

## **The impact of computer assisted grammar teaching on EFL pupils' performance in Jordan**

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### **ABSTRACT**

This study aimed at investigating the impact of using computer assisted grammar teaching on the performance of Jordanian pupils studying English as a foreign language. The sample of the study consisted of (212) secondary pupils distributed randomly on four experimental groups and four control groups. To find out the impact of a software program on students performance in grammar, the researcher designed an achievement test and used it as a pre-test and a post test for the experimental and the control groups. An Analysis of Covariance (ANCOVA) was used to find out the effect of the instructional program on the pupils' achievement in the passive voice.

The findings of the study revealed that:

1. There were statistically significant differences ( $\alpha < 0.05$ ) between the pupils' achievement mean scores in grammar attributed to the instructional method of teaching. This difference is in favor of the students in the experimental group.
2. There were statistically significant differences ( $\alpha < 0.05$ ) between the pupils' achievement mean scores in grammar attributed to stream of study. This difference is in favor of the scientific stream students. In light of the findings of the study, it was recommended that English language teachers use computer assisted instruction in their teaching.

**Keywords:** *impact; computer, assisted, grammar; teaching.*

### **INTRODUCTION**

There is no doubt that just as the computer has established itself firmly in the world of business and communication technology, it has also succeeded in acquiring a fundamental role in the educational process. This role is becoming more powerful as computers become cheaper, smaller in size, more adaptable and easier to handle. Computers are becoming more appealing to teachers because of their huge capabilities and extensive effectiveness (Dhaif, 2004). They are so widespread that one feels outdated if not using those computers (Moras, 2001). It has been found that the computer promotes visual, verbal and kinesthetic learning, higher-level thinking and problem solving (Turnbull & Lawrance, 2002). It also offers immediate feedback, hands-on learning and collaborative instruction (Becker, 2000; Smith 2008; Zapata, 2004).

*"The unique property of the computer as a medium for education is its ability to interact with the student. Books and tape recordings can tell a student what the rules are and what the right solutions are, but they cannot analyze the specific mistake the student has made and react in a manner which leads him not only to correct his mistake, but also to understand the principles behind the correct solution". (Nelson, E.; Ward, .H. and Kaplow, R., 1976: 32).*

Hartoyo (2008) illustrated that CALL's flexibility of time allows the students to determine what particular topics and how long he wants to learn. Hence the students who miss the class because of some reasons, for instance illness, still have an opportunity to learn the particular topics taught in the classroom as far as the topic is available in the CALL program. Furthermore, CALL

provides an individual interactive learning program, so both the 'fast' and 'slow' learners can take benefit from it.

Ellis (2003) claimed that traditional language teaching in classroom can be monotonous, boring, and even frustrating, and students can lose interest and motivation in learning. CALL programmers can provide student with ways to learn English through computer games, animated graphics, and problem-solving techniques which can make drills more interesting. On other hand, Brown (2002) maintained that now that the paradigm shift from teacher – centered to learner-centered instruction is firmly in place, computer use in learning English as a foreign language may help students take ownership of their own learning. This learning is believed to be conducive to learner's active participation in his/ her own learning.

According to Kiliçkaya (2007), drill-type CALL materials are suitable for repetitive practice, which enable students to learn concepts and key elements in a subject area. In addition, computer enhances the learning process from a pre-determined syllabus to an emerging or process syllabus. For example, a monotonous paper exercise of 'fill-in-the-blanks' type can be made more exciting on the screen in the self-access mode, and students can select their own material. Therefore, CALL facilitates the synthesis of the pre-planned syllabus and learner syllabuses through a decision-making process undertaken by teacher and learners together.

CALL is related to the use of computers for language teaching and learning. Significant use of CALL began in the 1960s. Since then, the effectiveness of CALL in language teaching and learning has been highlighted by a plethora of empirical research (Noriko, 2002; Cheon, 2003; Dreyer & Nel 2003; Lee 2008; yoon 2009). Realizing the importance of ICT, the Ministry of Education in Jordan provided schools with computer labs and connected these labs to the World Wide Web. It has taken substantive measures to promote e- literary among students and improve teaching English as a foreign language by providing a facilitative infrastructure, authentic curricula and feasible teacher training programs. In 2004, 65,000 personal computers were installed in 2,250 public schools. (Batainah & Baniabdelrahman, 2006).

