UNIVERSIDAD TÉCNICA DE AMBATO

FACULTAD DE CIENCIAS HUMANAS Y DE LA EDUCACION

CARRERA DE PEGAGOGÍA DE LOS IDIOMAS NACIONALES Y EXTRANJEROS

MODALIDAD PRESENCIAL

Proyecto de Trabajo de Graduación o Titulación previo obtención del Título de Licenciado/a en Pedagogía del Idioma Inglés

---

Theme: SPACED LEARNING IN WRITING SKILL

Author: Palacios Palacios Johana Gabriela

Tutor: Doctora Wilma Elizabeth Suárez Mosquera Magister

Ambato – Ecuador

2021

SUPERVISOR APPROVAL

CERTIFY:

I, Mg. Wilma Elizabeth Suárez Mosquera holder of the I.D No. 1802859841, in my capacity as supervisor of the Research dissertation on the topic: "SPACED LEARNING IN WRITING SKILL" investigated by Johana Gabriela Palacios Palacios with I.D No. 1804850590, confirm that this research report meets the technical, scientific and regulatory requirements, so the presentation of it is authorized to the corresponding organism in order to be submitted for evaluation by the Qualifying Commission appointed by the Directors Board.

Firmado electrónicamente por:
WILMA ELIZABETH SUAREZ MOSQUERA

……………………………………………..…………….

Mg. Wilma Elizabeth Suárez Mosquera

SUPERVISOR

I declare this undergraduate dissertation entitled "SPACED LEARNING IN WRITING SKILL" is the result of the author's investigation, and has reached the conclusions and recommendations described in the present study.

Comments expressed in this report are the author's responsibility

…………………………………………

Johana Gabriela Palacios Palacios

I.D 1804850590

AUTHOR

APPROVAL OF THE HIGH COURT OR DEGREE COURT TO THE DIRECTIVE COUNCIL OF THE FACULTY OF HUMAN SCIENCES AND EDUCATION

The Board of Directors which has received the defense of the research dissertation with the purpose of obtaining the academic degree with the topic "SPACED LEARNING IN WRITING SKILL" which is held by Johana Gabriela Palacios Palacios, undergraduate student from Carrera de Pedagogía de los Idiomas Nacionales y Extranjeros, academic period April - September 2021 and once the research has been reviewed, it is approved because it complies with the basic, technical, scientific and regulatory principles.

Therefore, the presentation before the pertinent organisms is authorized.

REVISION COMISSION

Lic. Mg. Mayorie Chimbo

REVISOR

Lic. Mg. Verónica Chicaiza

REVISOR

COPYRIGHT REFUSE

DEDICATION

I dedicate this research study to God and The Blessed Mother for enhancing me to go ahead despite all my difficulties during this process.

To my parents Yolanda Palacios and Milton Palacios. They gave me strong values and enough support to motivate me to keep going. Thanks a lot for all the love that you gave me day by day. I am very grateful because they gave me the opportunity to study and be a professional.

To my brothers Hugo and Milton, and to my grandparents, Laura and Mentor. Thanks a lot for the advices you gave me to inspire me dayby day throughout this process.

To my angels in heaven, my uncles Bladimir and Rodrigo. Thank you, dear uncle Rodrigo, for being my inspiration to be a teacher. I miss you so much.

Gabriela Palacios

ACKNOWLEDGMENTS

I thank God who helped me overcome every difficult that have during this process.

I thank to my whole family, my parents Yolanda and Milton, my brothers Hugo and Milton, my grandparents Laura and Mentor, and my angels in heaven Bladimir and Rodrigo. Thank you for all the advice you gave me and all the times you helped me keep going.

Thanks to my best friends Lesly Robles, María Sánchez, Diego Mazón and Edisson de la Cruz who always helped me throughout this process and showed me that true friendship exists. I love you so much.

To "Unidad Educativa Fiscomisional María Inmaculada", specially to Sor. Dorys Padilla, director of the institution and Lic. Ángel Arroba. Thank you for the support you gave me for the application of my experiment.

To "Universidad Técnica de Ambato", "Facultad de Ciencias Humanas y de la Educación", and "Pedagogía de los Idiomas Nacionales y Extranjeros" to opening the doors to fulfill my dreams.

To my teachers, specially Dr. Mg. Wilma Suárez, tutor of my research. Thank you very much for your patient to guide me in this process.

Thanks to all the people who trusted me.

Gabriela Palacios

TABLE OF CONTENTS

INDEX OF TABLES

INDEX OF FIGURES

Abstract

UNIVERSIDAD TÉCNICA DE AMBATO

FACULTAD DE CIENCIAS HUMANAS Y DE LA EDUCACIÓN

PEDAGOGÍA DE LOS IDIOMAS NACIONALES Y EXTRANJEROS

THEME: SPACED LEARNING IN WRITING SKILL

AUTHOR: Johana Gabriela Palacios Palacios

DIRECTED BY: Lcda. Mg. Wilma Suárez

DATE:

Abstract

Spaced learning is a useful technique that helps students decrease their forgetting curve and increase their long-term memory by giving breaks between classes. The following research investigates the effects of the use of spaced learning technique in the development of writing skills. To achieve this objective, 23 students from 12 to 14years old, from 9th EGB of a private institution took part of the experiment. This investigation had a quasi-experimental design. The experiment lasted 1 month with 6 sessions in total. The tools to collect data were a pre-test and a post-test. This test was taken from KET (Key English Test) standardized writing test. In the first session, it was necessary to take a pre-test to measure students´ writing skill. In the second, third and fourth session the experiment was applied by using different materials and activities for classes and breaks. After that, the students took the post-test, which was the same as the pre-test. Both, pre and post-test were analyzed by using a standardized rubric for writing skills. In addition, to analyze data SPSS software to get a normality test was used. For hypothesis verification was used T-student statistic. The results demonstrated that the use of Spaced learning technique helped to improve students´ writing skills.

Keywords: Spaced Learning, long term memory, writing skill

Resúmen

El aprendizaje espaciado es una técnica útil que ayuda a los estudiantes a disminuir su curva de olvido y aumentar su memoria a largo plazo, dando descansos entre clases. El siguiente estudio tiene como objetivo investigar los efectos del uso de la técnica de aprendizaje espaciado en el desarrollo de las habilidades de escritura. Para lograr este objetivo, participaron del experimento 23 estudiantes de 12 a 14 años, de 9º EGB de una institución privada. Este estudio tuvo una investigación cuasi-experimental. El experimento duró 1 mes, con 6 sesiones en total. Las herramientas para recopilar datos fueron: una prueba inicial y una prueba final. Las preguntas fueron tomadas de la prueba de escritura estandarizada KET (Key English Test). En la primera sesión fue necesario tomar la prueba inicial o pre-test para medir la habilidad de escritura de los estudiantes. En la segunda, tercera y cuarta sesión se aplicó el experimento utilizando diferentes materiales y actividades para clases y descansos. Después de eso, los estudiantes tomaron la prueba final o post-test, que fue la misma que la prueba inicial o pre-test. Tanto la prueba inicial como la final se analizaron mediante el uso de una rúbrica estandarizada para las habilidades de escritura. Además, para analizar los datos, fue necesario utilizar el software SPSS para obtener una prueba de normalidad. Para la verificación de hipótesis se utilizó el estadístico T-student. Los resultados mostraron que el uso de la técnica de aprendizaje espaciado ayudó a mejorar las habilidades de escritura de los estudiantes.

Palabras Clave: Aprendizaje espaciado, aprendizaje a largo plazo, habilidad de escritura,

CHAPTER I

THEORETICAL FRAMEWORK

Investigative background

Spaced learning is a technique that helps students review the content by using short or intense periods with breaks. In spaced learning, it is important to present the same information several times. Besides, using different materials to help students´ strengthen long-term memory and avoid the forgetting curve (decrease retention of information in the brain along time) is crucial. In this technique, breaks between the materials that the teacher presents are essential in order to give the brain time and opportunity to embed the information in the memory (Brandon, 2020). Moreover, it is an innovative technique that teaches students the use of technological tools and to increase motivation to learn English as a foreign language. The use of spaced learning for developing the writing skills using online classes is a successful and original proposal. This section presents previous investigations that show how spaced learning helps to improve the writing skills and subskills, mainly grammar and vocabulary.

Namaziandost, Sawalmeh, Soltanabadi, and Masoumeh (2020) conducted a study to investigate the effects of spaced, massed instruction and vocabulary retention. The population were 75 pre-intermediate Iranian students between 16 to 19 years old. The study was developed in 15 sessions of 60 minutes each. The participants were divided into three groups. The first one was the massed experimental group with 25 students, the second one was the spaced experimental group with 25 students, and the latter was the control group with 25 students as well. The first group had one exhaustive meeting in which they had to learn vocabulary, the second group had three non-exhaustive meetings with breaks, and the third group did not have any meeting. In addition, to collect data the researchers used three different instruments. The first one was a quiz placement test which was useful for the researchers to determine the students´ level. The questions from this test evaluated vocabulary and reading skills by using 60 multiple choice questions. This test was divided into two parts, part one was for

beginners and part two was for advanced students. The second instrument was a vocabulary pre-test in which test students needed to complete 50 multiple-choice questions. They had to select a missing word to complete some sentences and the third instrument was a vocabulary test that included some questions from the pre-test and 50 new vocabulary questions. All of these questions were multiple choice. The results indicated that the spaced experimental group had more significant progress than the others (massed and control group).

