



## The Effect of Software-assisted Grammar Teaching on Learning Grammar of Iranian Male Junior High School Learners

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### ABSTRACT

Current tendencies show necessity of expanding our understanding of learner independence and its role in learning and technology. In this study, a quasi-experiment was conducted to determine whether computer assisted grammar teaching affects students' grammar learning. For the purpose of homogeneity, the Nelson Test (050A) was administered and fifty male learners from Nemoneh Dolati Noor junior high school in Pakdasht, southeast of Tehran province, were selected from among seventy participants. Before teaching grammar points, a thirty-item grammar test was administered as a pre-test to both groups. After the experimental group received grammar points through power point and control group through chalk and board, both groups were tested again. The results showed that software assisted grammar teaching had significant advantage over the traditional method. It is possible that the novelty of the exposure method could raise the students' motivation to more participate and focus. In addition, the feeling of independence could result in higher self-esteem and confidence. The findings have implications for material designers, teachers and teacher trainers, and provide suggestions for further research.

**Keywords:** CALL, Grammar, Intrinsic motivation, Learning EFL, Software assisted grammar teaching

### Introduction

Nowadays scientists have realized the basic role of information and communication technology in different industries. They are so widespread that if you do not use them you will feel outdated (Moras, 2001). The influence of these over powerful technological tools has spread through all aspects of the educational, business, and economic sectors of our world (Singhal, 2004). Computer capabilities and efficiencies tempt teachers to use them in their teaching. (Dhaif, 2004). The idea of using computers for teaching purposes in subjects like modern languages arouses mixed feelings

and meets with a variety of reactions (Kenning & Kenning, 1983).

The fact that computers are used in the teaching of other subjects and are put to a great many applications in society makes one suspect that no field lies completely outside their scope and that they might indeed be of some use (Farrington, 1981).

Like other mechanical devices, computers increase our natural talents and abilities; although, they need human input and control. If computers are used properly, they can help us carry out tasks that are unimaginable by other tools. (Ken-

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ning & Kenning, 1981). Finally, computers are technologically different from language laboratories (Ariew, 1982). Few teachers nowadays, at least in the Western world, rely solely on chalk and board (Kenning & Kenning, 1983).

Interactive capability makes a computer totally different from other pieces of equipment, such as tape recorders and film projectors and makes it an educational aid. "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 mistakes the student has made and react in a manner which leads him or her not only to correct his or her mistakes, but also to understand the principles behind the correct solution" (Kenning & Kenning, 1983:2). The computer gives individual attention to the learners and replies to them. Traditionally, it acts as a tutor assessing the learner's reply, recording it, pointing out mistakes and giving explanations. It guides the learner towards the correct answer, and generally adapts the material to his or her performance (Demaiziere, 1982).

### Research Question

In order to achieve the purpose of the study, the following research question was proposed: Is there any significant difference between grammar learning of Iranian learners for whom grammar rules were taught through software and those for whom grammar rules were taught in traditional way? The related Null hypothesis is as follows:

**Ho:** There is no significant difference between grammar learning of Iranian learners for whom grammar rules were taught through software and those for whom grammar rules were taught in traditional way.

### Review of the Related Literature

#### What is CALL?

CALL is the acronym for computer-assisted language learning. Although, as we will see below, the field or significant parts of it sometimes go by other names, CALL remains the most widely accepted generic term. In this study, CALL will be used in a broad sense to refer to any endeavor involving the computer in language teaching and learning.

There are a number of ways to conceptualize the field of CALL, but one useful way, especially for those just entering the field, is to divide computer use according to the functional roles of tutor and tool, concepts popularized for CALL by Levy (1997).

This distinction is sometimes reflected in an unfortunate division in CALL between those who see the computer primarily as a machine for delivering interactive language learning and practice material, the computer as tutor, and those who see it mainly as a means for learners to experience the authentic language and communication opportunities and enhancements afforded by computers, the computer as tool. Because most early CALL applications were tutorial and tool uses arguably dominate now, it is easy to think of CALL as evolving, leaving tutorial CALL as something of a dinosaur (Hubbard, 2007).

Tanyeli (2009) worked on the efficiency of CALL on students' reading skills. The findings showed an improvement in the students' reading comprehension skills. Abu Naba'h, Hussain, Al-Omari and Shdeifat (2009) worked on the effect of CALL on teaching grammar in Jordan. The findings showed that those students who were taught grammar through computer in experimental group learnt better than students in control group who were taught the same grammatical item using the contemporary method.

