The Impact of Technology on Learning English Vocabulary

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Article Info	ABSTRACT
Article	Educational technology is a phenomenon that has been making its way
type:	into the education system for years. Nevertheless, over time and with
Research	the advancement of science and new technologies, the educational
Article	technology used in the education system has become more complex
	and advanced and, in other words, more widespread. In the past few
Article	years, we have witnessed a gradual and at the same time a quick
history:	development in the field of language learning through computer-
•	assisted language learning (CALL) programs in various simple to
Received:	difficult forms presented to users with varying levels of language
70/.5/7.74	competence. Any form of coming technology aims to lead to fresh
	prospects in pedagogy, and language learning and teaching are two of
	the areas that have seen major alterations due to immediate
Accepted:	technological promotions. This article examines the impact of using
.5/.9/٢.٢۴	educational technology on students' learning. The statistical
	population was 90 language learners of Tehran city in 7.75. Using
	Morgan's formula, the number of samples was determined to be YA
Keywords:	(n=YA) and they were selected for the research by simple random
Technology	sampling method. Data were processed with SPSS version YY
English	software. The findings showed that the percentage of people who
language	scored high (२०,६%) is significantly higher than those who scored
English vocabulary	poorly ($\%$, $\%$) (p.value= $\%$, $\%$). Therefore, the results show that
vocabulary	educational technology has had an impact on students' vocabulary
learning	learning.
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\. Introduction

The need to learn English as the first language in the world to exchange information and communicate with others to apply modern knowledge is undeniable. For this purpose, strengthening the English language knowledge levels in non-English-speaking countries is considered obvious (Yang et al., Y.Y) The development of information technology has a profound effect on improving all areas of our modern society today. The use of information technology in teaching and learning is one of the essential tasks of educational services at present, and its use in English language teaching and learning, like other subjects, is a motivation for innovative processes of teaching methods that aim to find the effectiveness of teaching and learning. Due to the application of information technology in teaching and learning, lessons become more attractive and learners feel more confident to participate in classroom activities (Ehsani, Y· 1V)

The last few decades have witnessed widespread improvements in the field of technology which has affected various areas of life including learning. Today, with the introduction of new educational technologies and especially access to the Internet among the inclusive community in schools and their influence on global and nonindigenous cultures, a situation has arisen in which education is inevitable to adapt new functions to the needs of the time. Selection and achievement of new functions require a new look at the education system. What introduces us to consider new educational systems as modern educational technology and not as a challenge in the educational system, is the effects of these technologies in the application of classroom teaching aids are used to strengthen learners' learning, which has been proven in repeated research (Van et al., Y·Y); Chun et al., Y·Y)

Vocabulary learning is an important aspect of language learning since it can create confidence in the learners for making communicate through a foreign or second language (Hao, Y·Y) At the same time, in recent years there has been a growing interest in using technology in language learning by Iranian students. This can be a good idea to examine the effect of educational technologies on improving the learners' language skills. For that reason, the objective of this study is to assess the difference between pure individualized CALL and blended learning in learning vocabulary. In addition to the importance of the vocabulary learning, this research intends

to focus on using CALL as a tool by which the learners can learn materials; because as mentioned by Ferris (Y·)·), in many cases the learners do not dare to use the language being learned in front of their classmates because they are afraid of making mistakes in expressing their ideas, or they cannot ask the questions they might have in mind because they think they will be scorned by others. For that, CALL ½ can provide the situation for all the learners to take part actively in the learning process without the shy of probable errors, and the teachers can provide required instructions at any time (Ajisoko, Y·Y·)

Learning a language by computer is not a far-reaching idea today, such that CALL is becoming more common in educational circles. The benefit of this approach is that users can apply it anytime and anywhere they wish without worrying about the absence of the instructor because they still have access to their peers through the application. By learning a language in this study we mean the ability to communicate with other users of the language with the least possible problems (Javidan, Y· Y·) The philosophy of good English language teaching has long been based on the participation of both teachers and learners in the course of language learning. The satisfaction of this philosophy can now be more easily achieved through technologies which make availability of communication possible, accessibility of various formats of texts to the learners easier, sharing the information quicker, and analysis of the language products simpler to the teachers (Lai et al., Y·Y·)