Farvardin (2019) conducted a research study to prove the effects of spacing techniques in EFL students to recognize and produce lexical collocations. The population for this research consisted of 62 students at a Junior high school, which were divided into three groups: an experimental spaced retrieval group (ESR), a massed group (MG), and a uniform spaced retrieval group (USR). Furthermore, the researchers chose twelve collocations to start the experiment, but two criteria were considered. The first, collocations should be unknown for students. The second, they should be from different lexical categories (verb + noun, noun + noun, and verb + adverb). For the treatment phase, the massed group (MG) received one session which lasted 80 minutes. The other groups (ESR and USR), received four sessions that lasted 80 minutes. Later, they were divided into 4 blocks of 20 minutes each, but in different schedules. The instruments that the researchers used to collect data were pre-test and post-test. The test contained multiple-choice and translation questions to measure students´ recognition and production of the target collocations. The results showed that ESR and USR groups had a significant improvement in target collocation production than in the massed group (MG).

Mashhadi, Farvardin, and Mozaffari (2017) led a research study to examine the efficacy of spaced distribution and massed instruction on learners´recall and retention of grammatical structures in English as foreign learners (EFL). The population for this research consisted of 72 Iranian EFL students from high school. Students were divided into three random groups, a massed group which had 23 participants, a spaced distribution group which had 24 participants, and a control group which had 25

participants. The massed group had only one session to practice grammatical structures. The spaced distribution group had three sessions in different time intervals, and the control group did not receive any session. Moreover, the instruments that the researchers used were a pre-test and a post-test. The pre-test about error correction was administered to the participants on three occasions. The error correction test had 20 questions. Each question had different grammar errors, and learners had to correct them by using their previous knowledge. The same test was applied as a post-test, but it had a different question-order and it also had some vocabulary changes. Then, to collect data about students´ recall and retention, they administered three error correction tests. All the results of these tests showed that the spaced distribution group had a more significant progress than the others. The findings suggested that the implementation of spaced distribution in the curriculum was a good way to help students improve recall and retention of English grammatical structures.

Nakata and Suzuki (2019) carried out a study to examine the effects of spacing in learning semantics. In this research, the population consisted of 133 under-graduated students from Japan. This population was divided in two groups: the control one had 66 students and the spaced one 56 students. The average of participants reduced because 11 students did not take part in the pre-test. The researchers included 48 English-Japanese words in the experiment in two conditions: spaced and massed. The study was conducted in two sessions. In the first session, the researchers applied a pre-test in which they measured the students´ ability to record information and their vocabulary. In this pre-test, students´ needed to translate 48 English words into Japanese. In addition, students received an explanation about the study in the same session. The second session was conducted one week later. During the whole experiment which consisted on four sessions, the researchers presented 48 words in each one, the total of words were of 192. The massed group studied a set of words for four times in a sequence. The spaced group studied the words in seven sets. Students had to practice speaking and also writing skills by using the translation method to assess long-term retention. The results showed that spacing made it easier for students to learn related and unrelated words.

Arroyo, Fernandez, and De la Hoz (2021) led an investigation to evaluate didactic technological process called ECM (Ensayo Cientifico Multilingüe) to construct argumentative texts in a native language using didactic space. The researchers used a quasi-experimental design. They divided the population into two groups, control and experimental ones, each group had 50 participants. The population was 100 students from 18 to 34 years old. The instruments used were a pre-test and a post-test to evaluated the three dependent variables: metacognition of writing, structuring of the argumentative essay, and self-efficacy of argumentative writing skills. All the participants received the writing treatment. The treatment took place in different sessions for three months. Each session had different activities and evaluations. The sessions had three phases; phase 1, an initial evaluation, phase 2, shared the activities, sources, and tools that the teacher used to review the content, and phase 3 the post-test. The results showed that it was possible to promote argumentative writing skills inL1 and L2. The experimental group had better results than the control group.

Otani and Sapporo (2017) led a research study to compare the effects of contracting, expanding, and spacing practice on second language vocabulary learning. The population was 75 Japanese speakers' students. They were divided into three groups; Group A 34 students, group B 19 students, and group C 29 students. The tools that they used were a pre-test and a post-test. Each group received four sessions, in which each of them students received the same 20 English and Japanese word pairs. Each group of students had a different schedule for their sessions, group A (day 1, 1, 8, and 22), group B (day 1, 8, 15, and 22), and group C (day 1, 15, 22 and 22). After 21 days they finished the experiment and they took the post-test, in which students were required to write the meaning of the English words in their native language. The results showed that there was not main difference among the three groups. Therefore, these indicated that the length of time between each session for vocabulary learning did not influence in the students´long-term memory.

Raquel Serrano and Huang (2018) conducted a research study to identify the impact of spaced learning for repeated reading on second language learning and vocabulary acquisition. This study had a population of 71 learners. The researchers divided the students in two different groups, the control group that had 37 participants and the experimental group that had 34. Students were 16 years old. All the participants had six sessions, 50 minutes per each, five hours a week in total. The control group read the same text once a week for five weeks. The experimental group had assisted repeated reading and they read the same text every day. During the sessions they took three written exams to evaluate their vocabulary knowledge. The instruments were: a reading passage, a list of 400 vocabulary words, a vocabulary test, a bilingual vocabulary matching test, a pre-test, and a post-test. The results revealed that intensive practice repetition help to increase vocabulary learning and students had greater long-term memory retention.

Hamouda (2021) led a research study to investigate the effects that the massed practice and spaced practice had on students´ vocabulary learning. The population for this research was 66 Saudi EFL learners. The population was not chosen randomly, it was selected from 86 students Oxford-quick-placement-test according to their results. The 66 students were divided into two equal groups, the spaced and the massed ones. The instruments to collect the data were; pre and post-tests (two vocabulary tests), and questionnaires. The vocabulary pre-test consisted of multiple-choice questions. The post-test had 50 questions too and this test was a modified version from the pre-test to avoid that students recall the answers. The questionnaire had 15 open-ended and close-ended questions, it was helpful to collect information about the treatment and its benefits on students. The massed group had one intensive learning session and the spaced group had three sessions at irregular time intervals. The results showed that spaced group and the massed group had a significant difference between them. They revealed that the spaced group had positive results in vocabulary learning.

Taki, and Jafari (2017) led an investigation to evaluate the effectiveness of Mnemosyne to improve vocabulary learning in Iranian EFL students by using spaced

repetition. The population was 60 EFL intermediate-level students. They were divided into two groups of 30 students per each. The researcher asked students from the experimental group used Mnemosyne in their own devices. They had the opportunity to access to a different material such as flashcards in which they could review them and construct their knowledge. The control group received instructions by using the traditional method. The instruments that they used to collect data were a pre-test and a post-test. The pre and post-test were given to the participants of both groups. The results showed that the scores in the experimental group were higher than the students' scores in the control group. Mnemosyne and spaced repetition improve students' vocabulary learning.

Belardi, Pedrett, Rothen, Reber, and Peter (2020) conducted a research study to assess how spaced learning, feedback, testing, and multimodality could facilitated vocabulary learning. The population was 79 participants. The tools that the researchers used were: questionnaires to measure students´ motivation, a pre-test, and a post-test. The experiments followed using written guidelines. The pre-test was taking in an online way via Skype. The participants performed three sessions, each session was divided into three blocks and each one lasted 20 minutes and short breaks between 5 to 10 minutes. In each block session the researchers presented 16 pairs of words, in total they learned 48 words per day. The three blocks were presented in the same order. After that, they took the post-test. The results showed that the spacing factor helped students increase highest recall performance, because they had the opportunity to learn the vocabulary in different sessions and their learning was distributed.

Bakla and Çekiç (2017) guided an investigation to compare Memrise (a vocabulary learning tool) and a traditional vocabulary learning. The population was composed by 80 Turkish-L1 students of the upper-intermediate level EFL students. Students were divided into two groups: the control group (n=67) and the experimental group (n=13). The researchers used a pre-test and a post-test. The pre-test showed that all the students had the same amount of knowledge. The control group received traditional exercises for vocabulary learning, these included: gap-fill and written examples by using the

vocabulary. In the control group vocabulary were taught by using a traditional method lasted 40 minutes. In the experimental group, students studied vocabulary by using the Memrise tool for 40 minutes. The researcher included all the students of the experimental group in the Memrise class and divided the participants into five groups. The first group was responsible for creating short definitions for each word by using the Cambridge Dictionary. The second group made the same activity but using another dictionary (Turkish to English and English to Turkish). The third group added synonyms to the vocabulary words. The fourth group wrote some examples using the words. Finally, the fifth group added the phonetic transcription of the words in a written and spoken way. The experimental group worked in different sessions together and also individually to practice and recall vocabulary. After that, the researchers applied the post-test in the experimental and the control group. The results of the investigation indicated that the use of Memrise was more beneficial for students who wanted to learn vocabulary than the traditional class.

