

Utilizing a Mind Mapping Strategy to Develop EFL Preparatory Stage Students' Writing Skills

¹Ibrahim Mohamed Mohamed Saleh, ²Dr. Azza Ahmed Hamdy El- Marsafy

Abstract

The main purpose of the current study was to investigate the effect of mind mapping strategy on developing 46 randomly selected EFL preparatory stage students' writing skills from Rabaa El Adawia Preparatory School, Kafr Saqr Educational Directorate, Sharkia Governorate, Egypt, in the second semester of the academic year 2019-2020. The researcher adopted the quasi experimental design. The participants of the study were equally divided into experimental and control groups. To achieve the purpose of the study, the researcher designed an EFL writing skills questionnaire, an EFL writing pre-posttest, and a rubric. The experimental group was taught by the mind mapping strategy while the control group received regular instruction. The results of the statistical analysis indicated that the experimental group writing skills developed as a result of utilizing mind mapping strategy. So, the researcher recommended that mind mapping activities should be integrated within the learning curriculum. It is suggested that further studies should investigate the relationship between mind mapping strategy and other writing skills, i.e. critical and creative writing at various educational stages.

Key words: Mind Mapping Strategy, EFL writing skills.

I. Introduction

Writing not only plays an important role in constructing knowledge but also in supporting thinking and negotiating meaning. Writing is an important skill for any English language learner. It is the skill that most probably all students should take care of because exams depend mainly on writing ability. Being a productive language skill, writing focuses on either the process of writing or the final product.

Writing is a continuous process of discovering how to find the most effective language for communicating one's thoughts and feelings. Writing is important for communication. It makes a communication link between the writer and the reader.

Writing is an essential part of any lesson, not only in language class, but also in other classes such as Arabic, Science, History and Mathematics etc. For students, writing is a necessity that serves as

one predictor of academic success which depends on an adequate degree of writing fluency. Writing relates to the area of language proficiency that encloses how students engage in written communication in a variety of forms for a variety of purposes and audiences.

Zimmerman & Kitsantas (2002) showed that writing is one of the ways to convey an idea or a message. It is the art of thinking and feeling the words and ideas. Writing helps student-writers represent and shape their experiences. It is a process that has been related to their mental abilities.

To, Heaton (1998) 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.

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

Byrne (1991, as cited in Alsamadani, 2010) classified four sub-skills of writing:

- Grammatical skills: The ability to write sentences correctly.
- Stylistic skill: The ability to manage sentences and use language effectively.
- Mechanical skills: The ability to utilize those conventions correctly peculiar to the written language, e.g. punctuation, spelling, etc.
- Judgment skills: The ability to write in a suitable manner for a certain aim with a particular audience in mind, together with the ability to select, organize and order relevant information.

Byrne (1997) divided the problems that make writing difficult into three categories. The first, he calls psychological, which is caused by limit of interaction and feedback between the reader and the writer. The second category consists of linguistic problems. Unlike speech in which spontaneous errors can be tolerated, writers have to express themselves in a clearer and more grammatical manner in order to compensate for the absence of certain features of spoken language. The third category consists of cognitive problems; i.e. Writing has to be educated through official instruction. The organization framework for ideas in written communication has to be mastered. The complexity of the composing process is also due to the fact that it includes three main areas of choice: the ideas to be expressed, how to organize those ideas, and how to express them. The difficulty, therefore, lies in "invention" (what to say), "arrangement" (the organization of what is said), and "style" (the expression of ideas with acceptable diction and grammar).

The EFL students face several problems in writing especially content, style, organization, grammar and mechanics (Khan, 2015). This is because of many factors; the skill of writing is still transmitted in the traditional manner, teachers only care about the final product which students do in their notebooks not care about the process. Elghandour (2003) stated that lack of writing skills may be a result of using the traditional methods of language learning.

The EFL students in general, and the EFL preparatory stage students in particular seem to be lacking the writing skills necessary for their academic progress. This was concluded through the researcher's experience in EFL teaching.

According to Oxford (1990), a specific strategy can make learning easier, faster and more enjoyable, and according to Buzan & Buzan (1993) the human brain works sporadically, jumping from one topic to another. Thus, a better technique than a linear outline is to use a multi-dimensional outline which allows student-writers to put down their ideas in the form of free diagrams. This form is called Mind Mapping.

Mind Mapping is one kind of brain-based learning, that allows learners to view a whole image rather than information in parts. Brain-based learning takes the interest of the teacher and seats the student at the focus of learning. Brain-based learning strategies are learner centered and are planned to increase content retention from short-term to long-term memory (Restaino, 2011).

