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## THE EFFECTIVENESS OF USING MIND MAPPING STRATEGY IN DEVELOPING WRITING SKILLS FOR SIXTH YEAR PRIMARY SCHOOL STUDENTS IN QATAR

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### Abstract:

This study aimed at investigating the effectiveness of using Mind mapping strategy in developing writing skills for sixth year primary school students in Qatar. Quasi-experimental design was used in this study. The population was the sixth year students of Al Forqan primary school for boys with a total number of 103 students. Out of this population, a purposive sample of 51 students was taken, the control group (27 students) and the experimental group (24 students). First, the data was collected by using a prewriting test. Then, the experiment had been implemented. Next, the second part of the data was collected using the posttest. The data obtained were analyzed by using t-test formula. The findings of study were: A) there are statistically significant differences between the mean scores obtained by participants in the pre-test and those of the post-test of the experimental group in writing skills in favor to the posttest. B) there are statistically significant differences between the mean scores obtained by participants in the post-test of the control group and the experimental group in writing skills in favor to the experimental group. Depending on the statistical analyses of the hypotheses of the study, we can safely conclude that exposing students to the training strategy helped them develop their performance during the post administration of the writing skills test.

In light of the results, a number of points can be recommended: writing skills via mind mapping strategy use in the primary stage specially in the 6th grade students should be emphasized in teaching writing skills. Moreover, deliberation attempts should be made to help students in the primary stage acquire and use the writing as amusing as possible. Furthermore, the objectives of teaching English language should concentrate on writing skills beyond the mechanics level and emphasize writing as a process.

**Key words:** Writing Skills, Qatar, School Students



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### 1.1 Overview

Language is a significant device and a very valuable means for human being to communicate with other people. By using language, people can talk and understand each other. There are four skills for a language; listening, speaking, writing and reading. Writing as one of these four fundamental language skills, it is a basic means of communication. Moreover, writing not only plays an important role in constructing knowledge but also in supporting thinking and negotiating meaning.

Writing is an essential part of the lesson, not only in language class, but also in other classes such as Arabic, Science, Mathematics, and History etc. Writing sub skills are complex and sometimes difficult to teach, requiring mastery not only of grammatical and rhetorical device but also of conceptual and judgmental elements (Heaton, 1988). As Harmer (2002) states that writing is a basic language skill, just as important as speaking, listening and reading.

For students, writing is a necessity that serves as one predictor of academic success which depends on an adequate degree of writing fluency. Also, Writing skills can be categorized as (a) higher-level writing skills, which include planning, organizing, and revising, and (b) lower level writing skills, which include handwriting, grammar, punctuation, capitalization and spelling. All of these skills may limit students' ability to respond successfully to demands of the general education curriculum. Students who have not acquired good writing skills cannot make full use of writing to support and extend their learning (Schumaker & Deshler, 2003; Graham & Harris, 2003)

Students need to know how to write letters, how to put written reports together, how to reply to advertisements and increasingly, how to write using electronic media. They need to know some of writing's special conventions (punctuation, paragraph, construction etc). The reason for teaching writing to students of English as a foreign language include reinforcement, language development, language style, and most importantly writing as a skill in its own right (Harmer, 1998).

Mind mapping is a non-linear prewriting technique which helps students in generating more ideas. This strategy seems to be consistent with several theories and approaches in education. Furthermore, Buzan (2003) maintains that mind mapping is a natural function of the human mind.

Mind mapping strategy is one of the teachers' strategies in teaching. Not only mind maps generate ideas, but also show the overall structure of a subject and the relative importance of individual parts of it. Moreover, Howitt (2009: p.42) clarifies that Mind maps have been a highly effective tool for teaching and learning in both primary and secondary schools for many years. Additionally, It helps students to associate ideas, think creatively, and make connections that might not otherwise make sense (Buzan, 2010). In the same way, Alamsyah (2009) explains that mind maps work well as their visual design enables students to see the relationship between ideas, and encourages them to group certain ideas together as they proceed. Also, Mind maps work especially well when created in groups, since the discussion this engenders aids the production of ideas, and makes the task livelier and more enjoyable. In addition, The mind mapping strategy can be used to explore almost any topics in writing and also used in every kind of writing such as: narrative, descriptive, recount, persuasive, argumentative, essay etc. Students can improve their ideas and lend themselves to discussing ideas in groups in order to increase students' interest of learning English especially in writing skill.

### 1.2 Statement of the problem

The researcher as a teacher of English language for more than 13 years observed that students know some vocabularies and expressions through spoken language and when they start to exercise writing, they become confused. Writing is the natural outlet for the students' reflections and thinking. Therefore, the current study attempted to investigate developing the sixth year primary students' writing skills through the use of mind mapping strategy.

### 1.3 Significance of the study

The need for this study lies on the following points; Trying to find an effective method and a coherent way to help sixth primary students to develop their writing skills. Moreover, writing is one of the most important language skills for students in the primary stage. Drawing

attention of EFL teachers to use mind mapping strategy as a means of developing students' writing skills, too. Additionally, helping teachers to motivate students to write and organize their ideas in an interesting way as well as helping students generate their ideas.

#### **1.4 Objective of the Study**

The objective of this study is to investigate and identify effectiveness of using mind mapping strategy in developing writing skills for sixth year primary students in Qatar. Also, to use mind mapping strategy in developing writing skills for sixth year primary students. Furthermore, characterize the main features of mind mapping strategy that helps in developing writing skills.