Chaikovska and Zbaravska (2020) led an investigation to examine the possibility to use MALL technology in this case Quizlet and spaced repetition for vocabulary acquisition. The population was 50 students, which was divided into two groups: the control group and the experimental group with 25 participants each one. These students were A2 level EFL learners. Both groups had a similar curriculum course, it meant that they had 2 periods of week and 72 hours. The intensive course for EFL students had as objective to prepare them to take an English test to start a Master's course. They focused their attention on two parts: reading and use of English. They must know about 2500 words, for this reason, the experiment was focusing on grammar theory and exercises, and vocabulary acquisition. The learners were asked to install Quizlet on their devices to study and learn vocabulary. The researcher designed some learning sets to help students recall information. For example; root words to add prefixes, suffixes to create new words, phrasal verbs, idioms, synonyms, antonyms, etc. The researchers used pre-test and post-test and applied them to both groups to analyze the students´ level and compare the results after the experiment. The test contained questions to evaluate reading, completion tasks, use of language, gap fill, and multiple-choice activities. The control group was applied the traditional class for

vocabulary learning and in the experimental group the researchers applied the spaced learning technique. The experimental group had their classes twice a week Wednesdays and Thursdays. It was obligatory that the researchers gave 5 minutes break in each class at the end of it to remember the session by using Quizlet. The results showed that in the pre-test the experimental group had better grades than the control group. It meant that the used of technological tools in this case Quizlet combined with spaced learning technique was useful to help students recall information easily.

Kohnke, Zhang, Zou, and Di (2019) led an investigation to examine the effects and the influence that the Excel@EnglishPolyU app had in the retention of vocabulary for business purposes in undergraduate students. The researcher created an app and two games for vocabulary retention. All of them were focused on spaced repetition. In this investigation the population was 51 undergraduate students at university in Hong Kong. They were from 19 to 23 years old. All the participants were Chinese speakers they were EFL learners. They used a pre-test and a post-test. They measured the participants´ vocabulary applying a pre-test, they only needed to answer if they know or not the word, choosing two possible answers; "Yes" or "Not", in 120 questions. Then they learned 120 words that were divided into four sessions of 30 words each. Students used the two games and the app to improve their retention. The experiment had a duration of a month and after that, the researchers took the post-test using the same questions as the pre-test. In the pre-test the results showed that 13 students acquired out of 30 words. The post-test showed that all the participants recognized or acquired 20 words. The findings demonstrate that mobile apps were useful to expand students´ vocabulary learning.

Kose and Mede (2018) led an investigation to study the effects of Rememba with a spaced repetition system in students´ vocabulary learning. This research was quasi-experimental and the population was 38 students at the upper intermediate level. To collect data the researchers used a pre-test and a post-test, vocabulary tests, motivation

questionnaires, open questions, and reflective journals. The students had 6 hours per week with the same teacher and they had seven sessions in total. In each session they reviewed the vocabulary using the Rememba app. Every week two hours were assigned for the creation of flashcards with vocabulary words, they included the word, the definition, synonyms, antonyms, and translation. After finishing all sessions, the researchers applied the post-test. The findings suggest that the use of the Rememba application and spaced repetition system helped students to acquire more vocabulary and also, they were motivated.

These articles show the importance of spaced learning in the classroom to develop and improve the students´ writing skills. Most of them show positive results and students could improve their writing skills and also their grammar and vocabulary learning. However, they used pre-test and post-test to collect data and the students for the population were from 11 to 19 years old. Furthermore, it is important to mention that this investigation does not have the same conditions that the previous one because it is not possible to apply in face to face environment for the pandemic. Besides, these investigations focus their attention only in certain aspects or subskill of writing, this investigation is innovative, because it will focus on sentences structure, vocabulary and spelling.

1.2 Theoretical Framework

1.2.1 Teaching English

Teaching English as a foreign language is a challenge for teachers, because it is very complex. Language must be employed in a certain situation to appreciate the meaning. The role of situation is to help identify in which situation learners can use a certain vocabulary (Ediger, Dutt & Rao, 2003). To teach English Language to first language learners it must follow certain principles, these are:

- **Motivation and interest**: Teachers are responsible to provide different materials, according to the students´ requirements and needs. It is helpful to encourage the teaching-learning process of the students.
- **Tasks and activities performance:** It is important that teachers provide students with some activities that help them practice their different skills. The best way to learn is by practice.
- **Sequence:** For the teaching-learning process it is important to follow a sequence to have good results (Ediger et al., 2003). The sequence that language follows are:
  a. To learn a second language students need to listen and understand what the teacher says.
  b. After they listen to some vocabulary students need to practice imitating the pronunciation of their teacher.
  c. Students need to read a lot to acquire new vocabulary and improve their grammar and spelling.
  d. Students need to practice the language to develop their skills to express their own experiences and ideas.
- **Conversation:** Teaching needs to be student-centered in place of grammar-centered and communication is a key to develop language teaching effectively (Ediger et al., 2003).

1.2.2 Technique

Teaching techniques are defined as the activities that teacher introduces into the classroom day by day. The set of the activities that the teacher choses are responsible in the teaching-learner process of the students. The technique can be students-centered or teacher-centered, in students-centered students are responsible to develop the activities such as students make an essay and in teacher-centered the teacher is the person responsible in establishing discourse. Moreover, teachers are responsible to find and choose the appropriate technique that is useful for the topic (Danh, 1990).

1.2.3 Spaced learning

Spaced learning or spaced repetition is also known as retrieval technique or expanding rehearsal. This technique imply that teacher presents the information for several times and after of each he or she needs to evaluate at students if they can recall the new information properly. In each session students need breaks of a few seconds or minutes, teacher could increase time gap constantly (Selzer, Cohen, Clarke & Duncan, 2006).

Spaced learning or repetition technique was developed by Ebbinghaus. He is known as the father of psychological studies based on memory. In his investigation the proposed to answer three research questions: How much information we can keep, how quick and how much time we can remember it? he applied this investigation using himself to evaluate the previous questions. The design a list of nonsense syllables conformed by two consonants and a verb between them. He repeated and count how many repetitions needed before to memorize each set of words. In his studied he tried to avoid artificial memory by using tricks or tips to recall information,he only used natural memorization. However, he discovered that the best time to studyand after that remember things is in the morning. In the afternoon at 4p.m the brain does not work properly, because the fatigue affects the memory (Harris & Turkington,2001).

1.2.3.1 Benefits of using Spaced Learning

Spaced learning help students to have long-term memory. The use of breaks help students to embed the information and recall them. To have better results it is important to expand or increase the time from one session to another (expanding retrieval practice). For example, the first session might be after 2 days, the second session after 5 days, the third session after 10 days and the so on (Groome & Eysenck, 2016).

This technique is effective, because it provides or help students to practice a certain content by using many short sessions and breaks. To work with short sessions are more practical than work in the same long session. Spaced learning help to reduce the forgetting curve (it helps to show how information are lost during a period of time). However, it divides the information or knowledge in various sessions it means that students can practice the content by using chunks (Nelen & Kirschner, 2020).

1.2.3.2 Spaced learning for online teaching

Space learning is not practical to use in online classes (eLearning), but according to students' necessities it changed and can be applied using technological tools. It is necessary to use mobile apps to carry out spaced learning. The characteristics that these tools must have are:

- **Microlearning:** in this part is important that teacher choose an online tool that help him/her create small chunks. It helps students to have free access and practice the content when they want. An example of microlearning is memrise.
- ➢ **Memrise:** this app was created in 2010. It is helpful to create memory aids by using flashcards combining texts and pictures. The software in this app is based on memorization and recall information, uses a combination of pictures, sound and words. However, memrise is a tool based on spaced learning technique, it gives the opportunity at students to learn vocabulary easily (Sadler & Dressman, 2020).

- **Mobile-friendly:** In this part teacher can provide students an app that help to send at students a daily reminder. This helps students to have a schedule to practice the content given each day. An example of mobile friendly is Duolingo.

➢ **Duolingo:** this tool conveys the concepts of space learning or spaced repetitions and learning adaptations. All the lessons given in this app introduces the previous lessons and also it mixes key concepts and new words to help students recall the last content and acquire new knowledge. In addition, if students answer some test questions incorrectly this app repeats again this part of content in short lessons (Hogle, 2016).

1.2.3.3 Procedure

To apply spaced learning technique is necessary to create a schedule to help students remember what they need to reinforce each day. To use this technique is necessary to follow certain steps.

- **Plan brief and repeated sessions to review the content**: Brief or short sessions are better than long ones. Short sessions give students the chance to learn in a properly way and recall information.
- **Review the knowledge over a period of time:** In this part is important that teachers divide the content in topics. Alternate the topics and the time of revision, it means that is necessary to give any topic at students and evaluate the knowledge every certain period of time.
- **Review older material:** To have better results with this technique is important to give students the chance to study some information almost forget it and restudy. The objective of this process is to make the brain recall the information given days or months ago.
- **Incorporate new and older material:** In this step is important to make a review about previous materials and also incorporate new topics. This gives at students the chance to comprehend how new and older material have a sequence.

