THE EFFECT OF CALL-BASED TASKS ON EFL LEARNERS’ GRAMMAR LEARNING

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Abstract
In modern language teaching institutions and schools, the proficient language teachers apply different kinds of tasks to teach some skills and sub-skills. In the current study, the researcher investigated the effect of two different tasks, namely Computer Assisted Language Learning (CALL)-based tasks and written questions tasks on students’ English grammar learning. The researcher in the control group asked the participants to answer the written questions in their workbooks and the participants in the experimental group do their assignments using the computers. Based on the post-test results, both CALL-based and written question tasks had positive effects on the participants. The study supports the idea that motivating tasks can have positive results toward language learning.

Keywords: CALL; grammar; tasks; learners

1. Introduction
The teachers’ interest in the role of tasks in foreign language teaching and learning is growing. Prabhu (1987) first proposed task-based approach and applied it in secondary school classrooms. In the literature, various definitions of pedagogical tasks have been provided that are different in scope and formulation (Branden, 2006). Samuda and Bygate (2008) define a task as “a holistic activity which engages language use in order to achieve some nonlinguistic outcomes while meeting a linguistic challenge, with the overall aim of promoting language learning, through process or product or both” (p. 69). In another definition by Ellis (2003), tasks are regarded as “… a work plan that requires learners to process language pragmatically in order to achieve an outcome that can be evaluated in terms of whether the correct or appropriate propositional content has been conveyed” (p.16). In sum, it is well-known that tasks are classroom activities, have a clear outcome, and can foster authentic language use. Beside tasks, nowadays many language learning institutions use technology in the process of language learning.

The world is progressing and the language learning context is not an exception to this progress. Unlike in the past when textbooks and whiteboards were the only instruments for
language learning classrooms, nowadays teachers use the computers or other related technologies to teach a foreign or second language. According to Chun, Kern, and Smith (2016):

- technologies broadly include more traditional media and instructional resources including print media (textbooks, workbooks, literature), which include words, texts, illustrations, graphics, photographs; audio media (e.g., recorders and players in language labs); video media (e.g., film clips and films); writing media (paper and pen, typewriter); classroom technologies (black boards, whiteboards, overhead projectors). Newer media resources generally refer to computer-based (and now mobile) technologies, many of which are tied integrally to the Internet (p. 72).

Nowadays computers have become part of daily life and the question is no longer whether to use computers or not. Computers are linked to people’s lives, jobs, and hopes. Computer-Assisted Language Learning (CALL) has influenced foreign and second language teaching and learning in many different ways. According to Hewer (2007), the use of technology in the form of computers is involved in CALL approach. In another definition by Beatty (2003), CALL is defined as “any process which a learner uses a computer and, as a result, improves his or her language” (p. 7). Al-Mansour and Al-Shorman (2012) list some advantages of CALL, namely development of critical thinking, authenticity, giving motivation to learners through animated objects.

As Linse (2005) states, there is a clear relationship between four areas of speaking, listening, reading, and writing. Progress in one of these skills can be a precondition and a step towards the progress in other skills. Both Ellis (2002) and Celce-Murcia (2002) state that, according to some studies, grammar knowledge leads to advanced accuracy and fluency among the learners of the second or foreign language. For Hudson and Walmsley (2005) uninteresting lessons of grammar make a counter productive sense towards grammar teaching and learning. Unfortunately, most of English language grammar classes are uninteresting and thus make students lose interest in learning grammar.

On the contrary, the current study uses some tasks to observe their results on the learners’ amount of learning and motivation. In addition, the lack of studies about the effects of technology-based tasks like the computer on grammar learning gives more relevance to study their effects on grammar learning.

2. Literature review

There are some studies regarding the effect of task-based and CALL-based studies on language learning. In this section, the researchers declare some of the important ones.
2.1. Tasks in the language classroom

There are numerous studies about the nature of different tasks and the ways to sequence them (Bygate, Skehan & Swain, 2001; Robinson, 2005; Samuda, 2001; Skehan, 2001; Willis & Willis, 2007). Based on an action research by Ruso (2007) on the implementation of task-based language teaching, the increased participation from the students in the learning process was reported. Choo and Too (2012) state task-based teaching can motivate learners to learn the language. In another study by Lee (2005) the application of Task-based Language Teaching (TBLT) in a vocational high school in Taiwan over one semester resulted in improving students’ creativity, social skills, personal relations, self-esteem, and positive perceptions. In a quasi-experimental study by Rahimpor (2008), it was revealed that the participants that followed the TBLT syllabus had better fluency in oral performance in story telling tasks than the control group that followed a structural syllabus. Hasan (2014) found that task-based activities result in speaking without hesitation. Two studies by Carless (2002, 2003) on Hong Kong primary schools show that factors such as sociocultural realities, proficiency level of learners and teachers’ teaching beliefs can contribute to transforming TBLT into task-supported teaching.

