelling's Trace	146.260	4168.404 <sup>a</sup>	2.000	57.000	.000
	Roy's Largest Root	146.260	4168.404 <sup>a</sup>	2.000	57.000	.000
Group	Pillai's Trace	.309	12.728 <sup>a</sup>	2.000	57.000	.000
	Wilks' Lambda	.691	12.728 <sup>a</sup>	2.000	57.000	.000
	Hotelling's Trace	.447	12.728 <sup>a</sup>	2.000	57.000	.000
	Roy's Largest Root	.447	12.728 <sup>a</sup>	2.000	57.000	.000

Table 8 below demonstrates the test of between-subjects effects as part of the MANOVA output. As illustrated in this table, the two groups turned out to have a statistically significant difference in the descriptive writing posttest,  $F_{(1,54)}$

$= 5.91$  and  $p = 0.018 < 0.05$ . In other words, *MM instruction did have a significantly better impact on EFL learners' descriptive writing compared to CM instruction.*

**Table 8.**  
*Tests of Between-Subjects Effects*

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	Descriptive writing Posttest	30.817a	1	30.817	5.915	.018	.093
	Narrative writing Posttest	1215.000b	1	1215.000	20.636	.000	.262
Intercept	Descriptive writing Posttest	22388.017	1	22388.017	4297.314	.000	.987
	Narrative writing Posttest	261624.067	1	261624.067	4443.482	.000	.987
Group	Descriptive writing Posttest	30.817	1	30.817	5.915	.018	.093
	Narrative writing Posttest	1215.000	1	1215.000	20.636	.000	.262
Error	Descriptive writing Posttest	302.167	58	5.210			
	Narrative writing Posttest	3414.933	58	58.878			
Total	Descriptive writing Posttest	22721.000	60				
	Narrative writing Posttest	266254.000	60				
Corrected Total	Descriptive writing Posttest	332.983	59				
	Narrative writing Posttest	4629.933	59				

Furthermore, Table 8 specifies that there is a statistically significant difference in both experimental groups in the narrative writing posttest:  $F_{(1,54)} = 20.64$  and  $p = 0.000 < 0.05$ . In other words, *MM instruction did have a significantly better impact on*

*EFL learners' narrative writing compared to CM instruction.* The effect size using Eta squared was 0.27, indicating a large effect size, which means that the instruction accounted for 27% of the overall variance (Pallant, 2007).

## **DISCUSSIONS AND LIMITATIONS**

The findings of the current study are consistent with those of a number of studies proving the advantageousness of MM instruction on EFL learners' writing at different levels and in different contexts (e.g., Al-Jarf, 2009; Riswanto & Putra, 2012; Supriyanto, 2013).

Furthermore, the results of the present study are in line with certain previous studies proving the usefulness of MM instruction for learners' descriptive writing (Nurlaila, 2013; Padang & Gurning, 2014) and narrative writing (Novilasari & Nugroho, 2014). And of course the findings corroborated Eppler's (2006) conclusion that there are some similarities and differences between CM and MM strategies leading to different outcomes.

Throughout the course of the treatment in both groups, the researchers found that the learners in the MM group had become more interested in using the maps as they enjoyed working with different colors, signs, pictures, bubbles, etc. The researchers vividly observed that using MM in the process of teaching writing can enhance students' enthusiasm and participation in the learning process. This is perhaps the case as MM removes the pressure of not knowing how to start, continue, and finish the process of writing alongside giving more freedom to use personal and individual icons. The learners could also make their MMs personal as each of them had different experiences and point of views compared to others.

However, the learners in the CM group that had to use the boxes in accordance with the linear structure which needed more elaboration and time to draw a map were sometimes a little bored. The researchers observed that as the students had to use more connections and relations in this type of mapping, it was harder for them to read their maps than the MM group. Moreover, in this strategy, the students needed more time to draw their maps and were at times confused in using the relations.

Additionally, the MM group became more creative than the CM group by using the strategy.

They could remember and add more details during the process of writing which was crucial for description and narration. For example, when they had to describe themselves, they could use more adjectives; when they had to narrate a frightening experience from their childhood, they could add more details about the events.

Interestingly, it was not just the students in the MM group who benefitted more; using the MM strategy in this study also increased the teacher's own awareness of the usefulness of the strategy that could be used in other learning and teaching aspects such as reading and listening comprehension. When the students read the texts or listened to the audio files of the materials, they could use the strategy in order to subsume the new materials into the old knowledge; hence, they could remember and comprehend the texts more.

## **CONCLUSION**

In order to promote further CM and MM in ELT programs (or mainstream them in contexts where they already exist), teacher training centers and institutions obviously need to familiarize teachers with such techniques. This training could be done both for teachers who are being trained to become teachers or those already engaged in the practice of pedagogy in the form of in-service courses.

Syllabus designers and materials developers can provide the content of teaching materials with comprehensible and proper tasks and exercises to familiarize learners with different mapping strategies, especially MM. It is also suggested that more exercises and tasks be used in order to enhance students' learning. This would allow teachers to talk less and let students learn more through constructing their own knowledge and thinking about various choices and alternatives possible.

In the process of conducting this study, certain suggestions for other studies in line with the one at stake came to the researchers' mind which are as follow: first of all, CM and MM were compared with one another in terms of their impact on descriptive and narrative writing. Other stud-

ies could be conducted to find out whether these two have different impacts on other genres of writing. Secondly, CM and MM were compared with one another separately. Another study could be conducted to find out whether a combination of both would benefit learners too or not. And finally, only female students participated in this research; it would be interesting to see whether gender was also a factor in this study.

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