



Linguistics

The Effect of Memory Strategies on Writing Skill of EFL Tikrit Secondary School Students

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A B S T R A C T

The current research aims to identify the effect of memory strategies on writing skills among secondary school students in Tikrit. To achieve this goal, An achievement test is conducted, which is the pre and post to measure writing skills according to memory strategies. The sample consisted of 70 students from the fourth class of secondary school. They are divided into two groups: an experimental group of 35 students who studied according to memory strategies, A control group of 35 students studied according to the conventional method. The results indicated that using memory strategies as a method for learning to write is more effective than the conventional method.

INTRODUCTION

Language teaching is improved and the development of its various techniques, linguists realized the importance of language learning strategies. The more studies were conducted in the mid-seventies, the more important these strategies became (Rubin 1975; Stern 1975). Most educational institutions still prefer to use traditional methods in which the teacher controls the learning environment (see among others, Kamil and Hazem 2019; Kamil and Hazem 2020; Kanaan et al. 2022; Writing is more dangerous to the language than a mistake in pronunciation, because there is a strong connection between reading and spelling, as it entrenches the mistake and keeps it and has authority. On the other hand, the main aim of learning strategies is to build communicative competence (Oxford, 1990). Writing is the skill that allows individuals to express their thoughts and opinions in an organized manner. Writing skills require learners of English as a foreign language to use their linguistic proficiency to generate and support the main idea. On the other hand, writing has a special importance, as it is a means of communication through which the student can express his ideas, stand by the ideas of others, and show his feelings and concepts, through which he can record whatever events, facts, and notes he wants to record (Sabitan,2010). Writing is more dangerous to the language than a mistake in pronunciation, because there is a strong connection between reading and spelling, as it entrenches the mistake and keeps it.

In addition, memory strategies are similar to a mental storage system where students can temporarily retain information they want to use while writing. For example, a storage system is where students store ideas in their minds before converting them into text on paper or screen.

The Problem of the Study

The student automatically relies on memorization by repetition, listening , or writing to store what he learns. If the material is devoid of meaning for the learner, then encoding or storing it becomes

a difficult task. This prompts the student to memorize by heart without thinking or understanding, which makes the stored information easily forgotten. Memory strategies refer to a wide range of techniques designed to help a student remember. These strategies range from everyday external aids (such as using a chart) to internal memory strategies (such as mnemonic devices) that facilitate storage and retrieval from long-term memory.

Hypotheses of the Study

1. There are no statistically significant differences between the mean scores of the experimental group that is taught using the memory strategies in the pre- posttests.
2. There are no statistically significant differences between the mean scores of the experimental group that is taught using the memory strategies and the mean scores of the control group in the post-test.

Memory Strategies among School Students

The memory strategies are also highly beneficial for school students, as they help in improving the long-term memory of the students and enhancing their learning achievements. The active memory strategies for the student include self-testing, practicing, writing, chunking and rehearsing. These strategies are commonly utilized by the students in the KSA schools, as they are practical and easy to grasp (Bergin & Bergin, 2014). The strategy of self-test assists the students in remembering the study material as well as evaluating the knowledge gaps. Hence, it helps in identifying the tough areas that require attention and efforts required to remember them. Memory plays an indispensable role in the life of the student. It helps in developing thinking and problem-solving skills of the students. The role of memory strategies is crucial for the adolescents then undergraduate or master's level students as they have to learn different subjects at a time rather than focusing on a single subject. Thus, this study is undertaken to analyze the significance of memory strategies for the students (Karpicke, Butler, & Roediger III, 2009).

Writing skill

Writing is one of the necessary skills in English language learning. It is considered as one of the most difficult from other skills. However, writing skill has a power to engage students' academic success due to writing enables to reinforce the grammatical structure, enhance students' vocabulary, shape the scientific structure of human life either verbally or in writing form, and help other language skills, such as listening, speaking, and reading (Javed, Juan, & Nazli, 2013; Nodoushan, 2014).