Budd (2004) referred to mind mapping as a diageamatic organizer in which the main classes radiate from the central image and lesser categories are portrayed as branches of larger branches. It can be used to create ideas, take notes, develop concepts and ideas, and improve memory. It is an illustrative tool that assists with managing thought, directing learning, and making connections (Stephens, & Hermus, 2007). It is a good way to introduce an overall topic, increase student involvement, and get thoughts down quickly. It also cuts across ability levels and encompasses all subject matters (Goldberg, 2004).

Moreover, Balim, Evrekli and Aydin (2007) argued that Mind Mapping is an effective brain based visual technique that helps individuals actively use their right as well as their left brains by using their associations of the concepts and ideas and the elements of the image, expression, shape, size and color.

To Buzan (2002) Mind Mapping is a strong graphic technique which gives an international key to unlock the potential of the brain. It is an optical map of ideas, laid out in a radial format around a central thought and it involves a unique combination of imagery, color, and visual-spatial arrangement that is conformed to significantly develop recall when compared to conventional methods of note-taking and learning by rote. It needs imagination and association to activate the brain in remembering something.

Howitt (2009) clarified that Mind Maps have been an effective device for teaching and learning in both primary and secondary schools for many years. mind mapping helps students support ideas, think creatively, and make connections that might not otherwise make sense (Buzan, 2010).

Alamsyah (2009) reported that Mind Maps work well because students visual design enables them to see the link between ideas, and encourages them to group certain ideas together as they proceed. Also, Mind Maps work especially well when created in groups. Besides, the Mind Mapping strategy can be utilized to explore any topics in writing and also used in every kind of writing such as: narrative,

descriptive, recount, persuasive, argumentative, essay, etc. Student-writers can improve their ideas and lend themselves to discussing them in groups in order to increase their interest of learning English.

As illustrated by Li,Yang& Chen (2010), Mind Mapping is useful for the setting of knowledge and comprehending ideas association and vocabulary learning. Mind Mapping has been planned in areas like: spelling, categorization, synonyms and free association.

- **Statement of the problem:**

In the light of the previous discussion and the pilot study results, the problem of the current study could be stated in the poor performance of the first year students in EFL writing skills. Therefore, this study was an attempt to develop these skills for the EFL First year preparatory stage students adopting the mind mapping strategy.

- **Questions of the study:**

In an attempt to overcome this problem, the following main question was addressed:

What is the effect of a Mind Mapping strategy on developing some EFL writing skills of the first year preparatory stage students ?

The following sub questions could be derived from this main question:

- 1- What are the appropriate EFL writing skills required for the first year preparatory stage students ?
- 2- To what extent do these students successfully perform these writing skills?
- 3- How can a Mind Mapping strategy be designed to develop the first year preparatory stage students' writing skills ?

- **Purpose of the study:**

This study aimed at investigating the effect of a Mind Mapping strategy on developing some writing skills for the first year preparatory stage students.

- **Significance of the study:**

The results of the study were hopefully expected to be useful to :

- a) EFL Students :
 - Improve their writing skills.
 - Encourage them to write in English correctly and accurately.
- b) EFL Teachers :
 - Encourage them to use the Mind Mapping strategy in their classes, so that they may achieve writing teaching process goals.
- c) Supervisors and curriculum designers :
 - Utilize Mind Mapping in planning and designing writing activities suitable for the first year preparatory stage students as well as in evaluating their writing performance.

- **Delimitations of the study:**

This study was delimited to:

- A random group of first year preparatory Stage students from Rabaa El Adawia Preparatory School, Kafr Saqr Educational Directorate, Sharkia Governorate, Egypt.
- Some writing skills required for the first year preparatory stage students which were determined by jury members.
- Some units and lessons from Student's Book and Workbook: New Hello English for Preparatory Schools Year One.

- **Definition of terms:**

Mind mapping strategy:

According to Buzan (2000), it is a visual tool which can be used to generate ideas, organize thinking, take notes and develop concepts.

Nast (2006) referred to a mind map as a diagram that represents semantic or other types of connections between various ideas, objects and phrases. To construct a mind map, one typically places a key idea or phrase in the center of a diagram and then adds radial connection to associated ideas, objects or phrases.

Moreover, Mckee (2009) defined mind map as a tool knowledge organization that used to elicit ideas from one or more users by placing a topic in the center of an idle space and extending out with related ideas.

According to Troy (2010), mind map is a graphical way to represent ideas and concepts. It is a visual thinking way which helps structuring information, for better analyzing, understanding, synthesizing, recalling and generating new ideas.