## **STATEMENT OF THE PROBLEM**

In spite of the fact that English is taught in Jordan from grade five to grade twelve in public schools, yet the output does not always meet the demands of higher education institutions. Complaints have been often voiced that pupils' proficiency is weak (Rabbah, 2001, Sarayah, 2003). The author claims that CALL has the potential to provide an alternative, or even a complementary, option to enhance the quality of teaching and learning English in Jordan. Therefore, it is worth investigating the effectiveness of computerized instructional software on the performance of learners in English.

## **AIMS OF THE STUDY**

The general aim of this study is to Investigate the impact of using computer assisted grammar teaching on the performance of pupils studying English as a foreign language in Jordan. More specifically, the study attempts to answers for the following questions:

1. Are there any statistically significant differences ( $\alpha < 0.05$ ) between the students' achievement mean scores in grammar attributed to the instructional method of teaching (traditional & computerized)?
2. Are there any statistically significant differences ( $\alpha < 0.05$ ) between the students' achievement mean scores in grammar attributed to the stream of study (scientific & literary)?

## DEFINITION OF TERMS

It is necessary to elaborate on the educational system in Jordan to clarify some of the terms that are used in this study... The structure of the educational system in Jordan consists of ten years of compulsory basic education and two years of secondary education. At the end of the basic stage, pupils are tracked according to their performance either to the academic or the vocational track. Pupils who are selected to the academic track are streamed into either the literary or the scientific stream based on their GPA in the last three years in basic education. Normally, pupils with a high GPA are entitled and optioned to join the scientific stream. At the end of the two-year period, students sit for the general secondary examination in the appropriate branch and those who pass are awarded the Tawjihi (General Secondary Education Certificate). Scientific stream students are qualified for entrance in the scientific faculties, whereas literary students are qualified for entrance in faculties of Humanities and Education in public and private universities. However, pupils from the scientific stream can study any speciality in the faculties of Humanities, whereas pupils from the literary stream cannot join scientific faculties. Recently, the Ministry of Education added Information Technology (IT) as a third option.

The following terms are operationally defined to achieve the purpose of the study:

1. Literary stream: refers to pupils in the first secondary school who optioned the academic track and was streamed into the literary stream based on their GPA in the tenth grade.
2. Scientific stream: refers to pupils in the first secondary school who optioned the academic track and was streamed into the scientific stream based on their GPA in the tenth grade.
3. Traditional method: refers to the conventional procedures of teaching grammar as shown for English language teachers in the Teachers' Guide for first secondary grade in which they use the deductive approach in teaching the grammatical structures in context and then do relevant exercises to consolidate the learned structures.
4. Computerized method: refers to teaching grammar by the assistance of computers and the use of a software program which is specifically devised to teach the passive voice for first secondary grade.

## SIGNIFICANCE OF THE STUDY

In the light of the information revolution and the scientific challenges of the 21<sup>st</sup> century, there is a sweeping trend to use computers in all aspects of life and education is no exception. On the other hand, the world is heading towards a knowledge economy and a lot of money will be invested in computer assisted language learning instructional software programs. A plethora of international research and local research has been conducted to establish the effectiveness of computer use in language instruction. Yet, the domain of CALL in Jordan is in need of more research. To the researcher's best knowledge, studies about computer – based instruction of grammar to Jordanian EFL learners are scarce. This study also attempts to bridge the gap between the theoretical and practical sides of using CALL in teaching grammar.

In addition, the findings of this study may be functional for different categories of people; it may help EFL curricula designers and EFL methodologists develop teaching materials which suit various ways of teaching and match students' level of achievement in English language in general and in grammatical structures in particular... Finally, this study may encourage other

researchers to conduct further studies on the same topic, which will enrich both the local and international literature.