With the spread of information technology and the penetration of remote communication tools into the depth of society, the tools and methods of education have also transformed. The evolution of these tools and methods is in the direction that every person can learn at any time and in any place with certain facilities and in the period that they determine. The advancement of technology and most importantly the cheaper cost of using it, the use of newer tools to transfer knowledge was brought up. With the emergence and expansion of the Internet, this phenomenon was more seriously pursued and tools, methods and standards for electronic learning were proposed, and new reforms were made in this field every day. In the study (Van et al., ۲۰۲۱) after using technology in learning English, they saw the effectiveness of the four skills and this effect was expressed as (r, o,

h. %) based on the results obtained from the questionnaires. The results of a research stated that the use of online tools such as Moodle can cover the teaching and learning of English courses during the outbreak of Covid-19 (Sinaga et al., Y.YI) Moreover, based on a review study, it was shown that among the articles of Y. 12-Y. 19, YT different technologies for language teaching and learning were identified and used £.7 times. Learning English vocabulary was one of the most important components mentioned in the articles (Shadiev et al., Y.Y.) Vocabulary development is important for second language (LY) learners in both English as a Second Language (ESL) and English as a Foreign Language (EFL) contexts. Recently, much research has been devoted to how computer-assisted language learning (CALL) and mobile-assisted language learning (MALL) can facilitate vocabulary knowledge in LY learners in both EFL and ESL settings (Yang et al. et al., Y.YI) Therefore, in the present study, the impact of using technology on learning English vocabulary in Iran was investigated.

1-1. Method

Statistical population and sample size

The statistical population of the present study was $\mathfrak{q} \circ \text{ people}$, which according to Morgan's table, the sample size was equal to $\mathsf{V} \land \mathsf{people} (\mathsf{n} = \mathsf{V} \land)$ of language learners in Tehran in $\mathsf{Y} \cdot \mathsf{Y} \not \in$. The samples were selected by a simple random sampling method.

1-Y. Research tools

The current research was conducted using a standard researcher-oriented questionnaire to investigate the impact of technology on learning English vocabulary with a Likert scale.

This tool contains " questions that are graded using a five-point Likert scale. In this tool, the lowest score is " and the highest score is ' oo. For language learners to have easy access to the questionnaire, it was prepared electronically and the relevant link was provided to them. The data obtained from the questionnaire was used for analysis.

1-7. Data Analysis Method

The validity of the test was confirmed by experts and the reliability of the questionnaire was obtained based on Cronbach's alpha coefficient of

in the studied sample. Moreover, the Kolmogorov-Smirnov test was used to check the normality of the data. SPSS version ^{YY} software was used to test statistical hypotheses.

۱-٤. Results

Impact technology

In the present study, it was conducted on ^{VA} samples in order to investigate the effects of using technology on vocabulary learning of language learners. The impact score of using technology was in the range of ^{VV} to ^{VE}. The skewness index shows that the data are skewed to the left. Other descriptive information of the questionnaire is given separately in table number one.

Fre M \mathbf{S} M Ske Ku Q Q ٣ quency D edian rtosis ean wness ٣,٨ 72.70 1,.7 V. O. 19,40 47.70 1.70

Table \- descriptive statistics

Cronbach's alpha coefficient of the questionnaire in the studied sample was •,^A^. This coefficient shows good reliability. The Kolmogorov-Smirnov test was used to check the normality of the data. The test result showed that the data does not have a normal distribution (Table No. ^٢).

