Impacts of Using Microsoft Word (MS) Software on Iranian EFL Lecturers' Grammar Knowledge

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Abstract

The current study was conducted to investigate the effects of using Microsoft Office Word on Iranian English as a Foreign Language (EFL) lecturers' grammar knowledge and their attitudes towards using them to support their grammar knowledge. To this end, 14 Iranian EFL lecturers, who had M.A. degrees in Teaching English as a Foreign Language (TEFL), containing eight males and six females participated in this study. The participants were randomly divided into equal groups of control and experimental. The participants in the experimental group worked with Microsoft Word and the participants in the control group worked with pens and papers during the study. The participants were asked to write a text about a specific subject and express their opinions about that subject. The results were collected and perused by the help of the supervisor of the study who had a Ph.D. degree in TEFL for checking the possible grammatical errors or mistakes. The results indicated that Microsoft Word was indeed beneficial to the grammar of the participants of experimental group because they got significantly higher grammar scores than the participants of the control group did. The results of this study offer practical implications for applying computer for language teaching and improvement of EFL learners' writing skill.

Keywords: EFL Learners, grammar, Microsoft Word (MS)

1. Introduction

Today all aspects of human life have been affected by computer and computer technology. In recent years, computer software technology is widely used for foreign language teaching and learning. According to Levy (1997, p.1), computer-assisted language learning (CALL) is defined as "the search for and study of applications of the computer in language teaching and learning." The use of computer-assisted language learning (CALL) has become extremely popular in the area of modern language teaching and learning (Hewer, 2007). Hewer also stated that there are two types of technology in CALL, which are software and Internet-based activities. According to Beatty (2013), there is the connection between CALL and other areas of language teaching and learning such as autonomy.

English learners rely on computer technology to complete their writing assignments, and word processor helps them revise their text very quickly so that they do not have to write the whole composition again to revise it (Darus, Ismail, & Ismail, 2008). Computer technology can have positive effects on language learning, and CALL provides many types of software that one of them is the word processor. The word processor is used for editing texts, and checking and correcting writing errors (Mohammadi, Gorjian, & Alipour, 2012).

Utilizing a word processor in a class can have some advantages. The first advantage is that it can encourage learning through different ways and will result in accomplishing a high-quality text that is similar to some extent to expert writings format. Therefore, this might inspire the learners to produce a completed product that is analogous to an expert publication. Another advantage is that any results of pressing the keys in a simple letter, in contrast, to hand-written letters is that even the writer is not occasionally able to discover what is written by him/herself. The other advantage of using the word processor is faster writing. The final advantage of utilizing word processor is because of the easy portability of electronic texts, and users can send what they have written to others via The Web or portable flash memories (Graham, 2008).

Although utilizing word processor in the class has some advantages, if the writers do not know how to work with them the advantages will be tapered. As a result, it is necessary to learn basic operating modes for using the computer and word processing program and any related software or hardware (Graham, 2008). Since learning the correct grammar of English is challenging for most EFL learners even for highly advanced EFL learners, an attempt has been made in this study to investigate the effects of using Microsoft Office Word on Iranian EFL lecturers' grammar knowledge and their attitudes towards using them to support their grammar knowledge.

1.1 Research Questions

This study sought to find suitable answers to the following questions:

1. Does using Microsoft Word have any effect on Iranian EFL lecturers' grammar in writing?

2. What is Iranian EFL lecturers' attitudes towards the effects of using Microsoft Word on their spelling and grammar knowledge?

2. Review of the Literature

Gökhan and Kuzucu (2009) studied the effect of CALL and Dyned (dynamic education) program on students' achievement and their attitudes towards English lesson and discovered that the given technologies have a substantial positive effect on students' achievement and attitudes when compared with the typical teaching methods. The results also showed that teachers had tendencies for using CALL programs in their teaching classes because they enhanced students' motivation and learning opportunity. Grammar, reading, and vocabulary were reported to be affected than other aspects of language.

Fang (2010) studied the effect of computer-assisted programs for EFL learners and stated that most of the participants who took advantages of computer-mediated feedback in their writing benefited from it. The students showed a high inclination toward using computer programs as a writing instrument. Shafaei (2012) investigated the practical effect of CALL on learning English. The results of the study indicated that most EFL and English as Second Language (ESL) learners distinguished the values of taking advantage of the computer in learning the English language. The subjects believed in the positive role of the computer in learning grammar.

