THE EFFECT OF MEMORY GAMES ON ENHANCING STUDENTS’ VOCABULARY LEARNING
The Case of First Year LMD Students at Larbi Ben M’hidi University-Oum El Bouaghi

A Dissertation Submitted to the Faculty of Letters and Languages, Department of English, in Partial Fulfilment of the Requirements for the Degree of Master in Language Sciences and Teaching English as a Foreign Language by: Souheila AKACHAT

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DEDICATIONS

I have first to thank God for helping me be here.

I dedicate this work to:

My tender mother who has looked after me to realise my dreams with

Care, encouragement and endless love

May ALLAH keep you by my side, Amen

To my beloved father (ALLAH Bless Him)

To my lovely sisters Kanza, Samiha and Khadija

To my beloved brother Mohamed Younece who inspired me with

Strength and care to succeed during my studies

To my cousins Soumia and Imad Eddine

To my dear aunts Wassila and Houria

To all my family

Special thanks to my lovely friends who encouraged me to finish my work

To all those who wish good luck for me.
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I cannot forget those people who participated in this study.
ABSTRACT

Vocabulary is an element of language that should be studied at school/university. This, in turn, can help students to realize its greater influence in communication. However, the teacher should adopt a helpful strategy that encourages them learn English easily. Importantly, the main purpose of this research work is to explore the effect of using memory games as a teaching strategy on enhancing students’ vocabulary learning. The hypothesis was set as follows: students who are taught vocabulary through memory games technique would show a significantly higher improvement in their vocabulary learning than those who are taught vocabulary through the traditional method. In order to prove the hypothesis an experimental method was adopted. The participants were twenty eight first year LMD students of English at L’arbi Ben M’hidi University-Oum Elbouaghi. They were divided in two groups, the control and the experimental groups. Students in both groups were pre-tested at the first meeting with the teacher through vocabulary matching task. Then, the control group received three vocabulary sessions using the ordinary method used by their teacher. However, the experimental group were taught three vocabulary lessons via the use of memory games in order to help students learn new vocabulary items in a relaxed and enjoyable atmosphere. After that, the post-test was given to both groups; it was similar to the pre-test. The results showed that there was a considerable improvement comparing with the pre-test and the post-test, it was observed in the post-test that using memory games as a teaching strategy in learning vocabulary makes the students more motivated and interested to acquire and memorize new vocabulary words. Therefore, it is suggested to include memory games as an effective strategy in teaching vocabulary.

Keywords: vocabulary learning, memory games strategy, and first year LMD students.

Dependent variable (vocabulary learning), independent variable (memory games).
LIST OF ABBREVIATIONS

- **EFL**: English as a Foreign Language

- **eg.**: Example

- **ELT**: English Language Teaching

- **ESL**: English as a Second Language

- **FL**: Foreign Language

- **i.e.**: It means

- **LMD**: Licence, Master, Doctorate

- **SL**: Second Language

- **SLA**: Second Language Acquisition
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RÉSUMÉ
INTRODUCTION

Learning a foreign or second language is affected by one major factor, which is vocabulary. It refers to the knowledge of stored information about the meanings of words necessary for communication. Therefore, the advent of the Communicative Approach in 1970s which focused on enhancing the students speaking skill gave vocabulary a crucial importance to be presented with new and beneficial tools.

In fact, vocabulary should be introduced via effective strategies that help the learners develop their vocabulary knowledge. One strategy that can be applied to teach vocabulary in EFL classrooms is memory games which might encourage students learn and store new words in a healthy atmosphere, and funny way.

Statement of the Problem

In learning foreign language, vocabulary plays a significant role. It is a very important part of language that students need to learn in order to communicate in an effective way. EFL students, however, face many problems regarding this aspect of language, and they still suffer from the lack of vocabulary knowledge. This problem can be due to the techniques that the teachers use when teaching vocabulary. Teachers therefore should apply effective strategies that help students in vocabulary learning. Using memory games as a teaching technique can be considered effective in enhancing learners’ vocabulary learning.

Aim of the Study

Applying different strategies can facilitate teaching. One of these strategies that teachers can use to develop students’ knowledge of vocabulary is memory games. Thus,
the main aim of this research is to examine the effect of memory games as a beneficial teaching strategy in enhancing students’ vocabulary learning.

**Research Question and Hypothesis**

The present research raises the following question:

Is there a significantly difference in vocabulary learning between learners who are taught vocabulary through memory games and those who are not?

In the light of the stated question, it is hypothesized that students who learn vocabulary through memory games technique would show a significantly higher improvement in their vocabulary learning than those who are taught vocabulary through the traditional method.

**Means of Research**

An experimental method will be carried out to fulfil our objective, two groups learning at the department of English at Larbi Ben M’hidi University were randomly chosen. A pre-test will be administered to the groups in the first teacher-students meeting via a vocabulary matching task to check that students in both groups have the same level of vocabulary knowledge. At the end, after the period of time provided to fulfill the experiment, we compare the performance of the two groups via a post-test.

**Structure of the Study**

The present research is divided into two main parts; a theoretical part which includes one chapter divided in two sections, and a practical part of one chapter dealing with the analysis of the experimental study.
Section one includes definition of games and language games, advantages of using games in EFL classrooms, reasons for using games in language teaching, student-teacher relationship when applying games, then a clear picture about memory games; its definition, and types.

In section two we will present vocabulary; its definition, its importance, steps of teaching and learning vocabulary, some strategies for teaching and learning vocabulary, the effect of language games on vocabulary learning, and the role of memory games on vocabulary learning.

The second chapter will includes a description of the study, analysis and discussion of the findings.
Chapter One : Theoretical Background

Section One : Language Games

Introduction

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Conclusion
Introduction

There are many strategies for teaching vocabulary that can facilitate the process of learning. Using games is considered as an effective tool that permits teachers to create a good environment for learners in EFL classroom. Games can be used to teach language elements: grammar, spelling, and vocabulary; and to develop the language-skills of listening, speaking, reading, and writing. Additionally, Games play an integral role in increasing students motivation to learn a language and acquire new vocabulary items.

In this section, there will be a discussion about language games, via defining and showing their role in language teaching/learning, then we will shed light on memory games as a good tool for teaching vocabulary.

1.1.1. Definition of Games

According to (Safra, Yannis & Goulka, 1998) games are defined as “A universal form of recreation generally including any activity engaged in for diversion or amusement and often establishing a situation that involves a contest or rivalry” (ibid., p.554).

Moreover, Allen (1983) said that “Games are helpful because they can make students feel that certain words are important and necessary, because without those words the object of the game can not be achieved.” (p.82)

From Allen’s definition of games, it can be said that games are good tools that make students know the importance of new words, because without those words the main aim of games can not be achieved.
Furthermore, Nicolson and Williams (1975) stated that ‘‘Games are a form of teaching which may be used in circumstances where ordinary approaches are not well tolerated; when attention is hard to get and harder to keep.’’ (p.427)

In ESL/EFL classes, the use of games create the motivation that learners need to learn ‘‘Games are, by definition, fun, and nearly everyone would agree that if learning can be made enjoyable then students will learn more.’’ (Celce-Murcia and Macintoh, 1997, p.428). In this sense Allen (1983) argued that ‘‘Adolecsents and adults may enjoy games as much as children do and, if the purpose of a game is explained to them, they will not feel that it is childish’’ (p .428). Moreover, Richard-Amato (1988) said that ‘‘Games can lower anxiety, thus making the acquisition of input more likely’’ (p.253).

1.1.2. Definition of Language Games

Language games provide a concrete practice of language for learners, as it can help them to understand the importance of the words because without those words they can not master the language. Language games also offer an opportunity to practise the realistic use of language to communicate.

Lee (2000) claimed that most language games decrease the learner’s interest in language form and stop thinking about language system but focus on using the language to communicate instead.

From Lee’s point of view about language games, it can be said that the main focus behind using language games is to develop the communication.

In general, language games is a term that can be used to cover a variety of language activities. They are used for practising specific language items such as
grammar, sentence structure, vocabulary, and spelling; and for developing language-skills listening, speaking, writing and reading.

Like games in general, language games are rule governed. These rules differ language games from other classroom activities such as discussion, song, and role-plays. The rules of language games lay out the game organization, the procedures of the game, the behavioural restrictions and the scoring method.

In brief, language games encourage fun, give students more opportunities to participate through using the language. In addition, they are rule governed, have specific linguistics language outcomes to achieve, and are based on competitive and challenging interaction.

1.1.3. Types of Language Games

Language games is one way that gives students opportunities to communicate, interact in class, and learn a language, and are divided into two main types.

Hadfield(1984) explained that two main types of language games are: linguistics games and communicative games. Linguistics games focus on accuracy; while, communicative games focus on the exchange of information and ideas.

Jacobs (n.d.) further stated more forms of games which are composed of both the element defining both linguistics and communicative games.

- **Sorting, ordering or arranging games:** for instance, students have a set of cards with days, and they have to put those cards in order.
• **Information gap games**: in such form of games, one learner has an idea or information that the other learner does not, and they have to exchange ideas to complete the task.

• **Guessing games**: these games aim at to guess the right words. For example, one student has a flash card he should not show it to others but he must instead mime it to them and others have to guess what is the correct word according to his/her performance.

• **Labeling games**: these are a type of matching, in that learners match labels and pictures.

• **Board games**: scrabble is one of the most popular board games that focus on using the language.

• **Matching games**: participants here need to find match for word, picture, or card.

• **Role play games**: the term role play, drama, and simulation are sometimes used interchangeably but can be different (Kodotchigova, 2002). Role play can make learners play roles that they do not play in real life, such as doctor, however; simulations let students perform roles that they do already play in real life or they like to play it, such as a customer at a shoe shop. Dramas are a scripted performances, while in role plays and simulation, students grow up with their own words.

• **Memory Games**: these games help students to acquire new words, then memorize them. Memory games increase students level of knowledge, and improve their ability to remember.

Arrangement games, guessing games, and matching games are three important varieties of gaming types which can be adopted by teachers to strengthen students’ motivation, confidence, and facilitate the vocabulary acquisition.
1.1.1. The Role of Language Games in Language Teaching

The process of learning a S/FL language requires the use of many effective teaching strategies. The use of games in EFL classroom is a good strategy because by using games in the classroom teacher is giving his students an important role, and he himself is stepping out of the frontline which is a positive thing because it allows students to take on more responsibility. Also that allows students to do more on their own, and that can very well result in an increase in their confidence level. (Langran & Purcell, 1994, p. 12-14). In fact, games play a significant role in language teaching and learning.

Moreover, learning language through games is useful, meaningful, worthwhile and effective that causes the motivation, relaxation and fun to learners in class. The learners can learn language fundamentally and easily through games (Anyebu et al, 2012 ; Alemi, 2010 ; Huyen & Nga, 2003 ; Kumar and Lightner, 2007). Furthermore, Carrier (1980) states that “games stimulate students’ participation and give them confidence”. This means when students want to get high scores, they engage themselves in games, by this they become more confident to use the language. Additionally, using games in teaching and learning language lower students’ anxiety. This anxiety can take place if students become stressful when they are punished or criticized for their errors. However such stress disappears when they learn through games because those games make them work all together to reach the main aim, and this allows them practise the language freely.