Operationally, the researcher of the present study defined the mind map as a simple and graphical strategy for visualizing connections between several ideas and for drawing information in diagrams, instead of writing it in sentences.

Writing:

According to Harmer (2001) writing is a kind of communication to change ideas or to express feelings through written form".

Alsamadani (2010) defined writing as a difficult, challenging process that entails discovering a thesis, developing it with supporting details, organizing, revising, and finally editing it to ensure producing an effective, error-free piece of writing.

Jahin and Idrees (2012) explained writing as a process through which writers explore thoughts and ideas, and make them visible and concrete.

Operationally, writing skill is the student's capability of writing a cohesive and a coherent paragraph of about six sentences taking into consideration the required skills, derived from the relevant

literature, such as writing a suitable topic sentence and developing it with supporting details, the logical arrangements of ideas, using correct spelling, grammar, and punctuation and writing legibly.

II. Literature Review

Writing is a vital skill in learning English as a second language. It is one of the productive skills that should be successfully performed in using a language. It is because writing has significance in improving a communicative competence of learning a language; student-writers learn and acquire language through both written and spoken ways, so that they can improve their communicative competence. EFL writing has become a main demand for sharing and interaction with the global community in which English is the common language. Therefore, students who are fluent in EFL writing can express themselves efficiently and have more privilege when applying for future jobs. Therefore, students' ability to present information and ideas through their writing has an integral role in academic and professional success.

To Huy (2015), writing is an important skill in EFL teaching for many reasons. The first reason is that writing is a good way that helps student-writers develop their abilities of using vocabulary, grammar, and using language in general. The second reason is that writing is an important tool that can enhance other skills. If a student is good at writing, he or she can speak and read the text more effectively. The third reason is that writing is a way to approach modern information technology as well as the human knowledge. Finally, writing skill can help people be well prepared when finding a job or attend English courses.

In spite of the importance of writing skill in EFL teaching, it is a challenging language skill. EFL students face many problems in writing, specifically in capitalization, punctuation, language use, tenses, preposition, spelling etc. There are many studies, which showed how EFL students lack writing skills. These studies are shown as follows:

Ghabool, Mariadass and Kashef (2012) explored the different challenges of the writing development process in terms of its three aspects, namely writing conventions, punctuation, and language use (correct use of grammar) in secondary level from learners and educators' experiences. The data was gathered from participants who were thirty ESL students and ten teachers who were teaching English language for secondary levels with different teaching experiences. A questionnaire and an essay examination were the main instruments of the study. The findings indicated that Malaysian ESL learners have difficulties in writing tasks, especially in language use (grammar) and punctuation. The first language intercession was also very perceptible in their writings. Some practical methods to cope with writing difficulties were suggested.

According to Jensen (2007), one of the important factors for the educational environment is the visual climate. The human eye is able to record about 36 thousand visual messages every hour. This means that about 80% of the information that is understood is visual. So, the picture is important in learning.

Velliari (2009) pointed out that mind mapping strategy is an effective means to take notes and brain storm

essay topics. It contains summary writing down a central theme and thinking of new ideas which radiate out from the center. By focusing on key ideaswrittendowninstudents' ownwordsandlookingforconnectionsbetweenthem,they canmapknowledgeinawaythatwillhelpthemtobetterunderstandandretaininformation. Good mind maps help students illustrate their project graphically, and from there on they can easily expand and develop more detailedideas.

- Data Analysis

Verifying the study Hypotheses

To determine whether participants overall writing skills improved after implementing the experimental treatment using mind mapping strategy, the hypotheses of the study were tested by using the Statistical Package for Social Sciences (SPSS vre26) Program. t-test was used in order to check whether there were any differences between the means of scores of the treatment group on the pre and the post administrations of the study instrument.

Hypothesis (1):

The first hypothesis states thatThere is a statistically significant difference between the mean of scores of the experimental and the control groups in the post administration of the EFL writing skills test, in favor of the experimental group results.

To verify this hypothesis, the Independent sample t-test was used to compare the mean scores of the experimental group students who used mind mapping strategy to that of the control group students who used the regular instruction, in the post-test results. The results are presented in table.

Table (4): Both groups post writing test results.