Based on the aforementioned research, the current study aimed to bridge the existing gap by using two different tasks (CALL-based tasks and written questions tasks) to check whether these kinds of tasks had positive effect on grammar learning and which group obtained more accuracy in grammar learning.

2.2. Technology in language learning and teaching

Many studies have been done regarding the effect of CALL and technology on language learning. According to some (Abayli, 2001; Shenton & Pagett, 2007; Kırkgoz, 2011) integrating technology in language learning can improve the motivation of learners and has a positive effect on their attitudes. Based on findings by O’Hara and Pritchard (2008), and Liu and Chu (2010) learners have positive attitudes towards CALL to learn the language. Nakata (2008) compared the different vocabulary learning methods on the attitudes of learners. The majority of the students who took part in computer-based training expressed higher overall satisfaction than the other groups. Chikamatsu (2003) surveyed the effect of the computer on writing quality and efficiency among intermediate level learners in Japan. The findings revealed that learners benefit from computer writing. Bayraktar (2002) investigated the effectiveness of computer-assisted instruction on students’ achievement in secondary and college science education. The results show that both in tutorial and simulation models there
was a positive effect for computer-assisted instruction in comparison with traditional instruction.

Akbulut (2008) surveyed the attitudes of advanced proficient learners of English towards the effectiveness of CALL in Turkish university. The findings confirm that the participants had positive attitudes towards CALL, because they found computers to be helpful in sustaining “independence, learning, collaboration, instrumental benefits, empowerment, comfort, and communication” (p. 1). In another study by Tanyeli (2009), CALL showed an improvement in the reading comprehension skills of the learners. Abu Naba’h et al.(2009) investigated the effect of CALL on grammar learning, indicating that those students who learned grammar through the computer learned better than students who learned the same grammatical item using the traditional method.

However, Coniam and Wong (2004) investigated the grammar learning through chat while Zhang et al. (2007) investigated it through discussion forums. The results in both studies did not provide any evidence that CALL can facilitate grammar learning.

Most of these studies confirmed the superiority of CALL-based instruction on traditional language teaching, but all of them considered CALL as a method of learning, rather than a task. Meanwhile, nothing is said about the effect of CALL-based tasks on EFL learners’ grammar learning. In addition, they did not compare two different technology and non-technology related tasks to investigate the amount of success for EFL learners’ grammar learning. In the current study, the researchers investigate a mixture of CALL and tasks to see its effects on EFL learners’ grammar learning, with the following hypotheses:

1) CALL-based tasks have a better effect on grammar learning than the written question tasks.

2) Task-based activities have positive effects on EFL learners’ grammar learning.

3. Method

3.1. Participants

In the current study, there were two groups, one experimental group (CALL-based task) and one control group. Out of 140 students, based on the pre-test results, sixty homogeneous Iranian junior high school participants were selected. All the participants were male, native speakers of Persian, and with intermediate level of English language proficiency. In the pre-test, there were 40 multiple-choice questions on sentence structures. The mean and the standard deviation of the participants’ pre-test scores (M= 32.18, SD=2.12) were used as a
criterion for selection of the participants. Among 140 students, sixty participants whose mean scores were one standard deviation above or below the mean were chosen. The two groups included 30 students each. To assign the control and experimental group, the researcher used simple random sampling. In each group, there were 6 sub-groups. Before the intervention, the students were made aware of their roles in the study.

3.2. Design of the study
The design of the study was quasi-experimental. The researcher randomly assigned the participants to control and experimental groups in two different classrooms. At first, the researcher conducted a pre-test, and administered a post-test at the end of the study.

The researcher employed the following instruments:

1) **Tests.** In the current study, the researcher used two tests as pre-test and post-test which were designed and administered by the researcher. Each test was 40 multiple-choice items, with each item of a score of .5 point.