The students need to specify the purposes and types or genres of writing. The purposes of writing are broadly divided into informative, persuasive, and expressive/narrative of writing. These three types of writing forms describe the kinds of writing in which the assessment will be based on the classroom's grade-level. On the other hand, the genre is related to the different writing tasks given, like essays, stories, letters, reports, recounts, journals, many more. The genre choice follows the writing instruction given by the teacher (McKay, 2007).

On the other hand, Oshima and Hogue(2006) state that mastering English writing skills is a gradual process that requires practice, patience, and continuous learning. By focusing on grammar, structure, and clarity, students can enhance their ability to communicate effectively in written form. Whether for academic, professional, or personal purposes, strong writing skills are an invaluable asset.

Memory Strategies and writing skill

In high school, reflection essays, analysis papers, and literature reviews for English and other courses supplement more traditional summaries and narratives. Regardless of the focus, we're familiar with the complicated writing process, which requires brainstorming, organizing, and translating ideas into words while using correct mechanics (punctuation, grammar, sentence structure, etc.). At the same time, writing a coherent and well-developed piece requires valuable working memory. Unfortunately, subtle working memory issues may increase these complex writing challenges.

Writing demands working memory capacity, retention time, and processing depth. For example, gaps in remembering and understanding information slow the process of manipulating and translating information. As a result, students may prematurely discard information they need.

Memory strategies play an important role in many cognitive tasks, so several authors focused their attention on its fundamental coordination role in interactive and recursive learning processes such as writing (Baddeley; 1983 & Cornoldi; 2007).

According to Baddeley (2000), memory strategies are “limited capacity system allowing the temporary storage and manipulation of information necessary for such complex cognitive tasks as comprehension, learning, and reasoning” (p. 418). More specifically, Baddeley’s model (2000) theorizes the existence of a “central executive” system, an attentional component that controls the flow of information to and from lower-order short-term “slave systems” with limited storage capacity (i.e., visuospatial sketchpad, phonological loop, and episodic buffer). On the other hand, Cornoldi and Vecchi (2004) suggest that the distinction between more passive and more active writing skill processes can vary along a continuum. More specifically, the authors represent the memory strategies model as a cone in which the horizontal plane contains the types of information (e.g., visual or spatial), while the vertical plane represents executive/attentional control. The more a task or skill is automated, the lower the engagement of memory strategies, the more a task requires non-automated processes, the greater the engagement of memory strategies.

Learning to write is a process that necessitates the development of several skills that are likely to involve different amounts of memory strategies resources: graphomotor skills, which underlie the production of the graphic stroke; orthographic skills, which involve orthographic knowledge and the correct conversion of phonemes into graphemes; and written expression skills, the most complex, which are necessary to produce a written text (Ferrara and Cornoldi, 2019).

The complexity of a task such as writing crucially involves memory strategies (Berninger, 1999; Swanson and Siegel, 2001; Carretti et al., 2013b; Cornoldi, 2019), since memory strategies allow to keep in memory the information necessary to generate and to transcribe a sentence and to monitor the execution of the writing process (McCutchen, 1996; Swanson and Berninger, 1996; Cornoldi et al., 2010).

Berninger (1999) points out the importance of adequate development of transcription capacity to reduce the burden of this process in terms of memory strategies resources. Without adequate automaticity in the transcription process, most memory strategies resources are devoted to graphomotor and orthographic aspects, resulting in a reduction of resources available for higher-order cognitive processes involved in text composition (Bourdin and Fayol, 1994; Cornoldi et al., 2010).

McCutchen (2000) claims that sufficiently automated higher-order cognitive processes involved in the production of a written text, such as the processes of language encoding and a good general knowledge, would allow reducing the processing constraints imposed by the limited capacity of memory strategies. In fact, even though higher-order cognitive processes and knowledge stored in long-term memory contribute to writing ability, accessing and integrating multiple sources of information would not be possible without the coordination and control functions.