- **Create summaries and checklists:** In each session is important to make a list about the main points of the topic. Each time that students review the older material they can check the lists or main points to refresh their memory (Oxford, 2018).

1.2.4 Language skills

Skill means the ability to carry out something. To develop and improve a skill is necessary to manipulate or make some activities in order to acquire experience to produce it. In language to produce a skill is necessary to be in touch with others to practice as much as possible. In language skills is important to recognize the weaknesses and strengths that learners have to produce the produce the language. Fits (1964) identified three stages to acquire a skill in language learning. The first is cognitive stage, in this one students make a recount about previous knowledge. The second the associative stage, in this one students consolidate their knowledge by using any activity and correct their mistakes. Finally, the autonomous stage, in this one the skills are improved (Chodkiewicz & Trepcynska, 2014).

1.2.5 Productive skills

To learn a language skills are divided into two groups: receptive and productive skills. Receptive skills are listening and reading and productive skills speaking and writing. The latter refers to skills that help students produce language. To acquire a language properly is important to comprehend first receptive skills, because they help students to listen and read and appreciate how they can construct sentences, correct pronunciation and spelling. Furthermore, after to acquire the receptive skills they are ready to develop productive skills, in which they can produce the language in a good way (Spratt, Pulverness & Williams, 2011).

1.2.6 Writing

Writing is part of productive skills. Write involves to convey messages and communicate them using signs on pages. To write is important to know how to form words using different letters and how to convey these words to make sentences and paragraphs. However, to write something in a proper way is important to differentiate levels of complexity and register.

To write is crucial to follow the different stages that this skill has:

- Developing ideas
- Planning and organizing ideas
- Drafting of first draft of the text
- Editing, improve the content.
- Proofreading, correct the mistakes.
- Re-drafting, write a final version of the text (Spratt et al., 2011).

To practice writing skill is very useful for learners and it has some benefits, these are:

- **Reinforcement:** some learners acquire the language but only using oral way, is important that they acquire knowledge convey the two receptive skills (listening and speaking). Students must reinforce their knowledge using new language writing simple sentences to appreciate writing subskills.
- **Language development:** in this part is important to starts writing simple sentences to acquire and develop the language a good way. Learners need to be immersed in the learning process to acquire experience.
- **Learning style:** learners have different learning styles, some of them are more fats to acquire knowledge using audios or texts than the others. Writing is appropriate for students that take time to think how to produce the language, this is a quiet activity.
- **Writing as a skill:** students need to know how to convey words to make sentences or paragraphs to transmit a message. Students need to know writing by using the

correct punctuation, correct words, correct grammar, and correct text construction (Harmer, 2007).

1.2.6 Writing subskills (accuracy)

Writing involves some subskills which are useful for writing appropriately. This investigation will be focused on accuracy.

Accuracy means to write in a correct way. Students need to write without making any mistakes by using correct grammar, spelling and vocabulary. Besides, accuracy means the use of the correct forms of language. The writing subskills related with accuracy are: correct spelling, writing legibly, and choosing the right vocabulary and grammar to make a paragraph. It is important to take into consideration all these subskills to write in a good and understandable way. (Spratt et al., 2011)

1.2.7 Writing assessment criteria (grammar structure)

Assessment criteria is important for students and teacher. It is important that teacher share the assessment criteria at the beginning or the course, because it helps to students to build confidence. Students can know which characteristics and qualities will be evaluated in their assessment tasks. Furthermore, using criteria for writing aids the teacher to evaluate students´ knowledge, if studentshave reached or not the outcome presented at the beginning of a class. The main criteriathat this thesis will be focused on is grammar structure.

Grammar structure: In this part it is important to analyze if the sentences written by students have cohesion. This refers to writing in a logical way and organizing ideas correctly.

1.3 Objectives

1.3.1 General Objective

- To determine the effects of the use of spaced learning in the development of writing skill from students of 9th grade at "Unidad Educativa Fiscomisional Maria Inmaculada"

1.3.2 Specific Objectives

- To evaluate the students´ writing skill level before and after the application of spaced learning
- To apply spaced learning for the development of writing skill.
- To analyze the effectiveness of spaced learning in the writing skill.

CHAPTER II

METHODOLOGY

2.1 Methods

Basic method of investigation

Quasi-Experimental

A quasi-experimental, because it helps and allows to observe the effects and the consequences that one variable cause on the other one (Cascio & John, 2008). In addition, the group in this method of investigation is not chosen randomly. This method is descriptive, because the researcher sees the participants´ behavior (Hernández, Fernández & Baptista 2010). The main objective of this kind of research is that the researchers control a variable using as many factors as possible to stablish a cause-effect among the variables.

Spaced learning affects the writing skill. In addition, it is quasi-experimental, because the research will have an experimental group (9th EGB). The work should have at least of 32 students. Finally, the resources to collect information will be pre-test, post-test and a survey.

Research Modality

Field Research

Field research involves the qualitative method, because it aims is to collect data using the observation and interaction in order to understand how is people behavior in their natural setting (Schmitz, 2012).

During the research it was necessary to be in contact with the students and teacher of 9th EGB of "Maria Inmaculada" school. Also, it was important to explain them what are the objectives and the activities that require to carry out during the experiment.

Bibliographic Research

The bibliographic research was used for the collection and interpretation of bibliography to build up the theoretical framework and to scientifically analyze the empirical data obtained in the research process. To collect the information, it is necessary to search in different web sites, books, articles, etc.

Level or type of research

Descriptive research

This type of research implies a description, register, analysis, and interpretation of the phenomenon. It means that descriptive research helps to make a description of the problem and probe a hypothesis (Rodriguez, 2005). Since it shows a description about how spaced learning method usage, it is a good option to improve the development of writing skill in students at 9th EGB of "Maria Inmaculada" school.

2.1.1 Procedure

- In the first session with students via Microsoft Teams, the researcher introduced herself and asked students introduced themselves too. The teacher sent the link to students to take the pre-test. The same day the teacher gave an explanation about the use of the different tools such as power point presentation, Kahoot, YouTube and WhatsApp.
- In the second session, the teacher presented a topic using a power point presentation and a video to catch the students´ attention. After that, she gave to students a break of 5 minutes, in this break the teacher made a game with the students. This game consisted on listening to a song and completing a worksheet. In addition, the teacher presented a Kahoot activity to practice and increase new vocabulary about the topic. After that, it was given 5 minutes break and present the song again. Then, the teacher asked students to complete an activity to reinforce their

knowledge about the topic.

The third, fourth and fifth class was carried out in the same order as the second session. The only thing that in each session changed was the topic (few/a few, there is/there are, present simple, and past simple) and the materials (Teams platform, Kahoot game, worksheets, power point presentations, YouTube videos, and texts). Students could ask any question to clarify doubts by using the WhatsApp group.

- In the final session, the teacher and students recall all the topics that they have seen during the month. The teacher made students to take the post-test in google forms

2.2 Resources

2.2.1 Population

To carry out this research the participants were 23 students in total, 13 women and 10 men. They were from 9th EGB of the "Unidad Educativa Fiscomisional María Inmaculada".

Table 1

Population

Description	Number	Percentage
Students 9th EGB "B"	23	100%
Total	100%	100%

Source: María Inmaculada school

Elaborated by: Palacios, G. (2021)

2.2.2 Instruments

- A pre-test and a post-test to recognize the students´ level of the writing skill. This instrument was a standardized test taken from the KET (key English test) Cambridge. The pre-test was taken at the beginning of the experiment to average the students´ proficiency in writing skill. After the treatment with the implementation of spaced learning technique, students took a post-test to determine if the technique was useful or not to improve the writing skills.

- Power Point Presentations to explain the topics that were developed during the experiment.

- Kahoot to prepare some questions about grammar or vocabulary that helped students increase their knowledge and also write in a better way. In addition, it helped to increase vocabulary.

- YouTube to search videos about different topics to help students learn in a fun way. The videos were selected carefully taking in consideration the students´ needs.

- The platform of the institution to send activities and homework that students needed to reinforce their knowledge.

- A WhatsApp group to get in touch with the students and also to provide the students extra material and clarify any doubt.

- Teams platform was useful to have online classes. It was impossible to have face-to-face classes because of the Coronavirus pandemic so everything was done online.

Hypothesis

Null Hypothesis (H0)

Spaced learning does not help students improve the writing skill in the English language in 9th EGB year of "María Inmaculada" school, Archidona city, Napo province.

Alternative Hypothesis (H1)

Spaced Learning helps students improve the writing skill in English language in the 9th EGB year of "María Inmaculada" school, Archidona city, Napo province.

CHAPTER III

RESULTS AND DISCUSSION

3.1 Analysis and discussion of the results

This chapter shows the results and the information gathered during a month that lasted the experiment. The findings are interpreted using tables and figures to give a clear explanation about the treatment.