According to Bradly (2010), the use of games is advantageous to language learners as follow:
First, games engage all students in the learning process. When students play games in pairs or groups, they have the opportunity to recognize and appreciate the contributions of others and use team-building skills. Some classroom games focus on individual working to win against all other peers in the class. This type of game works well with students who are highly motivated and competitive.

Second, games provide an opportunity for collaboration and/or cooperation. Classroom games provide an opportunity for students to collaborate and cooperate with each other, while working towards a common goal–winning. In some games, students are paired or grouped, which may lead to peer tutority and the use of cooperate skills in order to win. They may not realize that they are actually learning, but they are working together towards a common goal.

Third, games provide an enjoyable learning experience. In other words, they create a fun and enjoyable learning environment. Moreover, research indicates that classroom games are effective strategies that facilitate learning.

In short, games make all students engaged in the learning process, create opportunity to let them work together, and provide an amusing learning experience.

1.1.5. Advantages and Disadvantages of Using Games in EFL Classrooms

Games are very useful in class because they “provide an opportunity for students to use their language in a less formal situation” (Carrier, 1980, p. 6).

The use of games in EFL classroom has many advantages.

- Through fun and apparently less demanding practice, ames increase learners’ motivation and promote learning (Hansen, 1994).
• Group and peer work may include team work and enable successful interaction (Rinvolucri & Davis, 1995).

• By lowering the affective filter (Krashen, 1985), games provide favourable conditions for effective language acquisition (Wieru, 1994).

• Through a meaningful context, students are provided with a comprehensible input (Krashen, 1985).

• Each of the four basic skills may be practised by the use of games (Lee, 1995).

  However, some of the disadvantages may be:

• Games can create discipline issues, students may get noisy.

• Staying away from the real purpose of the game, perhaps, due to the lack of instruction rules resulting in playing too much without reaching the level of knowledge learners need in language learning for that Allen (1983) comments that ‘‘Not all games are helpful for language learning, of course…when we are considering possible games for use, we should ask, ‘‘will this game help to make several English word seem interesting and important to my students ?’’ (p.54).

• Learners might not involved in playing if games are already familiar or boring.

• Some students, and teenagers in particular may find the use of games unnecessary and childish.

1.1.6. Reasons for Using Games in Language Teaching

In EFL classrooms teachers need to adopt some techniques to avoid making them boring. Using games is one way that let learners have the ability to learn. In fact, there are different reasons which make games as a part of the language teaching program beneficial.
• Games add interest to what student might not find very interesting. Sustaining interest can mean sustaining effort (Thiagarajan, 1999; Wright, Betteride, & Buckby, 2005). After all, learning a language involves long-term effort.

• Games provide a contest for meaningful communication. Even if the game involves direct language items, such as spelling games, meaningful communication takes place as students seek to understand how to play game and as they communicate about the game: before, during, and after the game (Wright, Betteridge, & Buckby, 2005).

• This meaningful communication provides the basis for comprehensible input (Krashen, 1985), i.e., what students understand as they listen and read, interaction to enhance comprehensibility, e.g., asking for repetition or giving examples (Long, 1991), and comprehensible output, speaking and writing so that others can understand (Swain, 1993).

• The emotions aroused when playing games add variety to the sometimes dry, serious process of language instruction (Bransford, Brown, & Cockring, 2000; Lee, 1995).

• The variety and intensity that games offer may lower anxiety (Richard-Amato, 1988) and encourage shyer learners to take part (Uberman, 1998), especially the games are played in small groups.

• Game scan involves all the basic language skills, i.e, listening, speaking, reading, and writing, and a number of skills are often involved in the same game (Lee, 1995).

• Games are student-centred in that students become more active in playing the games, and games can often be organized to make students play the leading roles, with the help of the teachers.
Many games can be played in small groups, thereby providing a venue for students to develop their skills in working with others, such as the skill of disagreeing politely and the skill of asking for help (Jacobs & Kline Liu, 1996).

Playing games in group has many advantages include:

a- The team aspect of many games can encourage cooperation and build team spirit (Ersoz 2000).

b- Although many games involve competition, this is not necessarily the case (Orlick 2006).

c- In most games, everyone has a turn, encourage each student to take a turn, rather than letting others do all the talking and others actions, and discouraging one or two students from shutting out others.

As many games can be played outside of class, they provide a means for students to use the language outside of class time (Ellis, 2005).

Game scan connect to a variety of intelligence (Gardner, 1999), e.g,

a- Playing games with others involve interpersonal intelligence.

b- Games involving drawing connect with visual/spatial intelligence.

c- Games often include elements such as cards, spinners, or pieces, which connect with bodily/kinesthetic intelligence.

1.1.6. Teacher-Student Relationship When Applying Games

In learning a S/FL teachers should focus on the relationship that they have shared with their learners, because having a good relationship with students in class permits effectively to inspire their confidence, give them much motivation to develop their level of knowledge, and practise the language.
First, being as a **model** is one important role that the teacher should play in which he has to give instructions and demonstrations about the game. This is must be done until the teacher make sure that all the learners understand the task.

Second, the role of the teacher should be as a **moderator**. He has to focus on observing, analysing, helping, taking notes, being sure that the game is playing in the right way, and provide a feedback to each point the teacher observed until the game finished. Since the game is administred to the students, the teacher has a minimum participation.

Finally, being a **judge** is the last role of the teacher. It depends on approaching the students to the game, and this is not an easy task because the teacher should judge and make the students feel confident at the same time.

There are other factors teachers should adopt in EFL classroom since, these factors will gradually improve learners’ knowledge, and make them more interested and motivated towards learning language. First, teacher should know the main aim of that game, and which language skill needs to be achieved. Second, teachers have to focus on what encourage the learners to develop their language such as: the students’ level in language (beginners, intermediate or advanced), the students’ age, whether they are children, teenagers or adult. This factor let the students feel that the teacher cares about them and their needs, and the students’ background. Third, teachers should also choose the right moment to apply the games because the students’ motivation in a game may differ on Sunday morning from the last hour class on Thursday. In addition to that, teachers should provide enough time to play the game. The preparation of the game is the most important factor that teachers should mainly take into account. Generally, this preparation depends on checking the materials that are needed if they are available at
school, examine the physical space in which the game will be used, and providing a calm atmosphere.

In a nutshell, all these factors contribute effectively in achieving the main objective of the games.

On the other hand, the role of the students rely on what the interactive game demands. Students also have to follow the games’ rules to achieve the main objective of the games, and develop their language.

1.1.8. Memory Games

1.1.8.1. Definition of Memory Games

Generally, games include many types. Memory games is one of them. According to Wright, Betteridge and Buckby (1984), memory games “‘challenge the player’s ability to remember.’” (p.139). Moreover, according to Rixon “‘Games help students revise vocabulary and recalling something that happened in a game may help a student remember the language connected with it.’” (1992, P. 82). Furthermore, according to Cammeron (2001), word memorization is important in language learning, and memorization is helped when words are recycled regularly.

Thornbury (2002) has observed that “‘the more decisions the learners make about a word, and the more cognitively demanding these decisions, the better the word is remembred.’” Therefore, it seems that using memory games enhance the students’ ability to memorize the words, as they give students minds time to think about the words and store them. Memory games are more helpful in memorizing words, and increasing the general performance of the students.
Teachers in the process of teaching should select the appropriate game that suits, and motivate the learner to improve their level of learning. Memory games is one way that help students become more familiar with the new vocabulary items which they acquire. In fact, memory games are very benificial to be used in EFL classroom. The following points summarized the significant function that memory games have:

- Memory games provide opportunities to learners to remember the words which they learnt.
- Help students to remember list of words quickly and for a long time.
- Make them use their visual memory to recall information.
- Enhance their ability to memorize new items.
- Make them store new information then recall it while using the language.
- Help learners’ memories to receive new information and store it.
- Give students real purpose to use the language.
- Creat a really positive classroom environment.
- Creat a meaningful context for language use.

1.1.8.2. Types of Memory Games

According to Thornbury (2002) there is a serious problem that may occur during the process of teaching and learning vocabulary. In fact, this problem related to: How does memory work?

Importantly, Thornbury (2002) distinguishes between the following types of memory.
1.1.8.2.1. Short-term Memory

Short-term memory allows memorize information for a period of several seconds to a minute without a rehearsal. This type of memory focuses on repeating words to store them. Thus, repetition helps learners to remember words easily. As the short-term memory aim on holding information for a few seconds the Elephant Memory is one game that let the player recall a list of items in a short period of time. The goal of the game is to store the list as quickly as possible without looking at the list. In this type of memory games the player learns new items and memorize them; thus, Elephant Memory is a type of memory game that strengthens the learners short-term memory.

1.1.8.2.2. Working Memory

Working memory refers to the ability that the learners have in their mind and mentally deal with new information for few seconds. Working memory is generally thought of as a mental workplace that we can use to keep a new information in the lecture of their mental activities.

Mental arithmetic is an example of an activity which can be used as working memory. For instance, one student tries to multiply 45 and 29 together, and someone else asks him to find the result without using pen and paper or calculator. First, the learner needs to hold the two numbers in working memory. Second, he should use the learned multiplication rules to make the operation of successive pairs of numbers, then he adds to working memory the new products as he proceeds. Finally, he needs to add the products together which held in working memory, then he has to say the result in the appropriate solution. Without working memory, students would not be able to make this kind of mental activity.
1.1.8.2.3. Long-Term Memory

Long-term memory relies on storing information for a long time. For instance, the Guided World Tour is a type of game that demands the learner to memorize information about historic monuments, museums and their associated places in the world. For example, this type of game asks the player to describe a world monument and where it is located.

Thornbury describes many principles that let the learner acquire and memorize information effectively:

- Repetition- repetition of the word is very important and useful. If the word is met several times the student has a good chance to remember it for a long time.
- Retrieval- a kind of repetition. Using the new words in written tasks is one activity that requires retrieval, this activity help students to be able to store it again in the future.
- Pacing- to respect different learning styles, students should take more opportunities to do memory work individually.
- Use- putting word to use, is one crucial way to help learners recall it.
- Personal organizing- students will remember new items if they organize them in conversation and role-play activities.
- Imaging- easily visualised are better memorable than the words that do not evoke any picture.
- Mnemonics- refers to the tricks that help learners retrieve items or rules that are stored in memory. Visuals and key word techniques are types mnemonics.
- Attention- improving students’ vocabulary knowledge acquire a certain degree of conscious attention.
Conclusion

From what has been discussed above, it is obvious that language games are a useful teaching techniques in EFL classrooms. By playing games, students can both relax their mind and practise the language effectively. In fact, games are not a waste of time, so teachers can adopt them to create an enjoyable atmosphere and provide a good motivation to develop the learning process.
Chapter One: Theoretical Background

Section Two: Vocabulary

Introduction

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Conclusion
Introduction

Vocabulary learning is considered as a fundamental area in learning a FL, it would be impossible to learn S/FL language without learning its words. Moreover vocabulary gives the learners an opportunity to express themselves clearly and appropriately in a wide range of situations. It is undeniable that vocabulary plays an integral role in language learning as it helps students for communication, and mastering the language.