## **REVIEW OF RELATED LITERATURE**

Many researchers are interested in using computers as a medium for teaching / learning. Therefore, many studies were conducted on using CALL for teaching English. However, this section contains studies conducted on teaching other components of the language via computer. Pattern and Cadienno (1993) compared the relative effectiveness of traditional instruction and processing instruction, both for interpreting and producing Spanish object pronouns in object-verb-subject (OVS) and object- verb (OV) order .The traditional instruction involved grammatical explanation and output practice, while the processing instruction involved grammatical explanation and comprehension practice. The processing group performed significantly better than the traditional group.

Christopher (1995) investigated the achievement of fifth grade students who used computer in different subjects with their colleagues who only followed traditional methods. The students were distributed into three groups; group one used computers for 60 minutes every week, group two used the computer in less duration and fewer tasks, and group three, the control group, used traditional instructions. The results show significant differences in the achievement of students in favor of the groups who use computers. McEnery, Baker & Wilson (1995) investigated the use of computer-based L2 grammar instruction. The results of these studies seem to indicate that computer-based grammar instruction can be as effective as or more effective than traditional instruction (e.g., workbooks and lectures).

Nagata (1996) conducted a study concerning the relative effectiveness of computer-assisted production (output) practice and comprehension (input) practice in second language acquisition. The results of the study indicate that the output-focused group developed more grammatical skills than the input-focused group, suggesting that the production practice required more syntactic processing on the part of the learner than the comprehension practice. Nutta (2001) conducted a study comparing the computer-based grammar instruction and the teacher-directed grammar instruction .The results showed that for all levels of English proficiency, the computer - based students scored significantly higher on open-ended tests covering the structures in question rather than the teacher-directed instruction. The results indicate that computer-based instruction can be an effective method of teaching L2 grammar.

Lin and Chin (2007) reported positive effects for different types of computer – generated visuals (static vs. nominated) and advanced organizers ( descriptive vs. question) on Chinese EFL learners' reading proficiency, comprehension and retention of a content- based lesson.

In Jordan, Alsouki (2001) investigated the effect of using computers in the teaching of L2 composition on the writing performance of learners. The sample consisted of (37) students from Rawdat Al – Ma'aref College and Schools in Amman who are distributed into two groups. The experimental group (20 students) was trained to write English composition via computer while the control group (17 students) studied through the traditional method. The findings revealed that there are considerable differences for using computers as an effective writing tool. .Aweis (1994) reported better reading comprehension for American learners of Arabic as a foreign language who had computer –mediated instruction than for those instructed by the traditional method.

Abu – Seileek (2004) conducted a study to explore the effect of a CALL program on students' writing ability in English by teaching the program cooperatively and collectively. The findings of the study revealed that there were statistically significant differences between the experimental

group, who studied via computer, and the control group, who studied in the traditional method. The difference was in favor of the experimental group who studied via computer.

Al – Qumoul (2005) conducted a study to investigate the effect of an instructional software program of English language functions on tenth graders' achievement. The sample of the study was 118 students distributed over four groups, two groups assigned for the experiment and two groups for the control group. The study reveals that the students who studied the English language functions through CAI lessons performed better than those who learnt by the traditional method.

Similarly, Al Abdel Halim (2009) also provided evidence for the effectiveness of computer-assisted instruction on Jordanian first secondary students' achievement and reading comprehension skills. Bataineh, Ruba & Bani Hani, Nedal (2011) conducted a study to examine the potential effect of a computerized instructional program on Jordanian sixth grade students' achievement in English. The findings suggest that achievement is significantly affected by the medium of instruction, as marked differences are found between the achievements of traditionally and computerized instruction in favor of the latter.

In conclusion, having reviewed the above studies, we find that many researchers assert the importance of computer-assisted language learning. It is clear from the studies that using CALL can be more beneficial and effective than using the traditional methods. e.g. ( Pattern and Cadienzo, 1993, Christopher, 1995, Nagata, 1996, Nutta, 2001, Lin and Chin (2007), Alsouki, 2001, Aweis (1994). Abu Seileek, 2004, Al-Qumoul, 2005), Bataineh, Ruba & Bani Hani, Nedal (2011). However, only few of them report that there are no significant differences between the CAI lessons and the traditional methods of instruction e.g. (McEnery, 1995, Baker, 2001 & Wilson, 1995).