Table 1- Result of Rollinggolov-Simmov test					
Variable		Frequency	Test.Statistic	p.value	
Impact	οf	٧٨	1.10	<	

Table 7- Result of Kolmogorov-Smirnov test

Therefore, we considered poor scores for people who answered ξ or higher for each question except for the high score group and those who chose Υ or lower. Therefore, we considered poor scores for people who answered ξ or higher for each question except for the high score group and those who chose Υ or lower. To, ξ percent of people (on people) received high points. The rest of the people got poor points (Table No. Υ) Due to the non-normality of the data, the variable of the impact of using technology on students' vocabulary learning was converted into a two-state variable,

and to achieve the purpose of the study, a two-sentence test was used. According to table number r , the percentage of people who scored high is significantly higher than those who scored poorly (p.value= \cdot , \cdot , q) It is concluded that educational technology has impacted the vocabulary learning of language learners.

Table $^{\tau}$ - Investigating the impact of using technology on students' vocabulary learning using Binomial test

Impact	Frequenc	Percen	Test.Statisti	p.valu
of technology	y	t	c	e
Weak	77	٣٤,٦	٠,٥٠	٠,٠٠٩
moderat	٥١	٦٥,٤		
e				

Moreover, the frequency of answers to each question in the questionnaire is shown in Table ξ .

Table [€]- Frequency table of questions

questio n	I completel y disagree Freq (%)	I disagree Freq (%)	No idea Freq (%)	I agree Freq	I quite agree Freq (%)
١	.(.)	۳(۳,۸)	•(•)	۳۰(۳۸.	٤٥(٥٧. ٧)
۲	۲) ۱(۱.	o(Int)	7(7,7)	7)	۳٦(٤٦ <u>.</u> ۲)
٣	•(•)	•(•)	٤(٥,١)	٤٣(٥٥.	۳۱(۳۹ <u>.</u> ۷)
£	•(•)	٣(٣,٨)	11(15.	£7(°T.	77(71)
٥	٠(٠)	٣(٣,٨)	۱۰(۱۲.	٤٠(٥١.	70(TY.
٦	٠(٠)	۲(۲,٦)	٤(٥,١)	£9(77. A)	77(19.
٧	٠(٠)	۸(۱۰,۳)	۸(۱۰,۳)	٣٨(٤٨.	Υ ξ (٣٠. Λ)
٨	•(•)	٣(٣,٨)	٣(٣,٨)	75(57.	٣٨(٤٨.

٩	•(•)	•(•)	٤(٥,١)	£ £ (07. £)	۰) ۳۰(۳۸.
١.	.(.)	(۲,۲)۲	٧(٩)	£1(°7.	۲۸(۳۰.
11	٠(٠)	1(1,7)	۸(۱۰,۳)	£1(07.	۲۸(۳۰.
١٢	.(.)	٦(٧,٧)	٥(٦,٤)	٤٥(٥٧. ٧)	77(7).
١٣	٤(٥.	٤٧(٦٠.	۸(۱۰,۳)	1 V(Y).	7(7,7)
١٤	•(•)	٤(٥,١)	٤(٥,١)	۳٦(٤٦. ۲)	٣٤(٤٣.
١٥	.(.)	(۲,۲)۲	٣(٣.٨)	£ Y (0 T.	۳۱(۳۹. ۷)
١٦	.(.)	1(1,7)	٦(٧,٧)	٤٦(٥٩)	1)
١٧	.(.)	•(•)	٣(٣,٨)	£ Y (0 T.	٣٣(٤٢.
١٨	.(.)	•(•)	٦(٧,٧)	1)	۳۱(۳۹. ۷)
19	.(.)	•(•)	(۲,۲)۲	٥٠(٦٤.	77(TT. T)
۲.	.(.)	1(1,7)	(۲,۲)۲	٤٥(٥٧. ٧)	۰) ۳۰(۳۸.
۲۱	١(١.	۸(۱۰,۳)	۲(۲,٦)	ξ ξ (ο ٦. ξ)	777(79.
**	'(')	.(.)	٦(٧,٧)	٤٩(٦٢. ٨)	777(79.
77	.(.)	٥(٦,٤)	٦(٧,٧)	٤٧(٦٠.	7.(10.
7 £	.(.)	۳(۳,۸)	٦(٧,٧)	٤٥(٥٧. ٧)	۲٤(٣٠.
40	٠(٠)	•(•)	٣(٣,٨)	٤٨(٦١.	7 7 7 (7 5 .
**	٤(٥.	٤٦(٥٩)	٥(٦,٤)	70(70.	۳(۳,۸)
**	*) **(**. ^)	۳٤(٤٣ <u>.</u> ٦)	17(٢٠.	77(71)	۳(۳,۸)
*^	'(')	٥(٦,٤)	9(11,0)	٣٧(٤٧.	۲۷(٣٤.
	l .	<u>l</u>			