This section is concerned with defining vocabulary, mentioning its importance, tackling about steps to teaching vocabulary, stating vocabulary teaching techniques, the effect of language games on vocabulary learning, and the role of memory games in vocabulary learning.

1.2.1. Definition of Vocabulary

The word vocabulary is defined in the Oxford Dictionary (2007) as the total number of words that make up a language. Moreover, Hutch and Brown (1995) consider vocabulary as a list or set of words of a particular language that individual speakers of language might use.

Furthermore, Lehr, Osborn, Hiebert claimed that vocabulary refers to the knowledge of words, and their meanings that the learners can acquire from different forms such as: oral, print, receptive and productive.

Vocabulary is knowledge of words and word meanings. However, vocabulary is more complex than this definition suggests. First, words come in two forms: oral and print. Oral vocabulary includes those words that we recognize and use in listening and speaking. Print vocabulary includes those words that we recognize and use in reading and writing.
Second, word knowledge also comes in two forms, receptive and productive. Receptive vocabulary includes words that we recognize when we hear or see them. Productive vocabulary includes words that we use when we speak or write. Receptive vocabulary is typically larger than productive vocabulary, and may include many words to which we assign some meaning, even if we do not know their full definitions and connotations or ever use them ourselves as we speak and write (2004, p.5).

1.2.2. The Importance of Vocabulary in EFL Class

Vocabulary is considered as an important aspect in English Language Teaching (ELT) because without sufficient vocabulary knowledge learners can not understand others or express themselves and their ideas clearly. Wilkins (1972) states that “without grammar very little can be conveyed, without vocabulary nothing can be conveyed” (p.111). This idea shows that students manage to communicate in English using individual words, and they can generally convey meaning without necessarily acquiring grammar. So, in learning a language great importance has to be given to vocabulary, since grammar is not sufficient for students in communication. Moreover, Lewis (1993) says “lexis is the core or heart of language” (p.89). As students develop fluency and expression in learning English, it is necessary for them to acquire new vocabulary items to build the required knowledge that makes them improve their own personal vocabulary learning strategies. They often recognize the great value that vocabulary plays in language learning. As Schmitt (2010) argues “learners carry around dictionaries and not grammar books” (p.4). Teaching vocabulary also makes students develop their level of vocabulary knowledge which helps them understand and communicate with others. In fact, learning vocabulary lets students acquire and master
new vocabulary words with their meanings as it develops the students’ ability to practise the language.

1.2.3. Steps to Teaching Vocabulary

Vocabulary teaching is one of the main components of any language in class that is based on expressing the meaning of the words. Knowing the words’ meaning is the key that leads students understand the word, and builds a vocabulary knowledge. Importantly, Marzano (2004) states six main steps that the teacher has to follow in teaching vocabulary.

First, the teacher should provide a description, explanation, or example of the term. As the process of teaching vocabulary seems difficult for beginners, the teacher has to help the learners understand the word by providing a context for the term, find or create pictures that explain the term, and ask students to investigate the term and present the information to the class. Next, the teacher should ask students to restate the description, explanation, or example in their own words. In order to acquire new vocabulary words, the teacher has to be a monitor and correct the misunderstandings, and let his students restate the explanation of the words by their own ideas, not repeating the teachers’ explanation. After that, he has to ask students to construct a picture, symbol, or graphic representing the word. Engaging students periodically in activities is one step teacher should focus on in order to help them add new words to their knowledge. Involving students in activities refers to asking students to highlight prefixes, suffixes, root words that will help them remember the meaning of the term, and find synonyms and antonyms for the term. Moreover, the teacher should ask students to discuss the terms with one another. For instance, asking them to compare their descriptions of the term or make them explain to each other any new information they have learned. Finally, he has
to involve students periodically in games that allow them play with words, and memory 
games is one way that teachers can adopt to let the students remember that words easily.

1.2.4. Vocabulary Teaching and Learning

Vocabulary is one crucial aspect in learning a S/FL since words are the main way 
of conveying or receiving messages. The appearance of the communicative approach 
brought different ideas and gave vocabulary its real value, and gave a great importance 
to teaching and learning vocabulary in language teaching. Richards and Renandya 
(2002) claimed that in the past vocabulary teaching and learning were often given little 
priority in second language programs but recently there has been a high interest in the 
nature of vocabulary and its role in learning and teaching.

1.2.4.1. Vocabulary Teaching

In learning S/FL learners give much importance to learning vocabulary. Swan and 
Walter (1984) state that ‘‘Vocabulary acquisition is the largest and most important task 
facing the language learner’’. Essentially, teachers focus on teaching vocabulary as a 
basic material in language that permits the students learn new words to express their 
ideas and thought when communicating.

1.2.4.1.1. Techniques for Vocabulary Teaching

Importantly, there are some techniques that can be used in teaching vocabulary in 
order to convey item meaning namely: visual techniques, verbal techniques, and 
translation.
1.2.4.1.1. Visual Techniques

Using visual techniques is an essential teaching strategy to be used in the classroom. In the ESL/EFL classroom, using visual techniques can help students learn vocabulary and strengthen what they have learned. Grains and Redman (1986) state that “they are extensively used for conveying meaning, and are particularly useful for teaching concrete items of vocabulary such as food and furniture, and certain areas of vocabulary such as places, professions, descriptions of people, action and activities” (p.73). In teaching the meaning of words, especially at the elementary stage, teachers should try to establish a link between the word and the meaning by using one of the following means or techniques relying on the word to be taught such as realia, pictures, mime and gestures.

First, the use of realia like photographs, menu brochures, receipt, maps, movies, and television shows can give students interest in learning vocabulary, and enhance their ability to memorize the words. Focusing on realia in teaching new items gives the student a clear picture about the meaning of the words. Second, the use of pictures creates excitement in the classroom and adds interest to the presentation of the vocabulary lesson. Richard and Rogers (2001) regard pictures as one of the most important visual elements in the lesson (p.44). Pictures are one necessary visual tool that helps much the visual learners to increase their understanding of the words. Finally, mimes and gestures can involve all the learners to learn vocabulary. Grains and Redman (1986) suggest that they are may used to supplement other ways of conveying the meaning, and when teaching an item where we can build a situation to illustrate.

In fact, not all vocabulary can be presented in this way. According to Doff (1988), vocabulary should only be presented visually if it can be done quickly, easily and
clearly (P.14). However, for suitable vocabulary, it is a very effective method: it is direct, interesting and facilitates the process of teaching vocabulary.

1.2.4.1.2. Verbal Techniques

Verbal techniques are a very useful tool for teaching vocabulary. According to Grains and Redman (1986), this technique works most when an item becomes more abstract therefore; in order to make sure that the learners have understood, teachers make use of more than one situation or contrast to check whether the concept has been grasped or not.

Verbal techniques include some useful tools such as definition and illustrative sentences, synonyms and antonyms, and scales.

First, using definitions and illustrative sentences are a very beneficial technique that is used in learning words. Sample sentences complement the definition because they show how the new word is used. Moreover, synonyms and antonyms are especially important in teaching new vocabulary because learners are able to use know vocabulary. Grains and Redman (1986) say that synonyms are used by teachers especially with beginners or with low level student because the length and the explanation of the teachers should be restricted. They also argue that this technique is used because the students themselves often ask ‘‘what is the opposite of…’’. For example the word’ sweet’ can be well explained by its opposite ‘sour’. Furthermore, scales technique is the presentation of related words in scales that include the link between both verbal and visual techniques; for example, in the term 32° celsius, the degree sign in the visual.
1.2.4.1.3. Translation

Translation can be a useful technique to convey meaning since it saves time and allows the student to check correct comprehension. Harmer (1991) explains that, in the translation technique, the teacher gives the translation of a given word into the students’ mother tongue. Translation is the quickest way of demonstrating the meaning of vocabulary items. However, it can discourage learners from interacting with words they are learning (P.71).

Of course, it is also possible in some cases to use a combination of the techniques mentioned above.

1.2.5. Vocabulary Learning

Mastering a language relates to knowing a big number of vocabulary words. The process of learning S/FL can not take place without learning vocabulary. Learning vocabulary helps students much to achieve their wants and develop their ability for communication.

Generally, most EFL students have studied English grammar, but they still cannot speak fluent, natural English. Grammar is only part of language. No doubt, that knowing grammar can help the students speak and write correctly. However, much importance should be given to vocabulary.

Learning vocabulary allows the students perform the language skills such as listening, speaking, reading, writing easily. Nation (1994) states that:

vocabulary is not an end itself. A rich vocabulary makes the skills of listening, speaking, reading, and writing easier to perform. Learners’ growth in vocabulary must be accompanied by opportunities to become fluent with that
vocabulary. This fluency can be partly achieved through activities that lead to the establishment and enrichment of vocabulary knowledge, but the essential element in developing fluency lies in the opportunity for meaningful use of vocabulary in tasks with a low cognitive load (p.511).

1.2.5.1. Vocabulary Learning Strategies

In the process of vocabulary learning, there are many strategies. The most used ones are: the intentional and incidental vocabulary learning strategies.

1.2.5.1.1. Intentional Vocabulary Learning Strategy

Intentional or explicit vocabulary learning strategy is described as an approach that focuses on vocabulary items rather than on the language itself. As Decarrico (2001) suggests, in explicit learning, learners are involved in activities that pay more attention to vocabulary (p.286). Moreover, Nation (1995) describes intentional vocabulary learning as learning that “occurs when learners direct their attention to language items not for producing or comprehending a particular message, but for gaining knowledge about the item as a part of the language system” (p.11). Furthermore, Hulstijn (2001, as cited in Laraba, 2007, p.178) states that intentional vocabulary learning is “any activity geared at committing lexical information to memory” The intentional vocabulary strategy helps the students to get the information that they want about the word they learned. Nation (1995) also argues that in intentional vocabulary learning, students seek to obtain information about the word as focusing on its spoken and written forms. This information can be gained through memorization of collocations, phrases, or sentences containing these words (p.11). Nation (opcit. p.12) adds that negotiation could be an effective way to foster learners’ intentional learning by discussing meaning, definition, spelling, and pronunciation.
Intentional vocabulary learning is one successful method for teaching and learning words’ meaning, especially beginners, and with less able students. The important words can be learned by using intentional vocabulary strategy. Decarrico (2001) says that researchers agree that explicit instruction should be given in the learning of the first two to three thousand high frequency words because they appear regularly in what we see and hear. Thus knowing these words allows for understanding approximately 80% of the spoken or written passage (P.289). In addition, Schmitt (2008) claims that ‘‘with true beginners, it is probably necessary to explicitly teach all words until students have enough vocabulary to start making use of unknown words meet in context’’ (P.2).

Therefore, the use of the intentional method is advantageous in learning vocabulary since it is a best way for expanding learners’ vocabulary.

Further arguments are made by Nation (1995) and Schmitt (2008) for making intentional vocabulary learning more effective.

- Including useful words.
- Avoiding words that interfere with others.
- Using thoughtful techniques that make words more memorable.
- Making sure that there are opportunities for using words implicitly.
- Building a large sight vocabulary.