Skill	Group	N	M	S.D	D. f	t-value	sig
1- content	Control	23	3.2	.94	44	4.9	0.00
	experimental	23	4.6	.99			
2-grammar	Control	23	2.8	1.0		4.2	0.00
	experimental	23	4.0	.93			
3-mechanics	Control	23	3.8	.83		4.3	0.00
	experimental	23	5.0	.93			
Overall EFL writing skills	Control	23	9. 8	2.7		4.8	0.00
	experimental	23	13.6	2.7			

Table (4) indicates that the mean scores of the experimental group students is higher than that of the control group in the overall EFL writing skills and its sub-skills, where t-value is, (4.8) for the overall EFL writing skills, (4.9) for content, (4.2) for grammar, (4.3) formechanics , which are all significant at 0, 01 level. Therefore, this hypothesis was confirmed.

Hypothesis (2):

The second hypothesis states that There is a statistically significant difference between the mean of scores of the experimental group in the pre and post administrations of the writing skills test results, in favor of the post administration results.

To verify this hypothesis, the paired sample t-test was used to compare the mean scores of the experimental group pre to post writing test results.

This is shown in table below.

Table (5): The Pre-Post writing test results of both groups

Skill	Group	N	M	S.D	D. f	t-value	sig
1- content	Pre	23	3.0	.90	22	11.1	0.00
	Post	23	4.6	.99			
2-grammar	Pre	23	2.6	.78		13.6	0.00
	Post	23	4.0	.93			
3-mechanics	Pre	23	3.2	.67		15.4	0.00
	Post	23	5.0	.93			
Overall EFL writing skills	Pre	23	8.7	2.0		19.4	0.00
	Post	23	13.6	2.7			

Table (5) indicates that the mean scores of the experimental group students in posttest is higher than that in pretest in the overall EFL writing skills and its sub-skills, where t-value is, (19.4) for the overall writing skills, (11.1) for content, (13.6) for Grammar, (15.4) formechanics, which are all significant at

0, 01 level. Therefore, this hypothesis was confirmed.

Hypothesis (3):

The third hypothesis states that Mind mapping strategy has a positive effect on developing the EFL Preparatory stage students' writing skills.

To verify this hypothesis, the effect size was calculated by using the paired sample t-test to compare the scores of the experimental group in the students' EFL writing skills in the pre and the posttest using Cohen's formula.

Table (6): The referential framework for identifying the effect size for t- test value.

Effect size	Interpretations
From 0.2 till less than 0.5	Small
From 0.5 till less than 0.8	Medium
From 0.8 or more	Large

Table (7): The effect size of the experimental group in EFL writing skills as a whole in the pre and the post test.

Skill	Test	N	M	S.D	t-value	Eta square	Effect size
1- content	Pre	23	2.9	.90	11.1	.44	0.89 <i>Medium</i>
	Post	23	4.6	.99			
2-grammar	Pre	23	2.6	.78	13.6	.42	0.85 <i>Medium</i>
	Post	23	4.0	.93			
3-mechanics	Pre	23	3.2	.67	15.4	.55	1.1 <i>Large</i>
	Post	23	5.0	.93			
Overall EFL writing skills	Pre	23	8.7	2.0	19.4	.52	1.04 <i>Large</i>
	Post	23	13.6	2.7			

Significant at (0, 01)

Table (7) indicates that the effect size of the experimental group in the post test is greater and higher than that of the pre-scores in the overall EFL writing skills, where the effect size is (1.04) for the overall EFL writing skills, (0.89) for content, (0.85) for grammar, (1.1) for mechanics, which is significant at 0, 01 level. Therefore, this hypothesis was confirmed.

According to the findings of Cohen's formula and the interpretations of the effect size, the percentage 1.04 indicated that mind mapping strategy had a positive effect on improving the students' EFL writing skills.

- **Results of the study:**

The results of the current study:

1- The experimental group outperformed the control one on the writing posttest as a whole and its sub-skills. Hence, the significant differences are due to exposing this group to the mind mapping strategy.

2- The obtained results proved significant differences between the pre and the post administrations of the writing skills test to the experimental group favoring the post results.

3- The mind mapping strategy proved to be statistically and educationally significant in developing participants' writing skills.

- **Interpretation of the results:**

Results of the current study are discussed with reference to the hypotheses validation and the relevant literature.

After the administration of the mind mapping strategy, the experimental participants achieved progress and development in writing skills. This could be attributed to the nature of the mind mapping strategy. This strategy has been based on the notion that teacher and students work together through the activities incorporated in the strategy such as brainstorming, discussing and question.