Prvinchandar and Ayub (2013) compared the effectiveness of Style writer and Microsoft Word for improving the English writing skills of pupils in a Malaysian primary school. The results of the study showed that StyleWriter was more efficient than Microsoft Word and the students who were exposed to StyleWriter performed significantly better

in all the writing components in comparison with the control group who used Microsoft Word in both pen-and-paper and computer-based essay writing assessments. Studies conducted by Brock (1990a, 1990b) proposed that L2 writing errors are more idiosyncratic and harder to classify than L1 errors. Williams and Cui (2005) argued that if the use of computer software is carefully modeled, it can give the learners both support and autonomy in the writing process. Moreover, Milton (1997) argued that the use of computer programs serves the aim of the independent development of writing skills, particularly for EFL writers.

Salehi and Habibi (2015) tried to detect intermediate EFL learners' attitudes toward the usage of Thesaurus software for vocabulary acquisition. They concluded that students were highly motivated by using Thesaurus for vocabulary learning, and they had positive attitudes towards the usage of Thesaurus for teaching and learning vocabulary in EFL classrooms. The majority of studies on teacher technology education explore the following issues: what teachers are and/or should be learning in technology courses (Hargrave & Hsu, 2000), teacher-education students' knowledge of and attitudes toward technology (Atkins & Vasu, 2000; Milbrath & Kinzie, 2000), and how teachers think about and use computers in the classroom (Pilus, 1995; Walker, 1994).

In the literature, few studies have been carried out in order to find out what makes English language teachers use computer, internet materials, resources and software's in the language classroom. Pennington (2004) notes that research in word processing showed positive effects in terms of writer attitudes, text length , text quality and quantity and in some cases the quality of revisions; word processing is now used by virtually everyone for composing. AbuSeileek and Al-Olimat (2015) investigated the effect of computer-mediated corrective feedback on the 10th grade EFL students' performance in the writing skill. Findings of the study revealed that the mean scores of the participants in the experimental groups were significantly better than the mean scores of the control group because of the method of teaching which was used for the experimental groups and receiving corrective feedback.

Liao (2016) investigated the effect of enhancing the grammatical accuracy of EFL writing by using an AWE-assisted process approach. He examined 63 participants' grammatical performance in revised and subsequent new essays, learner perceptions and strategies, and possible factors mediating learning in AWE assisted process-writing program. Student papers and pupil responses to a questionnaire concerning their insights on experiences with using Criterion, an AWE tool, to advance the grammatical features of their writing were examined. In contradiction of the development in grammatical performance detected in the reconsiderations of each essay, enhancement in the writing of new texts was not perceived until the third essay. Besides, 18 individual interviews were directed, and four learner categories related to the exercise of learner agency were recognized: goal getters, accuracy pursuers, reluctant learners, and late bloomers. Agency seemed to facilitate AWE-assisted writing, and the repeated act of language gap noticing and metacognitive strategy use mediated by the process-writing approach appeared to ease the language modification and longer-term changes in the students' first writing ability, although the effects seemed to occur earlier among the goal getters and accuracy.

Li and Cumming (2001) sought to examine whether word processors could change a second language learner's writing process and improve the quality of writing or not. Analysis of the raw data indicated the advantages for the word processing medium over the pen and paper medium in terms of a greater frequency of revision made at ratings of the completed compositions. Li and Cumming (2001, p.128) assert "word processors help reduce the mechanical difficulty involved in changing texts and offer a fluid and easily transformed communication, users might rate longer compositions and do more amendments of their writing than they would do with pen and paper. Li (2006) studied the effect of word processing on the writing of ESL students and writing evaluation as well. The results of that study have shown that participants attended more on higher order thinking activities while assessing their written texts in the computer session that they revised meaningfully more at most levels on the computer, and that their computer-made essays received higher scores in argumentation than the hand-written ones. He also found out that the educators should extremely reflect the influence of computers on writing assessment.

3. Methodology

3.1 Design of the Study

A quasi-experimental design was used, in which 14 EFL teachers were asked to take an ICDL test, and they were randomly assigned to two groups: experimental group and control group.