1.2.5.1.2. Incidental Vocabulary Learning Strategy

Incidental vocabulary learning is also known as implicit vocabulary learning which is somehow the opposite of intentional or explicit vocabulary learning. Decarrico (2001) describes it as learning that occurs when the mind is focused elsewhere, such as on understanding a text or using language for communication purposes” (p. 289). Schmitt
defines implicit vocabulary learning as “learning through exposure when one’s attention is focused on the use of language, rather than on learning itself. Context, then plays a very important role in assisting such learning”.

From what have been noted above, it can be said that incidental vocabulary learning strategy is the learning of words through exposure which plays an essential role in learning.

Learning vocabulary refers to learning new items in which these items should incidentally be acquired. Nation (1995) stated that “at the advanced level, there is little value to indirect teaching of vocabulary”. Moreover, Decarrico (2001) claims that “…beyond a certain level of proficiency in a second language, vocabulary learning is more likely to be mainly implicit” (289).

Furthermore, Schmitt (2008) suggests that “meeting a word in different contexts enhances what is known about it, which improves quality of knowledge, and additional exposure helps consolidate it in memory. Importantly, learning vocabulary through explicit strategy enhance the students’ knowledge about the learned words. Schmitt also says that in vocabulary learning or teaching explicit strategy can only show some aspects of vocabulary items, as collocation and connotation differences can be fully understood through various encounters with word in different situations.

In brief, we can say that both strategies are beneficial and complete each other. However, the intentional vocabulary learning strategy is very useful for teaching necessary words, and the incidental vocabulary learning strategy is used to enlarge learners’ vocabulary size through exposure. For that, Mondria (as cited in Schmitt, 2008, p. 4) claims that “numerous studies show that this incidental+ explicit approach leads to far better results than just incidental learning alone”.
1.2.6. The effect of Language Games on Vocabulary Learning

In order to acquire new words, learners should participate in different task-based activities during class. Such activities contain language games which aimed to increase students’ motivation and make the lessons more enjoyable. Therefore, it is important to discover if students learn new vocabulary items effectively through those language games. Playing games is one good strategy to learn vocabulary and communicate in language teaching classes. In fact, games play a great role in the process of learning vocabulary in several ways.

First, using games is a best way to enhance students’ vocabulary knowledge. Learning is a process by which “information is obtained stored, retrieved, and used”; therefore, the teacher needs to provide initial encoding of new words and then “Subsequent retrieved experiences” (Rubin, 1987, p.29). The best learning can be achieved if learners use a word differently from the first time they met it. According to Schmitt (2000), amounts of exposure can affect SL vocabulary acquisition (p.116). Nation (1990) reveals that students require at least five to sixteen exposure to a new word before learning it. Also, Bunch, (2009, Para, 1) points out that English language learners will benefit from variety of activities aiming at increasing exposures to key vocabulary. Besides, Laufer (1997, pp.140-142) points out that vocabulary acquisition is related to the effect of repetition on learning. It can be said that repetition is a beneficial means that lets learners learn new words. Similarly, according to Carter and Mccarthy (1988), new words are forgotten if they are not recycled in some ways and made it into long-term memory. In order to learn vocabulary, words have to be recycled numerous times. In fact, providing incidental encounters with words is one method to facilitate vocabulary acquisition (Sökmen, 1997, p.242). Through regular recycling
learners can be given chance to see the same vocabulary in different contexts, languages and activities types and this helps them to remember new words and developing them by knowing their meaning. As games provide another encounter with the target words, they have the advantages of being fun, competitive, and consequently, memorable (Sökmen, 1997, p.242). Methodologists agree that games can help students review vocabulary effectively. Memory plays a key role in vocabulary learning and the benefits of revision and repetition have been clearly demonstrated via studies of vocabulary learning (O’Dell, 1997, p.276). Besides, Ellis (1997) shares the same view that repetition is a strategy for consolidating vocabulary. He adds that games lend themselves well to revision exercises helping learners recall material in a pleasant, entertaining way (pp.134-138). Similarly, McCallum (1980) points out that games can function as reinforcement, review, and enrichment (p.78). In fact, using some of the games is very helpful for teachers to make a revision of vocabulary and grammar lessons in few minutes. Clearly, students have more opportunities to enhance their level of vocabulary knowledge through games. According to Hadfield (1999), in order to retain a word, students have to go through three distinct processes: (1) fix the meaning of the word in their mind, (2) make the word their own, (3) use the word to communicate with others (p.91). He adds that games can help the learner through these three processes. It can be said that games are a very effective strategy which help students increase exposure of vocabulary.

Second, games can maintain students’ motivation in vocabulary learning because they are amusing and interesting. In the easy, released atmosphere which is created by using games, students remember things faster and better (Uberman, 1998, p.18). Similarly, games bring in relaxation and fun for students, thus help them learn and retain new words more easily usually involving friendly competition, and they keep
learners interested. They create the motivation for learners of English to get involved and participate actively in the learning activities (p. 11). Games also help the learners recall material in a pleasant, entertaining way (Uberman, 1998, p. 20). For many children between four and twelve years old, language learning will not be the key motivational factor; games can provide this stimulus (Lewis, 1999, p. 101). In other words, the students to relax; they remember things faster and better. Moreover, games can lower anxiety, thus making the acquisition of input more likely (Richard-Amato, 1988, p. 147). As Nguyen and Khuat (2003, p. 11) put it, students tend to learn and retain new vocabulary better when it is applied in a relaxed environment like playing vocabulary games especially labeling and displaying pictures. Depicting new vocabulary is helpful especially with beginners. Matching words to pictures is a useful review exercise (Bunch, 2009). In short, games are much effective in making students more motivated to learn vocabulary.

Third, games can provide students with intensive and meaningful practice of language (Wright, Betteridge & Buckby, 2005, p. 11). In fact, most vocabulary games make learners use the language instead of thinking about learning the correct forms (Lee, 1995, p. 78). Hadfield (1984, p. 127) shares the same view that games can provide an opportunity for real communication and bridge the game between the classroom and the real world. Language games thus allow the use of meaningful and useful language which is used in real contexts (Ersoz, p. 85) and are able to provide a chance for pupils to use the language that they have learnt.

In brief, games involve students to learn vocabulary and let them practise the language, so they play a crucial role in learning vocabulary. Therefore, Lee (1995) suggests that games should not be regarded as “activities filling in odd moments when
the teacher and his/ her class have nothing better to do’’ (p.78). They ought to be at the heart of teaching a language in general and vocabulary in specific (Uberman, 1998).

1.2.7. The Effect of Memory Games in Learning Vocabulary

Memory is crucial in vocabulary learning and the benefits of revision and repetition have been clearly demonstrated in studies of vocabulary learning (O’Dell, 1997, p. 276). According to Rubbin (1987, p.29), “learning is the process by which information is obtained, stored, retrieved, and used”’. That is to say, memory games play an important role in teaching and learning vocabulary. Additionally, memory games develop the students’ ability to remember the vocabulary items that they have acquired and use them for communication and understanding the others. Cross (1995) states that “A good store of words is crucial for understanding and communication” (p.5). Thus, using effective teaching strategies as memory games facilitate the teachers’ job to teach vocabulary clearly, as they provide to the students concrete situations to learn new words and their meanings.

Conclusion

As a conclusion, learning vocabulary is an essential aspect in teaching and learning a language because learning new words allows students enhance the language skills. Moreover, the process of acquiring new words requires very useful teaching strategies which can create fun, and healthy environment. Memory games is one best way that can be used in learning vocabulary because they help students memorize new vocabulary items then using them in communication.

Essentially, the present study aims at examining the effect of memory games as a teaching strategy on enhancing students’ vocabulary learning.
Chapter two: Practical Framework

Introduction

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General discussion
Introduction

The present study investigates the effect of memory games on enhancing the students’ vocabulary learning. We intend through this chapter to test the hypothesis we set at the beginning of this work: is there a significant difference in vocabulary learning between students who are taught vocabulary through memory games and those who are not? In this chapter, we are going to apply the memory games strategy on first year LMD students of English at L’arbi Ben M’hidi University in which the dependent variable (vocabulary learning) is measured through pre-testing and post-testing.

Interestingly, this chapter includes the choice of the method used in our study, the sample, the research design, the procedures followed to collect the data which consist of two given tests pre-test and post-test and the conducting treatment, the instruments used for collecting the data, the scoring, and the statistical analysis of our study.

2.1. Choice of the Method

The choice of the research method is dictated by the nature of the subject to be treated. The topic and the aim require the use of a specific method. For this reason, the most appropriate method is the experimental study.

2.2. The Target Population

According to Miller (1975), the term population is used in statistics to refer to all subjects of a particular type. The population to which we wish to generalize the results of the experiment, is first year LMD students of English at Larbi Ben M’hidi University, Oum Elbouaghi during the 2013/2014 school year, a total of 229 students.
2.3. The Sample

A sample is a relatively small group selected from a population. This group is most of the time supposed to be representative of the target population (Wright and Fowler, 1986). The sample of this research is chosen randomly, it consists of two pre-existing groups to represent the entire population since it is difficult to deal with the whole population in a short period of time.

There are fourteen students in both classes, they are all of mixed ages and abilities. The main reasons behind selecting this particular level are: firstly, first year students are assumed to be a freshmen. Secondly, they do not have a sufficient vocabulary knowledge that enables them communicate easily. Thirdly, we wanted to test one effective strategy as memory games in learning vocabulary and examine its role in helping students build vocabulary knowledge.

2.4. The Research Design

The present research is an experimental study. There are two investigated groups, the experimental group and the control group. Thus, the independent variable of the study is learning vocabulary through memory games which is given to the experimental group, but this variable is not used with the control group which is taught the same area of language which is vocabulary through the traditional method.

In this research, we have focused on the following question:

- Is there a significant difference in vocabulary learning between students who are taught vocabulary through memory games and those who are taught vocabulary through the traditional method?

In order to answer this question it is hypothesized that:
(H1): There would be a significant difference in vocabulary learning between the students who are taught vocabulary through memory games and those who are taught vocabulary through the traditional method.

The null hypothesis is stated as follows:

(H0): There would be no significant difference in vocabulary learning between the students who are taught vocabulary through memory games and those who are taught vocabulary through the traditional method.

On the basis of the research question and the hypothesis stated above this work will examine two variables. One independent variable (memory games) and one dependent variable (vocabulary learning).

Focusing on the experimental method that was used in this study, the design of the research can be illustrated as follows:

<table>
<thead>
<tr>
<th>Sample</th>
<th>Pre-test</th>
<th>Treatment</th>
<th>Post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental Group</td>
<td>Ve 1</td>
<td>T1</td>
<td>Ve 2</td>
</tr>
<tr>
<td>Control Group</td>
<td>Vc 1</td>
<td>T2</td>
<td>Vc 2</td>
</tr>
</tbody>
</table>

**Table1:** Research Design

Notes:

Experimental group : It was consisted of 14 students.

Control group : It was consisted of 14 students.
Pre-test: It was a vocabulary matching task consisted of 10 different words in the first column and their definitions in the second column. i.e. students were asked in the pre-test to match each word to its definition.