This study is different from the previously mentioned studies. It deals with a component, which was neglected by many researchers, English grammar. To the researcher's best knowledge; a few studies were conducted on teaching grammar through computer in Jordan. For this purpose, the researcher developed an instructional program for teaching the passive voice.

## **METHODOLOGY**

### **Sample of the Study**

The sample of the study consists of (212) first secondary students from two public schools In Zarqa city in Jordan. The students were divided into sections by the administration of those schools. It was not possible for the researcher to exclude any of the students in these sections because that will disrupt the educational process. Therefore, the number of the students in these sections must be kept as it is. That is why the number of students in these sections varies.

The participants in this study use the same textbook assigned by the Ministry of Education. Their age ranges between 16-17 years and they are studying in public schools in the second populated city in Jordan .Two sections were assigned to the experimental group; and two sections were assigned to the control group. (See Table 1) The experimental groups were taught the passive voice via computer while the control groups were taught the same grammatical items by the traditional method.

**Table (1):** *The distribution of the sample over groups*

Control group	Experimental group	Stream of study
65	40	Scientific
67	40	Literary
132	80	Total

### Research instruments

To implement this study successfully, the researcher has developed an achievement test. (Appendix 1). The test was designed by the researcher. It was used as both a pre-test and a post-test to find out the impact of the software program on students' achievement in grammar. The test comprises (30) multiple-choice items of four alternatives. At the beginning of the test paper, the instructions of the test were introduced. The subjects were asked to choose the correct answer. The time allocated for the test was (50) minutes. Concerning the marking scheme, there is one mark for each item, so the total score is out of (30).

The students' previous knowledge was assessed by the pre-test administered to both groups (control and experimental) before the study started. The objective of the pre-test was to assess the students' background knowledge of the passive voice. The same pre-test was used at the end of the study as a post-test after four weeks to assess the students' achievement on the topic, the passive voice. The objective of the post-test was to assess the effect of both instructional methods (traditional and computerized) on students' achievement.

### Test reliability

The test reliability was obtained through a test-retest method, which was applied on a pilot group of (25) students who were randomly chosen from the population of the study and excluded from the sample. The test was repeated on the same group to check its reliability two weeks later. The reliability correlation coefficient of the test-retest was calculated using Pearson correlation formula. It was found to be (0.95), which is considered to be suitable from a statistical point of view. In order to investigate the effect of the new CALL program on the students' achievement, the test was administered as follows:

- A pre-test was given to each of the subjects in the experimental and control groups before the application of the software program.
- A post-test was given to each of the subjects in the experimental and control groups after the application of the program.
- The two tests were marked and the scores were registered.
- The scores were processed and analyzed using SPSS program, then they were interpreted statistically.

### Test validity

The test content was validated by a team of English language specialists. The team was asked to validate the content of the test with regard to test instructions, the relevance of questions to content, its suitability to the research goals and objectives, the number and arrangement of questions, and the suitability of the time allocated to the test. The remarks of the validating team, their notes and suggestions were taken into consideration, and the researchers made the necessary modifications before applying the test.

### **The software Program**

For the purpose of this study, the researcher developed an instructional program to teach the passive voice and find out its effect on the achievement of students in the first secondary stage. The program was developed using Macro- Media Flash Professional Version 6.

The program is organized in the following way:

- Introduction
- Construction
- Use
- Agent
- Present Verbs in the Passive
- Past Verbs in the Passive
- Modal Auxiliaries in the Passive
- Problematic Issues Regarding the Passive Voice
- Explanation and Examples
- Exercises
- Drills and Practice
- Test yourself

The program also provides model answers for the items presented in the exercises. Moreover, the student receives feedback for his achievement simply because the program contains a system for correction. The student will easily get his / her scores when he / she finish any exercise.