This investigation was carried out with 26 students from 9th EGB in English subject at Unidad Educativa Fiscomisional "María Inmaculada", the investigation had 100% online classes for the pandemic.

The data was collected using a pre-test and post-test. Based on KET (Key English Test) standardized writing test to prove the treatment and analyze if the application of spaced learning technique was useful or not to improve writing skills.

To assess the paragraphs that students wrote in the pre and post-test was necessary to check to use a KET writing rubric, with this rubric it was necessary to check 4 parameters (content, organization and language). The total score in this part was over15, each parameter was graded over 5. To give a clear explanation to students about their grades it was necessary to modified the score to get a final grade over 10 points.

The tables 1 and 2 were designed to show a clear idea about the results of pre and post-test after and before the spaced learning technique application. They had scores over 10 and over 20.

Table 2

Pre-test Results

Students	Score over 10	Ket writing score over 15
Student 1	4,7	7
Student 2	3,3	5
Student 3	5,3	8
Student 4	3,3	5
Student 5	4,7	7
Student 6	5,3	8
Student 7	4	6
Student 8	5,3	8
Student 9	4	6
Student 10	4	6
Student 11	6,7	10
Student 12	6,7	10
Student 13	4	6
Student 14	4	6
Student 15	2	3
Student 16	8	12
Student 17	6,7	10
Student 18	6	9
Student 19	5,3	8
Student 20	7,3	11
Student 21	5,3	8
Student 22	4	6
Student 23	5,3	8
Average	**5**	**7,5**

Source: Field research

Author: Palacios G. (2021)

Table 3

Post-test Scores

| Students	Score over 10	Ket writing score over 15
Student 1	6,7	10
Student 2	6	9
Student 3	7,3	11
Student 4	4,7	7
Student 5	7,3	11
Student 6	8	12
Student 7	6	9
Student 8	9,3	14
Student 9	6	9
Student 10	7,3	11
Student 11	7,3	11
Student 12	8	12
Student 13	6,7	10
Student 14	6	9
Student 15	2	3
Student 16	8,7	13
Student 17	8	12
Student 18	8	12
Student 19	7,3	11
Student 20	7,3	11
Student 21	6	9
Student 22	5,3	8
Student 23	8	12
Average	**7**	**10,3**

Source: Field research

Author: Palacios G. (2021)

3.2 Data Interpretation

3.2.1 Pre-test and post-test individual grades

Figure 1

Pre-test and Post-test Results Over 10
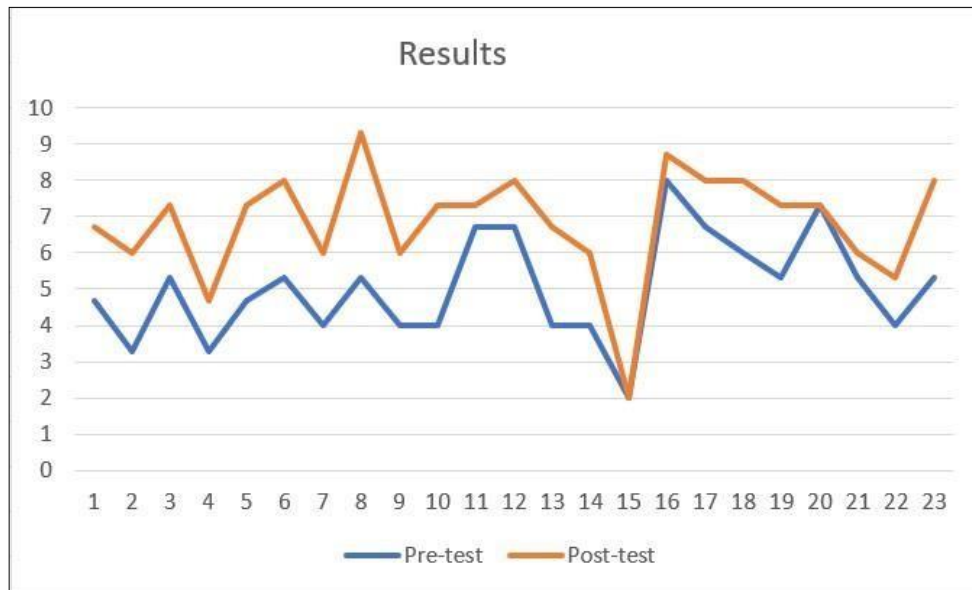
Source: Field research

Author: Palacios G. (2021)

Analysis and interpretation

Figure 1 demonstrates that 23 students took the pre and post-test and a relation between the results from both. These tests were graded over 20 (KET scale) points using a rubric with different parameters and these were transformed over 10 points. In the pre-test the best score was 12 and the worst was 3 over 20 points. On the other hand, in the post test the best grade 14 and the worst is 3 over 20 points too.

It is evident that in the pre-test the majority of the students had worst grade. Most of them did not use grammar, conjunctions, and vocabulary in a proper way. However, they did not have the enough grammar rules and vocabulary to write well. Furthermore, after the experiment students got good better grades in the post-test. The findings show that after using spaced learning technique students can improve their writing skills to write clear sentences using the correct grammar and vocabulary.

3.2 Pre-test and post-test average

Table 3:
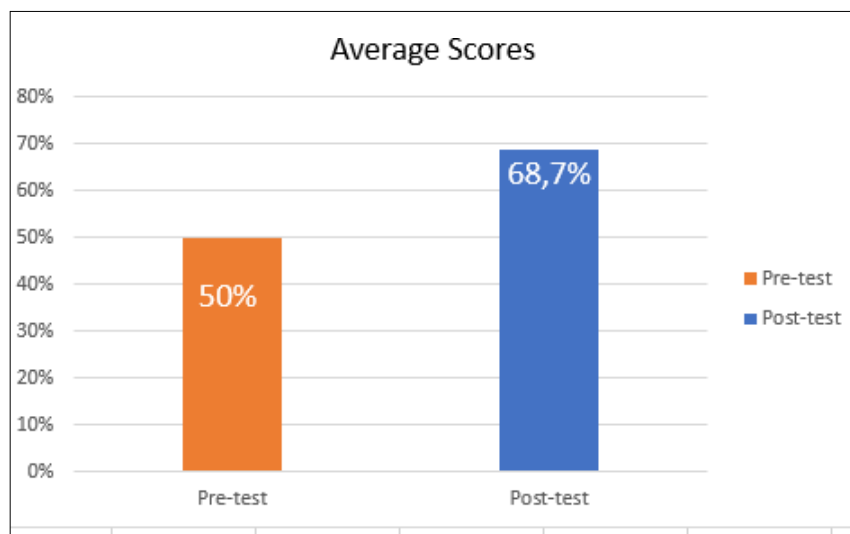
Pre-test and post-test average and difference

Results	Pre-test	Post-test	Difference
Average	7,5	10,3	2,8

Source: Field research

Author: Palacios G. (2021)

Figure 2

Average scores pre-test and post-test

Source: Field research

Author: Palacios G. (2021)

Analysis and interpretation

Table 3 and figure 2 presents the average scores of pre-test and post-test. The average between them are very significant. On the one hand, the average of pre-test scores of students from 9th EGB are 7,5 over 15 points, this represents 50%. On the other hand, in the pre-test students have an average of 10,2 over 15 points, this represents 68,7%.

Consequently, the whole group of students have a significant improvement of 2,8 points after the treatment.

The findings show that the application of spaced learning technique help students to improve their writing skills.

3.3 Hypothesis verification

The data collected using the pre-test and post-test were analyzed using the SPSS program, Shapiro Wilk test for normality test, and T-student to verify the hypothesis.

3.3.1 Hypothesis statement

Null Hypothesis (H0)

Spaced learning does not help students improve the writing skill in the English language in 9th EGB year of "María Inmaculada" school, Archidona city, Napo province.

Alternative Hypothesis (H1)

Spaced Learning helps students improve the writing skill in English language in the 9th EGB year of "María Inmaculada" school, Archidona city, Napo province.

3.3.2 Normality Test Shapiro-Wilk

Table 4

Normality Test Shapiro-Wilk

	Statistic	gl	Significance
Pre-test	,962	23	,502
Post-test	,891	23	,017

Source: Field research

Author: Palacios G. (2021)

Analysis and interpretation

Table 4 shows the normality test. This test is useful, because the population is less than 30 students. In addition, the aim to make a normality test is to identify which statistics is useful to verify the hypothesis. The distributions are divided in: H0 when the

distribution is normal and H1 when the distribution is not normal. The significance in pre-test is ,502 and in post-test is ,017, both are > 0,05 and it means that it is necessary to use T-student to verify the hypothesis.

3.3.3 T-students – Paired Sample Statistics

Table 5

T-students Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pre-test	6,83	23	1,529	,319
Post-test	5,01	23	1,437	,300

Source: Field research
Author: Palacios G. (2021)

Analysis and interpretation

Table 5 shows the results obtained in the pre and post-test, the mean score from the pre-test (before the experiment) is 5,01 and the mean score in the post-test is 6,83 (after the experiment). Both tests have a significant difference between them. The post-test has a highest mean score than the pre-test.