3.2 Participants

The participants of the study contained 14 university instructors in the field of TEFL who had M.A. degrees in this field. The participants were eight male and six female instructors who were randomly divided into equal groups of control and experimental. Each group contained three female members and four male members. Before performing the study, all participants were tested by an ICDL test to estimate their knowledge of Microsoft Word and it was revealed they had acceptable knowledge of the software and they were familiar enough with it. All participants answered more than 50% of the questions of the test which was very good for people whose majors were not computer engineering. The participants in the experimental group worked with Microsoft Word and the participants in the control group worked with pens and papers during the study. The participants were completely informed about the purpose of the study why they were asked to partake in the study.

3.3 Instrument

An ICDL test was conducted to the participants to estimate their familiarities with Microsoft office word. The test was a multiple-choice test that contained 30 multiple-choice questions where the participants were supposed to select the correct answer among the alternatives. A questionnaire was used in this study as an instrument (see Appendix A). The questionnaire was used to elicit data from the participants. The questions were about the participants' familiarity with Microsoft Word and their opinions about the quality of Microsoft Word. The questionnaire also determined the participants' attitudes towards Microsoft Word and investigated their motivation for using Microsoft Word. The questionnaire had been already used in a study by Salehi and Habibi (2015) and its reliability had been estimated by them ($r = .8$).

3.4 Procedure

Before preforming the study, the ICDL test was conducted to the participants to evaluate their familiarities with Microsoft Word and all participants answered more than 50% of the questions correctly. Then, the participants were randomly divided into two equal groups of experimental and control in which each group had three female and four male participants. The participants were also asked to write a text about a specific subject and express their opinions about that subject. The results were collected and perused by the help of the supervisor of the study who had a Ph.D. degree in TEFL for checking the possible grammatical errors or mistakes. The participants of the control group wrote the text on papers and the participants of the experimental group typed it by Microsoft word. Finally, the questionnaire was given to the participants of the experimental group to express their opinions using Microsoft Word and the results were analyzed to estimate their attitudes towards this software.

3.5 Data Analysis

In order to analyze the statistical data of this study, statistical package for the social science (SPSS) software version 22 was used by the researchers. The independent-sample t-test was used for comparing the results of the two groups. One-sample t-test was run to estimate the attitudes of the participants in the experimental group towards using Microsoft Office Word.

4. Results

4.1 Addressing the First Research Question

The first research question of the present study was: Does using Microsoft Word have a significant effect on Iranian EFL lecturers' grammar in writing? To provide an answer to this research question, the grammar scores of the experimental group (EG) and control group (CG) participants were compared via an independent-samples *t* test. Table 1 displays the descriptive statistics for this comparison:

Table 1. Descriptive statistics for comparing the grammar scores of the EG and CG participants

Groups	*N*	Mean	*Std.* Deviation	*Std.* Error Mean
EG	7	18.84	3.01	1.13
CG	7	16.25	2.81	1.08

As it can be observed in Table 1, there was a difference between the grammar scores of the EG (M = 18.84) and the CG (M = 16.25) participants. To understand whether the difference between the grammar scores of the two groups was statistically significant or not, the following t test (Table 2) needed to be looked at:

Table 2. Results of the Independent-Samples t test comparing grammar scores of the EG and CG participants

	Levene's Test for Equality of Variances		t test for Equality of Means			
	F	$Sig.$	t	df	$Sig.$ (2-tailed)	Mean Difference
Equal variances assumed	5.04	.03	-4.78	12	.000	2.59
Equal variances not assumed			-5.33	11.67	.000	2.59

Table 2 shows that there was a statistically significant difference in grammar scores for EG (M = 18.84, SD = 3.01) and CG (M = 16.25, SD = 2.81) members, $t(12)$ = -4.78, p = .000 (two-tailed). This result was obtained since the p value was found to be less than the significance level (i.e. .000 < .05). If the p value was larger than the significance level, the conclusion would be that the grammar scores of the two groups of participants did not differ significantly.

