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CAVL:
Does it develop learner's attitude?

Hojjat MALEKI
Faculty of Language and Literature,
Zanjan University, IRAN

Ali Aaghar GHASEMI
Allame Tabataba'i University, Tehran, IRAN

Mehdi MOHARAMI
Faculty of Language and Literature,
Zanjan University, IRAN

ABRTRACT

Individual's response to anything related to the immediate context can form attitudes concerning the learning situation where the language is taught. As an attempt to shed new light on the issues relevant to attitude, this study investigated the extent to which a Computer-Assisted Vocabulary Learning (CAVL), Mandegar, can improve learners' perceptions about the program. To fulfill the aim, eighty first-grade high school learners, divided as control and experimental groups, were randomly selected. Two questionnaires, in the first and last session adopted from Altiner (2011) and Bulut & Farhan (2007) respectively, were administered to the participants to investigate their perception to use CAVL in the future. The results, obtained using Paired Samples T-Test ($p=0.002 < .05$), revealed a significant difference between CAVL users and nonusers in favor of the experimental group. Students in the experimental group showed a positive attitude toward CAVL and perceived its utility for helping them speed up vocabulary learning. The present finding might have important implications for decision makers and teachers to further involve Computer-Assisted based programs to increase Language learning.

Keywords: **Attitude, Computer-Assisted Vocabulary Learning, CAVL, perception, vocabulary learning.**

INTRODUCTION

According to Barani (2013), CALL was first identified and presented on university mainframe computers in the 1960s. A crucial characteristic in the early development of CALL, namely the Plato project, was started at the university of Illinois in 1960s (Marty, 1981). In America, the computer-based introductory courses were taken by students at schools, which were referred to as 'computer-assisted instruction' (CAI) (Levy, 1997). This caused the programmers to make more books on CALL in the early 1980s, the period that has witnessed utilizing the computers by learners and teachers both in educational instructions and by people at homes. Computers have been used for language learning and teaching for almost more than three decades (Levy, 1997). Hubbard (2009) offered a compilation of 74 key articles and book excerpts which were published during the years 1988-2007 and provided all around overview of main ideas and research ideas that influenced the development of CALL.

THE HISTORY OF CALL

The history of CALL, according to Warschauer and Healey (1998), can be divided into three main stages: behavioristic CALL, communicative CALL, and integrative CALL. Each stage is related to a certain pedagogical approach.

Behavioristic CALL

According to Warschauer and Healey (1998), computer at this stage was seen as a mechanical tutor teaching which never let learners work at their own pace, and which hindered motivation.

Communicative CALL

The softwares which were brought forth in this period consisted of text reconstruction programs and simulations; the focus was on what students did with each other while working at the computer rather than on what they did with the computer.

Interactive (Integrative) CALL

At this stage, with the advent of new focus on authentic social contexts, students would be capable of using various technological tools as an ongoing process of language learning and use, instead of visiting computer lab once a week for isolated exercises.

According to Lee (2000), CALL incorporates a large number of approaches to foreign language teaching and learning, from the traditional approaches in 1960s and 1970s with drill and practice programs to more recent versions of CALL such as virtual learning environment and web-based distance learning. Interactive whiteboards, computer-mediated communication (CMC), language learning in virtual worlds and mobile-assisted language learning (MALL) are the most recent extensions of CALL.

Advantages of CALL Programs

According to Gunduz (2005), one of the most useful merits of CALL is that software venders and language teachers are independent of grammar practice as the basic goal of computer use in the language classroom. The vocabulary programs have been textualized and they might have embraced graphics, sound and video. The error checking can provide aid for learners in the response they get, and direct them to exercise more or guide them to the following stage. Abraham(2007) has indicated that teaching softwares allow students to check the meaning of unknown words right away by accessing the resources which are designed to increase comprehension. According to Lu (2010), students in CALL environment are provided with easy access to learning environments regardless of place and time, and have more motivation.