#### **1.5 Questions of the Study**

This study identifies the problem in the following major question:

What is the effectiveness of using mind mapping strategy in developing writing skills for sixth year primary School Students?

This question can be sub-divided into the following questions:

1. What is mind mapping strategy?
2. What are the main writing skills for the sixth year primary stage students?
3. What are the bases of mind mapping strategy in developing writing skills for sixth year primary school students?
4. Can mind mapping strategy help in developing writing skills for sixth year primary school students?

#### **1.6 Hypotheses of the Study**

To answer the previous questions, the researcher will start with the following hypothesis:

1. There would be no statistically significant differences between the mean scores of the students of the two groups of the study regarding the selected writing skills on the pre-test.
2. There would be statistically significant differences between the mean scores of the students of the experimental group of the study regarding the selected writing skills on the pre- post-test in favor of the post-test.
3. There would be statistically significant differences in the mean scores between the two groups (the experimental group and the control one) in the writing skills post-test in favor of the experimental group.

#### **1.7 Methodology of the study**

This study depends on the quasi experimental design - as the sample is chosen purposefully- to investigate effectiveness of using mind map in developing writing skills in English subject of sixth - grade Students by dividing the sample into two groups ; experimental group and control one.

#### **1.8 Limitations of the study**

##### **1. The place limitation:**

Only Al Forqan Private School for boys (primary stage) in Qatar.

##### **2. The human limitation:**

The study community is sixth primary students in Qatar.

##### **3. The subject limitation:**

Only the writing activities for composition in the sixth grade English books (get smart B, student's book and workbook) and the writing skills of the supreme council of education in Qatar which are; content, structure and grammar, spelling and punctuation.

#### **2.1 Review of Literature**

##### **2.1.1 Mind mapping concept**

Mind mapping is a method of generating ideas and a process of networking. Buzan, (1984) states that the mind is perfectly capable of taking in information which is non-linear. It usually observes things which include common non-linear forms of print: photos, illustrations, diagrams etc... . He added that mind Mapping is a form of visual thinking done by writing one's ideas down in the form of pictures or other graphical representation in order to get as clear a picture of the subject in question as possible.

### 2.1.2 Concept maps Vs mind maps

Concept maps were developed in 1972 in the course of Novak's research program at Cornell University where he sought to follow and understand changes in children's knowledge of science (Novak & Musonda, 1991). Eppler (2006) defines a concept map as a top-down diagram showing the relationships between concepts, including cross connections among concepts, and their manifestations. Guerrero & Ramos (2015 : p.4) distinguish between the mind map and the concept map in some differences such as; firstly, a mind map has one central idea or item of information but a concept map can have several ideas. Secondly, reading direction of mind maps is center-out, in the case of concept maps it is top-down. Thirdly, mind mapping use more graphical elements than concept maps. Fourthly, mind maps are easier to create , more extensible and less formed and structured than concept maps. Fifthly, mind maps encourages more creativity and requires less training than concept maps. Finally, mind maps are easier to use in an automated way.

### 2.1.3 Method of mind mapping

Making a mind map is not a complicated process. Also, there are several ways for creating a mind map and it can be created manually (paper and pen-based) or using a software application like; tablets, smart phones, laptops or desktops mind mapping software.

On the first hand, It's easy to make a mind map manually using a paper, colored pens and the brain, (Buzan, 2003 p.10,11). Consequently, he expresses five steps to make a mind map as follows:

1. Use a blank sheet of unlined paper and some colored pens.
  2. Draw a picture of the main topic in the middle of the page.  
"a picture is worth a thousand words." , Buzan ( 2012). On the other hand, sometimes you can replace the central picture with a written word.
- Draw some curved lines – connected to the picture in the middle- for the main ideas. So, Buzan (2012) clarifies that straight lines are boring to brain.
  - Name each of these ideas and draw a small picture ( this uses both sides of the brain)
  - From each of these ideas, draw other connected lines like the branches of the tree and add your thoughts on each.



### 2.1.4 Skills of writing

As Purnomo (2014) clarifies, a good writing is the writing in which the writer can fulfill the element of the writing perfectly. Moreover, Haris (2011) states that some elements in a good writing include content, form, style and mechanic. Moreover, Graham, et al (2012), state that handwriting, spelling and sentence construction are the basic writing skills which students need in order to translate their thoughts and ideas into writing. Hence, problems with the basic writing skills have an impact on the quality of writing (Graham, 1999).

### 2.1.5 Different approaches for teaching writing

Because of its complexity, most approaches to language teaching delay the teaching of writing to later stages till the learners acquire adequate amounts of vocabulary, grammatical rules, and the required linguistic background; which the students learn throughout spoken language activities besides reading exercises (Dadour & El- Esery, 2014). They also clarify that the history of the teaching of second/foreign language writing reveals that there have

been two major approaches of teaching writing: product-based and process-based approaches.

On the other hand, Raimes (1993), (cited in Albeshier, 2012) clarifies that there are three principal writing approaches: the product approach that is concerned with form, the process approach that concentrates on the writer, and the genre approach that pays attention to the reader.

