



Using a Communicative Situations E-learning Program to Foster ESP Pre-Service Teachers' Grammatical Competence and Vocabulary Retention

Ву

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إستخدام برنامج للتعلم الالكترونى قائم على المواقف الاتصاليه لتحسين الكفاءه النحويه والاحتفاظ بالمفردات اللغويه لمعلمى اللغه الإنجليزيه ذات الاغراض الخدمه

إعـــداد

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كلية التربية – جامعة المنيا

المتخليص

هدفت الدراسة الحالية إلى التحقق من فاعلية برنامج للتعلم الالكتروني قائم على المواقف الاتصاليه لتحسين الكفاءه النحويه والاحتفاظ بالمفردات اللغويه لمعلمي اللغه الإنجليزيه ذات الاغراض الخاصة لطلاب البرنامج الخاص لاعداد معلمي العلوم والرياضيات قبل الخدمه المتعربي باللغه الانجليزيه بكلية التربية جامعة المنيا. استخدمت الدراسة المنهج شبه التجريبي (قبلي بعدي) لتحقيق أهداف البحث. اشترك في التدريب أربعون طالبا وطالبة كمجموعة ضابطة واحدة. تم تدريب مجموعة الدراسة باستخدام التعلم القائم على المواقف الاتصاليه عبر النت. تم إستخدام استبيان للتعرف على إذا كان هناك صعوبات تقابل الطلاب عند إستخدام اللغه الانجليزيه كوسيلة للتعلم. كما تم إستخدام ثلاث اختبارات من إعداد الباحثة وهي: إختبار تحديد مستوى اللغه، إختبار لقياس الكفاءه النحويه، إختبارالمفردات والذي تم إستخدامة ايضا لقياس مدى الاحتفاظ بالمفردات اللغوية والبرنامج الالكتروني التدريبي على منصة إدمودو. وقد تبين من تحليل النتائج (باستخدام قيمة ت) تفوق مجموعة الدراسة في كلا من الاختبارين. حيث وجدت فروق ذو دلالة إحصائية بين متوسطى درجات عينة الدراسة في التطبيقيين القبلي والبعدي نصالح التطبيق البعدى وذلك في كل الادوات عينة الدراسة في التطبيقيين القبلي والبعدي نصالح التطبيق البعدى وذلك في كل الادوات المستخدمة. وأثبتت النتائج وجود ارتباط موجب وقوي بين الكفاءه

النحويه والاحتفاظ بالمفردات اللغويه. تم عرض النتائج ومناقشتها. كما اشتملت الدراسة على أهم التوصيات والمقترجات لبحوث مستقبلية.

الكلمات المفتاحية: البرامج الخاصة، التعلم الالكتروني، الكفاءه النحويه، الاحتفاظ بالمفردات اللغويه، المواقف الاتصاليه.

Abstract

The purpose of this study was to investigate the use of the communicative situations e-leaning program for developing the grammatical competence and vocabulary retention of the ESP (English for Specific Purposes) pre-service teachers. Forty students were enrolled in the 2nd year of the newly established Program for Preparing Pre-Service Teachers to Teach Science and Mathematics in English (TSME) at the Faculty of Education, Minia University. The study was conducted during the academic year 2019-2020 using the one group pre-post-tests design. A questionnaire was used to explore if they have obstacles and difficulties when using English as a medium of instruction. Three basic tests were prepared by the researcher: a language placement test used to measure students' language proficiency level; a pre-post grammatical competence test and a pre-post vocabulary test which was also used as a delayed test to measure vocabulary retention. In addition, instructional manual was prepared by the researcher presenting the online material through Edmodo platform. Having pre-testing the study group, they were taught via the communicative situations E-learning program. Findings of the study showed a remarkable statistical improvement favoring the post administration of both tests. Moreover, there was a positive correlation between ESP pre-service teachers' grammatical competence and vocabulary retention on the post tests. Discussion of these findings, recommendations and suggestions for further research are presented.

Keywords: ESP, TSME, E-learning, Grammatical competence, Vocabulary Retention and Communicative situations.

Introduction

Recent changes in the educational system in Egypt have placed more burdens and responsibilities on tutors to use innovative teaching techniques and demonstrate digital literacy skills. Integrating digital technology into language classrooms has dramatically changed the way of transmitting knowledge along with students' more involvement in the educational process. Web-based instructional content seeks to improve the quality of educational process. Utilizing technological tools e.g. the internet as a medium of learning has enriched students' digital literacy skills, communication skills and learning/teaching experiences. It made a remarkable paradigm shift from teacher-centered to learner-centered; from conventional learning to digital based learning. This requires a dramatic change in teaching and learning different language skills, grammar and vocabulary.

Grammar and vocabulary instruction is considered as an indispensable part of any language learning process. It is through grammar that students can organize words and form meaningful sentences that convey different messages. Grammar gives meaning to the four language skills. It should be noticed that learning grammar is complex and is one of the most boring tasks that students can do. Using grammar makes communication coherent and logical (Priya, 2015). Lack of understanding grammar rules could lead to communication failure. This means that grammar instruction should be introduced within communicative tasks and activities which help students to grasp not only the form of the grammatical structure but also its function in natural contexts (Baydikova & Davidenko, 2019). Leaners should be able to demonstrate grammatical competence for communicative purposes.

Grammatical competence is defined as learners' knowledge of grammar forms and meanings and how to use them to form meaningful sentences in an interesting and challenging way (Nassaji & Fotos, 2011). In grammatical competence, as a key component of communicative competence, knowledge of lexical items, morphology rules, syntax, semantics, and phonology are basically encompassed. Sentence patterns and types are also included which are considered as basic elements of communication (Rofid, 2018).