Writing process is another field in which computers are of great advantage. Some writing softwares help students in the pre-writing stage to create and outline ideas, and most word processors have spell checkers to help weak spellers be aware of their mistakes and recognize the correct spelling from a list of options (Gunduz, 2005). Higgins (1995) notes that CALL is influenced pronunciation too. Most of the pronunciation programs now let students compare their recordings with a model by providing them with responsibilities for voice recording and playing back. Most drills now include games which is the entertaining factor to motivate language teaming.

Other preferences of CALL, according to Warschauer & Healey (1998), are as the followings:

- **multimodal practice with feedback,**
- **individualization in a large class,**
- **prior or small group work on projects,**
- **fun factor,**
- **variety in the resources available and learning styles used,**
- **exploratory learning with large amounts of language data, and**
- **real-life skill-building in computer use.**

Computers act as a tutor; they assess the learner's reply, record it, point out mistakes and give explanations about them, and guide the students to find the correct answer. They offer interactive learning. According to Gunduz (2005), computers can repeat an activity without any of the learners' errors which arise by repetition. They can interact with and deliver feedback to the students. It also can accommodate different speeds of learning, as Gunduz noted in her article.

What are the roles of teachers and students when studying English with the help of computer applications or Internet? Although the Internet is considered as a useful source in language learning, the teachers' preparation to incorporate computers into the classroom is dominant for the achievement of methodological and pedagogical goals, and that is why teachers should be trained for it. As Davies (2002) stated, "a growing disparity between technology and effective classroom implementation can be noticed" (p. 5). Teachers should clearly figure out curricula objectives which are going to be gained and procedures which are used during lessons. Davis (2002) adds that e-learning increases students' motivation and eagerness; empowers teaching and learning and gives a learner the responsibility to reach out for native-speaking content.

Disadvantages of CALL programs

Gips, Dimattia & Gips (2004) claimed that computers would increase educational expense and decrease the impartiality of education which eventually lead to be a great burden for parents and schools.

The second disadvantage is the necessity of having basic knowledge about computer for language learning for both students and teachers. As a result, those students who do not have adequate technological training will not adore the positive points of computer technology (Roblyer, 2003).

Imperfection of computer assisted language learning programs is the third drawback. Reading, listening and writing are skills that current computers mainly deal with them. Although some speaking programs recently have been developed, their functions are still narrow. Warschauer (2004) indicates that a program should be able to understand spoken input for evaluation of its correctness and appropriateness. Programs should have capability of diagnosing student's pronunciation, syntax, or usage problems.

Fourth, Computers cannot respond to student's questions as quickly as teachers do due to limitations in artificial intelligence of computers. Humans and computers use information in different ways and this is why computers are unable to interact effectively (Dent, 2001). Blin (1994) claims that current computer technology and its programs are not well equipped with enough intelligence to be thoroughly interactive.

Attitude

Gardner and Lambert (1972) believes that attitudes toward the learning situation are concerned with the individual's reaction to anything relevant to the immediate context

where the language is taught. They added that these attitudes, regarded as socioeducational model, are considered relative to others in the class.

Gardner and Smythe (1981) maintained that the nature of a specific language class might bring different attitudes. Attitudes toward leaning situation can be evaluated via evaluation of the teaching environment and classmates. But two scales in the AMTB, Evaluation of the Course and Evaluation of the Teacher, can reveal much of the crucial variation in learners' attitudes (Masgoret & Gardner, 2003).

Attitude and Language Learning

Participants' motivation can regulate the attitude of leaning tasks (Oxford & Shearin, 1994). This attitude can be also determined by the speakers of the language or the context where the language is spoken (Holmes, 1992). Additionally, stress and anxiety originating from learning contexts may lead to learners' positive or negative attitudes (Johnson & Johnson, 1998). The type of the task is also an influential factor in forming learners' attitudes (Sarason & Sarason, 1990). He pointed out that the students attending school or university exams would show lower motivation as compared with the students who learn the material without any assessment and test at the end of the curriculum. Vallerand and Reid (1984) believed that motivation can be strengthened in case of positive feedback they may receive from their performance.