### **2.1.6 Mind mapping as a prewriting strategy**

Mind maps are particularly helpful in the writing process and provide students with a natural way of thinking and building thoughts on a story plot or theme. And it helps students brainstorm and explore any idea, concept, or problem, (www.inspiration.com). According to Wycoff (1986), mind mapping as a prewriting technique or strategy goes by a variety of names: “mind mapping”, “clustering”, “bubbling”, “clumping” or “webbing” and they refer to the same concept. Moreover, Adam & Mowers (2007) state that mind or concept maps are invaluable visual tools for planning a piece of writing. They add that graphic representations of ideas and how they are connecting to each other can help students organise their thoughts in a visual before taking pen to a paper.

### **2.1.7 Previous Studies**

According to most of the related studies that the researcher has revised specially the previous studies, the researcher reached some important notes as follows:

- 1- According to Shehata (2013), El-Kady (2011), Al-Shater (2006), Al-Shafie (2006) and others, There was a clear progress and effectiveness of using the different programs for teaching writing and some other language skills in developing all the language skills generally and the writing skill especially. Moreover, according to Elashri (2013), Cavkaytar (2008), Al-Hassan (2006) and others, there was a significant proof for effectiveness of using new approaches in teaching writing skills for students in different grades. Furthermore, according to Sopkota (2012), Mohammed (2011), Said (2008) and others, there was an obvious progress of using some new techniques and strategies for teaching writing in the students' writing skills. This means that we are in need for more studies that aim at investigating new methods of teaching or new graders.
- 2- This study differs from the study of Wai Ling (2004) as it investigates using mind mapping strategy in the primary stage and also it differs in the procedures and the chosen writing skills.
- 3- There are not many related studies of the mind map strategy and its effectiveness on the four language skills; listening, reading, speaking and writing.
- 4- Despite the several related studies that dealt with the preparatory stage, the secondary stage and the university students, there is a lack of the studies that investigated effectiveness of mind mapping strategy in developing the writing skills in the primary stage, specially the sixth graders. Therefore, the need for the present study is revealed

### **3.1 Methodology of the study**

The pretest-posttest quasi- experimental design was used in the present study as the researcher selected a purposeful sample.

#### **3.2 Variables of the study**

There are two variables in the present study as the following:

- (1) The dependant variable: Writing Skills
- (2) The independent variable: Mind Mapping Strategy

### **3.3 Sample of the study**

The researcher used a purposive sample which is the sixth year in Al Forqan primary school for boys in Qatar (they have been learning English for six years). The sample consisted of two classes (51 students) and it is divided into two groups:

- 1)An experimental group which was taught using the mind mapping strategy. It is consisted of (24) students which represents class 6/4.
- 2)A control group which was taught using the traditional method. It sis consisted of (27) students which represents class 6/2.

### **3.4 Instruments of the study**

This study tools and instruments are:

- 1- A pre-test for measuring students' writing skills (prepared by the researcher)
- 2- A post-test for measuring students' writing skills (prepared by the researcher)
- 3- A list of the writing skills used as a scale for measuring sixth primary students writing activities according to the supreme council of education in Qatar.

**4. Data Analysis & Discussion**

**4.1 Testing the first hypothesis:**

There would be no statistically significant differences between the mean scores of the students of the two groups of the study regarding the selected writing skills on the pre-test. To verify the first hypothesis, the researcher used The "t-test" and Eta- Squared formula of the two groups of the study to determine the significance of differences between the mean scores of the groups of the study before carrying out the experiment.

Table (4.1) presents the descriptive statistics of the four writing skills of the two groups of the study before implementing the experiment. As shown in the table, there were high means for each skill in the two groups.

Group		N	Mean	Std. Deviation	t	Sig. (2-tailed)
content	control group	27	4.6667	2.17061	0.517	.607
	Experimental group	24	4.3125	2.71394		
grammar	control group	27	.7037	.39854	-2.206	.032
	Experimental group	24	1.0208	.61643		
spelling	control group	27	1.2963	.63940	-0.615	.541
	Experimental group	24	1.4375	.98149		
punctuation	control group	27	1.0926	1.03809	-0.043	.966
	Experimental group	24	1.1042	.85946		
total	control group	27	7.7593	3.93058	-0.094	.926
	Experimental group	24	7.8750	4.88175		

Table (4.1): T-value of the pretest writing skills

The tables (4.2), (4.3), (4.4), (4.5), (4.6) presents the descriptive statistics of the four writing skills one by one of the two groups (the control group and the experimental group) of the study before implementing the experiment.

Group	N	Means	Standard deviation	T-value	degrees of freedom	Level of Significance
Control	27	4.667	2.17	0.517	49	0.607 non-significant
Experimental	24	4.313	2.71			

Table 4.2 : T-value of the content skill of the pre-test

Group	N	Means	Standard deviation	T-value	degrees of freedom	Level of Significance
Control	27	1.093	1.04	-0.043	49	0.966 non-significant
Experimental	24	1.104	0.859			

Table 4.3 : T-value of the punctuation skill of the pre-test

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Group	N	Means	Standard deviation	T-value	degrees of freedom	Level of Significance
Control	27	1.296	0.639	-0.615	49	-0.141 non-significant
Experimental	24	1.438	9.81			

Table 4.4 : T-value of the spelling skill of the pre-test

Group	N	Means	Standard deviation	T-value	degrees of freedom	Level of Significance
Control	27	0.704	0.399	-2.206	49	0.032 significant
Experimental	24	1.021	0.616			

Table 4.5 : T-value of the grammar skill of the pre-test

Group	N	Means	Standard deviation	T-value	degrees of freedom	Level of Significance
Control	27	7.76	3.93	-0.094	49	0.926 non-significant
Experimental	24	7.88	4.88			

Table 4.6 : T-value of the total skills of the pre-test

As shown in table (4.1) totally and in tables, (4.2), (4.3), (4.4), (4.5), (4.6) there were no significant differences between the obtained mean scores of the two groups concerning all the writing skills at a significance level of (0.05%), where the (T-value) Sig. was less than the level of significance, that is to say there were no statistical significant differences between the mean scores of the two groups. Accordingly, the first hypothesis proved to be correct. Therefore, the researcher can safely say that there are no statistically significant differences between the mean scores of the students of the two groups of the study regarding the selected writing skills on the pre-test.