Vocabulary development is another complex and boring skill which students might encounter in learning. Vocabulary knowledge is essential as it is perceived as the foundation of communication and without words students could not express themselves clearly. Huge barriers to the development of learners' communicative competence may be created due to insufficient vocabulary knowledge which is considered as a great challenge in vocabulary instruction (Bao & Loi, 2020). Keeping and maintaining new words is not an easy job as it is related to learners' memory which greatly affects retention. Incorporating information into memory requires establishing a link between new information to old ones which has a crucial impact on vocabulary learning and retention (Mayer, 2014). Retention of newly-learned vocabulary items could be greatly emphasized through a systematically repeated process. Therefore, exploring effective ways to teach vocabulary should be first priority for teachers to enhance learners' retention (Ramezanali & Faez, 2019). The use of visual clues and digital devices could facilitate vocabulary learning and ease students' difficulties to acquire and recall the vocabulary for a longer period of time (Masoud & Ibrahim, 2017).

E-learning has become an innovative alternative of teaching for the tremendous costless resources it offers to learners. A vast volume of data and information is available and the process of information sharing is accelerated. E-learning has proved to be a very effective and technical tool for promoting the teaching /learning process and teachers' competence, efficiency and motivation. Learners are provided with wide range of topics that can be presented at different difficulty level. Students could successfully hold the responsibility of their own learning if they are offered a convenient, relax, secure and motivating learning environment (Pikhar & Klímová, 2020 and Masoud, 2020). Through Elearning, communication barriers are removed and learning becomes more convenient and available anytime and anyplace. Learners' linguistic and communicative competences could be increasingly strengthened when using digital platforms as they offer a room for interaction and communication among people all over the world (Ethel, Brandon, Marisol, & Sammy, 2020).

E-learning offers numerous opportunities for students' engagement, independent learning and involvement which are

considered key premises of the Communicative Language Teaching (CLT) approach. E-leaning with its prominent features could work as a medium to strengthen students' communicative and linguistic competence as it is "communication-oriented" (Vidak & Resner, 2019). Improving students' communicative abilities should be teachers' top priority in classrooms. It is crucial for students to learn, how to use the language within different real life situations to interact naturally in real communication.

Richards & Rogers (2010) proposed that communicative competence is largely acquired when students are interacting, completing and engaging in a task, learning content or encountering real life situations. In order to communicate real meaning, students should recognize the functions of different vocabularies and structures and be able use them effectively not merely manipulate grammar rules and structures and recite sets of words. Using communicative situations within classroom contexts aiming to provide students a desirable learning environment greatly stimulate and promote the learning process.

Literature Review

A vast body of research has advocated using e-leaning different platforms in educational settings aiming to enhance students' learning environment, communication skills and general language skills, particularly, grammar and vocabulary learning and retention. Recently, Al Bataineh, Banikalef & Albashtawi (2019) found a clear advancement of EFL learners' grammatical performance and a positive attitude towards E-learning when using Moodle as an E-learning platform referring to it as an influential method of teaching grammar in EFL settings. Using an E-learning mode Vidak and Resner (2019) aimed to investigate its impact on students' communicative and linguistic competences and their attitudes towards E-learning. Results showed that improving E-learning had significant effect on students' communicative competence and pushed their attitude positively.

Jeong's study (2018) referred to the entertainment and enjoyment that students gained through using multimedia- assisted learning. Adding to that, it improved EFL university students' communicative competence and motivation. Isti'anah (2017) recommended using blended learning (as an E-learning method) to develop students' grammar achievement as

it had a remarkable effect on improving students' responsiveness and interest in learning. Similarly, Pumjarean, Muangnakin & Tuntinakhongul (2017) pointed that E-learning program was very efficient on improving students' grammatical competency and paragraph writing skills. Findings of Ahmed's study (2016) showed that the experimental group surpassed the control group in the grammar and writing post-tests. This superiority was attributed to the effectiveness of using Facebook as an E-learning method as it led to students' improvement on both skills.

Vocabulary learning and retention was greatly developed through using different techniques. For example, within the Egyptian context, Helal (2020) stated that first preparatory stage students' vocabulary retention was significantly improved and their language learning anxiety was reduced due to the implementation of brain-based learning program. Bao and Loi (2020) used Moodle as an E-learning platform to develop learners' vocabulary retention. Results indicated that the effect size of the program was large referring to students' engagement and motivations when utilizing Moodle. Results of Hashemian and Farhang-Ju' study (2020) revealed that E-learning had positive effects on students' lexical knowledge and translation performance recommending to use it as an effective method in learning. A study conducted by Elekaei, Tabrizi & Chalak (2019) pointed out that using Podcasts (i.e. producing tasks and assignments in the form of audio or video) as an E-learning mode significantly affected levels of vocabulary gains and retention of learners in digital context. Ramezanali and Faez's study (2019) utilized multimedia glossing to enhance L2 learners' vocabulary learning and retention. Results indicated that multimedia glossing was effective and assisted largely in the enhancement of vocabulary retention and learning.

According to Masoud & Ibrahim (2017), e-mind mapping proved to be very useful and impressive in promoting students' vocabulary acquisition and use. In another study, Shoaei & Alvani (2016) found computer assisted vocabulary learning (CAVL) effective and showed promising results for enhancing students' vocabulary retention. Similarly, Ghorbani & Jahandar (2015) presented the same result emphasizing the significant impact of E-learning on enhancing intermediate EFL learners' word retention. El-Garhy (2017) examined

the effect of cloud computing based program on grammar achievement and vocabulary retention. Results showed that students who were trained using the program surpassed the others who did not participate in the program on both the grammar achievement and retention tests. In his study, Soliman (2014) stated that the different activities and the impressive learning environment that E-learning provided to learners assisted in improving their overall language proficiency and their communicative competence as well.