Treatment1 (T1): It consisted of three different forms of exercises. The first exercise was a ten sentences in which the students have to read the sentences and give the definition to each underlined words. The second exercise was a ten words in the first column with a three multiple choices to each word in the second column. Exercise three is related to a text which the learners have to read, then put the words in their appropriate places depending on the context.

Post-test: It was the same test as the pre-test.

Ve1: Vocabulary performance of experimental group in the pre-test.

Vc1: Vocabulary performance of the control group in the pre-test.


Vc2: Vocabulary performance of the control group in the post-test.

2.5. Procedure

2.5.1. Pre-test

Both the control and the experimental groups were subject to the pre-test during the first meeting through a vocabulary matching task to check the students’ level in learning vocabulary knowledge. The task consisted of 10 different words related to the unit of ‘‘Finding a Niche: The Lives of Young Immigrants’’ because the focus of the experiment was on this unit. Furthermore, the time given to this test lasted fifteen minutes. Before the pre-test started the students were informed that the marks of the test
will not affect their exam grades; therefore, they had to work on their own, i.e. individually.

2.5.2. Treatment

After the pre-test, the experimental and control groups received the treatment in three sessions of 90 minutes per week over the period of the study. The exercises that the students in both groups dealt with are the same. While the experimental group was received the treatment by the researcher, the control group was taught through the traditional method by their teacher.

2.5.2.1. Experimental Group Instruction

During the three weeks of the treatment the experimental group was taught vocabulary through memory games. All the sessions were given to students focusing on memorizing some vocabulary words related to the unit of ‘‘Finding a Niche: The Lives of Young Immigrants’’.

<table>
<thead>
<tr>
<th>Session</th>
<th>Lesson</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Vocabulary words about finding a niche</td>
</tr>
<tr>
<td>2</td>
<td>Vocabulary words about finding a niche</td>
</tr>
<tr>
<td>3</td>
<td>Vocabulary words about finding a niche</td>
</tr>
</tbody>
</table>

**Table 2:** the schedule of the experimental group sessions.

The essential aim behind including memory games in this research work was to make learners memorize a new vocabulary words. To achieve this aim, learners were dealt with three different exercises.
To achieve this aim, the researcher at the beginning of the first session presents flash cards containing 10 different words with their definitions. Then, he grouped the whole class into two teams, in which each team contains students of different abilities, gender, and age to play an enjoyable memory game known as Elephant Memory game. This game creates a good atmosphere and provides enjoyment in the classroom. The Elephant Memory is one game that strengthens the students ability to memorize new items.

The rule of game is that one participant of the first group has to show the second group a flash card which contains the synonym of the words, so the members of the second group should look at the word and memorize it in no more than 60 seconds. The teacher is the one who sets the timer. If all the participants remember the words and their definitions before the timer goes off they will score two points. However, in case one of the participants fail in memorizing the word, all the players have to repeat it again with no points when finishing the game, the teacher gives the students a feedback about the words that they have memorized. After that, students dealt with the first exercise, in which they were supposed to give the definition of each underlined word in the sentences. In the second session students received the second exercise, they were asked to select the appropriate definition of each word from a three given definitions. The last exercise was done in the third session, it involves the students reading the text then put the words in the blanks to get a coherent context.

2.5.2.2. Control Group Instruction

During the same period the students in the control group learnt vocabulary through the traditional method followed by their teacher. They received the same exercises, but
they were not treated through the memory game. Appendix B presents the lessons that were given to the participants of the control group.

2.5.3. Post-testing

The post-test was administered during the fifth week to both groups. It was the same as the pre-test, i.e. a vocabulary matching task. The post-test was done to see the effect of memory game as a strategy in teaching the experimental group vocabulary. In addition, five weeks to administer the post-test was sufficient time to make sure that the participants do not remember their answers in the pre-test.

2.6. Instruments

2.6.1. Test Used in Pre-testing and Post-testing

Students in both experimental and control groups were tested by the same task used in the pre-test and post-test, that was a vocabulary matching task.

This test was made up of ten words in the first column and their definitions and synonyms in the second column. These words are related to one unit named: Finding a Niche.

2.7. Scoring

As far as, the same scoring measures were used in both pre-test and post-test. The higher score was twenty (20). Each vocabulary item was scored on 0 to 2 scale. Two points were given for each correct answer, and no point was awarded if the participants made a wrong matching.
2.8. Statistical Analysis

As a result of the research question, alternative and null hypothesis, and the design of the study, two parametric tests were adopted. One of the tests known as the t-test for independent samples that was applied to show the significant difference between post-test grades of the experimental and control group after the treatment. The other parametric test named the paired-samples-test was used to examine whether using memory games as a strategy in teaching learners English vocabulary enhanced their post-test performance in a comparison of the pre-test.

2.9. Results

This section deal with the statistical analysis of our research. It shows the results of the vocabulary matching task of both groups in the pre-test and post-test as it discusses the findings gathered from the research.

2.9.1. Results of the Vocabulary Matching Task
2.9.1.1. Control Group versus Experimental Group Scores on the pre-test

Table 3 presents the pre-test scores of the experimental and the control groups to have an idea about the level of the performance before starting the treatment. The experimental group with a mean $\bar{X}_{ex}=6.28$ and the control group with a mean $\bar{X}_{co}=5.71$.
For the total 28 scores, we have the following:

**Control group:**

\[ \text{02 } \geq 10 \rightarrow 14.29 \% \geq 10 \]

\[ 12 < 10 \rightarrow 85.71 \% < 10 \]

**Experimental group:**

\[ \text{02 } \geq 10 \rightarrow 14.29 \% \geq 10 \]

\[ 12 < 10 \rightarrow 85.71 \% < 10 \]

**Frequency Polygon 1:** Control Group and Experimental Group Scores on the pre-test.

From the frequency polygon 1, we can notice that the starting point of the control group’s frequency polygon is 2 (the lowest score) and it ends at 12 (the highest score), with one peak at 4 (the most frequent score). While, the experimental group’s frequency polygon begins at 2 (the lowest mark) and ends at 10 (the biggest score), with two peaks at 4 and 8 (the most frequent scores).
2.9.1.2. Control Group Post-test versus Control Group Pre-test

Table 3 shows that the pre-test control group scores have one peak at 4. However, post-test scores have more than one peak at 2, 4, 6, and 8. In addition, scores below the average in the pre-test and post-test are more than those above the average.

For the total 14 scores, we have:

<table>
<thead>
<tr>
<th></th>
<th>Pre-test</th>
<th>Post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>02 ≥ 10 → 14.29 % ≥ 10</td>
<td></td>
</tr>
<tr>
<td></td>
<td>12 &lt; 10 → 85.71 % &lt; 10</td>
<td></td>
</tr>
<tr>
<td></td>
<td>12 ≥ 10 → 85.71 % ≥ 10</td>
<td></td>
</tr>
<tr>
<td></td>
<td>02 &lt; 10 → 14.29 % &lt; 10</td>
<td></td>
</tr>
</tbody>
</table>

We can notice that, the control group recorded a higher post-test mean $\bar{X}_{\text{pos}} = 5.86$ than the pre-test mean $\bar{X}_{\text{pre}} = 5.71$. In order to examine the amount of improvement from pre-test to post-test in the control group, the difference scores between the pre-test and post-test for each student have been calculated (table 4). The mean difference score is $d = 0.15$. This means that the improvement in the participants’ ability to make the correct matching between the word and its meaning in the vocabulary matching task was not sufficient and of that importance, it was less marked in a comparison between the pre-test and the post-test as shown in figure 1.

Since the control group did not show a significant improvement in the exercises that were given in the treatment, we can conclude that the traditional methods used in teaching vocabulary has no significant effect on students’ vocabulary learning.
Frequency Polygon 2: The Control Group’s Scores on the Pre-test and Post-test

On the basis of frequency polygon 2 we have noticed that the pre-test of the control group starts at 2 and ends at 12 and 4 is the most frequent scores. However, the post-test frequency polygon begins at 2 and ends at 12 with 2, 4, 6, and 8 the most frequent scores.
<table>
<thead>
<tr>
<th>Individual Students</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>02</td>
<td>6</td>
<td>4</td>
<td>-2</td>
</tr>
<tr>
<td>03</td>
<td>4</td>
<td>8</td>
<td>+4</td>
</tr>
<tr>
<td>04</td>
<td>6</td>
<td>2</td>
<td>+4</td>
</tr>
<tr>
<td>05</td>
<td>6</td>
<td>8</td>
<td>+2</td>
</tr>
<tr>
<td>06</td>
<td>4</td>
<td>6</td>
<td>+2</td>
</tr>
<tr>
<td>07</td>
<td>6</td>
<td>4</td>
<td>+2</td>
</tr>
<tr>
<td>08</td>
<td>4</td>
<td>2</td>
<td>-2</td>
</tr>
<tr>
<td>09</td>
<td>4</td>
<td>6</td>
<td>+2</td>
</tr>
<tr>
<td>10</td>
<td>8</td>
<td>4</td>
<td>-4</td>
</tr>
<tr>
<td>11</td>
<td>4</td>
<td>10</td>
<td>+6</td>
</tr>
<tr>
<td>12</td>
<td>10</td>
<td>8</td>
<td>-2</td>
</tr>
<tr>
<td>13</td>
<td>4</td>
<td>10</td>
<td>+6</td>
</tr>
<tr>
<td>14</td>
<td>12</td>
<td>12</td>
<td>0</td>
</tr>
</tbody>
</table>

| Mean(\(\bar{X}, \bar{d}\)) | \(\bar{X}=5.71\) | \(\bar{X}=5.86\) | \(\bar{d} = 2\) |

*Table 4*: Control group’s pre-test, post-test, and difference scores on the matching task
2.9.1.2.1. The Paired-Samples t-test

According to Chen (2005, p. 32), the paired-samples t-test used in situations where each participant contributes to two test scores, the participants are said to belong to the same group. A common belief in SLA research is that the t-test is used with subjects having a pre-test, post-test and the treatment. In addition, the paired-samples t-test is a parametric that is to compare the experimental and the control groups students before and after having engaged in the treatment period. It helps the researcher to indicate whether the differences obtained are due to the effect of the independent variable memory games or merely chance.

2.9.1.2.2. Procedure for Carrying out a Paired-Samples t-test

To compare the difference of the experimental group scores before and after the treatment a paired-samples t-test is to be carried out. Thus, the procedure for focusing on the paired-samples t-test is as follow:
1- Calculate the difference between each participant pre-test and post-test scores.

2- Calculate the mean difference $\bar{d}$.

3- Calculate the standard deviation of the differences $S_d$, and the standard error of the mean difference, $SE(\bar{d}) = \frac{S_d}{\sqrt{N}}$.

4- Calculate the t-statistic, which is given by $t = \frac{\bar{d}}{SE}$. Under the null hypothesis, this statistic follows a t distribution with $N-1$ degrees of freedom.

5- Use tables of the t-distribution to compare your value for $T$ to the $N-1$ distribution. Choose the level of significance required (normally $p=0.01$) and read the critical value.

6- If the t-value is higher than the critical t-value, it can be said that the differences between the scores of the pre and post-test are significant at the level of probability. As a result, the null hypothesis is rejected and the alternative hypothesis is accepted.