2) **Computer.** The participants in the CALL-based task group did their assignments at home in their sub-groups with the use of their computers and sent the assignments through e-mail or delivered it to the researcher in the CD format.

3.3. Procedures
The current study was conducted in 15 sessions. The treatment period was enough to teach the grammatical rules of the course (Simple Past Tense, Conjunctions, Present Continuous Tense, Irregular Verbs, Conditional Sentences, Possessive Adjectives,). The researchers administered a pre-validated grammar test to 140 junior high school subjects, aged 14 to 16 with the median age 15 to obtain homogeneous students. The pre-test contained 40 multiple-choice on grammatical rules, with each item of .5 point and the total score of 20.

Prior to the experiment, the researchers tried to give a general explanation of the process of the study. One of the researchers was an English language teacher in junior high schools. In all the groups, the researcher first addressed the importance of grammar to arouse the participants’ motivation. Next, the researcher highlighted the rule he wanted to teach. The methodology of the classrooms was inductive. In this method, the researcher followed the following steps to teach grammatical rules of English as a Foreign Language:

1) A variety of examples about a given rule were presented without any explanation about how the rule works.
2) In the second step, the learners attempted to understand the grammatical rule of the lesson.

3) In the third step, the researcher asked the participants to share their understanding of the grammatical rules in front of the classroom.

4) In the final step, the researcher gave both groups some assignments based on their assigned tasks to fulfill for the next session.

The 30 participants in the CALL-based task group were divided into six sub-groups. They were asked to do their tasks using computers. For example, one sub-group made PowerPoint slides that illustrated the explanation of Simple Past Tense and another sub-group made a multimedia activity about the grammatical rules of the lesson. In addition, other sub-groups used programs such as Swish Max, e-Studio 7, etc. to do their assignments. All the learners were supposed to employ different kinds of program to do their tasks through computers. In the process of doing tasks, the researcher supervised them and guided them as needed. The learners should submit their tasks through the CD format or e-mail to the teacher. In addition, in the following session, the teacher presented the participants’ tasks in front of the class and asked them to explain how they did their tasks.

Similarly, the participants in the control group included six sub-groups, with five students in each sub-group. The researcher taught the grammatical rules through the inductive method. After teaching and as a kind of task in the classroom, the researcher gave them photocopied written questions about the grammatical rules of the lesson. All the photocopied written questions were different and there was not a similar question among the sub groups. Similar to the experimental group, the participants did their tasks in sub-groups in the classroom and the researcher guided them as needed. The photocopied written questions included unscrambled sentences, filling the blanks, multiple-choice items, finding errors, and writing compositions. The learners had to complete those written tasks in their sub-groups. In the following session, the researcher asked the participants in each sub-group to come in front of the classroom and answer the written questions orally or on the whiteboard.

For 15 weeks, the participants performed their tasks according to their groups’ arrangement. In the last session, the researcher took a reliable and pre-validated post-test to find out the effects of the tasks (CALL-based and written questions tasks) on the participants’ grammar learning. The post-test consisted of 40 multiple choice items based on the covered grammatical rules in the course of study. Similarly to the pre-test, each item had .5 point and there was no negative score for wrong answers.
4. Results

In order to analyze the data, first, the researcher analyzed the descriptive statistics of pre-test. Next, independent sample t-test was used to compare the scores between the control and experimental groups.

4.1. The pre-test results

As evidenced in Table 1, descriptive statistics indicated the mean of control and experimental groups were 8.17 and 8.20 respectively. In addition, the distribution of data was normal, because the degree of Skewness and Kurtosis were between -2 and +2 for two groups.