As shown by Re et al. (2014) in a study involving a sample of fourth and fifth graders, memory strategies play a central role not only in spontaneous writing, but also in tasks such as dictation. In dictation, memory strategies enable the maintenance of information and the recovery of the correct orthographic form of the dictated word and this is especially true in languages with opaque spelling or when writing irregular words.

To sum up, although in the presence of an adequate development of the multiple components that characterize writing ability, individual differences in memory strategies can be hypothesized to explain differences in writing performance (Peverly, 2006).

The Implication of Memory Strategies in Writing Skills

Zakri (2008) states that memory strategies play a crucial role in writing skills by enhancing the ability to recall information, organize ideas, and structure content effectively. Here are some ways memory strategies can influence writing skills:

a. Enhanced information recall

1. Accurate details : memory strategies like repetition and association enable students to recall im-

portant details, ensuring accuracy in their writing.

2. Structural coherence : by aiding in the recall of text structure, memory strategies help students organize their content logically and coherently.

b. Improved Idea Organization

1. Logical sequencing :Techniques like chunking and outlining facilitate the organization of ideas, making it easier to present them in a logical sequence.
2. Cohesive content: Associating ideas helps students create well-connected and cohesive content, enhancing the overall flow of their writing.

c. Boosted Creativity

1. Idea generation : Memory strategies like brainstorming and mind mapping stimulate creativity, helping students generate innovative ideas and perspectives.
2. Rich details: By recalling fine details, students can add depth, nuance, and complexity to their content, making it more engaging for readers

d. Effective Writing Process

1. Planning and outlining : memory strategies aid in planning and outlining , enabling students to structure their content effectively before starting to write.
2. Drafting and Revising: by recalling key points and details, students can create a solid first draft and refine it through effective revision and editing.

e. Benefits for Students

1. Increased productivity : memory strategies can help students work more efficiently by reducing the time spent on recalling information and organizing ideas.
2. Improved Quality : by enhancing recall and organization , memory strategies contribute to the overall quality of writing, making it more precise, coherent, and engaging.

f. Practical Applications

1. Using mnemonic devices: students can use mnemonic devices to remember key points . themes, or structures.
2. Creating outlines: outlining helps students organize their ideas and ensure a logical flow of content.
3. Practicing active recall: Regularly recalling and ideas can strengthen memory and improve writing skills.

By integrating memory strategies into their writing process , students can enhance their ability to recall information, organize ideas, and produce high-quality content (Kron-Sperl & Haeelhorn ;2008).

METHODS

Experimental Design

Experimental design is the proposal by which the experimental group is selected. According to Best and Khan(2006), choosing an appropriate experimental design to test the results derived from the hypothesis is important for conducting a study. In this study, a quasi-experimental design is required “ Non – Randomized Control Group Pretest Posttest Design”. The two groups of fourth –grade scientific preparatory school students are selected. The experimental design of the study is shown in the table 1.

Table 1 Experimental Design

Groups	pretest	Independent variable	Dependent variable	Posttest
Experimental	Students' Achievement of writing skill	Memory Strategies	Writing skill	Students' Achievement of writing skill
Control		Conventional Method		

Sample and Population

The current study community consists of fourth-grade science students in Tikrit city. The total number of fourth-grade students is 610 girls distributed among nine girls' secondary schools in Tikrit city. Al-Khansa'a Girls' Secondary School is chosen as a sample for the study. The sample consists of 70 students from two sections.

Equalization

Equivalences are made between the experimental and control groups as follows:

- a. Testees Age: The researcher converted the age of the two samples into months, and then the t-test showed that there are no differences in the age level.
- b. Parents' Academic Attainment: After using the Chi-square test, it is found that there are no differences in the level of testees between the fathers in the experimental and control groups, as well as with regard to the level of testees of the mothers.