44	.(.)	1(1,٣)	1(1,7)	£9(77. A)	۲۷(۳٤.
٣.	۱(۱.	٦(٧,٧)	11(15.	٤٥(٥٧.	10(19.
٣١	۱(۱.	٤(٥,١)	٦(٧,٧)	٤٠(٥١. ٣)	۲۷(۳٤.

7. Discussion

Human societies are developing, changing and evolving at an amazing speed in different aspects of life. The progress of science and technology creates new needs along with it. Therefore, training should be done with more speed and quality. Today, more than ever, educational technology plays a role in teaching and connecting language learners to new learning opportunities. The accumulation of information and their availability in the internet space, as well as the portability of laptops and smart mobile phones, is an opportunity for language learners to improve learning in the classroom through technology and create a supplement for it. The use of technologies such as virtual learning environments allows students to participate in a space beyond the walls of their classroom. The use of online curricula, social media channels, virtual learning academies and complementary technology tools has provided access to advanced education for all language learners.

Moreover, numerous findings support the positive effects of the potential power of educational technology on improving students' attitudes toward themselves. For example, using a computer can increase the selfesteem of active control over the environment by creating a quasi-personal climate and increasing language learners' motivation. Lesson plans and exercises integrated with advanced educational technology, especially computers, can make it easier to understand challenging concepts and principles. For example, language learners who are visual learners can benefit greatly from moving and still images as well as video displays in educational software. Instrumental software can foster creativity and curiosity and create interactive experiences and internal rewards that textbooks alone cannot.

The use of technology tools and methods is in the direction that every person can learn at any time and in any place with certain facilities and in the period that he determines. The advancement of technology and most importantly the cheaper cost of using it, the use of newer tools to transfer knowledge has been considered (Ehsani, Y. V) The results of the present study also show that $^{4},^{6}$ of language learners believed that learning a language with the help of technology will reduce related costs, and it was in line with Ehsani's research (Y. NY). There are free offline or online vocabulary learning software that the learner can use at any time and place. Moreover, the wide range of words on the web makes it possible for language learners to get to know more words with examples, pictures, animations, etc. Ajisoko's research (Y·Y·) showed that the use of English language learning tools such as duolingo can increase the learning of English words and based on quantitative data, students' grades increase (Ajisoko et al., Y.Y.) Vocabulary development is important for second language (L^{\gamma}) learners in both English as a Second Language (ESL) and English as a Foreign Language (EFL) contexts. Recently, much research has been devoted to the topic that computer-assisted language learning (CALL) and mobile-assisted language learning (MALL) can facilitate vocabulary knowledge in L⁷ learners in both EFL and ESL settings (Yang et al., ۲۰۲1; Lai, et al., ۲۰۲0; Hao et al., ۲۰۲1) In the current study, ۹۲, ۳% of the participants said that through technology, a lot of vocabulary can be achieved, and also to learn words through educational applications, in addition to the meanings of words, he learned synonyms, antonyms and various examples with the help of animation videos and photos.