The different activities written by the experimental participants and the response written by the teacher provided a means for enabling them to develop the writing skills such as content, grammar and mechanics in this way:

a- The researcher/teacher in his response to the participants' activities presented comments on what they wrote down, through which questions were aroused about parts that were not clear or needed more clarification. This enabled the participants to write more through answering the teacher's comments. This consequently, increased quantity of writing and generated more ideas related to the topic which in turn improved the content of writing and enabled them to set one main idea to the topic with relevant supporting details.

b- The researcher/teacher in his response modeled punctuation, spelling and grammatical correctness indirectly. Moreover, brainstorming and whole class discussion played an important role in developing the content of writing as these activities enabled participants to generate relevant ideas and support the main one. Besides allowing participants to read proved that oral reading has a positive effect on developing the purpose, content and vocabulary skills of the participants' writing as this activity gave them the opportunity to:

- Identify the main idea of writing,
- Use well-chosen vocabulary, idioms and expressions, and
- Write a proper form of paragraphs.

The scores that the participants got in each sub-skill of writing in the evaluation sessions helped them to be better in using them. In addition, conducting brief class lessons on common errors and giving the participants scaffolding writing exercises enabled them to better perform the writing skills necessary for them.

The justification of the results above could be that mind mapping strategy exposed the participants to a variety of vocabulary, structure and language style related more closely to their needs in the real world; helped in developing their writing skills. Mind mapping activities (a) increased their knowledge of vocabulary items needed in real situations, (b) introduced them to how language is used in the real world, (c) improved their language proficiency as well as writing performance, (d) were interesting, (e) fulfilled their needs, and (f) enabled them to enhance their writing styles.

The change in teacher's role, through the mind mapping strategy from an evaluator of students' writing to a facilitator and partner who helped participants understand how to write, affected the relationship between the researcher and participants which in turn gave them a sense of self-confidence and autonomy in their abilities as writers. Thus, the participants no longer feared writing. Creating a friendly, non-threatening, interactive, fear-free, encouraging, motivating atmosphere based on mutual interaction between the researcher and the participants in the classroom made them feel comfortable and motivated with writing.

After implementing the suggested strategy, the participants started to be trustful and they had more courage to express their ideas; that is because the mind mapping strategy design developed their skills and abilities to write and gave them the feeling of self-confidence and create a good learning atmosphere.

- **Recommendations:**

In the light of the results of the study, the following could be recommended:

- 1- Practicing writing should include mind mapping activities to enable the students to write in an interactive way.
- 2- EFL teachers should promote students' interest/attitude toward English language learning by using the mind mapping strategy.
- 3- EFL students should learn how to use sentences in meaningful situations to develop their writing.
- 4- EFL teachers should offer strategies that help their students build confidence in their writing and provide them with opportunities to participate in various activities, and feel that their writing had a value.
- 5- EFL writing should be given greater emphasis as an act of communication. Students should be provided with opportunities to share with their teachers and discuss their writing with teachers and peers.

6- EFL teachers need to be provided with training to explore the usefulness of using mind mapping strategy to master its integration in their classrooms and learn about how to design mind maps to enhance their students' learning by adding a variety of activities and avoid monotony of teaching

7- Mind mapping activities should be integrated within the learning curriculum, relating them to the goals and objectives of the course.

8- EFL teachers should emphasize the development of the students' writing skills in the early educational stages to develop them in the following ones.

9- It is also recommended that teachers get trained to teaching writing as a process not as a product and adopting process writing in teaching writing skills as this approach offers students an outstanding opportunity to learn how to write and make writing easier and more interesting.

10- EFL students should be offered enough opportunities to practice writing, paying attention to the fact that writing is a developmental skill that improves gradually.

11- EFL students should get continuous feedback on their writing skills without the threat of face-to-face confrontation. This can be achieved through mind mapping strategy.

12- EFL teachers should change their role from examiners who evaluate students' writing to facilitators, consultants and organizers to the students' ideas, who help students improve their writing skills. In this way, the evaluation process will not be a frightening experience that causes them to avoid writing.

13- In classroom setting, students should be grouped in different ways based on individuals, pairs, small groups or whole class mode

- **Suggestions for further research:**

Outof the study delimitations and results, the following research areas can be suggested:

1- Investigating the relationship between mind mapping strategy and other writing skills, i.e. critical and creative writing at various educational stages.

2- Investigating the relationship between mind mapping strategy and other language skills, e.g. reading, speaking and listening.

3- Designing similar mind mapping strategy for students at different stages (primary, secondary and university).

4- Conducting more research using this strategy with other class categories in other courses of study.

5- Investigating the relationship between this mind mapping strategy and other variables, such as writing motivation, self-efficacy, reading awareness, reading comprehension, reading interests, and students' attitudes, towards studying English.

6- Investigating the relationship between other instructional strategies and students' writing skills.

7- Designing a course for training pre-service and in-service teachers to how to adopt the mind mapping strategy.

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