**The mean difference ($\bar{d}$)**

$$\bar{d} = \frac{\sum d}{N}$$

Where $d$ = mean, $d$ = difference scores, $N$ = number of subjects, and $\sum$ = sum

$$\bar{d} = \frac{2}{14} \leftrightarrow \bar{d} = 0.14$$

**The standard deviation of the differences**

$$S_d = \sqrt{S^2} = \sqrt{\frac{\sum d^2}{N} - \bar{d}^2}$$

Where $S$ = variance, and $\sum d^2$ = sum of the square difference scores

$$S_d = \sqrt{\frac{116}{14} - (0.14 \times 0.14)} = \sqrt{8.28 - 0.01} = \sqrt{8.27}$$
\[ S_d = 2. \]

<table>
<thead>
<tr>
<th>Student</th>
<th>Difference scores ( \bar{d} )</th>
<th>Square difference scores ( \bar{d}^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>02</td>
<td>-2</td>
<td>4</td>
</tr>
<tr>
<td>03</td>
<td>+4</td>
<td>16</td>
</tr>
<tr>
<td>04</td>
<td>-4</td>
<td>16</td>
</tr>
<tr>
<td>05</td>
<td>+2</td>
<td>4</td>
</tr>
<tr>
<td>06</td>
<td>+2</td>
<td>4</td>
</tr>
<tr>
<td>07</td>
<td>-2</td>
<td>4</td>
</tr>
<tr>
<td>08</td>
<td>-2</td>
<td>4</td>
</tr>
<tr>
<td>09</td>
<td>+2</td>
<td>4</td>
</tr>
<tr>
<td>10</td>
<td>-4</td>
<td>16</td>
</tr>
<tr>
<td>11</td>
<td>+2</td>
<td>4</td>
</tr>
<tr>
<td>12</td>
<td>-2</td>
<td>4</td>
</tr>
<tr>
<td>13</td>
<td>+6</td>
<td>36</td>
</tr>
<tr>
<td>14</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>[ \sum ]</td>
<td>[ \sum d = 2 ]</td>
<td>[ \sum d^2 = 116 ]</td>
</tr>
</tbody>
</table>

**Table 5:** The control group’s square difference scores on the matching task

**The standard error of the mean difference**

\[
SE(\bar{d}) = \frac{S_d}{\sqrt{N}}
\]

\[
SE(\bar{d}) = \frac{2.87}{\sqrt{14}} = \frac{2.87}{3.74} \quad \leftrightarrow \quad SE(\bar{d}) = 0.76
\]
The t-statistic

\[ t_{N-1} = \frac{\bar{d}}{SE(\bar{d})} \]

\[ t_{14-1} = \frac{0.14}{0.76} \leftrightarrow t_{13} = 0.18 \]

After calculating the t-value, we have to look at the t distribution table to determine t-value. The total number of the control group students (N=14), then the degree of freedom is N-1=13. The probability value we used is p =0.01; therefore the t-critical value is 3.01. When we compare the critical t-value to the observed t-value we get:

\[ t_{obs} < t_{crit} \quad (0.18 < 3.01) \]

Thus, the difference between the control group on the pre-test and the post-test is not significant. In other words, the observed t is lower than the critical t-value. This result allows us to accept the null hypothesis. Therefore, we conclude that using the traditional method as a teaching strategy do not improve the students’ vocabulary learning.

2.9.1.3. Experimental Group Post-test versus Experimental Group Pre-test

Table 6 and figure 2 show that the experimental group’s scores improved significantly between the pre- and post-test; that is the scores below the average are more frequent in the pre-test than those above the average. However, the post-test scores show that most of the participants scored below the average.

For the total 14 scores

<table>
<thead>
<tr>
<th>Group</th>
<th>Score Range</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>02 ≥ 10</td>
<td>14.29 %</td>
</tr>
<tr>
<td></td>
<td>12 &lt; 10</td>
<td>85.71 %</td>
</tr>
<tr>
<td>Post-tes</td>
<td>12 &lt; 10</td>
<td>85.71 %</td>
</tr>
</tbody>
</table>
**Frequency Polygon 3 : The Experimental Group’s Scores on The Vocabulary Matching Task  (Pre-test and Post-test)**

The experimental group’s pre-test frequency polygon starts at 2 and ends at 10 with two peaks at 4 and 8. However, the post-test frequency polygon begins at 6 and ends at 20 with a peak at 18.
<table>
<thead>
<tr>
<th>Individual Students</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>6</td>
<td>12</td>
<td>+6</td>
</tr>
<tr>
<td>02</td>
<td>8</td>
<td>16</td>
<td>+8</td>
</tr>
<tr>
<td>03</td>
<td>8</td>
<td>18</td>
<td>+10</td>
</tr>
<tr>
<td>04</td>
<td>8</td>
<td>20</td>
<td>+12</td>
</tr>
<tr>
<td>05</td>
<td>8</td>
<td>18</td>
<td>+10</td>
</tr>
<tr>
<td>06</td>
<td>8</td>
<td>18</td>
<td>+10</td>
</tr>
<tr>
<td>07</td>
<td>4</td>
<td>6</td>
<td>+2</td>
</tr>
<tr>
<td>08</td>
<td>4</td>
<td>8</td>
<td>+4</td>
</tr>
<tr>
<td>09</td>
<td>4</td>
<td>10</td>
<td>+6</td>
</tr>
<tr>
<td>10</td>
<td>4</td>
<td>12</td>
<td>+8</td>
</tr>
<tr>
<td>11</td>
<td>4</td>
<td>18</td>
<td>+14</td>
</tr>
<tr>
<td>12</td>
<td>2</td>
<td>12</td>
<td>+8</td>
</tr>
<tr>
<td>13</td>
<td>10</td>
<td>14</td>
<td>+4</td>
</tr>
<tr>
<td>14</td>
<td>10</td>
<td>14</td>
<td>+4</td>
</tr>
<tr>
<td><strong>Mean (X, d)</strong></td>
<td>(\bar{X} = 6.28)</td>
<td>(\bar{X} = 14)</td>
<td>(d = 7.71)</td>
</tr>
</tbody>
</table>

**Table 6**: Experimental group’s pre-test, post-test and difference scores on the matching task
Furthermore, the experimental group recorded a higher post-test mean $\bar{X}_{\text{post}} = 14$ than the pre-test mean $\bar{X}_{\text{pre}} = 6.28$ which is, an indication of a significant improvement. Therefore, we can conclude that the participants’ post-test performance in the vocabulary matching task was affected by the treatment – memory games.

In order to check that the remarkable improvement of the post-test scores in the experimental group is due to the manipulation of the independent variable memory games, and not caused by chance, a paired-samples t-test was carried out.

**The mean difference ($\overline{d}$)**

$$\overline{d} = \frac{\sum d}{N}$$

Where $d^-$ = mean, $d$ = difference scores, $N$ = number of subjects, and $\sum$ = sum
\[ \overline{d} = \frac{108}{14} \quad \leftrightarrow \quad \overline{d} = 7.71 \]

The standard deviation of the differences

\[ S_d = \sqrt{s^2} = \sqrt{\frac{\sum d^2}{N} - \overline{d}^2} \]

Where \( S = \) variance, and \( \sum d^2 = \) sum of the square difference scores

\[ S_d = \sqrt{\frac{992}{14} - (7.71 \times 7.71)} = \sqrt{70.86 - 59.44} = \sqrt{11.42} \]

\[ S_d = 3.38 \]
<table>
<thead>
<tr>
<th>Student</th>
<th>Difference scores $d$</th>
<th>Square difference scores $d^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>+6</td>
<td>36</td>
</tr>
<tr>
<td>02</td>
<td>+8</td>
<td>64</td>
</tr>
<tr>
<td>03</td>
<td>+10</td>
<td>100</td>
</tr>
<tr>
<td>04</td>
<td>+12</td>
<td>144</td>
</tr>
<tr>
<td>05</td>
<td>+10</td>
<td>100</td>
</tr>
<tr>
<td>06</td>
<td>+10</td>
<td>100</td>
</tr>
<tr>
<td>07</td>
<td>+2</td>
<td>4</td>
</tr>
<tr>
<td>08</td>
<td>+4</td>
<td>16</td>
</tr>
<tr>
<td>09</td>
<td>+6</td>
<td>36</td>
</tr>
<tr>
<td>10</td>
<td>+8</td>
<td>64</td>
</tr>
<tr>
<td>11</td>
<td>+14</td>
<td>196</td>
</tr>
<tr>
<td>12</td>
<td>+10</td>
<td>100</td>
</tr>
<tr>
<td>13</td>
<td>+4</td>
<td>16</td>
</tr>
<tr>
<td>14</td>
<td>+4</td>
<td>16</td>
</tr>
<tr>
<td>$\sum$</td>
<td>$\sum d = 108$</td>
<td>$\sum d^2 = 992$</td>
</tr>
</tbody>
</table>

**Table 7**: the experimental group’s square difference scores on the matching task

**The standard error of the mean difference**

$$SE(d) = \frac{S_d}{\sqrt{N}}$$

$$SE(d) = \frac{3.38}{\sqrt{14}} = \frac{3.38}{3.74} \quad \leftrightarrow \quad SE(d) = 0.90$$

**The t-statistic**

$$t_{N-1} = \frac{\bar{d}}{SE(d)}$$

$$t_{14-1} = \frac{7.71}{0.90} \quad \leftrightarrow \quad t_{13} = 8.56$$
Now, we look at the t distribution table to determine t-value. Since N=14, then the
degree of freedom is N-1= 13. The probability value we used is p=0.01; therefore the t-
value would be be 3.01. Now, comparing the critical t-value to the observed t-value we
get:

$$T_{\text{obs}} > t_{\text{crit}} (8.56 > 3.01)$$

We can notice from these results, that the difference between the scores of the
experimental group on the pre-test and the post-test is highly significant. Thus, the
observed results are due to the independent variable (memory games), and the null
hypothesis is to be rejected. We conclude that using memory games as a teaching
strategy has an effect on enhancing students’ vocabulary learning.

### 2.9.1.4. Experimental Group Vs Control Group on the Post-test

From table 3, we can notice that the post-test scores for the experimental group are
highly remarkable and significant than the post-test scores obtained from the control
group. Therefore, the post-test mean for the experimental group $$\bar{X}_E=14$$ is higher than
the mean of the control group $$\bar{X}_C=5.86$$.

For the total 14 scores, we have:

<table>
<thead>
<tr>
<th></th>
<th>02 ≥ 10 → 14.29% ≥ 10</th>
<th>12 &lt; 10 → 85.71% &lt; 10</th>
<th>12 ≥ 10 → 85.71 % ≥ 10</th>
<th>02 &lt; 10 → 14.29 % &lt; 10</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Control group</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>experimental group</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Frequency Polygon 4: Control and Experimental group scores on the post-test

From the frequency polygon 4, it can be noted that the control group’s post-test starts at 2 and ends at 12 with four peaks at 2, 4, 6, and 8. However, the experimental group’s frequency polygon starts at 6 and ends at 20 with one peak at 18. That is really higher than the control group’s peaks.