Studies utilizing communicative situations and activities to enhance different language skills in educational contexts are not limited. For example, Seleem (2019) found communicative situations effective in improving 1st year English Major's aural oral communication skills referring to their role on vocabulary knowledge development. In the same line, AL-Garni & Almuhammadi (2019) used communicative activities to measure their effect on students' speaking skill. Results indicated the substantial impact that communicative activities had on fostering students' speaking skill recommending to use them in teaching other language skill. Studies such as, Nguyen (2019), Owen & Razali (2018) and Minaflinou (2018) implemented communicative activities in English classrooms integrated with technological equipment and were found to have positive effects on promoting students' interactive skills and different language skills i.e. vocabulary, grammar, speaking and listening specifying students' enjoyment in grammar lessons. In the This concedes with Khuong-Cam (2015) and Pham-Ho & Nguyen (2014) studies which highlighted the improvement and development of students' grammar and communicative competences due to utilizing communicative activities and situations in classroom. It was also mentioned that students' interest in learning grammar was increased and a positive attitude towards learning was established as well with a recommendation of teaching grammar communicatively in real life situations.

Commentary

According to the aforementioned literature, it is apparent that adopting CLT had a substantial effectiveness in developing students' general language skills. Adding to that, the researcher's positive and significant experience with online teaching through conducting recent studies implementing different E-learning modes (e-mind mapping (Masoud & Ibrahim, 2017), WebQuest (Masoud, 2017), and e-portfolio (Masoud, 2020). These previous factors stimulated the researcher to build the current study on communicative requisites and teach students through E-learning for their remarkable impact on enhancing the teaching/ learning process. It has been noticed that there were no empirical studies tried to explore language competences of the students who are enrolled at the newly established program of TSME within the Egyptian context. So, the current study sought to fill in this gap and attempted to investigate the impact of an E-learning program based on communicative situations on improving ESP students' grammatical competence and vocabulary retention.

Context of the Problem

In a response to the spread of governmental and international language schools in Egypt, The Supreme Council of Universities decided to establish new programs, in some faculties of education, for preparing students to teach Science and Mathematics in English. Using English as a medium of instruction requires highly qualified teachers who can keep abreast with academic knowledge and language usage. Hence, there is a growing need for these students to demonstrate different language skills particularly usage of grammar and vocabulary for the purpose of communication.

Accordingly, this promoted the researcher to explore the language proficiency level of students enrolled at this newly established program in the Faculty of Education, Minia University. To this end, a questionnaire was administered to a large group of students in different sections of the program to explore if they have obstacles and difficulties when using English as a medium of instruction. The majority of the students admitted that they have great difficulty in communicating with their tutors. An informal interview was also conducted with staff members who generally taught in such a program and who particularly taught the target students. They stated that students encounter great

difficulty to use English as a means of communication with them, to write correct meaningful sentences, form correct questions or choose the suitable words according to different situations. They also commented that students are confused as they study the educational courses in Arabic which weaken their communication with them. To verify the problem, a language proficiency test was employed on different groups (Chemistry, Biology, Science primary section and Mathematics) of the program to measure their level in different language skills. The purpose was to determine if they have problems regarding their vocabulary and grammar usage. Test results showed that the scores of the majority of students were very low in all parts of the test particularly grammar and vocabulary sections. In addition, a number of staff members suggested that students need a focused training in language usage to enable them to communicate successfully. Based on the previous results, the researcher proposed the communicative situations E-learning based program for enhancing ESP pre-service teachers' grammatical competence and vocabulary retention. The online program was intentionally used for basic reasons:

- The participants of the study were using English as a means of instruction and communication in the academic courses, so they need a novel method to demonstrate usage of different language skills.
- The instructional E-learning program would allow them to a systematic exposure to use English language when reading the communicative situations, answering the quizzes and activities, chatting with each other or even when delivering questions to the instructor.
- Students don't have a specific course for learning English in class.

Statement of the Problem

Based on students' low scores in the language proficiency test and instructors' reflections on their level, it was apparent that students were unable to have a complete understanding of the instructors while teaching. The current study aimed to enhance such students' grammatical competence and vocabulary retention via a Communicative Situations E-learning program.

Questions of the Study

The present study was an attempt to answer the following questions:

- How would a communicative situations E-learning program develop ESP pre-service teachers' grammatical competence?
- How would a communicative situations E-learning program develop ESP pre-service teachers' vocabulary retention?
- How would the correlation between the study group's grammatical competence and vocabulary retention?

Hypotheses of the Study

In the light of literature review, the following hypotheses were tested:

- 1. There would be a statistically significant difference between the study group's mean scores of the grammatical competence pre-posttests (in favor for the post test).
- **2.** There would be a statistically significant difference between the study group's mean scores of the vocabulary pre-posttests (in favor for the post test).
- **3.** There would be a statistically significant difference between the study group's mean scores of the vocabulary pre and post delayed retention tests (in favor for the post test).
- **4.** There would not be a statistically significant difference between the study group's mean scores of the vocabulary and delayed vocabulary retention posttests.
- **5.** There would be a positive correlation between the study group's mean scores of the grammatical competence and vocabulary retention.

Significance of the Problem

The current study is hopefully expected to

- shed more light on using online communicative situations to improve vocabulary retention and grammatical competence.
- fill in the gap in the literature review of enhancing ESP pre-service students enrolled at the newly established programs for preparing them to teach Science and Mathematics in English.
- provide the instructors with a guide based on different communicative situations and activities to be used in teaching grammar and vocabulary.

- help students to be exposed to more systematic language usage while reading and responding to different communicative situations.
- enable students to build essential vocabulary skills in different situations and contexts.
- provide opportunities for students to enhance their computer skills.