3.3.4 Paired Samples Test

Table 6: Paired Sample Test

		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the difference		t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	Pre-test Post-Test	1,86	1,011	,211	1,389	2,263	8,663	22	<,001

In table 6 the P-value is 001, this is lower than 0,05. In this case it is necessary toreject the null hypothesis (H0) "Spaced learning does not help students improve the writing skill in the English language in 9th EGB year of "María Inmaculada" school, Archidona, Napo province" and accept the alternative one (H1) "Spaced Learning help students improve the writing skill in English language in the 9th EGB year of "María Inmaculada" school, Archidona city, Napo province"

CHAPTER IV

CONCLUSIONS AND RECOMMENDATIONS

4.1 Conclusions

After analyzing the results collected in the previous chapter and the objectives stablished at the beginning of this investigation the conclusions are:

- The use of Spaced Learning had positive effects in the improvement of students´ writing skill, because in each session students recall the last information at the beginning of the class and acquire new knowledge. The use of spaced learning gave to students the opportunity to checkdifferent topics by using different materials. In addition, the students had breaks, these breaks help to students´ brain embed the information. They practice writingskill, created their own examples using the correct grammar and vocabulary.

- The level of writing skill of the students of 9th grade was very poor. The level of students writing skill was measured by using a pre-test based on KET standardized test. In this test students demonstrated that they did not have enough grammar and vocabulary knowledge to write in a clear way. The average of all students was 5/10.

- During the experiment, spaced learning helped students to improve their writing skill. The use of different materials, technological tools and games, grasped the students´ attention easily. All of the students showed positive effects after the experiment.

- The effectiveness of the application of spaced learning technique in writing skill was demonstrated with the analysis of the scores from the pre-test and the post-test. On the one hand, in the pre-test the students had an average of 5/10, and it showed that students did not have enough knowledge about the correct use of different grammar points. On the other hand, students had an average of 7/10. These results showed that there was a difference of 2 points after the month of experiment.

4.2 Recommendations

Based on the conclusions already mentioned, the recommendations for the use of spaced learning technique in the writing skill are:

- For having positive effects and benefits using spaced learning it is recommended to use different games and interesting activities for students, in the breaks. In addition, it is recommended to use technological tools to present the topic using different materials. For example, in the presentation of the topic teachers could use videos, presentations, texts, etc. It helps to students acquire the knowledge but using different materials and sources. In the breaks, teacher could use songs, Kahoot games, interactive games, etc. It gives to students the opportunity to feel more comfortable and these extra activities make the class more entertaining.
- For measuring students' level of writing skill, it is recommended to evaluate students periodically. Teachers could create activities or tests that help them to verify if the students comprehend and use grammar and vocabulary correctly.
- For applying spaced learning in a good way, it is important to select the appropriate material to present the information. Besides, it is necessary to establish timed lesson stages to combine the presentation of the materials and short periods with breaks.
- For analyzing the effectiveness of spaced learning, it is necessary to pay attention to the students˙behavior and progress. The teacher needs to identify if students are improving their writing skill. It means that the teacher needs to check if students use the correct grammar and vocabulary when they write. In addition, it is important to check accuracy in writing, it means that students need to write without mistakes.

Bibliography

Amir Mashhadi, Mohammad Taghi Farvardin, A. M. (2017). Effects of Spaced and Massed Distribution Instruction on EFL Learners ' Recall and Retention of Grammatical Structures. *TEL (Teaching English Language)*, *11*(2), 57–75. http://www.teljournal.org/article_53183.html

Bakla, A., & Çekiç, A. (2017). Using an Online Vocabulary Memorization Tool versus Traditional Vocabulary Exercises*. *Ana Dili Eğitimi Dergisi*, *5*, 948–966. https://doi.org/10.16916/aded.339241

Belardi, A., Pedrett, S., Rothen, N., & Reber, T. P. (2020). Spacing, Feedback, and Testing Boost Vocabulary Learning in a Web Application. *PsyArXiv Preprints*. https://doi.org/10.31234/osf.io/yqsrx

Brandon, B. (2020). *Designs That Work: Spaced Learning | Learning Solutions Magazine*. https://learningsolutionsmag.com/articles/designs-that-work-spaced-learning

Cascio, W., & John, B. (2008). *Investing in People: Financial Impact of Human Resource Initiatives - Wayne F. Cascio, John W. Boudreau - Google Libros*. Pearson Education. https://books.google.com.ec/books?id=95sSVO5pPUkC&pg=PA26&dq=quasi-experimental,+because+it+helps+to+observe+the+effects+and+the+consequences+that+one+variable+cause+on+the+other+one&hl=es-419&sa=X&ved=2ahUKEwi8uNzEmcnwAhXUQjABHQoyCz0Q6AEwA3oECAYQAg#v=one

Danh, H. (1990). *Techniques of Teaching - Harry Dhand - Google Libros*. https://books.google.com.ec/books?id=bhX1iqv7iy0C&printsec=frontcover&hl=es#v=onepage&q&f=false

Ediger, M., Dutt, V., & Rao, B. (2003). *Teaching English Successfully - M. Ediger - Google Libros*. https://books.google.com.ec/books?id=SWS9LLn2RusC&printsec=frontcover&dq=techniques+to+teach+english&hl=es-419&sa=X&ved=2ahUKEwimocWgm_3wAhXPRjABHavcA4YQ6AEwAHoE

CAMQAg#v=onepage&q=techniques to teach english&f=false

Farvardin, M. T. (2019). Effects of spacing techniques on EFL learners ' recognition
and production of lexical collocations. *INDONESIAN JOURNAL OF APPLIED
LINGUISTICS*, *9*(2), 395–403. https://doi.org/10.17509/ijal.v9i2.20237

Groome, M. E. & D. (2016). *An Introduction to Applied Cognitive Psychology -
David Groome, Michael Eysenck - Google Libros*. Routledge.
https://books.google.com.ec/books?id=cTL7CwAAQBAJ&pg=PA145&dq=ben
efits+of+using+spaced+learning&hl=es-
419&sa=X&ved=2ahUKEwiP4r3R_YbxAhU6MVkFHawFB0YQ6AEwAHoE
CAgQAg#v=onepage&q=benefits of using spaced learning&f=false

Halina, C., & Magdalena, T. (2014). *Language Skills: Traditions, Transitions and
Ways Forward - Google Libros*. Cambridge Scholars.
https://books.google.com.ec/books?id=X2cxBwAAQBAJ&printsec=frontcover
&dq=what+are+language+skills&hl=es-
419&sa=X&ved=2ahUKEwjaxKnwxonxAhV7F1kFHXyJDCIQ6AEwAHoEC
AYQAg#v=onepage&q=what are language skills&f=false

Hamouda, A. (2021). An Investigation of the Effects of Spaced Versus Massed
Practice on Saudi EFL L earners ' Vocabulary Learning Arafat Hamouda.
Language in India, *21*(February), 120–142.
http://languageinindia.com/feb2021/arafatsaudieflspacedmassedfinal.pdf

Harmer, J. (2007). *How To Teach.Pdf*. Addison Wesley Longman Limited.
http://www.cje.ids.czest.pl/biblioteka/how to teach.pdf

Harris, T. &. (2001). *The Encyclopedia of Memory and Memory Disorders - Carol
Turkington, Joseph Harris - Google Libros*. Acid - free paper.
https://books.google.com.ec/books?id=17GA4iBj9acC&pg=PA77&dq=Ebbing
haus&hl=es-419&sa=X&ved=2ahUKEwiE6Ien7oXxAhVTSTABHTw-
DYIQ6AEwBHoECAUQAg#v=onepage&q=Ebbinghaus&f=false

Hernández, R., Baptista, P., & Fernández, C. (2010). *www.FreeLibros.com*.