To investigate the significance of the difference between the experimental and control group’s test mean, we have applied the independent-samples t-test.

2.9.1.4.1. The Independent-Samples t-test

The Independent-Samples t-test is used to find out whether there is a statistically significant difference between the means of two different groups; control group and experimental group. In other words the independent-samples t-test shows the effect of the independent variable on the dependent variable. Its formula is denoted as follows:
\[ t_{N_1+N_2-2} = \frac{\bar{X}_1 - \bar{X}_2 \sqrt{(N_1 + N_2 - 2)N_1N_2}}{\sqrt{(N_1S_1^2 + N_2S_2^2)(N_1 + N_2)}} \]

In order to confirm the independent variable (memory games) on the dependent variable (learners’ vocabulary), and reject the null hypothesis, the calculated t should go beyond the tabulated t at a particular level of probability (p=0.01).

<table>
<thead>
<tr>
<th>Xx=</th>
<th>individual score</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \bar{X}_n = )</td>
<td>group mean ( X_n^2 = ) square score</td>
</tr>
<tr>
<td>NX=</td>
<td>number of subjects</td>
</tr>
<tr>
<td>( \sum Xx = ) sum of the individual scores</td>
<td></td>
</tr>
<tr>
<td>( \sum X_n^2 = ) sum of square scores</td>
<td></td>
</tr>
<tr>
<td>SX=</td>
<td>sample variance</td>
</tr>
</tbody>
</table>

**Pre-test**

<table>
<thead>
<tr>
<th></th>
<th>Control group</th>
<th>Experimental group</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \sum X_2 = 80 )</td>
<td></td>
<td>( \sum X_1 = 88 )</td>
</tr>
<tr>
<td>( \sum X_2^2 = 552 )</td>
<td>( \sum X_1^2 = 640 )</td>
<td></td>
</tr>
<tr>
<td>( \bar{X}_2 = \frac{\sum X_1}{N_1} )</td>
<td>( \bar{X}_1 = \frac{\sum X_2}{N_2} )</td>
<td></td>
</tr>
<tr>
<td>( X_2 = \frac{80}{14} )</td>
<td>( X_1 = \frac{88}{14} )</td>
<td></td>
</tr>
<tr>
<td>( \bar{X}_2 = 5.71 )</td>
<td>( \bar{X}_1 = 6.28 )</td>
<td></td>
</tr>
</tbody>
</table>
### Post-test

<table>
<thead>
<tr>
<th>Control group</th>
<th>Experimental group</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\sum X_2 = 82$</td>
<td>$\sum X_1 = 390$</td>
</tr>
<tr>
<td>$\sum X_2^2 = 604$</td>
<td>$\sum X_1^2 = 2976$</td>
</tr>
<tr>
<td>$\bar{X}_2 = \frac{\sum X_1}{N_1}$</td>
<td>$\bar{X}_1 = \frac{\sum X_2}{N_2}$</td>
</tr>
<tr>
<td>$X_2 = \frac{82}{14}$</td>
<td>$X_1 = \frac{196}{14}$</td>
</tr>
<tr>
<td>$\bar{X}_2 = 5.86$</td>
<td>$\bar{X}_1 = 14$</td>
</tr>
</tbody>
</table>

#### The sample Variance

**Experimental group**

\[
S_1^2 = \frac{\sum X_1^2}{N_1} - \bar{X}_1^2
\]

\[
S_1^2 = \frac{2976}{14} - (14 \times 14) = 212.57 - 196
\]

$S_1^2 = 16.57$

- **Control group**

\[
S_2^2 = \frac{\sum X_2^2}{N_2} - \bar{X}_2^2
\]

\[
S_2^2 = \frac{604}{14} - (5.86 \times 5.86) = 43.14 - 34.33
\]

$S_2^2 = 8.81$
<table>
<thead>
<tr>
<th>Student</th>
<th>Experimental group’s scores ($X_1$)</th>
<th>Square scores $X_1^2$</th>
<th>Control group’s Scores ($X_2$)</th>
<th>Square Scores $X_2^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>12</td>
<td>144</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>02</td>
<td>16</td>
<td>256</td>
<td>4</td>
<td>16</td>
</tr>
<tr>
<td>03</td>
<td>18</td>
<td>324</td>
<td>8</td>
<td>64</td>
</tr>
<tr>
<td>04</td>
<td>20</td>
<td>400</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>05</td>
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<td>8</td>
<td>64</td>
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<tr>
<td>06</td>
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<td>324</td>
<td>6</td>
<td>36</td>
</tr>
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<td>07</td>
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<td>12</td>
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<td>14</td>
<td>196</td>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td>14</td>
<td>14</td>
<td>196</td>
<td>12</td>
<td>144</td>
</tr>
<tr>
<td>$\sum$</td>
<td>$\sum X_1 = 196$</td>
<td>$\sum X_1^2 = 2976$</td>
<td>$\sum X_2 = 82$</td>
<td>$\sum X_2^2 = 604$</td>
</tr>
</tbody>
</table>

Table 8: square post-test scores of both groups on the matching task
The t-value

\[ t_{N_1+N_2-2} = \frac{\bar{X}_1 - \bar{X}_2 \sqrt{(N_1 + N_2 - 2)N_1N_2}}{\sqrt{(N_1S_1^2 + N_2S_2^2)(N_1 + N_2)}} \]

\[ t_{14+14-2} = \frac{14-5.86\sqrt{(14+14-2)}x(14\times14)}{\sqrt{14\times16.57+14\times8.01)(14+14)}} \]

\[ t_{26} = \frac{8.14\sqrt{26\times26}}{\sqrt{231.98+123.34}\times26} \]

\[ t_{26} = \frac{8.14\sqrt{5096}}{\sqrt{355.32}\times26} \leftrightarrow t_{45} = \frac{8.14\times71.38}{\sqrt{9948.96}} = \frac{581.03}{99.74} \]

\[ t_{26} = 5.82 \]

The total number of both groups participants is 28. So, when entering at t-table a degree of freedom at 26 and the level of probability at 0.01, we get the critical t-value of 2.77. Evidently the t observed is bigger than the critical value.

\[ t_{obs} > t_{crit} (5.82 > 2.77) \]

Essentially, the difference between the two groups’ post-test means (\( \bar{X}_E \) & \( \bar{X}_C \)) is highly significant. Therefore, the null hypothesis (H0) is rejected, and the alternative hypothesis (H1) is strongly supported, so there in only a 1% probability that the observed mean difference occured by chance alone. That is to say, we have 99% probability that it was due to the manipulation of the independent variable.

Finally, we conclude that using memory games as a teaching strategy in the EFL classroom has a significant role on improving the vocabulary learning of first year LMD students of English at L’arbi Ben M’hidi University-Oum El Bouaghi.
General Discussion

This study was an attempt to explore the effectiveness of using memory games as a strategy in enhancing the students’ vocabulary learning. The research work raises the following question: Is there a significant difference in vocabulary learning between the students who are taught vocabulary through memory games and those who are taught vocabulary through the traditional method?

To answer this question we hypothesizes the following: student who are taught vocabulary through memory games technique would show a significant higher improvement in their vocabulary learning than those who are taught vocabulary through the traditional method.

Importantly, the results we have obtained from this present stydy indicate that the experimental group has achieved higher scores than the control group on the post-test measuring students’ vocabulary learning. This significant improvement is due to the use of memory games technique for teaching vocabulary during the treatment. That is to say, applying memory games as a strategy in teaching learners new vocabulary during the treatment period was effective since the experimental group performed better than the control group on the post-test because the later was taught vocabulary through the traditional method. So that we can support the alternative hypothesis.

- The Non-Significance of the Control Group Improvement

The comparison between the scores of the control group in the pre-test and post-test shows that using traditional methods in teaching vocabulary was not effective in improving the students’ vocabulary learning. This is evident when we compare the means of both pre-test and post-test of the control group. The pre-test mean was $\bar{x}_{pre} = 5.71$, and the post-test mean
was $\bar{X}_{pos}=5.86$. i.e. The difference between the two means was $\bar{d}=0.15$ (unremarkable improvement). For that we conclude that teaching vocabulary through the traditional method did not help the students to memorize the new words that they have dealt with in the treatment. Therefore they did not show any improvement toward the mastery of their vocabulary learning.

- **The Significance of the experimental Group Improvement**

After completing the treatment, the experimental group showed significant improvement in the post-test. That is when comparing the mean of the pre-test which was $\bar{X}_{pre}=6.28$ post-test mean which was $\bar{X}_{pos}=14$ we get a mean difference $\bar{d}=7.72$ the improvement is highly significant. It is also noticed that the experimental group scores have significantly improved. We can conclude that using memory games in teaching vocabulary was the responsible for the improvement that has been noticed. Using memory games as a tool in the EFL classroom improve the students' vocabulary learning.

Finally, the positive findings obtained from the experimental group scores show that using memory games technique in teaching vocabulary has raised the students’ motivation to learn and memorize new vocabulary words in a very relaxed environment and funny way.
The present study proved that using memory games is beneficial for the students to learn vocabulary. The pedagogical implications are stated as follows:

1- The obtained results of this study show that there is a progress on EFL learners in learning vocabulary through memory games strategy. This indicate that memory games are an effective teaching tool that teachers have to adopt while they teach vocabulary.

2- Memory games is one tool that can provide opportunity for EFL learners to acquire and learn vocabulary in a funny way. So, teachers have to deviate somehow from the traditional methods which are used in teaching vocabulary.

3- Memory games is one tool that engage all the students in learning vocabulary. i.e. memory games attract students’ interest to focus on acquiring new words and store them.

4- Memory games are flexible, it means that they can be used for teaching any aspect of the language.

5- Motivation is a key element in learning. So, when teachers use a teaching strategy as memory games they increase students motivation to store the words that they have learnt.

6- Memory games have a great pedagogical value providing language teachers with many advantages when they are used in foreign language teaching. First, they help to involve the students to be more active in the learning process. Second, they encourage the learners in reacting the words they have studied. Third memory games involve repetition of the same vocabulary words in many times.
GENERAL CONCLUSION

Vocabulary learning is a major objective of the EFL classrooms. Therefore, it requires a healthy and enjoyable atmosphere as well as motivation that can encourage students for better learning. For these reasons, it should adopt effective strategy in the same context we believe that memory games are one effective teaching strategy which lead to successful learning.

This study attempted to shed light on the use of memory games as an effective tool in teaching vocabulary. Hence, the aim of this study is to examine the effectiveness that memory games bring to first year LMD students of English. By analyzing the findings obtained through the experimental study followed in this research, we can say that the alternative hypothesis is valid. That is, the use of memory games help students learn and memorize the new words. Therefore, it is undeniable that memory games are effective strategy in learning vocabulary that should be applied in EFL classrooms.

Limitations of the Study:

An experimental study was applied to obtain reliable results about the effectiveness of memory games on enhancing the students’ vocabulary learning. Thus, in our try to fulfill a research purpose, we have faced with a major problem which is related to the limited span of time. The crucial objective of using memory games in EFL classrooms is to store new vocabulary items. Thus, providing a long treatment period can permits the learners to memorize a large number of words.