Delimitations of the Study

- The study was delimited to forty second year (20) Mathematics and (20) Science primary sections enrolled at the new preparation Program of Teaching Science and Mathematics in English, Faculty of Education, Minia University.
- The researcher administered a questionnaire on a panel of TEFL jury members to determine the most important grammatical topics mostly needed by the target students. They suggested the following:
 - Tenses& Conditional Structures
 - Prepositions & Articles
 - Adverbs & Adjectives
 - Nouns and Modal verbs
- The researcher administered a questionnaire on a panel of TEFL jury members to determine the most important vocabulary items and types suitable for the target students. They suggested the following:
 - Linking Words
 - Commonly Confusing Words
 - Words with Multiple meanings
 - Synonyms
 - Antonyms
 - Collocations
- The intervention of the study lasted for twelve weeks in the academic year 2019-2020. The study group received intensive online sessions two times a week, two hours each time through Edmodo site.

Definitions of Terms

Communicative Situations

Wang (2013) defined communicative situations as organized tasks which offer opportunities for students to explore the process of communication in English, involve them in much exposure to the target language use in social contexts, and eventually develop their communicative competence to attain the goals of the tasks.

Communicative situations are operationally defined as the various activities and tasks that are provided to ESP students online aiming to be exposed to real life situations using English language to achieve communicative purposes.

E-learning

E-learning is considered as "a learning environment which uses information and communication technologies as a platform for teaching and learning activities and it is a pedagogy empowered by technology" (Wikipedia, 2020).

E-learning is operationally defined as the process of providing instructional materials electronically where students can get access at any time via the internet.

Grammatical competence

Wikipedia (2020) defined grammatical competence as "knowledge of syntax, morphology, phonology and the like, as well as social knowledge about how and when to use structures appropriately".

According to Cook (2008) grammatical competence is "the ability to recognize and produce the distinctive grammatical structures of a language and to use them effectively in communication".

Grammatical competence is operationally defined as the ability to identify and use the knowledge of grammatical rules successfully in different communicative situations.

Vocabulary retention

According to Wikipedia (2020) vocabulary retention is "the ability to recall facts and figures in memory"

Ramezanali (2017) defined vocabulary retention as the ability to save a new word and provide the meaning of it after a given period of time.

Vocabulary retention is operationally defined as the ability of keeping and maintaining different sets of words in mind after a period of time.

Variables of the Study Independent Variable

- Using a communicative situations E-learning based program Dependent Variables
- Developing ESP pre-service teachers' grammatical competence.
- Developing ESP pre-service teachers' vocabulary retention.

Control Variables

• All students are 2nd year ESP pre-service teachers enrolled at the PTMSE.

Method: Research Design

A quasi-experimental design was employed as it was appropriate for the nature of the study. The one group pretest-posttest design was chosen to determine the intervention or the treatment on the study group.

Instruments and Materials

For the purpose of the current study the following instruments were utilized:

- A Language Placement Test
- A Vocabulary Retention Test
- A delayed Vocabulary Retention Test
- A Grammatical Competence Test

I- The Language Placement Test

Test Objective: The test was basically designed to measure students' language proficiency level and to determine if they have a difficulty with language usage, particularly, vocabulary and grammar.

Test Construction

The test is made up of 60 multiple sections. 20 MCQ items for Grammar and 20 for Vocabulary, a Reading passage followed by 5 MCQ items and 5 close-ended questions and 10 writing items required students to write responses to certain situations. One point was given for each correct answer, so the total score was 60 (See Appendix A).

Piloting the test

The test was piloted by administering it to 27 male and female 2nd year ESP students enrolled in the same program of TSME (Chemistry and Biology sections) who were excluded from the intervention. Time of the test was calculated and was 90 minutes.

Validity of the test

- Face Validity: The test was submitted to a panel of qualified and experienced TEFL specialists. They were requested to judge the linguistic stating of the items, appropriateness, clarity of the test instructions, the difficulty level, applicability, fitness of the items for target study group. They confirmed the suitability and applicability of the test.
- Pearson correlation formula was used to determine the internal consistency of the test items. Correlation coefficient between each test item and the total sheet ranged from 0.555 to 0.921 which was considered acceptable (See Appendix B). Correlation coefficients between each domain and the sheet ranged from 0.892 to 0.921 as shown in the following table:

Table (1): Correlation Coefficients between the domains and the total of the Language Proficiency

	Test						
No	Domain	Correlation					
1.	Vocabulary	0.892*					
2.	Grammar	0. 921*					
3.	Reading	0.911*					
4.	Writing	0. 900*					

*Significant at 0.05 level

Reliability of the test

To establish the reliability of the test, Alpha Cronbach formula (α) was calculated and its value was $\alpha = 0.941$

II- The Vocabulary Retention Test

Test Objective: The test was basically designed to

- •measure students' entry vocabulary knowledge level before the implementation of the proposed program as (a pre-test).
- •investigate the effect of the proposed program on developing students' vocabulary retention as a (post-test).
- The vocabulary Retention test was also used as the delayed one.

Test Construction

The test is made of 5 basic sections which are: Linking Words; Commonly Confusing Words; Synonyms& Antonyms; Collocations and Words with Multiple meanings. Each section compromised of 10 MCQ items. The total number of questions is 50. One point was given for each correct answer, so the total score was 50 (See Appendix A).

Piloting the test

The test was piloted by administering it to 27 male and female second year ESP students enrolled in the same program of TSME (Chemistry and Biology sections) who were excluded from the intervention. Time of the test was calculated and was 90 minutes.