Hubbard (2007) cited that research in CALL areas has recently focused on identifiable areas such as:

1. Computer mediated communication; especially, interaction in synchronous chat settings and email in tandem settings
2. Visual, text and sound annotation to promote comprehension and vocabulary acquisition
3. Effectiveness of online collaborative and constructivist activities, including the development of communities

For example, Sun and Wang (2003) focused on the study of inductive versus deductive approaches to learning easy and hard collocations. The results implied that inductive approach was significantly better for easy collocations and almost significant for hard ones.

Wiebe and Kabatab (2010) worked on the effects of educational technologies on the attitudes of both the instructors and the students. The results showed that there was a discrepancy between the students' awareness of the instructors' goals for using new technologies and the impor-

tance instructors placed on computer- assisted language learning (CALL).

Fidaoui et al. (2010) studied the effectiveness of using computer-assisted language learning (CALL) in motivating students to develop better writing skills and the findings revealed that teachers as well as students shared similar perceptions toward the use of CALL in the writing classroom and identified the same motivational factors that would encourage students to produce well-developed written work.

### What is grammar?

The word grammar can mean very different things to different people; many of them negative (Swan, 2005). For example:

1. Something that young people today are not taught properly at school and a collection of arcane terminology: auxiliary, past participle, relative clause, complement

2. A cluster of prohibitions that make people worry about whether they speak their own language properly or not

3. A large dusty book full of any of the above

A brief phrase said or written on its own can be grammatically acceptable or unacceptable in its own right. The same may be true of single words. Compare went with \*goed. Sometimes minimal components may not be whole words for example -ed suffix indicating the past tense of a regular verb in English. Words may actually change their spelling and pronunciation in certain grammatical context, irregular forms for the past tense, for example (Ur, 1996).

Falk (1978) describes grammar of a language as a formal, explicit hypothesis about the sets of constitutive rules, unconsciously known to the users of that language. This kind of descriptive grammar should be distinguished from prescriptive grammar.

### Research method

The researchers conducted a quantitative study to determine whether teaching grammar through software improves students' grammar learning. The researchers compared the test performances of two groups of students. The experimental group was introduced with grammar items through a software program, power point, and the control group had the same grammar points in traditional board and chalk method. To test the efficiency of the former treatment, the

researchers had an experimental and a control group of junior high school students and used a pre-test treatment - post-test design to test their grammar learning. In the pre-test, the researchers tested the existing grammar knowledge of both groups.

The design of this study was quasi-experimental. The term quasi-experiment refers to a type of research design that shares many similarities with the traditional experimental design or randomized controlled trial, but specifically lacks the element of random assignment. Such designs are susceptible to some of the questions of internal and external validity (Hatch & Farhady, 1981).

### Participants

The students were selected from junior high school students studying in Noor School (Nemone Dolati). All of them were about fourteen years old. The 050A Nelson proficiency test was administered to check the homogeneity of the students. Students were selected based on intact groups for both control and experimental groups.

Seventy students were selected to check their homogeneity of their proficiency and those students whose scores were one SD (standard deviation) above and below the mean (X) were chosen for the experimental and control groups. We had twenty five students in control group and twenty five students in experimental group.

### Instruments

In This study data were collected from intact classes of junior high school students by means of a pre-test – treatment – post-test design in order to investigate whether software assisted grammar teaching would improve learning grammar. Since we could not have pure random selection, the design was Quasi-experimental.

The Nelson proficiency test 050A was employed to find the homogeneity of language learners. It was administered to the population of seventy students for the purpose of measuring the participants' level of proficiency. The items measure the examinees' general knowledge on grammar and structure as well as vocabulary and meaning. A thirty-item grammar test with the reliability of 0.93 was administered as a pre-test to determine that there was not preexisting knowledge of the given grammar points. In this grammar test, twenty three items were chosen from

Nelson English Language Tests, book one, elementary and seven items were teacher made because there were not enough items related to the grammar points in Nelson English language tests, book one. Then the researchers analyzed the scores and compared the mean scores in order to determine whether there existed a significant difference between the results obtained from experimental and control groups. The researchers followed the same procedure after the post-test to establish whether the results were significantly different.

To establish whether the experimental group gained significantly from the ten-session treatment, both groups of students were tested at the end of the experiment.