RESEARCH QUESTION

The high school students' difficulties and the resulting challenges for teachers inspired the researcher to involve students in learning the vocabulary via CAVL program in order to study the effectiveness of this language teaching software in developing the perceptions of learners. In other words:

Q1: What are the high school-level students` attitudes about learning academic vocabulary with Mandegar (a computer-based learning program)?

METHOD

Participants

The participants, 80 first-grade high school students, were learning English as one of their courses at high school in Iran. They were all males, about fifteen years of age and had studied English as a compulsory high school course for the preceding three years. Two classes were randomly assigned as the experimental group and two classes as the control one. Their course book, based upon Grammar Translation Method, was the same. The experimental group learned and practiced new words through using spaced repetition computer software; the control group learned vocabularies via traditional teaching techniques, i.e. using synonyms, exemplifications and vocabulary drills. Both groups studied the vocabulary items of the same textbook under none-native teacher's supervision.

Instructional Software and Materials

The vocabulary learning computer software based on spaced repletion learning, a spaced repetition software, Mandegar leitner box (a software revised in Iran), was used for the experimental group to help learners foster the high school textbook vocabularies. According to Dr. Sida (2014), the creator of Mandegar, it is a program which facilitates remembering of vocabulary items. He believes that the technique is much more efficient than the traditional one to increase the amount of vocabulary and decrease the time that they generally spend for studying to remember vocabulary items ("Leitner Box", 2013).

The function of the software is based on a flashcard system with the question on the front and the answer on the back of the card. However, the appearance of Mandegar does not look like the paper flashcards. When we click on Show Answer button, the question part is also seen by default (See Figure 1).

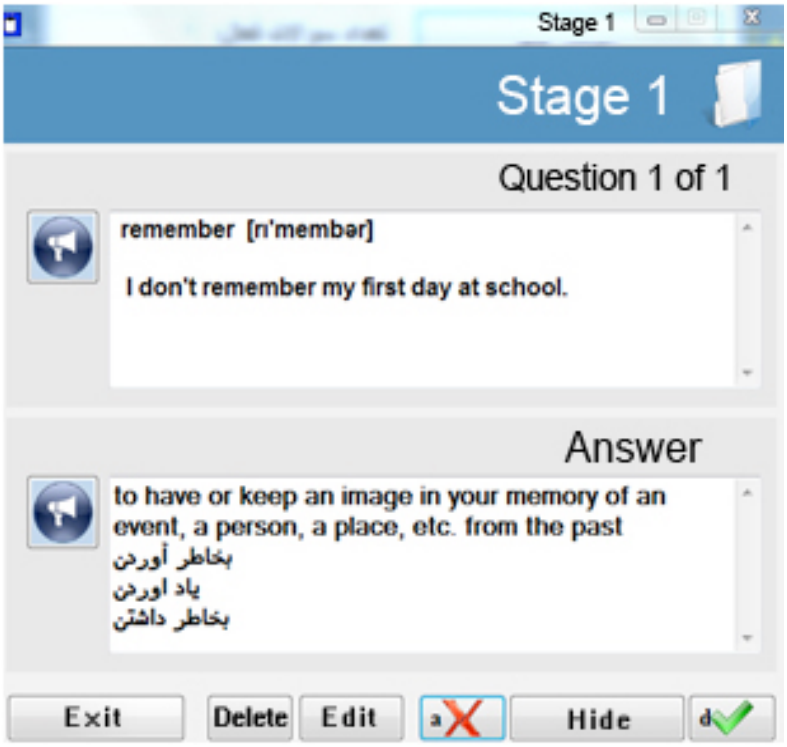

Figure: 1
Screen Shot of the Mandegar (Recognition Card)

It is possible to create two styles of flashcards in different groups that are recognition cards and recalling cards. In the recognition card format, learners are given some contextualized vocabulary and are asked if they can understand it. However, the disadvantage of this card system is that words cannot be incorporated into active vocabulary of learners so that learners can easily recognize the words (See Figure: 1).