### **Objectives of the software program**

The software program aims at:

- Facilitating students' understanding of English grammatical structures by presenting them in a more lively way.
- Increasing students' motivation to learn English naturally.
- Helping students develop their self-confidence.
- Helping students overcome their shyness and hesitation and giving them a chance to express themselves freely.
- Providing students with fun and amusement while doing the tasks.

### **Validity of the software program and the traditional method**

The content of the program was validated by TEFL and curricula designing specialists. The validating committee consisted of ten highly qualified teachers of English language who have long experience in this field, four supervisors in the Ministry of Education, and two PhD holders in curricula and instruction.

The traditional method on the other hand is theoretically valid since it is approved by specialists in English language teaching in the Ministry of Education in Jordan. Every teacher has a "Teacher's Guide" which explains in details how to teach the skills and the components of language in the assigned textbook for each level.

**Design of the software program**

When developing the software instructional program, the researcher followed the procedures below:

- Choosing an item to be taught: the researcher chose the passive voice because it is repeated several times in the curricula of English language.
- Gathering as much data as possible about the passive voice incorporated with examples and explanations.
- Classifying the data gathered into four sub-titles:
  - a. Present Verbs in the Passive
  - b. Past Verbs in the Passive
  - c. Modal Auxiliaries in the Passive
  - d. Problematic Issues
- Dividing each sub-title into its main components.
- Each component comprises:
  - a. Explanation and Examples: presented in an audio-visual manner
  - b. Exercises to check students' understanding
- At the end of each sub-title there is a "Test Yourself" section.
- An immediate feedback is received after the completion of each section.
- The "Problematic Issues" section consists of:
  - a. The Passive Gerund
  - b. Passive voice with preposition
  - c. Passive Voice with Indirect Objects
  - d. Infinitive Constructions after Passive Voice
- A number of drills are incorporated with the program to help students check their overall understanding.
- A comprehensive exam on the passive voice is introduced at the end to check that students have understood the lesson. The exercises here are taken from General Secondary Certificate examinations.

An example from the software program is the last part that is titled " Test Yourself". The student clicks on the number of the sentence that appears on the screen. The sentences are read by a male and a female teacher alternatively. The student is provided with a space to type the answers. The student hears the sentence and reads it and is given unlimited time to type the answer. Once he finishes, he can move to the second and so on. At the end of the test, he can check his answers and gets his score.



**Test yourself**

**Change the following sentences into the passive voice: (Click )**

1. Someone was cooking the dinner when I got home.

.....

2. Jordan introduced al- Sabilah in 1990.

.....

3. The researcher mustn't leave the results of the investigation unexplained.

.....

4. The experts have written the report.

.....

5. No one has accepted Salem as a manager for that company.

.....

6. Students didn't write the answers in ink.

.....

7. We expect our guests to arrive soon.

.....

8. Farmers don't grow rice in Jordan.

.....

9. When does the headmaster hold the meetings?

.....

10. My neighbor painted the doors white.

.....

**1 2 3 4 5 6 7 8 9 10**

SEE THE ANSWERS ( Click)

YOUR SCORE IS ...../ 100 ( Click)

## FINDINGS OF THE STUDY

### Findings related to the first question

The first question asks about the existence of statistically significant differences ( $\alpha < 0.05$ ) between the students' achievement mean scores in grammar attributed to the instructional method of teaching (traditional & computerized). Analysis of Covariance (ANCOVA) was performed to test the significance of the differences between the experimental groups who were taught the passive voice via computer and the control groups who studied the same grammatical item using the traditional method. Table (1) presents the means and standard deviations of the experimental and control groups for students' achievement in the post-test.

*Table (1): Means and standard deviations in the post-test according to the method applied*

Method	Means	Std. Deviations	Number
<i>Computerized</i>	26.21	2.26	80
Traditional	23.95	2.06	80
Difference	2.26	0.2	-

As indicated in Table (1), there are statistically significant differences between the mean scores in the achievement test of both the experimental group who used the computer and the control group who were taught by the traditional method. The mean scores of the experimental group is (26.21) while it is (23.95) for the control group. The difference between the two groups' mean scores is (2.26).