Table 1. Descriptive statistics of the pre-test results

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Variance</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>30</td>
<td>7</td>
<td>9</td>
<td>8.17</td>
<td>.699</td>
<td>.489</td>
<td>-.240</td>
<td>-.831</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>30</td>
<td>7</td>
<td>9</td>
<td>8.20</td>
<td>.761</td>
<td>.579</td>
<td>-.362</td>
<td>-1.141</td>
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</table>

To find out the degree of significant difference between control and experimental groups, the researcher used independent sample T-test on the pre-test results. As can be seen in Table 2, the p-value was more than .05 (.860), and the t-observed .177 was less than the t-critical, 2.04. Therefore, the participants were homogeneous and there was no significant difference in grammar knowledge between the control and the experimental groups on the pretest.
Table 2. Independent sample t-test between the control and experimental groups on the pre-test

<table>
<thead>
<tr>
<th></th>
<th>Levene’s Test for Equality of Variances</th>
<th>t-test for Equality of Means</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>Sig.</td>
<td>t</td>
</tr>
<tr>
<td>scores</td>
<td>40</td>
<td>.813</td>
<td>.420</td>
</tr>
<tr>
<td></td>
<td>Equal variance Assumed</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4.2. The reliability and validity of the post-test
The reliability and validity of pre-test and post-test were investigated by three English language instructors. At first, the researcher modified the pre-test and the post-test according to their recommendations about accuracy, clarity, and appropriateness of the instruments. Next, the researcher tested the usability of pre-test and post-test through a pilot study of 30 participants that had the same features as the participants in the control and experimental groups. To assess the reliability of post-test, the researcher used Cronbach alpha. It was 0.81, which indicates that the test was reliable.

Table 3. Reliability Statistics of Post-test

<table>
<thead>
<tr>
<th></th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cronbach’s Alpha</td>
<td>.813</td>
</tr>
<tr>
<td>N of Items</td>
<td>40</td>
</tr>
</tbody>
</table>

4.3. The post-test results
As can be seen in Table 4, the score analysis of the post-test results indicated the mean of experimental and control group were 17.45 and 15.60 respectively. In addition, the degree of Skewness and Kurtosis were between -2 and +2, therefore, the distribution of data is normal for experimental and control groups.
Next, based on the post-test results, the researcher used the Shapiro-Wilk test to investigate the normality of distribution of two groups. Based on Table 5, the p-values of normality test were .406 and .257 for the control and experimental groups respectively. It can be claimed that two sets of scores are normally distributed because the p-values for both groups were more than selected significance, i.e. .05 for this study (p > α).

Table 4. Descriptive statistics of the post-test results

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Variance</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>30</td>
<td>9</td>
<td>13</td>
<td>15.60</td>
<td>1.174</td>
<td>1.386</td>
<td>.253</td>
<td>-.550</td>
</tr>
<tr>
<td>Experimental</td>
<td>30</td>
<td>16</td>
<td>19</td>
<td>17.45</td>
<td>.844</td>
<td>.713</td>
<td>-.293</td>
<td>-.005</td>
</tr>
</tbody>
</table>

To compare the results of two groups based on post-tests, the researcher applied the parametric independent sample test. In addition, the researcher investigated the null hypothesis of the current study. As visible in Table 6 independent samples test showed significant difference in grammar learning between the two groups (experimental and control groups) on post-test with (t = 25.869, p = .000, p < α); consequently, the null hypothesis of this study that using computer-based tasks does not improve grammar learning was rejected.
Table 6. Independent sample test to compare the post-test results in control and experimental groups

<table>
<thead>
<tr>
<th>Score</th>
<th>Equal variances</th>
<th>Levene’s Test for Equality of Variances</th>
<th>t-test for Equality of Means</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Score</td>
<td>.040</td>
<td>25.869</td>
<td>.000</td>
<td>1.850</td>
</tr>
<tr>
<td>F</td>
<td>.040</td>
<td>58</td>
<td>.000</td>
<td>Mean Difference</td>
</tr>
</tbody>
</table>

5. Discussion

Task-based language teaching is a pervading topic in foreign language research. Many studies demonstrated the positive relationship between using tasks and language learning, such as McDonough and Mackey (2000), Shehadeh (2001), Bugler and Hunt (2002), Mann (2006), Torky (2006), Karimi (2010), Korkgöz (2011), Hasan (2014), Choo and Too (2012). In addition, as claimed by Hubbard (2009), the researchers attempt to demonstrate the superiority of using computers over traditional language teaching. The current study proved that the participants in the experimental group (CALL-based task group) had better results than the control group (the experimental group mean=17.45, the control group mean=15.60). The findings of the current study are in line with Bayraktar (2002), Akbulut (2008), Tanyeli (2009), Abu Naba’h et al. (2009), Korkgöz (2011), Chikamatsu (2003), who indicated the superiority of CALL over traditional language teaching. Therefore, this finding can confirm the first hypothesis of the study that states that CALL-based tasks have a better effect on grammar learning than the written question tasks.