Validity of the test

- •Face Validity: The test was submitted to a panel of qualified and experienced TEFL specialists. They were requested to judge the linguistic stating of the items, appropriateness, clarity of the test instructions, the difficulty level, applicability, fitness of the items for target study group. They confirmed the suitability and applicability of the test.
- •Pearson correlation formula was used to determine the internal consistency of the test items. Correlation coefficient between each test item and the total sheet ranged from 0.586 to 0.911 which was considered acceptable (See Appendix B). Correlation coefficients between each domain and the sheet ranged from 0.849 to 0.943 as shown in the following table:

Table (2): Correlation Coefficients between the domains and the total Vocabulary Retention Test

No Domain Corr	elation
1. Linking Words 0.9	941*
2. Commonly Confusing Words 0.9	943*
3. Synonyms& Antonyms 0.8	849*
4. Collocations 0.8	886*
5. Words with Multiple meanings 0.8	881*

*Significant at 0.05 level

Reliability of the test

To establish the reliability of the test, Alpha Cronbach formula (α) was calculated and its value was $\alpha = 0.891$

III- The Grammatical Competence Test

Test Objective: The test was basically designed to

- measure students' entry grammatical competence level before the implementation of the training program as a (pre-test).
- investigate the effect of the program on developing students' grammatical competence as a (post-test).

Test Construction

The test is made of 5 basic sections which are: Tenses; Conditional Structures; Prepositions & Articles; Adverbs & Adjectives and Nouns & Modal verbs. Each section compromised of 10 MCQ items. The total number of questions is 50. One point was given for each correct answer, so the total score was 50 (See Appendix A).

Piloting the test

The test was piloted by administering it to 27 male and female second year ESP students enrolled in the same program of TSME (Chemistry and Biology sections) who were excluded from the intervention. Time of the test was calculated and was 120 minutes.

Validity of the test

- Face Validity: The test was submitted to a panel of qualified and experienced TEFL specialists. They were requested to judge the linguistic stating of the items, appropriateness, clarity of the test instructions, the difficulty level, applicability, fitness of the items for target study group. They confirmed the suitability and applicability of the test.
- Pearson correlation formula was used to determine the internal consistency of the test items. Correlation coefficient between each test item and the total sheet ranged from 0.562 to 0.901 which was considered acceptable (See Appendix B). Correlation coefficients between each domain and the total sheet ranged from 0.859 to 0.927 as shown in the following table:

Table (3): Correlation Coefficients between the domains and the total Grammatical Competence Test

No	Domain	Correlation
1.	Tenses	0.920*
2.	Prepositions & Articles	0.859*
3.	Conditional Structures	0.876*
4.	Adverbs & Adjectives	0.927*
5.	Nouns & Modal Verbs	0.911*

*Significant at 0.05 level

Reliability of the test

To establish the reliability of the test, Alpha Cronbach formula (α) was calculated and its value was $\alpha = 0.933$.

Procedures of Teaching the Study Participants

- The instructor organized a conference with students and introduced the specific steps they had to follow during the intervention.
- The objectives of the proposed program were presented referring to what students would gain as a result of exposure to the program.
- <u>Technical assistance was provided via online chat (Edmodo, Facebook and whatsApp)</u>
- Participants of the study were divided into two groups and had to get access to the same website carefully created by the researcher on Edmodo as follows:

 $\underline{https://new.edmodo.com/groups/howida-mostafas-class-26047616}\\ \underline{https://new.edmodo.com/groups/howida-mostafa-a-masooud-masouds-class-particles.}$

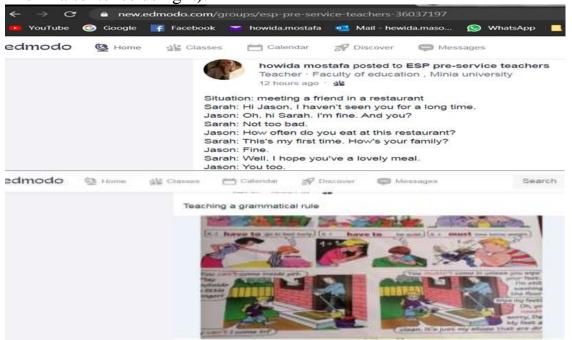


- The instructional online materials were presented in the form of different communicative situations (sometimes accompanied by images for more attraction).
- Examples of given communicative situations were suggesting, promising, apologizing, greeting, inviting, asking for permission to do something, asking for information, getting someone to do something, giving excuses or asking for or offering help and expressing opinions.



• First, the instructor uploaded the communicative situation on the site asking students to read. Having read the communicative situations, the

instructor extracted the targeted grammatical rule that needed to focus on referring to its language function and usage. For example, when teaching the Present Perfect tense, the instructor uploaded the communicative situation, and then the instructor explained the grammatical rule for the students (mentioning when to use it, how to form a sentence using it).



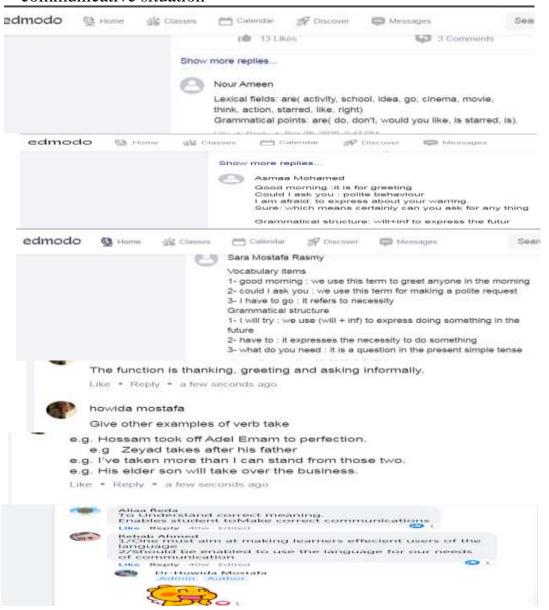
• Then, students were asked to write different examples using the grammatical rule presented in the given communicative situation.



• The same procedures were repeated in teaching other grammatical topics (adjectives, adverbs, articles, conditional structures, nouns, tenses, modal verbs and prepositions) and vocabulary items as well.