With the use of computers in education, the curriculum is set with comprehensive conditions and features and the problem. Individual differences that have long been present in education are reduced, meaning that if teachers in traditional education do not have enough time to get to know students and work with them individually, the computer can provide a variety of different learning opportunities and experiences. Providing learners by spending more time on learners who have learning difficulties, brings them to the desired level and thus solves individual problems in education. Also, the computer breaks the limitations of time and space and makes education impossible at any time and place (Alshwiah, ۲۰۰۹)

There is no doubt that Information and Communication Technologies (ICT) impact the way languages are being taught and learned. It can now be argued that Computer-Assisted Language Learning (CALL) is a middle-aged multidisciplinary field with a lot of experiences from different parts of the world (Zheng, Warschauer, & Farkas, Y.17) Given the advancement, it can be said that CALL has reached the stage of stability in language education; moreover, using language education software and applications has become a common social phenomenon. To plan and implement technology successfully in language education classes, however, teachers and learners should clarify their goals. In addition, all complexities and difficulties, e.g. cultural, structural, infrastructural, of integration of education into the syllabus should be considered (Warschauer & Whittaker, 1997) Finally, we would like to warn both language teachers and learners about the 'technology' s double face'. We should consider that, CALL as a pedagogical phenomenon has its own merits and demerits. Language teachers and learners should avoid 'technocentrism'. As Papert (\\quad \quad \AV) put it "When we talk about computers in education, we should not think about a machine having an effect. We should be talking about the opportunity offered us" (p. 77)

The use of technology has a great impact on creating better learning and saving the language learner's time, and the use of these educational technology facilities can increase learning in different parts of the English language. Teaching with the help of educational software makes students learn more in English language lessons. Therefore, it can be said that although educational software as a new tool has great potential to change education and learning, and the quality of teaching and learning can be improved in educational systems with their correct use, several factors prevent the use of information and communication technology in the teaching and learning process. As in the present study, 91,1% of the participants stated that when learning a language online, they face problems such as internet outages and lack of quick access to materials. This may over time reduce the motivation of the learner to continue learning. A study conducted in Y.Y. by Kibuku in Kenya considers some of the challenges revealed to include the following: Lack of adequate elearning policies, inadequate information and communication technology (ICT) infrastructure, evolving technologies, lack of technical and educational competencies and training for e-teachers and trainers, lack of an e-learning theory to underpin e-learning practice, budget constraints, and sustainability issues, negative perceptions towards e-learning, quality issues, dominance of e-learning objectives by technology and market forces, and lack of cooperation among e-learning participants (Kibuku et al., Y.Y.) The challenges in developing countries such as Iran should also be examined to minimize their impact on the implementation and delivery of e-learning initiatives in higher education institutions and individualoriented learning, and basic strategies should be adopted to take advantage of them.

Based on previous studies and the results of this study, shows that the main role of educational technology is to help improve the efficiency and quality of the teaching and learning process.

7. Conclusion

Based on the results of the present study, it can be said that technology becomes learner-centered instead of teacher-centered to increase the participation of language learners. When language learners are involved and take responsibility for their learning, they establish a more meaningful connection with the language, and their motivation and participation increase. The use of technology provides more resources for teachers. Technology encourages learners to learn a foreign language individually and develop their language skills. Technology allows language learners to break away from textbooks and explore a wide range of English content that piques their interest and enhances their language learning. By using technological tools, language learners can adjust their language learning experience according to their unique strengths and weaknesses and achieve the best possible results. The biggest reason for incorporating technology into education is the overall changes in global communication. What was once inaccessible is now easily accessible through the Internet. By connecting the world, technology opens the door to more learning opportunities. The old and limited methods of teaching are long gone and all thanks to the advancement in technology. On the other hand, language learners will have access to more resources for learning with online education. Another benefit of mixing technology and learning a foreign language is the possibility of increased interest. A traditional classroom environment is often not suitable for learning because conventional strategies do not challenge learners, but game technology has completely changed the game and increased the focus of learners because instruction can be delivered in a variety of ways. Courses that include computer-based instruction and visual aids help learners learn foreign languages in less time.