To find out the statistical significance of this difference, the researcher employed the 3-Way Analysis of Covariance (ANCOVA) to the results of the post-test according to the variables of the study (method, gender, stream of study) The variance among the dependent variable groups

(achievement in the post- test) is the same, since the calculated significance level (0.122) was greater than the postulated significance level ( $\alpha < 0.05$ ). The results of the analysis of covariance are as shown in Table (2).

Table (2): 3-Way Analysis of covariance (ANCOVA) for students' achievement in the post-test

Source of Variance	Sum of Squares	Df	Mean Squares	F	Sig.
Method	148.737	1	148.737	75.47*	0.000
Gender	30.196	1	30.196	15.353*	0.000
Stream	31.405	1	31.405	15.968*	0.000
Pretest	314.972	1	314.972	160.149*	0.000

Table (2) shows that there are statistically significant differences ( $\alpha < 0.05$ ) between the mean scores of the students who were taught the passive voice via computer (the experimental group) and those who were taught the same grammatical item using the traditional method (the control group).

The computed (F) value was (75.47) which is statistically significant at ( $\alpha < 0.05$ ). This shows that there is a significant effect of the use of a computerized software program on the achievement of students. This effect is in favor of the experimental group who were taught via computer.

### Findings related to the second question

The second question asks about the existence of statistically significant differences ( $\alpha < 0.05$ ) between the students' achievement mean scores in grammar attributed to the stream of study (scientific & literary).

To test this question, the researchers calculated the students' mean scores and standard deviations in the post-test for both groups of the study (scientific, and literary). The results are as shown in Table (3).

Table (3): Means and standard deviations in the post-test for scientific and literary students

Stream	Means	Std. Deviations	Number
Scientific	25.56	2.54	80
Literary	24.6	2.24	80
Difference	0.96	0.3	-

Table (3) shows that there is a significant difference between the mean scores of both scientific group and literary group in the post-test.

This difference was (0.96) in favor of the scientific stream students. The mean scores of the scientific students was (25.56) while it was (24.6) for the literary stream students. To find out the statistical significance of these differences, the researchers employed the 3-Way Analysis of Covariance to the results of the post-test in terms of the variables of the study (method, and stream of study).

Table (2) shows that there are statistically significant differences ( $\alpha < 0.05$ ) between the mean scores of both scientific students and literary students in the post-test. The calculated (F) value was (15.968) which is a statistically significant value at the significance level ( $\alpha < 0.05$ ). This indicates that there is an effect on students' achievement attributed to the stream of study (scientific, literary). This effect is in favor of the scientific stream students.

## **DISCUSSIONS AND RECOMMENDATIONS**

### **Discussion of the findings related to the first question**

ANCOVA results showed that there are statistically significant differences in the achievement mean scores of the subjects of the experimental group who studied the passive voice via computer and the control group who studied the same grammatical item using the traditional method. This difference was in favor of the experimental group. A quick look at the students' scores on the pre-test, shows that there were no statistically significant differences between the mean scores of the experimental group and the control group. The scores were (22.09) and (21.66) respectively.

This result indicates that the subjects had the same background concerning their knowledge of the passive voice before implementing the experiment. This also indicates that both groups scored similarly in this regard. The figures also postulate that any gain in the academic achievement in the field of the passive voice could be attributed to the method employed.

The total mean scores of the experimental groups in the post-test were (26.21), while it was (23.95) for the control groups, this means that the achievement in the post-test for both the experimental and control groups is attributed to the treatment. It can be easily noticed that the extra gain in the experimental group's mean scores is higher than the extra gain in the control group's mean scores. This improvement is attributed to the method employed this means that the use of the software program has noticeably enhanced the abilities of the students of the experimental group regarding the passive voice. One possible explanation for the effect of using computers for teaching English grammar is that computers enable each individual to work according to his own pace. The user may move freely from one component to another as he wishes and according to his needs. This characteristic makes CALL programs cater for individual differences and thus perform better in the post test.