For recalling cards, learners are expected to produce an answer in the target language. In this technique, the translation of the vocabulary in the learner`s native language will be presented first and the learner is required to find the correct word in the target language. In recalling technique, the definition of the vocabulary as well as an example is given to students on the front part. The definitions, meanings and example sentences were all taken from Oxford Advanced Genie and Lingvosoft Dictionary softwares. The examples were selected according to their comprehensibility for the students at this level.

After showing questions to the learners, they are required to concentrate on finding the answer in order to recall the correct answer. When the learner is ready, "Show Answer" option should be clicked and the following options on the flashcard will be displayed (See Figure: 2).

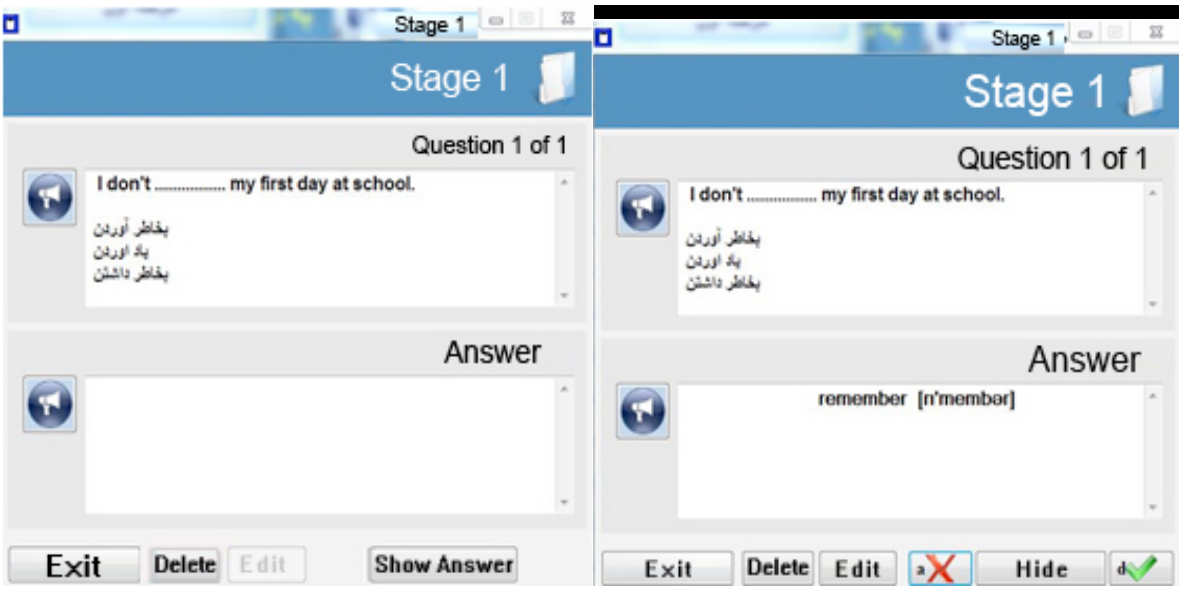

Figure: 2
Design of the Mandegar (Recalling Card)

Subsequently, learners choose an option based on how they remember the target item; push either true answer or false answer bottoms. Every time the learner remembers a word correctly, they will be shown the same word again after a longer period of time and if the learner cannot remember it correctly, the word will be carried over to the first stage for relearning. Audio pronunciation of new word is available in the software and the written form of it can also be added to the flashcard to present the appropriate pronunciation of the vocabulary item.

In the control group, the same textbook vocabularies were taught through synonyms, exemplifications and practicing vocabulary.

Questionnaire. In the first and the last sessions, in order to probe the learners' perspectives on CAVL and to see whether they were satisfied with the teaching technique or not, two questionnaires were administered. The purpose of the questionnaires was to discover two types of information about the participants in the computer group.