4.2 Testing the second hypothesis:

There would be statistically significant differences between the mean scores of the students of the experimental group of the study regarding the selected writing skills on the pre- post-test in favor of the post-test.

Table (4.7) presents the descriptive statistics of the four writing skills of the experimental group of the study before and after implementing the experiment.

skill	test	Mean	N	Std. Deviation	t	Sig. (2-tailed)
total	post	11.542	24	6.9452	2.335	0.0239
	pre	7.8750	24	4.88175		
grammar	post	2.0208	24	1.44070	2.676	0.0102
	pre	1.0208	24	0.61643		
spelling	post	2.0203	24	1.2378	1.809	0.0769
	pre	1.4375	24	0.98149		
punctuation	post	1.3958	24	0.70678	1.958	0.056
	pre	1.1042	24	0.85946		
content	post	6.1041	24	2.90801	2.236	0.0302
	pre	4.3125	24	2.71394		

Table (4.7)The four writing skills for pre-post test of the experimental group

\* Significant at 0.05 level

The tables (4.8), (4.9), (4.10), (4.11), (4.12) presents the descriptive statistics of the four writing skills one by one of the experimental group of the study before and after implementing the experiment at the level of (0.05%).

Table: (4.8): T-value calculated between the mean scores of the total writing skills of the experimental group students on the pre- post-test

Test	N	Means	Standard deviation	T-value	degrees of freedom	Level of Significance
Pre-test	24	7.8750	4.88	2.335	46	0.0239 significant
Post-test	24	11.542	6.94			

Table (4.8) The total writing skills for pre-post test of the experimental group

Test	N	Means	Standard deviation	T-value	degrees of freedom	Level of Significance
Pre-test	24	4.312	2.713	2.236	46	0.0302 significant
Post-test	24	6.104	2.908			

Table (4.9) The content skill for pre-post test of the experimental group

Test	N	Means	Standard deviation	T-value	degrees of freedom	Level of Significance
Pre-test	24	1.020	0.616	2.676	46	0.0102 significant
Post-test	24	2.020	1.440			

Table (4.10) The grammar skill for pre-post test of the experimental group

Test	N	Means	Standard deviation	T-value	degrees of freedom	Level of Significance
Pre-test	24	1.437	0.981	1.809	46	0.0769 non-significant
Post-test	24	2.020	1.237			

Table (4.11) The spelling skill for pre-post test of the experimental group

Test	N	Means	Standard deviation	T-value	degrees of freedom	Level of Significance
Pre-test	24	1.1042	0.859	1.958	46	0.056 non significant
Post-test	24	1.3958	0.706			

Table (4.12) The punctuation skill for pre-post test of the experimental group

As shown in tables (4.8), (4.9), (4.10), (4.11), (4.12) the t-values were (2.335, 2.676, 1.809, 1.958, 2.236) and the levels of significance were (0.0239, 0.0102, 0.0769, 0.056, 0.0302) and there were significant differences between the obtained mean scores of the pre- post tests in the experimental group concerning all the skills totally at a significance level of (0.05%) and the content skill and the grammar skill.

As a complementary procedure to ensure that the effect of the proposed program on enhancing the 6th students' writing skills, the effect size of the program was tested by using the Eta-Squared formula ( $\eta^2$ ). As shown in table (4.13), the effect size (Eta- squared) values were (0.19), (0.24), (0.12), (0.14), (0.18) of the proposed program is medium effective. Cohen (1988), cited in Abdel Raheem (2011), asserted that when Eta squared value ( $\eta^2$ ) is less than

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0.1 it means that the significance is weak, when ( $\eta^2$ ) is more than 0.1 and less than 0.6 means that the significance is medium, and when ( $\eta^2$ ) is more than 0.6, it means that the significance is high. Thus, the proposed program is considered medium in developing the 6th students' writing skills.

skill	Test	N	Mean	Std. Deviation	D.f.	t	$\eta^2$	Effectiveness
total	post	24	11.542	6.9452	23	2.335	0.19	medium
	pre	24	7.8750	4.88175				
grammar	post	24	2.0208	1.44070	23	2.676	0.24	medium
	pre	24	1.0208	0.61643				
spelling	post	24	2.0203	1.2378	23	1.809	0.12	medium
	pre	24	1.4375	0.98149				
punctuation	post	24	1.3958	0.70678	23	1.958	0.14	medium
	pre	24	1.1042	0.85946				
content	post	24	6.1041	2.90801	23	2.236	0.18	medium
	pre	24	4.3125	2.71394				

Table:(4.13) the Eta-Squared formula for the pre-post test for the experimental group

Accordingly, the second hypothesis was accepted. Therefore, the researcher can say safely that there are statistically significant differences between the mean scores of the students of the experimental groups of the study regarding the selected writing skills on the pre- post-test in favor of the post test.