Another possible explanation is the novelty of the experience which may have contributed to pupils' eagerness to learn and consequently to perform better. In addition, the self-paced nature of the computerized activities and the superior visual representation of the material in the software motivated the pupils in the experimental group to perform significantly better in the post test. In addition, the computerized method, unlike the traditional method, enables the learner to get feedback easily, which develops self-reliance skills. Using the computer gives the student the chance to use many senses during the learning process. The use of the computer screen which is accompanied by animation, video pictures, colors, music and sounds attracts students' attention and empowers faculties of retention to them. The researcher believes that students can learn more efficiently and effectively on their own with additional resources which technology

makes available. Furthermore, using software programs applies “Learning by Doing” method, since learners use the keyboard and the mouse to click or to print their answers. Computer instructional programs are interactive. Learners can easily go forward or backward according to their needs and requirements.

When comparing the results of this study with the results of the previous related literature, we find that this study is consistent with many practical studies which were conducted before. It is consistent with Nutta (2001) who proved experimentally that computer - based instruction can be an effective method of teaching the grammar of a second language. The findings are in agreement with Abu- Seileek (2004), Nagata (1996), and Pattern and Cadienno(1993) who say that the processing group performed significantly better than the traditional group. The study is also consistent with Al-Qumoul (2005), Bataineh et al (2011), Christopher (1995) who emphasize that the computerized method is more beneficial for students than the traditional method. However, the results of the present study in this regard are inconsistent with McEnry, Baker & Wilson (1995) who found that the computer-based grammar instruction could be as effective as or more effective than traditional instruction. Perhaps the difference in these results is due to differences in the setting and the attitudes of the subjects who participated in these studies.

### **Discussion of the findings related to the second question**

The findings of the Analysis of Covariance (ANCOVA) for the scores of the subjects in the achievement post-test revealed that there are statistically significant differences attributed to the stream of study variable. This difference was in favor of scientific students over literary students.

A look at the findings of the analysis of covariance for the students' scores in the post-test proves this viewpoint. The mean scores of the scientific students in the post-test were (25.56) while the mean scores of the literary students in the post-test were (24.6). This means that scientific students have higher marks than literary students regardless of the gender or method of teaching.

One possible explanation for the above point of view is that the scientific stream students, generally speaking, have relatively better abilities than literary stream students. This is shown by the fact that they were accepted in the scientific stream which demands higher grades. However, that does not mean that literary stream students have less mental abilities taking into consideration the concept of multiple intelligences.

Another possible explanation is that the scientific stream students are much more interested in studying and learning in general and better in learning languages in particular. The finding of this study in this regard is consistent with Alsouki (2001) who statistically proved that scientific stream students were superior to literary stream students in their academic achievement.

### **RECOMEMENDATIONS**

Based on the findings discussed above, the researcher suggests the following recommendations:

1. Employing the new technologies in teaching English language skills and other components of language and encouraging students themselves to work on their own and devise some language activities .
2. Incorporating the new technologies in the syllabi and in teaching practices and citing websites relevant to language skills
3. Teachers are advised to vary their methods, techniques and ways of teaching, according to their students' needs and interests.

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APPENDIX 1

Achievement Test

TIME: ( 50 ) minutes

GRADE: 11<sup>th</sup> grade

Choose the correct answer that best completes the passive sentence which corresponds to the active one above it.

1. The Nabateans built Petra about three thousand years ago.  
 Petra. ....three thousand years ago by the Nabateans.  
 a- built      b- is built      c- was built      d- will be built
  
2. They were carrying the injured player off the field.  
 The injured player .....off the field.  
 a- was carried      b- has been carried      c- is being carried      d- was being carried
  
3. The librarian put the books on the shelf.  
 The books .....on the shelf by the librarian  
 a- were put      b- are put      c- have been put      d- will be put
  
4. My neighbor isn't painting the rooms white.  
 The rooms .....white by my neighbor.  
 a- are being painted      b- aren't painted  
 c- aren't being painted      d- wasn't paint
  
5. Whom did you invite to your party?  
 Who .....to your party?  
 a- was invited      b- you invited      c- invited      d- will be invited
  
6. Farmers don't grow rice in Jordan.  
 Rice .....in Jordan.  
 a- is grown      b- isn't grown      c- aren't grown      d- are grown
  
