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Studying the Role of Machine Translation on Vocabulary Learning of Iranian English Language Learners

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Abstract
Machine translation is the translation that is done with the help of the machine or a computer system to speed the translation process and also to decrease the cost of translation services. The purpose of the present research was to identify the role of machine translation on vocabulary learning of Iranian English learners at school. To reach the goal of the study, first, a placement test was administered to homogenize the students. Then, 40students were selected and randomly divided into control and experimental group. First, the pretest was administered, after that, the control group was taught to use their books and the experimental group was taught to use machine translation. Finally, a post-test was taken. The results showed that the mean scores of the post-test of the experimental group were higher than that of the control group.

Keywords: Machine translation, Vocabulary, School, Iranian learners.

Introduction

English as a world language is employed by people throughout the planet for various purposes like communicating to people from different countries and providing a way for exchanging knowledge. From among the three major components of language, namely, sounds, grammar, and vocabulary, knowledge of the words, because the building block of language features a very crucial role (Mehrpour et al., 2011).

Wu, Y., & Pan,(2013) state that Machine translation (MT), a subfield under AI , is that the application of computers to the task of translating texts from one natural (human) language to a different . MT may be a procedure whereby a computer procedure/program assesses a source content and, on a basic level, delivers an

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objective content, target text without human mediation. In like manner speech, it's decoding the meaning of the source text and re-encoding the meaning within the target language. As a general rule, on the opposite hand, MT ordinarily does include human mediation, as pre-altering and post-altering. MT system first analyses the language input and creates an indoor representation. This representation is manipulated and transferred to a form suitable for the target language. Then eventually output is generated within the target language. On a basic level, MT performs simple substitution of words in one tongue for words in another, but that alone usually cannot produce an honest translation of a text because recognition of whole phrases and their closest counterparts within the target language is required (Okpor, 2014).

MT is automated translation or "translation administered by a computer", as defined within the Oxford English dictionary. It is a process, sometimes mentioned as tongue processing which uses a bilingual data set and other language assets to create language and phrase models wont to translate text. As computational activities become more main stream and therefore the internet exposes the broader multilingual and global community, research and development in MT continues to grow at a rapid rate (Okpor, 2014).

(Arnold, D. J., Balkan, L., Meijer, S., Lee Humphreys, R. and Sadler, 1994) state that MT is important socially, politically, commercially, scientifically, philosophically, etc. since translation is important socially and politically in societies that are bilingual or multilingual, so, MT is also important scientifically, it is an advanced technology, it can provide the way for other areas including computer science, artificial intelligence, computational linguistics, etc.

MT performs simple replacements with basic translated key words for non-native speakers to understand content in an original foreign language that they need to assess (Hui-chin Lin & Shih Chieh Chien, 2009).

Alcina, (2008) states that translation technology is an interdisciplinary field between computer science and translation. It constitutes machine translation, computer-aided translation or computer translation, and translation memory system. These technologies can be used to enhance the efficiency, speed or quality translations or their results.

1.1. Statement of the Problem

The purpose of the research is to consider the effect of MT on vocabulary learning of English foreign language learners here, Iranian students who are learning English as a foreign language. Thus, in students' vocabulary development, from the

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viewpoint of this research, two serious problems can pose problem to vocabulary development: (1) lack of the sources of information that students have such as using MT or dictionaries. Most of them do not have dictionaries, and even if they have, they do not know how to use them correctly, (2) the difficulty in pronouncing words for the students.

Machine Translation

(Langlais, P., Foster, G., & Lapalme, 2000) state that the need for translation is growing rapidly, while MT technology is improving. They argue that there are more situations where MT is just not an acceptable solution, especially when high-quality translation is required. "Although it is hard to give precise figures about the rates of accuracy and level of fluency in current state-of- the-art MT systems, trying an MT engine (for example, one that can be used on the web)to translate a real text can convince any one of the limitations of the fully automatic approach"(p.77) .Therefore, MT systems have their own advantages and disadvantages and care must be taken while using them. Also the purpose of translations and the audiences should be taken into account.

Learning of Vocabulary

Vocabulary learning is one of the important phases in learning a foreign language. So, the greater the learner's vocabulary knowledge, the better they convey their meaning and better communication they establish. Vocabulary is one of the main components of a language, and without vocabulary, students cannot understand others or express their own thoughts. (Smith, 1969) defines vocabulary as the words of a language including single words, phrases, and chunks of several words that convey a specific meaning. Therefore, almost all language learners know the importance of vocabulary learning and, as(Schmitt, 2010) puts it, learners mostly carry a dictionary with themselves, not grammatical books. Schmitt, D., and Schmitt,(2005) also state that words are a combination of sounds that carry meaning and are shown in written or spoken forms. Therefore, knowledge of words is fundamental to every language teaching including meaning, written form, spoken form, parts of speech, frequency, collocations, and register. Thus, language learners should learn these sets of information for each new word, i.e. they should learn vocabulary depth alongside vocabulary breadth. Vocabulary knowledge is a key factor in reading (Laufer, B., & Ravenhorst-Kalovski, 2010).