Suggestions for Further Research

After examining the use of memory games as a strategy in teaching vocabulary, and presenting the obtained results, we would like to propose some recommendations for further studies.
1- The use of memory games on EFL classrooms are beneficial and helpful means for teaching vocabulary, for further studies we propose to use memory games as a strategy in teaching writing, in which students have to use the new vocabulary items in their written production.

2- The learning process can be greatly affected by the psychological factor ‘‘motivation’’. In fact, this factor was found to have strong effects on the learner as well as his achievement. So, it would be interesting to examine the effect of memory games on raising the students’ motivation in learning grammar.

3- Memory games is one tool which can create friendly, enjoyable, and relaxed atmosphere in English classes. For that we suggest that syllabus designers, should introduce memory games in a syllabus that will be intended for first year LMD students at the university level.
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APPENDICES

Appendix A: Test Used in Pre-testing and Post-testing

Appendix B: Lessons Provided to the control Group Participants
Appendix A: Test Used in Pre-testing and Post-testing

Name:                                                                                           Group:

Match each of the following words to its appropriate meaning:

1. Flourish                                               a. removed from; torn on
2. Native tongue                                         b. the common way of thinking or acting
3. Uprooted                                               c. not allow to be expressed
4. Tight-knit                                             d. frightening
5. Intimidating                                          e. grow up and develop well
6. Relieved                                               f. review, study again
7. Suppress                                               g. make someone or something different
8. Bone up on                                             h. happy that you don’t have to worry about

something
9. Mainstream                                             i. first language
10. Set apart                                             j. close ; connected
Appendix B: Lesson Provided to the Control Group Participants

Lesson one:

Read the following sentences. Determine the meaning of each underlined word from the context of its sentence. Write a definition or similar expression on each line.

1- For many immigrants, New York is home. It is a place where many immigrants’ business have started and where immigrant neighborhoods have grown. It’s a city where immigrant communicates flourish.

2- Some young immigrants experience conflict between the need to learn English and the desire to maintain their native tongue.

3- It can be difficult for young immigrants who have been uprooted from their home environments to adjust to their new environment.

4- Many of these young people come from large families that are very tight-knit. Family members know each other very well and see each other often.

5- For adults, moving to a new country can be a bit strange and confusing. For young people who are trying to develop their self-confidence, however, it can be very intimidating.
6- Priscila was nervous because she thought she would not be allowed to speak her native tongue in class. She was relieved when she learned that this was not true.

7- At home, immigrants teens can speak their own language or dialect freely, but at school this practice is sometimes suppressed.

8- My mother is going to visit France. She wants to bone up on her French because she hasn’t practiced it since high school.

9- American television reflects mostly mainstream American culture. It doesn’t necessarily show the rich ethnic variety of the American population.

10- Excellent study habits help set great students apart from average ones.
**Lesson Two**

Find the correct definition of the following words

1-Flourish
   a- make the sounds that show you are happy
   b- think or believe that something will happen
   c- grow and develop well

2-Native tongue
   a- a thing that you can not understand
   b- first language
   c- the quality of being very good

3-Uprooted
   a- removed from, torn from
   b- divide, disconnect
   c- finish, carry on

4-Tight-knit
   a- leave, go away
   b- close, connected
   c- develop, improve

5-Intimidating
   a- frightening
   b- happiness
   c- worry
<table>
<thead>
<tr>
<th>Word</th>
<th>Meaning 1</th>
<th>Meaning 2</th>
<th>Meaning 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-Relieved</td>
<td>a- free from danger</td>
<td>b- to involved detailed knowledge of machines</td>
<td>c- happy that you don’t have to worry about something</td>
</tr>
<tr>
<td>7-Suppress</td>
<td>a- not allow to be expressed</td>
<td>b- experience something unpleasant</td>
<td>c- to be a sign of something; to mean</td>
</tr>
<tr>
<td>8-Bone up on</td>
<td>a- fail</td>
<td>b- review; study again</td>
<td>c- attract, interest</td>
</tr>
<tr>
<td>9-Mainstream</td>
<td>a- the coming way of thinking or acting</td>
<td>b- the act of looking at something carfully</td>
<td>c- the act of thinking about something carefully</td>
</tr>
<tr>
<td>10-Set apart</td>
<td>a- say or show that something is true</td>
<td>b- make someone or something</td>
<td></td>
</tr>
</tbody>
</table>
Lesson three:

Read this story about culture shock. Fill in the blanks with the appropriate words from the following list.

Culture Shock: the problem of young immigrants

Set him a part                      native tongue                   tight-knit     flourished
Intimidated                          mainstream                      relieved
Uprooted                             supressed                         boned up on

In his home country of Mexico, Esteban was an active, outgoing young man. He was optimistic, full of life, and had many friends. Esteban was also an excellent student. When he was 16, his father was transferred to the United States, and the family moved with him. This was a very difficult adjustment for Esteban, who felt (1)…………from his home. At school, the American kids were friendly to him, but he couldn’t seem to blend in. Instead of feeling excited by his new classes, he felt (2)………………. his teachers tried to encourage him. They suggested that he join clubs in order to meet other students. Esteban appreciated their support, but his feeling of being a foreigner (3)………………. from the others. Sometimes he had difficulty communicating with his classmates, and there was no one who spoke his (4)………………. and could interpret to him. He felt that no one would ever listen to him or value his opinion because the American culture (5)………………. is different from Mexico culture.
His happiness extended to his family life, too. Although Esteban’s family was very (6)…………………, he did not want to talk to them about his problem. Instead, he (7)………………… his sad feelings so his parents wouldn’t worry about him. He thought that if he only (8)………………his English, he would be able to make friends more easily and feel more comfortable. Esteban’s frustration grew. Eventually, he felt unable to deal with even the smallest day-to-day tasks. Sometimes he disliked the United States and English and left that he would never adjust.

Although Esteban thought most of his problems were a result of his poor English, social scientist and psychologist know better. Esteban was experiencing culture shock without knowing it. His insecurities and confusion were a temporary but normal stage in the adaptation process. His beliefs were suddenly being challenged by a new set of values in his new country. All this was happening without his awareness. Esteban’s reaction was natural. Gradually, Esteban began to feel more comfortable in the United States, and he started to enjoy his school life and his new friends. He was (9)………..after a few months when he realized that he was no longer unhappy. He decided that he would always love his native country first, he had found his niche in this new home, and his English was (10)………………... and was able to enjoy his life once again and feel more relaxed.
Résumé

Le Vocabulaire abstrait est un élément de langage qui devrait être étudié à l'école/université. Ceci, à son tour, peut aider l'étudiant à réaliser sa plus grande influence dans la communication. Toutefois, l'enseignant devrait adopter une stratégie utile qui leur permet d'apprendre l'anglais facilement. Ce qui est important et le but principal de ce travail de recherche est d'étudier l'effet de l'utilisation des jeux de mémoire comme une stratégie d'enseignement sur le renforcement du vocabulaire des apprenants. L'hypothèse a été définie comme suit: les étudiants qui ont le vocabulaire de la montrerait par le biais de technique de jeux mémoire montrerait une amélioration significativement plus élevée dans leur apprentissage de vocabulaire que ceux qui apprennent le vocabulaire par le biais de la méthode traditionnelle. Afin de prouver l'hypothèse, une méthode expérimentale a été adopté. Les participants étaient des vingt-huit étudiants de LMD en première année d'anglais à L'arbi Ben M'hidi Université-Oum El Bouaghi. Ils étaient divisés en deux groupes, le contrôle et les groupes expérimentaux. Les étudiants dans les deux groupes ont été testés au préalable lors de la première réunion. Les étudiants dans les deux groupes ont été testés au préalable à la première réunion avec le vocabulaire correspondant de tâche. Ensuite, le groupe témoin a reçu deux séances de vocabulaire à l'aide de la méthode ordinaire utilisée par leur professeur. Toutefois, le groupe expérimental ont appris deux leçons de vocabulaire grâce à l'utilisation des jeux de mémoire afin d'aider les élèves à apprendre de nouveaux éléments de vocabulaire dans une ambiance agréable et de relax. Après cela, le post-test a été fait après le traitement ont montré pour les deux groupes; t était semblable à l'essai. Les résultats montrent qu'il existe une considérable promouvant en comparant avec le pré-test et le post-test, il a été observé que l'adoption des jeux de mémoire comme une stratégie d'enseignement pour l'apprentissage du
vocabulaire rend les élèves plus motivés et intéressé à acquérir et mémoriser de nouveaux mots de vocabulaire. Par conséquent, il est suggéré d'inclure des jeux de mémoire comme une stratégie efficace dans l'enseignement du vocabulaire.
الملخص

المفردات هي عنصر من عناصر اللغة التي ينبغي أن تدرس في المدرسة / الجامعة لأن هذا بدوره يمكن أن يساعد الطلاب على تحقيق مباعلاً في مجال المحادثة والإتصال مع الغير. مع ذلك، ينبغي على الأساتذة بناء استراتيجية مفيدة التي يمكن أن تساعدهم على تعلم الإنجليزية بطريقة سهلة وغريب الرئيسي من هذا العمل البحثي هو استكشاف أثر استخدام الألعاب الذاكرة كاستراتيجية تعليمية تعمل على تعزيز الرصيد اللغوي للطلاب. تم تعيين فرضية هذا البحث على النحو التالي: الطلاب الذين تم تدريبهم المفردات من خلال تقنية ألعاب الذاكرة شهدوا تحسنا أكبر بكثير في تعلمهم للمفردات من أولئك الذين تم تدريبهم المفردات من خلال الأساليب التقليدية. من أجل إثبات صحة الفرضية تم إتباع أسلوب التدريس التجريبية إضافة إلى ذلك طبفت هذه الدراسة على نموذج يتكون من 28 طالباً من السنة الأولى للغة الإنجليزية نظام L - M - D في جامعة العريبي بن مهدي أم البواب حيث تم تقسيمهم إلى مجموعتين مجموعتين سواء التحريبي والطابية التحريبي. تم مسبقاً اختبار المشاركين في كلا المجموعتين في أول اجتماع لهم قبل إجراء العلاج عن طريق نفس الاختبار. ثم تلتقي المجموعة العينية الثلاث جلسات لتعليم المفردات بطرق الفترة الفعالة الممتعة من طرف معلميهم.

و مع ذلك، تلتقي المجموعة التجريبية الثلاث جلسات لتعليم المفردات عن طريق استخدام ألعاب الذاكرة بغية مساعدة الطلاب على التعرف على مفردات لغوية جديدة في الجو مريح وأجواء ممتعة. بعد ذلك، تم إجراء نفس الاختبار السابق لكلا الفوجين في مرحلة ما بعد العلاج وأظهرت النتائج إن هناك تحسن معنوي بالمقارنة ما بين قبل وبعد الاختبار بحيث أن استعمال ألعاب الذاكرة كاستراتيجية معتمدة في تعلم المفردات اللغوية تجعل الطلاب مهتمين ومهتمين باكتساب وتخزين مفردات لغوية جديدة. وأخيراً تم إقتراح استعمال ألعاب الذاكرة كاستراتيجية فعالة في تعلم الطلاب المفردات اللغوية.