RESULTS AND DISCUSSION

In order to verify the first hypothesis, which states that» There are no statistically significant differences between the mean scores of the experimental group that is taught using the memory strategies in the pre- posttests». The t-test is used for two related samples. The mean scores of the pre-test for the group is 65.24 with a standard deviation of 10.56 and the mean scores of the post-test was 75.6 with a standard deviation of 11.71. The computed t-value is 4.36 at a significance level of 0.05, which is greater than the tabulated value of 2.00, indicating that there is an effect of memory strategies on writing skill, as shown in the table 2.

Table 2 T-value of the pre post-test of the experimental group on the writing skill test

Test	No.	Mean	Stand	Computed t-value	Tabulate t-value	L.S
Pre	35	65.24	10.56	4.36	2.00	0.05
post	35	75.6	11.71			

Result Related to Student's writing skills

The finding results of the statistical analysis by using t-test for two independent groups have shown that the mean scores for writing skills of the control group is 66,20 with a standard deviation of 12.79 with the mean scores of the experimental group is 75.65 with a standard deviation of 11.71. To find out differences between the mean score of the two groups, the t-test formula for two independent groups has been used. The computed t-value is 3.22 which is higher than the tabulated t-test value which is 2.00 at the level of significance of 0.05 and a degree of freedom 68. This means that there are statistically significant differences between the experimental group which is taught using the memory strategies and the control one which has not been exposed to teaching memory strategies in favour of the experimental group.

Therefore, the null hypothesis is rejected and an alternative hypothesis is stated that there are statistically significant differences between the mean scores of the experimental group which is taught using the memory strategies and the control group which is taught using the conventional method in writing skills posttest. As shown in table 3 below.

Table 3 The Experimental and Control Groups in the Writing Skills Post Test

Croups	No.	Mean	Stand	T-value		D.F	L.S
Experimental	35	75.65	11.71	Computed t-value	Tabulated t-value	68	0.05
Control	35	66.20	12.79	3.22	2.00		

Discussion

The aim of this research shows that there are statistically significant differences between the experimental and control groups in the achievement test of writing skill among fourth-year secondary students in Tikrit, In favor of the experimental group. This result indicates that the students in the experimental group who are taught using memory strategies show a positive improvement in writing skill better than the students in the control group who are taught using the conventional method. This superiority is due to the effectiveness of using memory strategies (mental imagery, memory aids, self-dictation) in developing the writing skill of middle school students, as the use of these strategies help in organizing the students' knowledge stock, managing their ideas effectively, and training them to organize existing information in a modern, innovative way and to look at things in a way that is not previously known with the aim of reorganizing existing knowledge to store and preserve information and refer to it when necessary.

Therefore, teaching memory strategies is useful in teaching writing skills to middle school students. It also enables the student to deal positively with the amount of new experiences in the future and to employ them correctly and in a manner that is appropriate to situations in which he needs to remember what is previously learn.

CONCLUSIONS

These strategies can significantly enhance writing abilities by improving information recall, idea organization, and content structure. By leveraging memory strategies such as repetition, association, and chunking, students can:

1. Enhance accuracy : Memory strategies help students recall important details, reducing errors and improving overall writing quality.
2. Improve organization: Techniques like outlining and mind mapping enable students to structure their content logically and coherently.
3. Boost creativity : Memory strategies like brainstorming and idea generation stimulate creativity, helping students produce innovative and engaging content.
4. Increase productivity: By reducing the time spent on recalling information and organizing ideas, memory strategies can help students work more efficiently.

Overall, incorporating memory strategies into the writing process can lead to improved writing skills, increased productivity, and enhanced overall quality of content.

Recomendation

1. Directing teachers to the importance of using memory strategies to improve students' writing skills.
2. Developing educational programs aim at improving students' writing skills using memory strategies.
3. Conduct further research to study the effect of memory strategies on writing skills in different age groups.

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