Translation and Technology

Translation technology has the need for translation services. According to Wu and Pan (2013), international demand for

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translation is more than ever because of globalization and localization. They also state that with the rapid expansion of new languages, and in the era of information explosion, there is much pressure on translators in terms of time, volume , and quality. Therefore, under these conditions, traditional methods of translation are open to question and translation technology is a solution in such cases. Thus the most popular technology is MT (Wu, Y., & Pan, 2013).

1. Research question

Based on the above information the following research question is proposed:

Does as Machine translation like Bing translator effect on vocabulary learning of English foreign language learners?

2. Research Hypothesis

Machine translation like Bing translator does not affect on vocabulary learning of English foreign language learners.

3. Methodology

Design of the Study

With the purposes of the study in mind, this research is quasi-experimental consisting of one control and experimental group. The study has two variables that are Vocabulary of Iranian learners is a dependent variable and the Bing translation is an independent one.

Instruments

Instruments of the study are a computer or a smart mobile phone, a Placement Test, the students' textbooks, a pre-test, the treatment period, and finally post-test.

Participants

The participants of the study are 120 students, both male and female studying at the high school level in Zabol whose ages range from 16to 19. The Placement Test will be administered to these students. Of these students, 40 ones having the same level of English proficiency will be chosen for the study. Twenty students will randomly be considered as the control group and the other twenty ones will be selected as the experimental group.

Procedures of Data Collection

To reach the goals of the study, and to assess the role of Bing translate, the proficiency test will be administered to homogenize the students. One control and one experimental group will be selected at random. After this, all participants will take a test of vocabulary as a pre-test. Then, the experimental group will be trained using this MT teaching them vocabulary from English into Persian for about three months. The other group will be taught vocabulary using books. The two groups will be taught for one session in each week. During these sessions, different words from their textbooks will be selected to be taught. The experimental group is asked to find vocabulary by using the Bing Translate and the other group is asked to use their textbooks. Then, the post-test will be administered to consider the role of this MT.

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Data Analysis

After collecting the data, the participants' performance will be measured in both pre-test and post-test as for vocabulary. Their pre-test and post-test will be analyzed considering vocabulary knowledge. Then, a t-test will be calculated to assess the effects of this MT and its impact on students' vocabulary development. The data were analyzed using T-test statistical analysis employing SPSS26.

4. Result

The present study aims to compare the teaching of vocabulary using books and the use of an MT to learn vocabulary.

Table1

Descriptive statistic for pretest result for both groups

Groups		sig	N	Mean	Std. Deviation	Std. Error Mean
pretest	Control	.949	20	14.05	2.502	.559
	Experimental		20	14.10	2.382	.533

Table2

Descriptive statistic for post test result for both groups

	Groups	sig	N	Mean	Std. Deviation	Std. Error Mean
Posttest	Control	.101	20	14.60	2.542	.568
	Experimental		20	15.95	2.544	.569

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As appears in Table 1 , the mean scores of control and experimental groups are 14/05 and 14/10, respectively. It means that there is no significant difference between the groups at the beginning of treatment and they are homogenized.

Table 2 shows, the mean differences between the control and experimental groups scores measured at the time of immediate posttest were significant. Therefore it is concluded that there is a significant difference in vocabulary scores of the control and experimental groups on the immediate posttest and the experimental group performed better on the test and made further progress.

Table 3
Case processing summary

Report

groups		pretest	posttest
control	Mean	14.05	14.60
	N	20	20
	Std. Deviation	2.502	2.542
experimental	Mean	14.10	15.95
	N	20	20
	Std. Deviation	2.382	2.544
Total	Mean	14.07	15.27
	N	40	40
	Std. Deviation	2.411	2.602

5. Discussion and conclusion

Control and experimental groups obtained scores that did not differ significantly in the pre- test.(control: M=14.05 , SD=2.502 ; experimental: M=14.10 , SD=2.382) and the score obtained for the post-test is (control: M=14.60,SD= 2.542;experimental:M=15.95,SD=2.544). Independent- samplest tests were used to compare machine translation and book.

This study investigated the effectiveness of MT on vocabulary

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learning. consistent with the result, MT is more useful than a book in learning and retention of vocabulary. moreover, a fun feature was found to be another main motivator for using MT. As a result , it proved to be a better learning tool since it enhances both vocabulary learning and recall.

The present study also supports the claim that "electronic dictionaries and software that provide textual, contextual, and/or multimedia annotations" are a part of "main technologies" which support vocabulary teaching (Chun & Payne, 2004, p.1), which multimodality strongly enhances vocabulary learning. With reference to the implications for the classroom, one which will be drawn from this study is that teachers got to adapt themselves to the technological changes in today's world and develop their multiple literacy's for brand spanking new teaching approaches. They can assign the task of looking up specific words through electronic dictionaries within the classroom also . Further studies could examine the vocabulary long-term retention of the participants with different learning styles (Amirian & Heshmatifar, 2013).

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