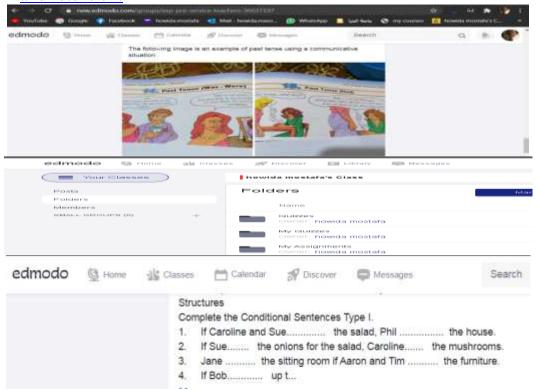


 Students gave more examples on the vocabulary item chosen in the communicative situation

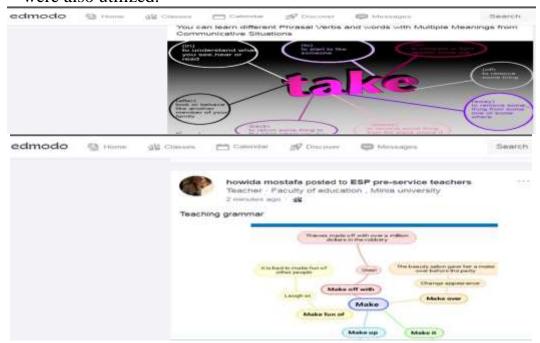


• The online instructional sessions mainly include quizzes, assignments, uploaded files, videos and images that were devoted to

improving students' grammatical competence, vocabulary learning and retention.

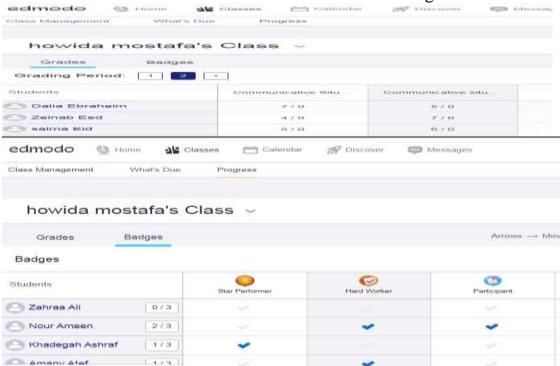


• To maximize students' learning, mind maps and figures and pictures were also utilized.

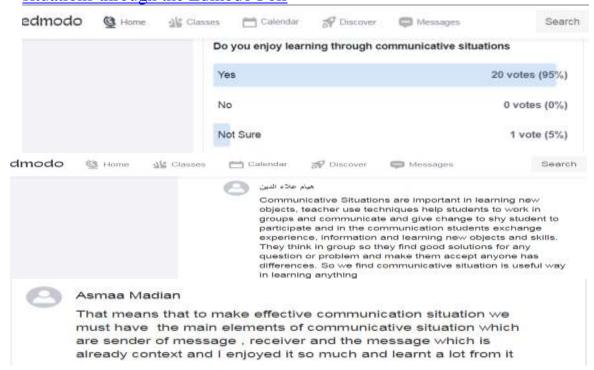




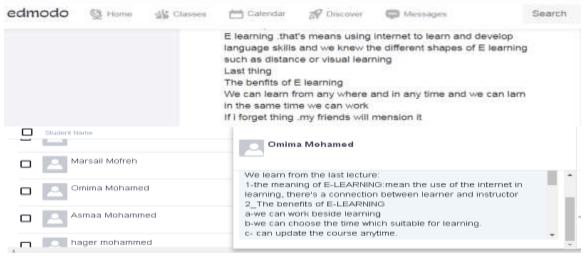
• Grades and stickers were also provided for each completed grammatical or vocabulary task which students appreciated and likely told each other about them. This is in turn made them more enthusiastic and excited to do more activities and assignments.



• Then, students were asked to write their comments on communicative situations through the Edmodo Poll



• And also their comments on the benefits of E. learing



- At the end of the implementation, students were undergone through the administration of the post grammatical competence and vocabulary tests.
- Six weeks later they had the vocabulary test again to measure its retention.
- Data were treated statistically as presented in the following section.

Results & Discussion Testing Hypothesis One

This hypothesis predicated that there would be a statistically significant difference between the study group's mean scores of the grammatical competence pre-post-tests (in favor for the post test). Statistical analysis shown in table (4) indicated that this hypothesis was confirmed and accepted as students' post testing exceeded their pre testing. It also showed that t-value was (20.39) and Eta-squared (η^2) was (0.936) which were considered significant at 0.01.

Table (4): Means, Standard Deviation and t-value & η^2 between mean scores of the Study Group in the Pre- Post- Grammatical Competence Test

٠	No	Treatment	Mean	S.D	DF	T-value	η^2
	30	Pre	23.58	3.51	20	20.20*	0.026*
	30	Post	39.20	3.25	29	20.39*	0.936*

^{*}Significant at 0.01 level

• Statistical analysis also indicated that there was a positive change of students' mean scores in each domain of the grammatical competence pre-posttests (in favor for the post test) as shown in the following table:

Table (5): t-value & η^2 between mean scores of the Study Group in the Pre- Post- Grammatical Competence Test domains

Domain	Mean Pre	Mean Post	SD Pre	SD Post	t- value	η^2
1. Tenses	4.43	8.33	9.19	8.18	19.80*	0.924*
2. Prepositions & Articles	5.20	7.93	8.72	9.05	13.54*	0.841*
3. Conditional Structures	4.90	7.58	1.04	0.946	11.86*	0. 805*
4. Adverbs & Adjectives	4.50	7.73	0.837	0.894	16.45*	0.902*
5. Nouns & Modal Verbs	4.55	7.65	0.805	0.937	15.78*	0.728*

^{*}Significant at 0.01 level

Testing Hypothesis Two

This hypothesis predicated that there would be a statistically significant difference between the study group's mean scores of the vocabulary retention pre-post-tests (in favor for the post test). Statistical analysis shown in table (6) indicated that this hypothesis was confirmed and accepted as students' post testing exceeded their pre testing. It also

^{**}Significant at 0.05 levels

showed that t-value was (22.23) and Eta-squared (η^2) was (0.916) which were considered significant at 0.01.