### 4.3 Testing the third hypothesis:

There would be statistically significant differences in the mean scores between the two groups (the experimental group and the control one) in the writing skills post-test in favor of the experimental group. Table (4.14) presents the descriptive statistics of the four writing skills of the two groups (the control group and the experimental group) of the study after implementing the experiment.

	Group	N	Mean	Std. Deviation	t	Sig. (2-tailed)
grammar	control group	27	1.0555	1.09486	-2.711	0.009
	Experimental group	24	2.0208	1.44070		
spelling	control group	27	1.48148	0.8375	-1.840	0.071
	Experimental group	24	2.02033	1.2378		
punctuation	control group	27	0.7598	0.42449	-3.949	0.00025
	Experimental group	24	1.3958	0.70678		
content	control group	27	5.2962	2.18353	-1.151	0.255
	Experimental group	24	6.1041	2.90801		
total	control group	27	8.593	4.0668	-2.087	0.042
	Experimental group	24	11.542	6.9452		

Table (4.14) The posttest statistics of the four writing skills for the two groups

Table: (4.15) presents T-value calculated between the mean scores of the total writing skills of the post test of the experimental group and the control group

group	N	Means	Standard deviation	T-value	degrees of freedom	Level of Significance
Control group	27	8.593	4.0668	-2.087	49	0.042 significant
Experimental group	24	11.542	6.9452			

Table (4.15) The posttest statistics of the total writing skills for the two groups

Table: (4.16) presents T-value calculated between the mean scores of the content skill of the post-test of the experimental group and the control group.

group	N	Means	Standard deviation	T-value	degrees of freedom	Level of Significance
Control group	27	5.2962	2.18353	-1.151	49	0.255 non significant
Experimental group	24	6.1041	2.90801			

Table (4.16) The posttest statistics of the content skill for the two groups

Table: (4.17) presents T-value calculated between the mean scores of the punctuation skill of the post-test of the experimental group and the control group.

group	N	Means	Standard deviation	T-value	degrees of freedom	Level of Significance
Control group	27	0.7598	0.42449	-3.949	49	0.00025 significant
Experimental group	24	1.3958	0.70678			

Table (4.17) The posttest statistics of the punctuation skill for the two groups

Table: (4.18) presents T-value calculated between the mean scores of the spelling skill of the post-test of the experimental group and the control group.

group	N	Means	Standard deviation	T-value	degrees of freedom	Level of Significance
Control group	27	1.48148	0.8375	-1.840	49	0.071 significant
Experimental group	24	2.02033	1.2378			

Table (4.18) The posttest statistics of the spelling skill for the two groups

Table: (4.19) presents T-value calculated between the mean scores of the grammar skill of the post-test of the experimental group and the control group.

group	N	Means	Standard deviation	T-value	degrees of freedom	Level of Significance
Control group	27	1.0555	1.09486	-2.711	49	0.009 significant
Experimental group	24	2.0208	1.44070			

Table (4.19) The posttest statistics of the grammar skill for the two groups

As shown in tables (4.15), (4.16), (4.17), (4.18), (4.19) the t-values were (-2.087, -1.151, -3.949, -1.840, -2.711) and the levels of significance were (0.0239, 0.255, 0.00025, 0.071, 0.009) and there were significant differences between the obtained mean scores of the post

tests between the control group and the experimental group in favour of the experimental group concerning all the skills totally at a significance level of (0.05%) and the punctuation skill and the grammar skill.

Accordingly, the third hypothesis was accepted. Therefore, the researcher can say safely that there are statistically significant differences between the mean scores of the students between the control group and the experimental groups of the study regarding the selected writing skills on the post-test in favor of the experimental group.

#### **4.4 Discussion of Results**

The main purpose of the present study was to investigate the effectiveness of mind mapping strategy on developing writing skills of 6th students in the state of Qatar. The results of the first hypothesis indicated that there were no statistically significant differences between the mean scores of the students of the two groups of the study (the control group and the experimental group) regarding the selected writing skills on the pre-test for grade 6 students in Al Forqan primary School for Boys. Also, the results of the pretest indicated that the students of the two groups couldn't deal with the writing skills.

The result of the second hypothesis of the study also indicated that there were statistically significant differences between the mean scores of the students of the experimental groups of the study regarding the selected writing skills on the pre- post-test in favor of the posttest. The result of the second hypothesis proved that the mind mapping strategy effectively developed the students' writing skills. It also proved that the selected writing skills could be developed if given the due care and thoughtfulness on the part of innovative and flexible teachers who adopt flexible teaching strategies which develop the writing skills for 6th grade students. This result is consistent with many foreign studies such as: (Purnomo, Adi 2014 ; Putra, Pebri Prandika & Riswanto 2012; Wai Ling 2004). Also, it is consistent with many Arabic studies such as: (Dadour, El-Sayed & Al-Esery, Aymen 2014; Al-Aifi, Rashad Fath'allah Abdel-Gawwad, 2012;

Al-Jarf, R. (2009) Which confirmed the effectiveness of using mind mapping strategy on developing writing skills.