Now, it could be inferred that the two groups were significantly different in terms of their grammar scores, and this difference could be attributed to the conditions under which they composed their required text (i.e. the EG members using Microsoft Word software vs. the EG members using paper and pencil to write). The difference between the grammar scores of the two groups of participants is conspicuous in Figure 1.
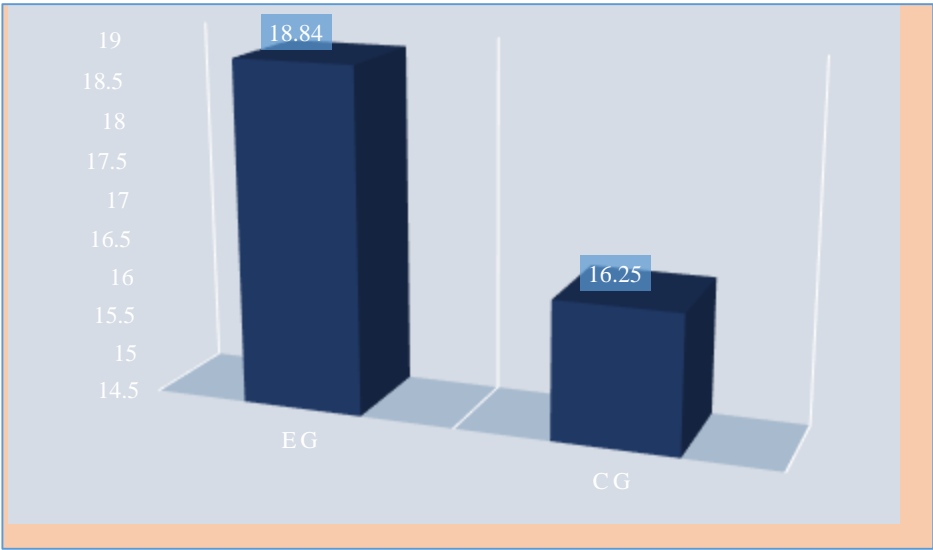

Figure 1. Grammar mean scores of the EG and CG participants

Figure 1 reveals that the two groups were significantly different with respect to their grammar scores, and as it was mentioned above, this difference could be traced back in the way they completed the task. In fact, the EG members who used Microsoft Word to write could obtain higher grammar scores than the CG members who used paper and pencil to write the assigned essay.

4.2 Addressing the Second Research Question

The second research question of the study was: What are Iranian EFL lecturers' attitudes towards the effects of using Microsoft Word on their spelling and grammar knowledge? To unearth the attitudes of the participants towards the effects of using Microsoft Word on their spelling and grammar, one-sample *t* test was conducted. This statistical tool compares the mean score of a distribution against a constant (which was 3.00 in this analysis since the choices in the Likert-scale questionnaire ranged from 1 to 5 and the average value of the choices was 3.00). Table 3 shows the results of descriptive statistics performed for this purpose.

Table 3. Descriptive statistics for EG participants' attitude scores

	N	Mean	Std. Deviation	Std. Error Mean
Attitude Questionnaire	15	4.12	.25	.01

The attitude mean score of the EG participants was found to be 4.12, which was larger than 3.00. This implies that the respondents' attitudes towards the effects of using Microsoft Word on their spelling and grammar was positive. To find out whether this positive attitude was of statistical significance or not, the researchers had to check the *Sig.* (2-tailed) value in the one-sample *t* test table (Table 4).

Table 4. One-Sample t test results for the EG participants' attitude scores

	Test Value = 3				95% Confidence Interval of the Difference	
	t	*df*	*Sig.* (2-tailed)	Mean Difference	Lower	Upper
Questionnaire	17.62	14	.000	1.12	1.33	1.89

As could be seen in Table 4, there was a statistically significant difference between the EG participants' mean attitude score (*M* = 4.12) and the average value of the choices (i.e. 3.00) due to the fact that the *p* value was smaller than the specified level of significance (.000 < .05). Accordingly, it could be concluded that the degree of the participants' positive attitude towards the effects of using Microsoft Word on their spelling and grammar was statistically significant (i.e. they approved of it to a considerable extent).

5. Discussion

The findings of this study are in accordance with the majority of the previous findings. For example, researches performed by Brock (1990a, 1990b) suggested that L2 writing errors are more idiosyncratic and harder to classify than L1 errors. Furthermore, Milton (1997) stated that using computer programs helps learners to independently develop their EFL writing skills. Some researchers gave particular emphasis on the usage of computer programs to increase learner autonomy in second language learning, especially in EFL/ESL writing (Williams & Cui, 2005). Williams and Cui (2005) asserted that if the application of computer software is meticulously modeled, it can give the learners both support and autonomy in the process of writing.