The first section of the questionnaire, run in the first session, focused on the participants' personal information based on nine Likert-scale items (1=strongly disagree, 2=disagree, 3=not sure, 4=agree, 5=strongly agree) to measure learners` ability in using computer or the internet, their comments about vocabulary learning and the role of the technology in this process (See Appendix B).

The second section of the questionnaire was used to determine participants'reworks, attitudes and feelings about the CAVL again through 10 Likert-scale items (see Appendix C).

This test was administered in the last session. Both sections of the questionnaire were adopted from Altiner (2011) and Bulut & Farhan (2007) respectively. Kudar-Richardson

Reliability Coefficient (KR 21 Formula) has been used to measure the reliability of the tests which were 0.83 and 0.82 respectively.

Procedure and Data Analysis

In this study, all of the students took part in their usual classes because of the educational regulations. It is worth mentioning that homogeneity of students was ensured, according to students' scores in the preceding term. The number of participants was 80; they were randomly assigned to four groups consisting of 20 students, i.e. two experimental and two control groups marked as groups 1 and 2.

The students in group 1 were treated using spaced repetition computer software (Mandegar software). In the learning phase, the participants learned their course vocabularies making use of Mandegar software every day for 8 weeks . The classes were held two sessions a week, each session one hour and a half in the computer room of school; 10 new words were introduced to the learners every session. Yet, they had the option to choose the number of cards they wanted to review each session. For this study, learners were told to review at least 10 words a session, but they had the chance to increase this number according to their own pace. Mandegar is based on the spaced repetition learning system, which aims at helping learners to review target words for a short period of time every day.

In the case they were not able to do it in a single session, they could leave new cards blank and when they open it for the next time, the software will prevent any new cards from being shown. In way, learners will not have too many new items to review a day.

Students could have access to computers every day. They were told that Mandegar could be installed on laptops as well as on desktop computers. Hence, they could bring and use their laptops in class. A detailed presentation was given to students about how software works. The students in control group received ordinary classroom instructions each session. In order to teach the new vocabularies, the learners were asked to close their books and then the following steps were taken. The first step consisted of reading aloud each vocabulary item two or three times then a short pause was made so that the students could learn the correct pronunciation.

The second step included reading out each vocabulary two or three times again, and allowing the students to repeat the words. In the third step the students were requested to open their books to the intended page and only listen to the teacher as the vocabulary items were read out to them. The last step consisted of going through the word list and explaining each word by presenting examples and writing the synonyms and antonyms on the board.

RESULT

Descriptive statistics

The first one related to the learners` ability to use computer or Internet, their attitudes about vocabulary learning and the role of the technology in this process and the next one was used to determine participants'thoughts, attitudes and feelings about the CAVL.

The students were asked to circle the intended item according to the level of agreement (i.e. 1-Strongly Disagree; 2-Disagree; 3-Neutral; 4-Agree, 5-Strongly Agree). The percentage for each item was calculated as seen in table1 and table: 2.

Table: 1
Student's Perceptions about Vocabulary Learning and the Role of the Technology

NO	Statement	SD	D	N	A	SA
1	I feel comfortable using computers.	2.5	12.5	7.5	42.5	35.0
2	I feel comfortable using the Internet.	7.5	20.0	15.0	37.5	20.0
3	I often use online resources to improve my English.	22.5	60.0	15	2.5	-
4	I feel comfortable studying English independently	2.5	15.0	25.0	42.0	15.0
5	I think vocabulary is an important part of language learning.	-	15.0	12.0	37.5	35.0
6	I know how to study vocabulary effectively.	25.0	62.0	-	10.0	2.5
7	I enjoy learning vocabulary.	25.0	50.0	2.5	17.5	5.0
8	Learning vocabulary is easy.	52.5	30.0	-	12.5	5.0
9	I think computers and the Internet can help me improve my English vocabulary.	2.5	10.0	50.0	25.0	12.5

As evident from table1, most students feel comfortable in using computers and internet while 60 percent of students do not use online resources to improve their English.