The result of the third hypothesis proved that there were statistically significant differences in the mean scores between the two groups (the experimental group and the control one) in the total of the writing skills post-test in favor of the experimental group. The result of the third hypothesis proved that the mind mapping strategy on developing the selected writing skills in favor of the experimental group in the post test. This result is consistent with many foreign studies such as: (Purnomo, Adi 2014 ; Putra, Pebri Prandika & Riswanto 2012; Wai Ling 2004). Also, it is consistent with many Arabic studies such as: (Dadour, El-Sayed & Al-Esery, Aymen 2014; Al-Aifi, Rashad Fath'allah Abdel-Gawwad, 2012;

Al-Jarf, R. (2009). It also indicated that practicing mind mapping strategy and some other strategies would effectively develop students' writing skills.

#### **5.1 Findings**

After conducting the program and administering the tests, T-test and Eta-squared formula were used in analyzing the obtained data. Scores of the study group in the pre and posttests were analyzed and compared. Results revealed the following:

1. There are statistically significant differences between the means scores obtained by participants in the pre-test and those of the post-test of the experimental group in the total scores of the writing skills as well as in the grammar skill, the punctuation skill and the content skill at a significance level of (0.05%) after using the mind mapping strategy on the writing test in favor of the post-test.
2. There are no statistically significant differences between the means scores obtained by participants in the pre-test and those of the post-test of the experimental group in the total scores only of the spelling skill at a significance level of (0.05%) after using the mind mapping strategy on the writing test in favor of the post-test.
3. There are statistically significant differences between the mean scores obtained by participants in the post-test of the control group and the experimental

group in the total scores of the writing skills as well as in the grammar skill and the punctuation skill at a significance level of (0.05%) the after using the mind mapping strategy in favor of the experimental group.

4. There are no statistically significant differences between the mean scores obtained by participants in the post-test of the control group and the experimental group in in the spelling skill and the content skill at a significance level of (0.05%) the after using the mind mapping strategy in favor of the experimental group.

## 5.2 Recommendations

In light of the results obtained in the present study, a number of points can be recommended:

1. Writing skills via mind mapping strategy use in the primary stage specially in the 6th grade students should be emphasized in teaching writing.
2. Deliberation attempts should be made to help pupils in the primary stage acquire and use the writing as amusing as possible.
3. The objectives of teaching English language should concentrate on writing skills beyond the mechanics level and emphasize writing as a process. Hence, Writing to learn not learning to write should be a base for teaching writing as a part of language learning.
4. Mind mapping strategy as a pre-writing step should be addressed in a mandatory course for all the upper grades (4th , 5th and 6th ) of the primary school pupils.

## References

- Abd El Menam, M. (2011). The effect of using mind mapping strategy on developing English writing skill for university students. Ain Shams University, Cairo.
- Abdel Raheem, A. A.(2011). The effect of using computer edutainment on developing 2nd primary graders' writing skills. Master degree, Ain Shams University, Cairo.
- Adam, A. & Mowers, H. (Sep. 2007). Get inside their heads with mind mapping. School Library Journal
- Adodo, S. O. (2013). Effect of Mind-Mapping as a Self-Regulated Learning Strategy on Students' Achievement in Basic Science and Technology. Science and Technical Education Department, Adekunle Ajasin University. Akungba Akoko. P.M B 001, Ondo State, Nigeria. Mediterranean Journal of Social Sciences Published by MCSEER-CEMAS-Sapienza University of Rome.
- Ahlsén, E & Lundh, A. (2007). Teaching Writing in Theory and Practice A Study of Ways of Working with Writing in the 9th Grade. International Journal of Humanities and Social Science, Vol. 2 No. 21; November 2012: Stockholm
- Aikens, L. R. (2000). Psychology Testing and Assessment (8th). Allyn & Bacon. p.64
- Akinoglu, O. & Yasar, Z. (2007). the effects of note taking in science education through The mind mapping technique on students' attitude, academic achievement and concept learning. Journal of Baltic Science Education, 6(3). presented at the October /2007.
- Al-Aifi, R. (2012). Using thinking maps for developing some English writing skills of secondary school students. Mansaura: Mansaura university
- Alamsyah, M. (2009). KiatJituMeningkatkanPrestasiDengan Mind Mapping.Yogyakarta :MitraPelajar.
- Albeshar, K. B. (2012). Developing the writing skills of ESL students through the collaborative learning strategy. Newcastle University
- Al-Hassan, H. F. A. (2006). Methods of teaching English, the abstract writing skills. College of Basic education. Baghdad University. Amman: Dar Dejlal
- Al-Jarf, R. (2009). Enhancing freshman students' writing skills with a mind mapping software. Paper presented at the 5th International Scientific Conference, eLearning and Software for Education: Bucharest, April 2009.
- Al-Sayed, F. B. (2005), Statistical Psychology and measuring the human mind, AL fikr AL Araby. Cairo
- Al-shater, R. (2006). Effectiveness of the workshop approach in developing the writing skills of EFL first year secondary students and their attitudes towards EFL. Menoufia: Menoufia University