Based on the researchers’ observations, the participants who took part in the experimental group had higher motivation to learn English grammatical rules than the control group. These supervisions are in line with Lochana and Deb (2006) and Richards and Rodgers (2001). The latter claim that the learners’ success in completing the goals of the task can lead to learners’ motivation increase. Lochana and Deb (2006) state task-based instruction helps learners in proficiency development and motivation. This can provide more evidence to support that the motivated participants performed better in the post-test. In addition, it was shown that the learners who took part in CALL-based tasks have a better interaction with
their peers and learn grammar more effectively. This is another piece of evidence to support Lopez’s (2014) statement that performing tasks which are related to the learners’ language course motivates them to learn more effectively and collaboratively.

In the control group, the participants’ task was to answer the photocopied written questions. The participants in this group had lower results than the experimental group, but they had an acceptable progress for grammar learning (the mean of the pre-test= 6.99, the mean of the post-test=15.60). The progress of learners in both groups (the experimental and the control group) to learn grammar can confirm the principle of the sociocultural perspective that states that learning can be facilitated through the process of scaffolding in social interaction. Therefore, this finding can confirm the second hypothesis of the study that CALL-based tasks and written question tasks have positive effects on EFL learners’ grammar learning. Based on the researchers’ observation, the motivation of participants who took part in the control group was lower than in the experimental group. The lower result in control group can be linked to the motivation of learners. This finding is consistent with Wang (2010) and Ruso (2007). Wang (2010) states uninteresting lessons about the grammar result in a disengaged sense towards the grammar among the learners. In addition, Ruso (2007) states the uninteresting content of a course book cannot stimulate the interest of the participants. Both groups in the current study employed tasks for learning grammatical rules. It can be concluded that in process of learning a language all different varieties of tasks cannot be useful and the main difference between the tasks is the amount of motivation which they offer to learn a foreign language.

5.3. Pedagogical implications and directions for further research

It is suggested that content designers and teachers select the effective instruments for teaching and include more motivating practices inside the course book and curriculum program. As Ruso (2007) states, serious consideration should be given to using tasks and it is the responsibility of teachers to provide opportunities for learners to make use of content learned through tasks.

The next pedagogical implication of the study is related to group work. Doing tasks in groups can improve not only the learners’ language skills and sub-skills, but also their social interactions. Improving teachers’ experience with technology-based instruments for foreign language learning is another pedagogical implication for teachers and curriculum designers. Following Hubbard (2006), “many current language teachers have limited experience with CALL software from the learners’ perspective and may be novices as well using technology
for teaching” (p.313). It is recommended that language teachers become familiar with computers and other technology-based instruments to employ tasks.

Applied linguistics research is not limited only to deciding whether technology is effective or not for learning. Rather, it seeks to know why technology is effective and how this contributes to a theory of language learning. The future research can investigate these issues more meticulously. While reviewing studies from 2001 to 2005, Stockwell (2007) concluded that “there still remains an element of failure to stipulate why a given technology was used in achieving learning objectives”. In addition, Felix (2005) and Hubbard (2005) state the poor quality of research in CALL. The current study only indicated the superiority of CALL-based tasks over the control group and nothing is said clearly about the advantages and disadvantageous of some technology and non-technology-based instruments in the process of language learning. In addition, further studies can investigate the effects of the students’ motivation toward learning a foreign language through computers.

6. Conclusion
The current study investigated the effect of CALL-based tasks on EFL students’ grammar learning. The researcher selected 60 homogeneous participants and divided them into experimental and the control group of 30 participants each. After the treatment, it was concluded that two groups had significant progress in grammar learning (control group mean=15.60, experimental group mean=17.45). In addition, based on the post-test results it was revealed that the participants in the experimental group (CALL-based task group) had better results than the control group.

Based on the researcher’s observations, it was noticed that the experimental group’s participants were highly satisfied with CALL-based tasks. The findings revealed that CALL-based tasks were helpful in students’ learning and motivation. The computers made opportunities for participants to present various tasks enthusiastically, which led to increased practice opportunities. On the contrary, based on the findings of the control group, it was revealed that the photocopied questions as a kind of task were not as effective because they did not trigger students’ motivation to learn grammar.

References