Kohnke, L., Zhang, R., & Zou, D. (2019). Using mobile vocabulary learning apps as
aids to knowledge retention: Business vocabulary acquisition. *Journal of Asia*

TEFL, *16*(2), 683–690. https://doi.org/10.18823/asiatefl.2019.16.2.16.683

Kose, T., & Mede, E. (2018). Investigating the Use of a Mobile Flashcard
Application Rememba on the Vocabulary Development and Motivation of EFL
Learners 1. *MEXTESOL*, *42*(4).
https://doi.org/http://www.mextesol.net/journal/public/files/67c4bbe76da5d01b
1d80b613e97d07ec.pdf

Mary, S., Alan, P., & Melanie, W. (2011). *The TKT Course Modules 1, 2 and 3 -
Mary Spratt, Alan Pulverness, Melanie Williams - Google Libros*. Cambridge
University Press.
https://books.google.com.ec/books?id=CtMXk2eAfTAC&pg=PA1&dq=tkt&hl
=es-419&sa=X&ved=2ahUKEwjE-
p_ayNLxAhUfFVkFHYnqDEYQ6AEwA3oECAMQAg#v=onepage&q=tkt&f=
false

Michael Selzer, Leonardo Cohen, S. C. & P. D. (2006). *Textbook of Neural Repair
and Rehabilitation: Volume 2, Medical ... - Google Libros*.
https://books.google.com.ec/books?id=YZw3YcWiSnEC&pg=PA466&dq=spac
ed+learning+technique&hl=es-
419&sa=X&ved=2ahUKEwiNs5_h2oXxAhXWQzABHX-
QDoIQ6AEwBnoECAkQAg#v=onepage&q=spaced learning
technique&f=false

Nakata, T., & Suzuki, Y. (2019). EFFECTS of MASSING and SPACING on the
LEARNING of SEMANTICALLY RELATED and UNRELATED WORDS.
Studies in Second Language Acquisition, *41*(2), 287–311.
https://doi.org/10.1017/S0272263118000219

Namaziandost, E., Mohammed Sawalmeh, M. H., & Izadpanah Soltanabadi, M.
(2020). The effects of spaced versus massed distribution instruction on EFL
learners' vocabulary recall and retention. *Cogent Education*, *7*(1).
https://doi.org/10.1080/2331186X.2020.1792261

Olha Chaikovska, L. Z. (2020). THE EFFICIENCY OF QUIZLET-BASED EFL
VOCABULARY LEARNING IN PREPARING UNDERGRADUATES FOR
STATE ENGLISH EXAM 10 Olha Chaikovska State Agrarian and Engineering

University in Podillia , Kamianets-Podilskyi , Ukraine Lesia Zbaravska State Agrarian and Engineer. *Advance Education*, *14*, 84–90. https://doi.org/https://doi.org/10.20535/2410-8286.197808

Otani, S. (2017). What Spaced Learning is Effective for Long-Term L2 Vocabulary Retention? *What Spaced Learning Is Effective for Long-Term L2 Vocabulary Retention?*, *28*, 113–128. https://doi.org/10.20581/arele.28.0_113

Oxford. (2018). *What Is Spaced Practice (And How To Use It) | Oxford Learning*. https://www.oxfordlearning.com/what-is-spaced-practice/

Pamela, H. (2016). *Mobile Microlearning: A Natural Venue for Spaced Learning | Learning Solutions Magazine*. https://learningsolutionsmag.com/articles/2124/mobile-microlearning-a-natural-venue-for-spaced-learning?utm_campaign=lspub&utm_medium=link&utm_source=link

Paul, K., & Neelen, M. (2020). *Evidence-Informed Learning Design: Creating Training to Improve Performance - Mirjam Neelen, Paul A. Kirschner - Google Libros*. Kogan Page. https://books.google.com.ec/books?id=UqfMDwAAQBAJ&pg=PA221&dq=forgetting+curve+and+spaced+learning&hl=es-419&sa=X&ved=2ahUKEwigqev_gYfxAhUcElkFHRoEAccQ6AEwBXoECAcQAg#v=onepage&q=forgetting curve and spaced learning&f=false

Raquel Serrano, H.-Y. H. (2018). Learning Vocabulary Through Assisted Repeated Reading: How Much Time Should There Be Between Repetitions of the Same Text? *Tesol*, *52*, 971–994. http://diposit.ub.edu/dspace/bitstream/2445/164091/1/681712.pdf

Rodriguez, E. (2005). *Metodología de la Investigación - Ernesto A. Rodríguez Moguel - Google Libros*. https://books.google.com.ec/books?id=r4yrEW9Jhe0C&pg=PA23&dq=tipos+de+investigacion&hl=es-419&sa=X&ved=2ahUKEwi-1PPNoq7xAhXhoFsKHXzsAwcQ6AEwAnoECAcQAg#v=onepage&q=tipos de investigacion&f=false

Rosario Arroyo, Eric Fernandez, J. D. la H. (2021). T ECHNOLOGIES FOR L EARNING W RITING IN L1 AND L2 FOR THE 21 ST C ENTURY : E FFECTS ON W RITING M ETACOGNITION , S ELF -E FFICACY , AND. *Information Technology Education Research*, *20*, 87–116. http://www.jite.org/documents/Vol20/JITE-Rv20p087-116Gonzalez6924.pdf

Sadler, W., & Mark, D. (2020). *The Handbook of Informal Language Learning - Google Libros*. LCCN. https://books.google.com.ec/books?id=fT_ADwAAQBAJ&pg=PA126&dq=spaced+learning+technique&hl=es-419&sa=X&ved=2ahUKEwiNs5_h2oXxAhXWQzABHX-QDoIQ6AEwAnoECAUQAg#v=onepage&q=spaced learning technique&f=false

Saeed Taki, S. J. (2017). The Impact of Mnemosyne Computer Software on Iranian EFL Learners ' Vocabulary Learning. *Applied Linguistics and Applied Literature*, *5*(2), 101–111. https://doi.org/10.22049/jalda.2018.26246.1068

Schmitz, A. (2012). *Principles of Sociological Inquiry: Qualitative and Quantitative Methods - Table of Contents*. Saylor Academy. https://saylordotorg.github.io/text_principles-of-sociological-inquiry-qualitative-and-quantitative-methods/index.html

ANNEXES

ANEXO 3
FORMATO DE LA CARTA DE COMPROMISO.
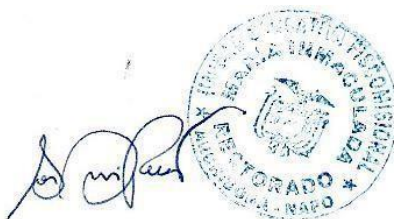
CARTA DE COMPROMISO

Ambato, 03/05/2021

Doctor
Marcelo Núñez
Presidente
Unidad de titulación
Carrera de Pedagogía de los Idiomas Nacionales y Extranjeros
Facultad de Ciencias Humanas y de la Educación

Yo, Sor. Dorys Padilla en mi calidad de Rectora de la institución "Unidad Educativa Fiscomisional María Inmaculada", me permito poner en su conocimiento la aceptación y respaldo para el desarrollo del Trabajo de Titulación bajo el Tema: "Spaced Learning in Writing Skill" propuesto por la estudiante Palacios Palacios Johana Gabriela, portador/a de la Cédula de Ciudadanía, 1804850590 estudiante de la Carrera de Pedagogía de los Idiomas Nacionales y Extranjeros Facultad de Ciencias Humanas y de la Educación de la Universidad Técnica de Ambato.

A nombre de la Institución a la cual represento, me comprometo a apoyar en el desarrollo del proyecto.

Particular que comunico a usted para los fines pertinentes.

Atentamente.

Sor. Dorys Padilla

1709052029

062889142

0995037831

dorys.padilla@educacion.gob.ec

Annex 2: Lesson Plans

Lesson Plan 1

Teacher: Gabriela Palacios

Subject: English

Level: 9th EGB "María Inmaculada"

Group: 23 students, 12 women, 11 men **Date:** May 18th, 2021 **Duration:** 50 minutes	
Objective: • To evaluate the level of the students in writing skill using a pre-test.	

Time	Activities	Materials
5 minutes	Teacher introduces herself to the students.	Teams Platform session
35 minutes	Teachers asks students to open a link in Google forms to take the pre-test	Google forms Pre-test https://forms.gle/WbtCntcy5GyudRzo7
10 minutes	Teacher clarifies any students' doubts about the process that they must follow and the materials that they will use. Teachers asks students to create a Whatsapp group	Teams Platform WhatsApp group

Lesson Plan 2

Teacher: Gabriela Palacios

Subject: English

Level: 9th EGB "María Inmaculada"

Group: 23 students, 12 women, 11 men Date: May 25th, 2021 Duration: 50 minutes		
Objective: • Students will be able to use spaced learning technique to write sentences with "few" and "a few"		
Time	**Activities**	**Materials**
5 Minutes	Teacher presents slides in Power Point to reinforce vocabulary about countable and uncountable noun.	Teams session https://drive.google.com/file/d/1kVnAnJ2wO FuAnpK7Bhm0z5vEgtwp-S0W/view?usp=sharing
5 minutes	Teacher makes students play in a Kahoot game about countable and uncountable nouns, to reinforce knowledge	Kahoot Game https://play.kahoot.it/v2/lobby?quizId=2af1f54f-9886-4a06-8f68-791283eb2a76
5 minutes	Teacher makes a game "Symon says" to catch the students´ attention.	Teacher´ voice
5 minutes	Teacher presents the topic *few/a few* using a short story.	Power Point Presentation https://drive.google.com/file/d/1vS87P86ek5fT2-kF5Hi2aw4t8GHWucxL/view?usp=sharing
10 minutes	Teacher presents a Power Point presentation to explain in a better way and make some examples about quantifiers for countable and uncountable nouns. In this case few and a few	Power point presentation https://drive.google.com/file/d/1nA2p-0_trSfeCOAQBfMqBD-tic8SS3cE/view?usp=sharing
5 minutes	Teacher makes a game "Three things in common", teacher asks students think in three things and the similar characteristics that they have.	Teacher voice
10 minutes	Teacher asks students to make their own examples using the grammar few and a few and	Padlet https://es.padlet.com/palaciosgabriela199 8/le83esox60ydbx2j

	they will tell the examples and the difference between them. Teacher motivates students write the examples in her Padlet.	
5 minutes	Teachers asks students if they have any question about the topic to clarify any doubt.	