- Al sudani, A & Al karawy, K. (2011). The Effectiveness of teaching by mental maps in enhancing the creative thinking of first intermediate pupils'. Al qadisyah
- Asser, H. & Poom-Valickis, K. (2002). Learning To Write: from choosing the topic to final draft. U.S department of Education. ERIC, CS 510764, ED 462701.
- Badger, R. & White, G. (2000) A process genre approach to teaching writing, *ELT Journal*, 54 (2), 153-160.
- Badrawi, Nazly (1994). Writing in the foreign language classroom: A pain or pleasure. (In proceedings of the first EFL skills conference (New directions in writing), Center of adult and continuing Education, American University in Cairo.
- Berninger, V., Vaughan, K., Abbott, R., Brooks, A., Begay, K., Curtin, G., . . . Graham, S. (2000). Language-based spelling instruction: Teaching children to make multiple connections between spoken and written words. *Learning Disability Quarterly*, 23(2), 117-135.
- Best, John W. & Kahn, James V. (1995). *Research in Education 7th Ed.* Prentice hall of India, New Delhi.
- Brown, D. (2001) *Teaching by Principles: An Interactive Approach to Language Pedagogy*, Second Edition. New York: Pearson Education
- Budd, John W. (2004). Mind maps as classroom exercises. *Journal of Economic Education*, 35, 1, 35.
- Buzan, T. (2012). *The Ultimate Book of Mind Maps*. Thorsons, Hammersmith, London W6 8JB. EP Edition, August 2012 ISBN:9780007499564
- Buzan, T. (2010). *Mind Mapping. Untuk Anak*. Jakarta : PT Gramedia Pustaka Utama.
- Buzan, T. (2003). *Mind maps for kids*. Harper Thorsons, Hammersmith. London, W68JB
- Buzan, T. & Buzan, B. (1994). *The mind map book*, The Penguin Group, The USA, Inc.
- Buzan, T. (1988). *Super-creativity. An interactive Guidebook*. Audio Renaissance Tapes, Inc. Los Angeles, California 90069.
- Buzan, T. (1984). *Use of your head*. Edition published by book club associates by arrangement with BBC Books, London, UK.
- Byrne, Donn (1989). *Teaching writing skills*. UK: Longman
- Canas, A. J. & Novac, J. D. (2009). What is a Concept Map? , Institute for Human and Machine Cognition. From <http://learn.cmappers.net/resource/1L2W8CZG2-KLRBP-25YK>
- Cavkaytar, S. & Yasar, S. (2008). Using writing process in teaching composition skills: an Action research, Department of Primary Education, College of Education, Anadolu University, (Turkey)
- Chan, M. M. (1986). Teaching Writing as a process of communication at the tertiary level, *JALT Journal*, Volume 8, No.I
- Clouse, B. F. (1998). *Transitions From reading To Writing (Interacting With Text)*. Heinle & Heinle Publisher.
- Dadour, E. & Al-Esery, A. (2014). Manipulating mind-mapping software to develop essay writing. *Research Journal of English Language and Literature (RJELAL)*. Vol.2.Issue.2.;2014
- Elashri, I. (2013). The effect of the genre-based approach to teaching writing on the EFL Al-Azhr secondary students' writing skills and their attitudes towards writing. Mansoura: Mansoura University
- Elena, M (2012). *Composing An Easy*. Master's Degree Paper, Ministry of Education, Ion Creanga State, Pedagogical University, Republic of Moldova
- El-Kady, I. (2011). *Developing Preparatory Stage Students' Writing Skills Through Some Instructional Activities*. El-Khour: Doha
- El-shafie, S. ( 2006). The Effectiveness of Using Computers in Improving English Composition Writing for Secondary Stage Students. Menoufia
- Eppler, M. J. (2006). A comparison between concept maps, mind maps, conceptual diagrams, and visual metaphors as complementary tools for knowledge construction and sharing. *Information visualization* (2006) 5, 202-210 Palgrave Macmillan Ltd