Table (6): Means, Standard Deviation and t-value & η² between mean scores of the Study Group in the Pre- Post- Vocabulary Retention Test

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No	Treatment	Mean	S.D	DF	T-value	η^2
30	Pre	23.48	3.44	29	22.22*	0.0164
30	Post	39.25	2.79	29	22.23*	0.916*

*Significant at 0.01 level

• Statistical analysis also indicated that there was a positive change of students' mean scores in each domain of the vocabulary retention pre-post-tests (in favor for the post test) as shown in the following table:

Table (7): t-value & η^2 between mean scores of the Study Group in the Pre- Post- Vocabulary Test domains

Domain	Mean Pre	Mean Post	SD Pre	SD Post	t- value	η^2
1. Linking Words	4.33	8.40	0.818	0.768	22.68*	0.943*
2. Commonly Confusing Words	5.23	7.90	0.987	0.943	12.23*	0.884*
3. Synonyms& Antonyms	4.95	7.80	1.05	0.812	13.43*	0.892*
4. Collocations	4.48	7.65	0.806	0.760	17.90*	0.732*
5. Words with Multiple meanings	4.50	7.50	0.742	0.837	16.76*	0.728*

^{*}Significant at 0.01 level

Testing Hypothesis Three

This hypothesis predicated that here would be a statistically significant difference between the study group's mean scores of the vocabulary pre and post delayed retention tests (in favor for the post test). Statistical analysis shown in table (8) indicated that this hypothesis was confirmed and accepted as students' post delayed vocabulary retention testing exceeded their pre testing. It also showed that t-value was (22.79) and Eta- squared was (0.917) which were considered significant at 0.01.

Table (8): Means, Standard Deviation and t-value & η^2 between mean scores of the Study Group in the Pre and Post- Delayed Vocabulary Retention Test

No	Treatment	Mean	S.D	DF	T-value	η^2
30	Pre	23.48	3.44	20	22.79*	0.917*
30	Delayed	39.38	2.73	29	22.19**	0.917*

^{*}Significant at 0.01 level

Testing Hypothesis Four

This hypothesis predicted that there would not be a statistically significant difference between the study group's mean scores of the

vocabulary and delayed retention post-tests. Results shown in table(9) indicated that this hypothesis was confirmed and accepted as t-value between students' post vocabulary and delayed retention tests was (0.21) which is not significant at 0.05/0.01 level. Statistical analysis also indicated that the correlation between the study group's scores of the post vocabulary and post delayed retention test was high and significant.

Table (9): Means, Standard Deviation and t-value between mean scores of the Study Group in the Post and the Post Delayed Vocabulary Retention Test

-	No	Treatment					R
	30	Post	39.25	2.80	20	0.21**	0.024*
	30	Delayed	38.00	2.36	29	0.21	0.924**

^{*}Significant at 0.01 level

Testing Hypothesis Five

This hypothesis predicted that there would be a positive correlation between the study group's mean scores of the grammatical competence and vocabulary retention. Statistical analysis shown in table (10) proved that this hypothesis was confirmed and accepted as Pearson Correlation was (0.736) and this value indicated that there was a strong and positive correlation between students' grammatical competence and vocabulary retention.

Table (10): Correlation Coefficient between the study group's Grammatical Competence &

vocabulary Retention					
Domain	R	Domain			
Grammatical Competence	0.736*	Vocabulary Retention			

*Significant at 0.01 level

This study was set up to explore the effect of using a communicative situations E-learning program on improving grammatical competence and vocabulary retention of ESP students who were enrolled in program of TSME at the faculty of Education, Minia University. The anticipated hypotheses of the study were confirmed and accepted due to the obtained statistical analysis of data. Results indicated that students' grammatical competence consistently improved and enhanced as well as their vocabulary retention. This enhancement could be attributed to students' exposure to the suggested communicative situations E-learning program which was the cause of this significant change as it proved to have a significant impact on improving students' post enactments in both variables. The results of this study are compatible with many previous studies, such as those by Bao & Loi (2020), Hashemian & Farhang-Ju (2020), Masoud, (2020), Al Bataineh et al. (2019), Vidak & Resner

^{**}Not Significant at 0.01& 0.05 levels

(2019), Elekaei, et al. (2019), Nguyen (2019), Owen & Razali (2018), Minaflinou (2018), Pumjarean et al. (2017) and El-Garhy (2017) some of which supported the effectiveness of e-leaning on improving vocabulary learning and retention, some emphasized its effect on enhancing grammatical competence and others referred to the impact of communicative situations on improving general language skills.

The inspiring environment which the program provided to participants made them engaged into an active, fruitful and feasible process and enjoyed the new experience of learning. This finding came in accordance with the studies conducted by Vidak & Resner (2019) and Masoud, (2020). Through the program, tremendous learning and teaching resources were provided and innovative and exciting learning activities were introduced. Students easily accessed the site of the program through different devices which maximized active participation among them and helped them. Students interestingly responded to the tasks which increased their active participation. This was obvious in their comments; one student said: "learning through the internet helped me lot in my study. I learn in a very relaxing atmosphere as I feel shy and I don't like to participate in the class"; another said: "I can access the site form my mobile which helps me to read the online material at any time even when I am travelling back home". (For more comments, see Appendix A)

The current online program provided students with various types of communicative situations and activities which assisted them to identify the different functions of the language and how grammatical rules are used in context for communicative purposes. They stimulated students' awareness of real life interaction and context between the instructor and students and among students themselves. communicative situations increased students' ability to maintain and remember the different grammatical structures and vocabularies presented in each given situation. Using authentic materials was another important premise which proved the beneficial impact of communicative situations and activities on fostering students' participation and involvement and enabling them to explore the process of communication in real life contexts as Nguyen (2019) & Seleem (2019) pointed out. Through the given situations, common communicative functions of language such as: suggesting, promising, apologizing, greeting, inviting, asking for permission to do something, asking for information, getting someone to do something, giving excuses or asking for or offering help and expressing opinions, leaving a phone message, making polite requests and starting and finishing a conversation were introduced. Students made use of these communicative functions and were able to use them successfully in different learning situations. One of the students reported "For me I enjoyed the communicative situations in different places. I now know how to make a polite request and ask for more information"; another said: "From these communicative situations I learn many things I have never known before. So it was very attractive for me".

