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Technology Enhanced Language Instruction: EFL Learners' Reading Comprehension and Grammar Development through CALL

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INTRODUCTION

Nowadays, Technology is becoming an inevitable member of teaching and learning family and Technology-enhanced instruction has attracted researchers' attention to a great deal. In this regard, the current study is an attempt to understand to what extent computer-assisted language learning or CALL can affect EFL learners' reading comprehension skill and grammar development. Technology has been utilized for pedagogical purposes for over half a century now. According to Warschauer & Healey (1998), the application of the multimedia and technology devices in language instruction resulted in the emergence of computer-assisted language learning or CALL. Technology and its application in pedagogical environments have always been encouraging for its users, and teachers and researchers have been concerned with incorporating technology into language learning and teaching since the 1960s. It is notable that CALL was not introduced to ignore the effective role of the classroom interaction taken place in authentic and real-life language setting, but they suggest facilitative ways to enable the learners to be actively engaged in the language learning rather differently. According to Chapelle (2001) existing technologies and upcoming communication devices have provided more sophisticated view of Computer-Assisted Language Learning (CALL) to be developed in the late 1980s. Nowadays, using CALL tools for language learners is widely applicable through computer software, such as Power Point Presentation (also known as PPT), and computer systems can be freely used in educational institute. Students can individually benefit from such software to study the tasks in a rather different learning setting compared to the classroom. Students might use CALL programs to study on specific tasks of language skills and sub-skills regardless of time and space, which are limited to the classroom setting. They can get involved in the active participation in learning a target language through interactive activities and receive spontaneous feedback.

Since educators may be doubtful about permitting the use of a new educational device until the effects of that device have been evidently confirmed through quantitative research, therefore, the present study aims to consider whether using CALL through Power Point Presentation Slides or PPT can pave the way for EFL learners to face possible improvement in reading comprehension ability and grammar learning. Hence, the following research questions can be addressed:

RQ1. Does using CALL through Power Point Presentation Slides have any statistically significant impact on reading comprehension skill of elementary EFL learners?

RQ2. Does using CALL through Power Point Presentation Slides have any statistically significant impact on grammar improvement of elementary EFL learners?

METHOD

Participants

Trying to meet the purpose of the study, 70 elementary students, who were learning English in a private language institute, namely Tehran Technical and Educational Institute (Chalous branch) comprised the participants of the study to explore the efficiency of PPT on reading comprehension ability and grammar learning. The participants' homogeneity was also checked through their scores gained from the records of the institute where they were studying. Moreover, all participants were selected from the age range of 17 to 25 years old to see how young learners would react or respond to technology enhanced instruction. It should also be noted that the participants were divided into one experimental group (n= 35) and one control group (n= 35).

Design

To check the participants' initial reading comprehension ability and grammar knowledge, reading comprehension pre-test as well as grammar skill pre-test were given to the participants. Then, the participants who were assigned as the experimental group, were given reading and grammar instruction by Power Point Presentation trying to provide opportunities for the learners to be interactively involved in the reading instruction and getting mastery over grammar emerged within the reading comprehension tasks simultaneously. Finally, the experimental group and the control group, who received no CALL instruction and received the same instruction conventionally, took the reading and grammar post-test to look into the effect of technology enhanced instruction through PPT on the very language skill and sub-skill.

Instruments

Reading Comprehension Pre- Test and Post-Test

In order to check the learners' initial Reading comprehension ability, they took the reading pre-test, which was adopted from Cambridge Key English Test (KET). It contained 4 short passages and 30 items with various formats, including multiple choice, fill in the blanks, and matching questions another version of KET was used as the post-test to check the effect of treatment sessions of technology-enhanced instruction through PPT on the learners' reading comprehension ability.

Grammar Pre-Test and Post-Test

The researcher-made grammar pre-test was taken by the participants before the treatment. The pre-test was based on the course syllable content. It was in a form of 20 multiple choice questions to check their initial knowledge of the target grammar prior to the treatment. Similar to the pre-test, the researcher-made grammar post-test was used to look into the effectiveness of the treatment sessions of CALL instruction.

RESULTS

An Investigation into the First Research Question

The first research question of the study looked into the effect of using PPTs on the learners' reading comprehension ability. To do so, quantitative measures of the pre- and post-test scores were done through SPSS. Initially, normal distribution of data was checked. Table 3 of the study clearly reveals that technology enhanced instruction through PPT could pave the way for the learners to improve their reading comprehension ability since the learners' reading comprehension scores increased from the pre-test (M=30.07) to the post-test (M=38.12). In addition, paired samples t-test shows that the level of significance is less than .05 ($p = .000$, $df = 29$, $t = -11.95$), highlighting the significant differences in the learners' mean scores of reading comprehension for the experimental group (mean difference= -8.05). Therefore, it can be concluded that using technology enhanced instruction through PPT improved the learners' reading comprehension ability.

An Investigation into the Second Research Question

The second research question took into account the effect of applying CALL on the learners' grammar learning. Statistical measures were done through SPSS. Table 5 of the paper shows that the learners' grammar learning increased from the pre-test (M= 27.00) to the post-test (M=33.15), which clearly reveals that using CALL through PPT resulted in the learners' grammar improvement. In order to inferentially look into the learners' performance on the pre-test and post-test of grammar learning through technology-enhanced instruction using PPTs, paired samples t-test was conducted. The result of paired samples t-test indicates that significance level is less than .05 ($p = .000$, $df = 29$, $t = -6.42$), which denotes a significant difference between the learners' grammar learning on the pre-test and post-test (mean difference= -6.15). Therefore, it can be concluded that CALL through PPT could pave the way for the learners to improve their grammar learning.

DISCUSSION

As to the quantitative findings of the study, it was clearly revealed that the experimental group significantly outperformed the control group after the treatment sessions, demonstrating that technology enhanced instruction was quite successful in helping the learners to improve their reading comprehension skill and grammar learning. In other words, the experimental group, who was taught through technology instruction, benefited a lot in comparison to the control group, which underwent reading comprehension and grammar instruction without any technology application through the conventional method of teaching. The present study found empirical support to those of Nutta (2013), Diaz and Ngoc (2014), Hara (2004) and Young (2006), who all attempted to attract the teachers' and scholars' attention in benefiting from technology enhanced instruction so that language learners could be engaged in an interactive learning environment. To add up a little more value regarding the effectiveness of technology-enhanced instruction, Wang (2013) and Nutta (2013) urged language teachers to take advantage on the practical and effective application of computer software in providing an interactive learning atmosphere for the teachers and learners in order to have more meaningful cooperation, which ultimately leads to success in the language learning process. Besides, (Warschauer & Healey, 1998) declared that computers could be positively applied in the language classrooms to direct the learners' attention to the tasks provided by the teacher, assisting the teacher to smoothly follow the plans through computer software as studied by Zurita and Nussbaum (2004) as well. Findings of the study were also in alignment with studies done by Marzban (2011) and Corbeil (2007) who concentrated on the positive effect of computer assisted language learning on the learners' improvement in language skills and sub-skills. Furthermore, Mittal (2015) argued that CALL seems to provide a more facilitative learning setting through which learners can easily access to the teachers' tasks and do them on their own, which positively insists on distant education through which learners are involved in learning in a stress-free environment and at the same time receiving teacher's feedback and teacher and peer support. Chapelle (2001) also concluded that technology should be productively applied as an appropriate methodology which seems to be beneficial for both learners and teachers.

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