Using technology in the classroom and outside it makes the students feel more motivated. For young language learners, learning with a tablet or smartphone is more ideal than a traditional textbook. Language learners can study a foreign language using a variety of comprehensive online programs.

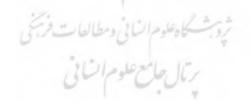
Today, almost everything has become more accessible with the advancement of technology. On the other hand, traditional learning in the classroom is very limited and can only continue as long as the language learners are present in the classroom. However, technology and foreign language learning allow learners to use a mobile phone or laptop to access the information they need whenever they need it. This not only helps learners absorb a lot of material but also provides valuable practice in the appropriate ways to use technology tools. Computer software and online tools help language learners learn material much more easily and also improve their various listening, speaking, and writing skills. It can be said that technology is most successful in keeping learners interested while engaging them in the lesson. This makes it possible to emphasize the basic building blocks of language learning, including vocabulary, reading comprehension, phonetics, and overall fluency.

Language learners often feel discouraged in the classroom environment because inappropriate learning can be embarrassing and discouraging and prevent a person from participating in different parts of the language. However, when technology is integrated with foreign language learning, learners can successfully learn critical skills without feeling embarrassed or demotivated. Also, the amount of practice that language learners do outside the classroom affects how quickly they reach language goals. Technology is a great way to do this. With access to a wide range of resources such as apps, online speaking practice, podcasts, e-books, blogs, video clips, shows and movies, learners can take control of their learning and achieve better results. On the other hand, technology, when used correctly, can be very useful and efficient. Therefore, language learners can learn each of the four language skills, including vocabulary, more quickly and accurately by using technology and without wasting time.



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تاثیر فناوری بر یادگیری واژگان انگلیسی

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چکیده	اطلاعات مقاله (۲۹۲–۲۷۷)
زشی پدیده ای است که سالهاست راه خود را به سیستم آموزشی	نوع مقاله: فناوری آمو
ست. با این وجود، با گذشت زمان و با پیشرفت علم و فناوریهای	مقاله پژوهشی باز کرده اس
ری آموزشی مورد استفاده در نظام آموزشی پیچیدهتر و پیشرفتهتر	جديد، فناو
و فراگیرتر شده است. در چند سال گذشته شاهد پیشرفت تدریجی	و به عبارتی
حال سریع در زمینه یادگیری زبان از طریق برنامه های یادگیری	تاریخ دریافت: و در عین
ک کامپیوتر (CALL) در اشکال مختلف ساده تا دشوار بوده ایم که	11 11 11
با سطوح مختلف صلاحيت زبان ارائه شده است هدف هر شكلى	به کاربرانی
آینده منجر به چش _م اندازهای تازه در آموزش و پرورش است، و	ت اریخ پذیرش : از فناوری
آموزش زبان دو حوزهای هستند که به دلیل پیشرفتهای فناوری	یادگیری و
ِات عمدهای را به خود دیدهاند. این مقاله به بررسی تاثیر استفاده	۱۴۰۳/۰۶/۱۶ فوری تغییر
موزشی بر یادگیری دانش آموزان می پردازد. جامعه آماری ۹۵ نفر	
ِان شهر تهران در سال ۱۳۹۳ بودند که با استفاده از فرمول مورگان	
، ها ۷۸ نفر (n=۷۸) تعیین و به روش نمونه گیری تصادفی ساده	
ق انتخاب شدند. داده ها با نرم افزار SPSS نسخه ۲۲ پردازش	
هها نشان داد که درصد افرادی که امتیاز بالایی کسب کردهاند	
،طور معنیداری بیشتر از افرادی است که امتیاز ضعیف (٪۳۴.۶)	
،اند (=۰.۰۹p.value). بنابراین، نتایج نشان میدهد که فناوری	کسب کرده
یادگیری واژگان دانشآموزان تأثیر داشته است.	آموزشی بر