Lesson Plan 3

Teacher: Gabriela Palacios

Subject: English

Level: 9th EGB "María Inmaculada"

Group: 23 students, 12 women, 11 men **Date:** June 1st, 2021 **Duration:** 50 minutes		
Objective: • Students will be able to use spaced learning technique to write sentences with "there is" and "there are"		
Time	**Activities**	**Materials**
10 Minutes	Teacher asks students to complete a worksheet based on a song to motivate students.	Teams session YouTube https://www.youtube.com/watch?v=5gBeLN2Jkng Worksheet https://en.islcollective.com/english-esl-worksheets/grammar/past-simple-tense/attention-song-worksheet/105377
5 minutes	Teacher presents a picture of a classroom and ask students to give a brainstorming about the vocabulary.	Power Point Presentation https://drive.google.com/file/d/1InPtzOx7Pkfqs20yZb-yxjmg2FB53_BL/view?usp=sharing
5 minutes	Teacher presents the song twice and students continue completing the worksheet.	YouTube https://www.youtube.com/watch?v=5gBeLN2Jkng

		Worksheet https://en.islcollective.com/english-esl-worksheets/grammar/past-simple-tense/attention-song-worksheet/105377
10 minutes	Teacher presents a Power Point presentation to explain the grammar point of *there is/there are* using the vocabulary about classroom things.	Power Point Presentation https://drive.google.com/file/d/1awh3cMFVVv8XgEbH0IJg9Rkhybpp34AD/view?usp=sharing
5 minutes	Teacher and students check the worksheet answers based on the song.	Worksheet https://en.islcollective.com/english-esl-worksheets/grammar/past-simple-tense/attention-song-worksheet/105377
10 minutes	Teachers asks to complete a Padlet with their own examples using the grammar.	Padlet https://padlet.com/palaciosgabriela1998/n922litng2w5ny5n
5 minutes	Teacher asks the students if they have any question about the topic to clarify any doubt.	Teacher and students voice.

Lesson Plan 4

Teacher: Gabriela Palacios

Subject: English

Level: 9th EGB "María Inmaculada"

Group: 23 students, 12 women, 11 men **Date:** June 8th, 2021 **Duration:** 50 minutes	
Objective: • Students will be able to use spaced learning technique to write sentences using "present simple "	

Time	Activities	Materials
5 Minutes	Teacher makes the game Symon says to catch the students´ attention	Teams session
5 minutes	Teacher and students review the previous task about the grammar *there is / there are,* to give a feedback and reinforce the knowledge.	Padlet
5 minutes	Teacher asks to students complete a work sheet based on a song	YouTube https://www.youtube.com/watch?v=EGikhmjTSZI Worksheet https://es.liveworksheets.com/worksheets/en/English_as_a_Second_Language_(ESL)/Listening/Song_-_Live_is_Life,_by_Opus_rl1438809tm
10 minutes	Teacher introduces the new topic "Present simple" using a text using vocabulary and a text about "My daily routine".	A text https://en.islcollective.com/english-esl-worksheets/grammar/present-simple-tense/my-daily-routine-present-simple/112102 Power Point Presentation https://drive.google.com/file/d/1PLrJO7zIde1u1yk7H1faX20JRfkgxl7x/view?usp=sharing
5 minutes	Teacher and students check the worksheet answers based on the song.	Worksheet https://es.liveworksheets.com/worksheets/en/English_as_a_Second_Language_(ESL)/Listening/Song_-_Live_is_Life,_by_Opus_rl1438809tm

Time	Activities	Materials
15 minutes	Teacher presents the grammar and some examples about present simple	Power point presentation https://drive.google.com/file/d/1AHcVysfuUqjsC2eCDWPa_puMt58cPgS8/view?usp=sharing
5 minutes	Teacher gives some instructions to complete an activity based on their own daily routine.	Teacher and students voice.

Lesson Plan 5

Teacher: Gabriela Palacios

Subject: English

Level: 9th EGB "María Inmaculada"

Group: 23 students, 12 women, 11 men
Date: June 15th, 2021
Duration: 50 minutes

Objective:
- Students will be able to use spaced learning technique to write sentences using "past simple"

Time	Activities	Materials
5 minutes	Teacher and students review the homework about daily routines	Teams session Teacher and students voice
5 Minutes	Teacher gives a lyric of a song and present it to review the present simple.	YouTube https://www.youtube.com/watch?v=VQspRB0ztMw
10 minutes	Teacher introduces the new topic about "Past simple" using a text and vocabulary about "My last vacation"	Power Point Presentation https://drive.google.com/file/d/1ZGvB-QjtkSgrIHT7QrA5VojwZqsZOYKF/view?usp=sharing Text https://learnenglish.britishcouncil.org/skills/writing/pre-intermediate-a2/my-last-holiday

Time	Activities	Materials
5 minutes	Teacher asks to students complete a work sheet based on a song	YouTube https://www.youtube.com/watch?v=31crA53Dgu0 Worksheet https://es.liveworksheets.com/worksheets/en/English_as_a_Second_Language_(ESL)/Worksheets_with_songs/SONG*_CHEAP_THRILLS_by_Sia_uj1617624nd
10 minutes	Teacher presents the grammar and some examples about past simple	Power point presentation https://drive.google.com/file/d/1Tac0f3nXqqkeO0dGunjFHwxAhTl9o8vG/view?usp=sharing
5 minutes	Teacher and students check the worksheet answers based on the song.	Worksheet https://es.liveworksheets.com/worksheets/en/English_as_a_Second_Language_(ESL)/Worksheets_with_songs/SONG*_CHEAP_THRILLS_by_Sia_uj1617624nd
10 minutes	Teacher asks to students make a paragraph based on their last vacations.	Teacher and students voice.

Lesson Plan 6

Teacher: Gabriela Palacios

Subject: English

Level: 9th EGB "María Inmaculada"

Group: 23 students, 12 women, 11 men **Date:** June 22th, 2021 **Duration:** 50 minutes	
Objective: • To evaluate the level of the students in writing skill using a post-test.	

Time	Activities	Materials
10 minutes	Teacher and students review the task about their last vacations.	Teams Platform session
30 minutes	Teachers asks students to open a link in google forms to take the post-test	Google forms Pre-test https://forms.gle/WbtCntcy5GyudRzo7

10 minutes	Teacher and students make a final activity completing a worksheet based on a song.	YouTube https://www.youtube.com/watch?v=q0hyYWKXF0Q Worksheet https://es.liveworksheets.com/oi35891xa

Annex 3: Tests

Pre-test

Source: Taken from Cambridge A2 Key (KET): Reading and writing part 7 [photograph] for Cambridge, 2020 (https://teacherphill.com/a2key-reading-and-writing-part-7/)

Post-test

Source: Taken from Cambridge A2 Key (KET): Reading and writing part 7 [photograph] for Cambridge, 2020 (https://teacherphill.com/a2key-reading-and-writing-part-7/)

Pre-test: https://forms.gle/ZqvUBBsKYxgMBYjH9

Post-test: https://forms.gle/2ZKCmP7HRKnfVkXd9

Annex 4: Standardized KET rubric for written production

Assessment of Writing scale

Band	Content	Organisation	Language
5	All content is relevant to the task. Target reader is fully informed.	Text is connected and coherent, using basic linking words and a limited number of cohesive devices.	Uses everyday vocabulary generally appropriately, while occasionally overusing certain lexis. Uses simple grammatical forms with a good degree of control. While errors are noticeable, meaning can still be determined.
4	*Performance shares features of Bands 3 and 5.*		
3	Minor irrelevances and/or omissions may be present. Target reader is on the whole informed.	Text is connected using basic, high-frequency linking words.	Uses basic vocabulary reasonably appropriately. Uses simple grammatical forms with some degree of control. Errors may impede meaning at times.
2	*Performance shares features of Bands 1 and 3.*		
1	Irrelevances and misinterpretation of task may be present. Target reader is minimally informed.	Production unlikely to be connected, though punctuation and simple connectors (i.e. 'and') may on occasion be used.	Produces basic vocabulary of isolated words and phrases. Produces few simple grammatical forms with only limited control.
0	Content is totally irrelevant. Target reader is not informed.	*Performance below Band 1.*	

Source: Taken from Writing for Assessment of A2 Key and B1 preliminary [photograph] for Skyteach, 2019 (https://skyteach.ru/2019/12/27/writing-for-a2-key-and-b1-preliminary-how/)

Annex 4: Urkund Report

URKUND

Urkund Analysis Result

Analysed Document: PALACIOS_GABRIELA_DISSERTATION.pdf (D110655780)
Submitted: 7/22/2021 5:00:00 AM
Submitted By: jpalacios0590@uta.edu.ec
Significance: 7 %

Firmado electrónicamente por:
WILMA ELIZABETH SUAREZ MOSQUERA

Dra. Mg. Wilma Suárez

TUTORA DE TRABAJO DE TITULACIÓN