7. Carpenters make chairs and tables.  
 Chairs and tables .....by carpenters.  
 a- is made      b- were made      c- will be made      d- are made
  
8. When will the trainees finish their practical course?  
 When .....by the trainees?  
 a- the practical course will be finished      b- will the practical course be finished  
 c- is the practical course being finished      d- are the practical course finished
  
9. She made me apologize for my bad behavior.  
 I .....for my bad behavior.  
 a- was made apologize      b- was apologized  
 c- apologized      d- was made to apologize

10. Where has the thief hidden the golden rings?  
Where .....?  
a- the golden rings have been hidden      b- have the golden rings hidden  
c- has the golden rings been hidden      d- have the golden rings been hidden
11. You must shut these doors when you leave.  
The doors .....when you leave.  
a- must shut      b- must be shut      c- mustn't be shut      d- are shut
12. She sent me a card on my birthday.  
I ..... a card on my birthday.  
a- sent      b- was sent      c- was being sent      d- has been sent
13. They may play the piano in the evening.  
The piano .....in the evening  
a- may be played      b- might be played  
c- is played      d- is being played
14. The government has helped the farmers to employ modern technology in farming.  
The farmers .....to employ modern technology in farming.  
a- has been helped      b- have helped  
c- will be helped      d- have been helped
15. You shouldn't touch the plates on the table.  
The plates on the table .....  
a- should be touched      b- shouldn't be touched  
c- must be touched      d- weren't touched
16. Didn't she tell the police the whole story about the burglary?  
.....the whole story about the burglary?  
a- Was the police told      b- Wasn't the police told  
c- Were the police told      d- Weren't the police told
17. Why don't you do your job properly?  
Why .....properly?  
a- is your job done      b- your job is done  
c- isn't your job done      d- your job isn't done
18. When does the headmaster hold meetings?  
When .....by the headmaster?  
a- are meetings held      b- is meetings held  
c- meetings are held      d- meetings are being held
19. My father hadn't paid back the debt.  
The debt ..... by my father.  
a- had paid      b- had been paid      c- hadn't been paid      d- had to pay

20. Arwa hasn't visited Qaser Amra since 1995.  
 Qaser Amra ..... by Arwa since 1995.  
 a- hasn't being visited                      b- wasn't visited  
 c- hadn't been visited                      d- hasn't been visited
21. Ahmed noticed that the students weren't following him.  
 Ahmed noticed that he .....by the students.  
 a- was noticed                                      b- wasn't noticed  
 c- was being followed                      d- wasn't being followed
22. The students didn't write the answers in ink.  
 The answers .....in ink by the students.  
 a- didn't be written                      b- weren't written  
 c- were written                                      d- wasn't written
23. The students have to learn this poem by heart.  
 This poem .....by heart.  
 a- has to be learned                      b- has learned  
 c- has been learned                      d- was learned
24. After Laila had done the shopping, she went home.  
 After the shopping .....by Laila, she went home.  
 a- has been done                      b- have been done  
 c- had been done                      d- had being done
25. The workmen are repairing the bridge at the moment.  
 The bridge ..... at the moment by the workmen.  
 a- are being repaired                      b- is being repaired  
 c- has repaired                                      d- was repaired
26. Why hadn't the little girl seen the doctor before she went home?  
 Why .....by the little girl before she went home?  
 a- the doctor hadn't been seen                      b- the doctor hadn't seen been  
 c- hadn't the doctor been seen                      d- wasn't the doctor seen
27. Many people believe that the earth is round.  
 The earth .....round.  
 a- is believed                                      b- believed to be  
 c- is believed to be                                      d- was believed to be
28. Do your homework properly, Ali.  
 Let your homework .....properly, Ali.  
 a- done                      b- to be done                      c- has been done                      d- be done
29. I remember my father taking me to the zoo.  
 I remember .....to the zoo by my father.  
 a- being taken                      b- be taken                      c- to be taken                      d- is taken

30. What caused this crack?

What .....

- a- this crack caused by
- b- this crack was caused by
- c- this crack was being caused by
- d- was this crack caused by

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