Additionally, Li and Cumming (2001) carried out a research to investigate whether word processors will change L2 learners' writing process and improve the quality of their writing or not. The results of their study indicated that the use of word processing program is more effective than using the pen and paper one in terms of a greater frequency of revision made at ratings of the completed compositions.

In the same way, Li and Cumming (2001) carried out a study and concluded that word processors assisted learners in reducing the mechanical difficulty involved in changing texts and offered an easily transformed communication. The researchers also continued that through using word processors, users can rate longer compositions and do more corrections of their writing than they would do with pen and paper. Finally, in Li's (2006) study, it was shown that participants attended more on higher order thinking activities while assessing their written texts through using computer that helped them to revise meaningfully, and that their computer-made essays received higher scores in argumentation than the hand-written ones. The other result was that the educators should particularly pay attention to the effect of using computers on learners' writing assessment.

The participants of this study held positive attitudes towards the use of new computer technology in general, and Microsoft Word in particular. One very significant issue in all language programs is the attitude of teachers. The findings of this research are in line with the majority of the previous ones towards the use of computer technology and software programs in learning. For example, according to Pennington's (2004) study, word processing represented positive impacts in terms of writer attitudes, text length, text quality and quantity and the quality of revisions. He continued that word processing is now utilized by nearly everyone for composing. The researcher also emphasized that spell checkers and grammar checkers were regarded as useful tools in the development of second language writing.

In addition, Gökhan and Kuzucu (2009) investigated the impact of using CALL and Dyned program on students' achievement and their attitudes towards English lesson. The findings of this study revealed that these technologies have a great positive impact on students' achievement and attitudes when compared with the traditional teaching methods. The results, also, showed that teachers had tendencies for using CALL programs in their teaching classes because it enhanced students' motivation and learning opportunity. Grammar, reading, and vocabulary were reported to be affected than other aspects of language.

Furthermore, Salehi and Habibi (2015) attempted to examine intermediate EFL learners' attitudes toward using Thesaurus software for vocabulary acquisition. The results of this research indicated that learners were highly motivated to use Thesaurus software for vocabulary learning. The other finding was that learners had positive attitudes towards the usage of Thesaurus for teaching and learning vocabulary in EFL classrooms.

6. Conclusion

As it was already mentioned, the significant role of computer-assisted language learning in today's digital age cannot be denied. There are a lot of computer software programs which have been produced to facilitate language learning. The current study was intended to examine the effectiveness of one of such programs, Microsoft Word, that seemed to have positive impact on grammar and spelling ability enhancement of Iranian teachers and learners. The results of the study uncovered that, through the application of the software, participants produced fewer grammatical and spelling errors in their writing. In other words, their writing quality has significantly improved. The reason for such an improvement is associated with the merits of the software. The software encourages learning through different ways resulting in accomplishing a high-quality text that is similar to some extent to expert writings format. Therefore, this might inspire the learners to produce a completed product that is analogous to an expert publication. The other advantage of using the word processor is faster writing. The other merit of utilizing word processor is the easy portability of electronic texts, and users can send what they have written to others via the Web or portable flash memories.

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Appendix A: The Attitude Questionnaire

No.	Statements	Strongly agree	Agree	No opinion	Disagree	Strongly disagree
1.	Microsoft Word helps me check my spelling better.					
2.	Microsoft Word offers opportunities for me to check my grammar.					
3.	Word makes writing and editing more enjoyable.					
4.	Word increases the chance of having a more accurate and neat writing.					
5.	Word is multi-dimensional software which can be used for different purposes					
6.	Learning the spelling of the often-misspelled words is effective in Word.					
7.	Learning spelling and grammar in a Word is an enjoyable experience.					
8.	Writing in Word is preferable to writing by paper and pencil.					
9.	Learning grammatical points in Word is interesting.					
10.	Learning spelling and grammar via Word motivates me to find out and discover more grammar and spelling points.					
11.	Writing in Word makes me more proficient.					
12.	Writing in Word creates less anxiety for me.					
13.	Word is a user-friendly software program.					
14.	Overall, I am satisfied with application of Word for writing purposes.					
15.	I recommend the use of Word in future writing practice of the learners.					