**Treatment**

The treatment consisted of a ten-session program teaching grammar starting directly after the pre-test. The participants in the experimental group were trained by Microsoft Office Power Point 2007. Each session took about 30 minutes.

The treatment program consisted of previously prepared grammar points that were about personal pronouns, modals, quantifiers, countable and uncountable nouns, superlative and comparative adjectives, articles, conjunctions, parts of speech, affixes and collocations for do, make, and take taught through software.

These grammar parts were taught through Microsoft Office Power point 2007, and Longman Advanced American Dictionary Study Center questions were used to practice grammar points. Each lesson in Microsoft power point begins with grammar descriptions and examples, and ends with at least two practices of each grammar point. The researchers trained participants in control group with the same grammar points through traditional means of chalk and board.

**Data analysis of the test instruments**

The stability of the degree of variance of results between groups was used to determine whether the differences were significant or not. At a value between one and five the null hypothesis is rejected. The significance level is 5% or below and it is written as  $p < 0.05$ . This value indicates that there is a probability (p score) of less than 5% that the difference is due to chance.

**Results**

With regard to the nature of the present investigation which mainly concentrated on comparing the mean scores of the experimental and control groups, the t-test formula was used for describing the significance of the difference between the groups. To do so, the results of the subjects' performance on the two sets of tests (pre-test and post-test) had to be compared. If the comparison indicated that their performance differed significantly, the researcher would be able to claim that there is an impact of computer assisted grammar teaching on grammar learning.

Table (A) shows the results obtained from post-test for both groups. The mean in the control group was 21.32 and standard deviation was 2.117. The mean in the experimental group was 26.68 and standard deviation was 1.376.

Table (B) is the results of T-test for comparing the pre-test scores of the students in both experimental and control groups.

*Table 1: Group Statistics*

	Group	N	Mean	SD	SEM
Score	Post-test: Control Group	25	21.32	2.174	.435
	Post-test: Experimental Group	25	26.68	1.376	.275

*Table 2: Independent Samples Test*

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Score	Equal variances assumed	.051	.822	1.15	48	.255	.560	.486	-.417	1.537
	Equal variances not assumed			1.15	47.99	.255	.560	.486	-.417	1.537

$P > .05$  =It does not show significant difference.

Table (2) denotes that P-value which is 0.25 is more than 0.05. Furthermore, the t-value observed, which is 1.15 is less than the t-value critical at the 0.05 level of significance, 1.67. Therefore, we can safely claim that the Pre-test mean score in Control Group is not significantly different from the Pre-test mean score in Experimental Group.

The last part of study is comparing the results of the subjects' performance on the post-test between two groups.

Table (3) shows the T-test for comparing the grammar scores of the students who were taught grammar through computer (Post-test for Experimental Group) and those who were not taught grammar through computer (Post-test for Control Group).

Table 3: Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means				95% Confidence Interval of the Difference		
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Score	Equal variances assumed	4.149	.047	-10.41	48	*.000	-5.360	.515	-6.395	-4.325
	Equal variances not assumed			-10.41	40.56	.000	-5.360	.515	-6.400	-4.320

\*P< .05 =It shows significant difference

Table (3) provides enough criteria for the rejection of the null hypothesis of this study, because P-value which is 0 is less than 0.05. So it shows a significant difference. Furthermore, the t-value observed which is 10.41, is more than the t-value critical at the 0.05 level of significance, 1.67. Therefore, we can safely claim that the grammar training by computer can effectively promote the learners' achievements in grammar tests.

### Conclusion

The main objective of this research study was to investigate the effect of software-assisted grammar teaching on grammar learning of students. The outcomes of the study showed that using CALL in teaching grammar has a great impact on the students' grammar learning. It seemed clear that the participants in this research had learned grammar points through CALL better than they did in traditional way.

The findings of this study also have implications. Practical implications of this study suggest that before any instructional action the researcher should be aware of students' ability to use the computer. Students should be made aware of software or program the teacher is presenting. From the motivational viewpoint, students are intrinsically motivated because they will not have

the monotonous situations that they experienced in traditional classes. As a result, teaching through computer motivates them and they will have a self-endurance to learn.

This research not only increased our understanding of how computer affects grammar learning, but will hopefully lead to more effective teaching methodologies and will provide better criteria for the presentation of materials for grammar learning. Since the participants were selected from a Nemone Dolati junior high school in this research, the result cannot be generalized to all learners at the same level in different Junior high schools.

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