- Fogel, H., & Ehri, L. (2000). Teaching elementary students who speak Black English Vernacular to write in Standard English: Effects of dialect transformation practice. *Contemporary Educational Psychology*, 25(2), 212–235.
- Gelb, M. J. & Caldicott, S. M. (2007), *Innovate like Edison*. Penguin group (USA), New York.
- Graham, S., Bollinger, A., Booth Olson, C., D'Aoust, C., MacArthur, C., McCutchen, D., & Olinghouse, N. (2012). *Teaching elementary school students to be effective writers: A practice guide (NCEE 2012- 4058)*. Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. From [http://ies.ed.gov/ncee/wwc/publications\\_reviews.aspx#pubsearch](http://ies.ed.gov/ncee/wwc/publications_reviews.aspx#pubsearch)
- Graham, S. & Perin, D. (2007). *Writing next: Effective strategies to improve writing of adolescents in middle and high schools – A report to Carnegie Corporation of New York*. Washington, DC: Alliance for Excellent Education.
- Graham, S. (1999). Handwriting and spelling instruction for students with learning disabilities: A review. *Learning Disability Quarterly*, 22(2), 78–98.
- Gould, E. (1989). *The Act of Writing*. McGraw-Hill Book Co., Manchester. Eric, ED 306586.
- Hadfield, Jill & Hadfield, Charles (2008). *Introduction to teaching English*. Oxford university press.
- Harmer, J (2007). *How to teach English*, Pearson Education Limited, Edinburgh Gate, England
- Harmer, J. (2002). *The Practice English Language Teaching*. New York : Edinburg Gate
- Heaton, JB. (1998). *Writing English Language Test*. New York: Edinburg Gate
- Hedge, T. (2005) *Writing*. Oxford: Oxford University Press.
- Holland, B. & Holland, L. & Davies, J (2003/2004) An investigation into the concept of mind mapping and the use of mind mapping software to support and improve student academic performance. *Learning and teaching projects*, University of Wolverhampton.
- Howitt, C. (2009). 3D mind maps: placing young children in the centre of their own learning. *Teaching science – the Journal of the Australian*. 55(2), 42-46.
- Hyland, K. (2003) *Second language writing*, Cambridge University Press.
- Inspiration Software Ink, (2015). <http://www.inspiration.com/visual-learning/mind-mapping>
- Jbeili, I. M. A. (2013). The impact of digital mind maps on science achievement among sixth grade students in Saudi Arabia. Arab East College for graduate studies, Riyadh, Saudi Arabia.
- Jordan, D. W. & Cornish, E. (2011). *Concept Mapping in a Child Centred Classroom, Student Centered Learning – Thailand*, <http://sclthailand.org/2012/12/concept-mapping-in-a-child-centred-classroom/>
- Kapka, D., Oberman, D. A. (2001). Improving student writing skills through the modeling of the writing process. Research Project, Saint Xavier University and Sky Light Professional Development Field-Based Masters Program. ERIC ED 453 536.
- Kroll, B. (1990). (Ed.) *Second language writing: Insights for the classroom*. Cambridge, UK: Cambridge University Press.
- Linden, M. &Whimbey, A (1990). *Why Johnny can't write, how to improve writing skills*, Lawrence Erlbaum Associates , Inc, New Jersey
- Martin, J.R. (1992) *English text: system and structure*, Philadelphia: John Benjamins Pub. Co.
- Mohammed, M. (2011). *The Effectiveness of Using Active Learning Strategies in Teaching Vocabulary on Developing Fifth Graders' Speaking and Writing Skills & on Their Attitudes towards EFL*. Minia University
- Murray, D. (1978). Internal revision: A process' of discovery. In *Research on Composing*, Urbana, Illinois: NCTE, 83-103.
- Nunan, D. (1999). *Second Language Teaching & Learning*. Boston: Heinle & Heinle
- Olson, D. R. (2001). What writing is. *Pragmatics and Cognition*, 9, 239 –258.
- Oatley, K. & Djikic, M. (2008). Writing as thinking, *Review of General Psychology*, the American Psychological Association. Vol. 12, No. 1, 9 –27

- Purnomo, A. (2014). Improving descriptive writing skill through mind-mapping technique. classroom action research. English Department of Educational Faculty, State Institute for Islamic Studies. Salatiga
- Putra, P. & Riswanto. (2012). The Use of Mind Mapping Strategy in the Teaching of Writing at SMAN 3 Bengkulu. *International Journal of Humanities and Social Science: Indonesia*
- Sapkota, A. (2012). Developing Students' Writing Skill through Peer and Teacher Correction: An Action Research, *Nepal English Language Teachers' Association (NELTA)*, ISSN: 2091-0487
- Said Ahmed, M. (2008). The effect of using e-mail on developing some writing skills in English for secondary stage students at the experimental schools. Zagazig University
- Shehata, D. (2013). The Effectiveness of a Proposed Internet-Based Autonomous Learning Program in Developing Secondary Graders' EFL Reading and Writing Skills. Menoufia University
- Stanley, G. (2003). Approaches to process writing from: <http://www.teachingenglish.org.uk/article/approaches-process-writing>, British Council
- Taylor, R. (2007). Develop confidence. Build a positive approach. First American edition, DK publishing 375, Hudson street, New York 10014
- The British Council, (2013). Developing writing skills in the primary classroom. Teacher workbook. Scotland
- Think Buzan, (2013) mind mapping: scientific research and studies. Thinkbuzan.com. from: <http://b701d59276e9340c5b4dba88e5c92710a8d62fc2e3a3b5f53bbb.r7.cf2.rackcdn.com/docs/Mind%20Mapping%20Evidence%20Report.pdf>
- The university of Adelaide (2014). Mind mapping, Writing Centre Learning Guide, from: [http://www.adelaide.edu.au/writingcentre/learning\\_guides/learningGuide\\_mindMapping.pdf](http://www.adelaide.edu.au/writingcentre/learning_guides/learningGuide_mindMapping.pdf)
- Tompkins, G. E. (2004). Teaching writing: balancing product and process. (4. baski). Upper Saddle River, NJ: Merrill/Prentice Hall.
- Wai Ling, C. (2004). The effectiveness of using mind mapping skills in enhancing secondary one and secondary four students' writing in a CMI school: University of Hong Kong, Masters dissertation.
- Wekad, H. (2009). The effectiveness of using mental maps on achievement in Biology topics at the cognitive levels (Memory, Comprehension, Application, Analysis, Synthesis) by first year secondary adult female students in Makkah: Om al-Kura
- Wycoff, J. (1986). Mind Mapping: Your personal guide to exploring creativity and problem-solving. USA: The Berkley Publishing Group.
- Zamel, V. (1982). Writing: The process of discovering meaning. *TESOL Quarterly* 16.
- Zamel, V. (1985). Responding to Student Writing. *TESOL Quarterly*. 19/1: 79-101, University of Massachusetts at Boston.
- Zampetakis, L. A., Tsironis, L. and Moustakis, V. (2007). Creativity Development in Engineering Education: The Case of Mind Mapping. *Journal of Management Development*, Vol. 26, No. 4, pp 370-380.
- Zinsser, w. (1988). On writing well. (6th ed.), New York, Harper.