Moreover, adopting the communicative situations E-learning program in teaching grammar had a positive impact on improving ESP students' grammatical competence. This finding is concurred with studies conducted by Owen & Razali (2018) and Minaflinou (2018). Students were trained to identify the different tenses referring to their form and use. They gained sufficient knowledge of using articles, prepositions and conditional structures in meaningful sentences. They were also trained to identify nouns and modal verbs and distinguish between adjectives and adverbs. Using communicative situations enabled students to recognize the structure and the form of the grammatical rule and gave more examples which expanded and enriched their knowledge. Communicative situations made a paradigm shift in students' perception of learning grammar from being boring and tedious to enjoyable and attractive. This was overt in students' comments. One student said "Really, I don't like studying grammar as I always find it boring. But, I like the way doctor is teaching us. It changed my idea as I learnt a lot from the situations and the different activities"; another announced "Learning grammar became fun and I enjoyed it so much"

The findings of the study verified that the suggested program was very significant and efficient in enhancing ESP students' vocabulary retention. Learning the vocabulary in context i.e. communicative situations had a remarkable impact on their learning and positively affected their vocabulary knowledge and retention (Elekaei, et al. (2019) and Khuong-Cham, (2015). The idea of repeating this process each time

vocabulary items were presented assisted students to retain and maintain them for longer time (Ramezanali & Faez, 2019). Students were trained to identify different word relations such as synonyms, antonyms and collocations. They were also trained to recognize linking words, commonly confusing words, and words with multiple meanings. Using these vocabulary items that were interchangeably encompassed in each communicative situation helped students to enlarge the size of vocabulary knowledge. Incorporating maps, figures and pictures with vocabulary items increased students' vocabulary learning and retention as stated by Masoud & Ibrahim (2017) and Yoshii (2002). Students commented saying: "I acquired a big pile of words and I could keep them longer because I remember the pictures with the words"; another said "I learnt terms I did not hear about it before such as lexical fields, synonyms and antonyms."; a third said "I liked making maps for words which helped me to keep them for a long time and it was funny and enjoying"; and a fourth said "For me the most important point I liked is confusing words which was very interesting and attractive".

Grammar and vocabulary are closely related to each other. Therefore, careful and organized instruction of grammatical structures had let students to maintain and keep a sufficient stock of vocabulary items. Presenting vocabulary items through communicative situations had let them to successfully construct meaningful and correct grammatical sentences. The correlation between students' grammatical competence and vocabulary retention was found significant and high. This finding is in accordance with El-Garhy (2017), Ahmed (2016) and Soliman (2014). The proposed program achieved several purposes: firstly, students were able to recognize language usage and functions in different real life situations. Secondly, students were able to notice the grammatical structure giving more examples. Finally, students acquired novel experiences through using technology in learning. The program pushed students towards individualized and independent learning and offered various enlightening views.

Conclusion

The findings of the study reflect the utility of the communicative situations E-learning program in improving ESP students' grammatical competence and vocabulary retention. It was also confirmed that there was a strong positive correlation between grammatical competence and vocabulary retention. <u>Instructing students via the communicative situations E-learning program had a positive impact on fostering teaching/learning efficiency and enabled them to demonstrate some grammatical rules and use vocabulary items effectively in different learning contexts. Students were satisfied with the variation of the communicative situations which pinpointed the benefits of learning such situations as they became acquainted with. <u>The suggested program increased sstudents' engagement and interest.</u> They became more eager to participate and submit their assignments to receive instructive and immediate feedback. Their learning experiences became fun rather than monotonous which spontaneously affected their progress.</u>

Students were as well satisfied with the suggested online program as it enabled them to discuss and share ideas whether with their friends or the instructor online at home which they proved to be very effective and valuable. The fact that both E-learning and communicative situations facilitate learning and create a meaningful, attractive and inspiring environment which achieved the objectives of the current study.

The novelty of the experiences made the proposed program effective and significant for ESP students. Students from other sections of the TSME program were motivated to have a similar training particularly after the common lockdown in the country because of the epidemic Covide-19. It is important to mention that E-learning has become the prevailing option of teaching in Egypt in all educational stages as a solution for delivering the content.

Recommendations of the Study

A number of recommendations can be drawn in the light of the findings obtained in the current study:

- ESP students should be provided with various opportunities to practice the language in different contexts.
- Students should learn in a relaxed and less threatening environment for better learning results.
- Improving ESP students' communication skills should be amongst the objectives of TSME.

- ESP students should use English as a medium of learning in all courses to achieve the objectives of the program.
- ESP students should be exposed to different real life situations for communicative purposes.

Suggestions for Further Research

Studies could be done to investigate:

- The impact of a communicative situations E-learning program on developing ESP students' writing proficiency.
- The effectiveness of a communicative situation E-learning program on developing ESP students' oral communication skills.
- The effect of using a communicative situation E-learning program on developing students' critical thinking and Self-regulation skills.
- The effect of using a communicative situation E-learning program on developing ESP students' self-autonomy.
- The effect of using a communicative situation E-learning program on developing ESP students' attitude towards English
- More correlative studies are still needed with grammatical competence and vocabulary retention

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