42 percent like to study vocabulary independently. Results shows that 37 percent of students agree that vocabulary play an important role in learning language but they do not know how to improve their vocabulary knowledge and consequently they do not enjoy learning vocabulary.

Fifty percent of students do not have any opinion about the statement of using computer and the Internet to help them improve their English vocabulary.

Table: 2
Participants Thoughts, Attitudes and Feelings about the CAVL

NO	Statement	SD	D	N	A	SA
1	After taking CAVL courses, I know how to benefit from my PC to improve my English vocabulary.	2.5	10.0	-	60.0	27.5
2	CAVL is a stress-free environment to learn English.	-	2.5	2.5	7.5	87.5
3	CAVL is a more casual way of learning.	72.5	15.0	5.0	7.5	-
4	I know more about how to use computers after having taken CAVL courses.	20.0	50.0	5.0	17.5	7.5
5	It takes less time to learn vocabulary during CAVL classes.	5.0	20.0	32.5	25.0	17.5
6	I do not have technical problems in using computers during CAVL classes.	7.5	25.0	2.5	60.0	5.0
7	I prefer CAVL to traditional classrooms for Learning vocabulary	12.5	22.5	-	47.5	17.5
8	I prefer to read and learn vocabulary via computers.	10.0	25.0	2.5	45.0	17.5
9	Learning vocabulary via computers is more interesting and useful when supported with more information such as pronunciation of vocabulary.	7.5	12.5	10.0	52.5	17.5
10	Computers help me self-correct my spelling and pronunciation.	5.0	12.5	2.5	32.5	47.5

Table: 2 presents the results of the questionnaire administered after the treatment. As seen in this table, sixty percent of students know how to benefit from computer to improve their English vocabulary.

The students agreed that they feel comfortable in CAVL environment to learn English and it takes less time to learn vocabulary through computer. Sixty percent of them did not have technical problems in using computers and about 47 percent of students preferred CAVL strategy to traditional methods and wanted to read and learn vocabulary via computers.

Learning vocabulary via computers was more interesting and useful for about 52 percent of students when supported with more information such as pronunciation of vocabulary. About 47 percent of learners strongly agreed that CAVL strategy can help them self-correct their spelling and pronunciations.

In order to find out whether student's overall attitudes toward CAVL is positive or not, a paired samples T-test was conducted. Table3 and 4 display the results.

Table: 3
Descriptive Statistics for Paired Samples T-Test Comparing Two Questionnaires before and after the Treatment

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	First Q	2.9250	40	.31163	.04927
	Second Q	3.3650	40	.82913	.13110

The results indicated that the overall mean of the 40 respondents before and after treatment were (2.92) and (3.36) respectively. It shows that the student's attitudes have changed toward using computers in leaning vocabulary. Table4 shows the paired samples test outcomes.

Table: 4
Paired Samples T-Test Comparing Two Questionnaires before and after the Treatment

	Paired Differences							
	Mean	Std. Deviation	Std. Error Mean	95% CI Lower	95% CI Upper	t	Df	Sig. (2-tailed)
Pair 1	.44000	.83218	.13158	.70614	.17386	3.344	39	.002

Table: 4 shows that the sig. value of test is (p=0.002<0.05), revealing that the students' overall attitude toward CAVL strategy is positive.

DISCUSSION

Regarding the research question, students' attitudes toward using computer in learning vocabulary elicited from two questionnaires, the study has come to an answer that students in general have developed a positive attitude toward using CAVL method. The results would seem to indicate that learners` negative perceptions about vocabulary learning might improve by adopting new strategies, such as technology integration into learning and teaching.The findings support many researchers' claims in terms of the leaners' perception after using a computer-based program for increasing the speed and amount of vocabulary. The results of current study are compatible with those achieved by Altiner (2011). Having examined the effectiveness of computer based flash card program on academic vocabulary learning and the perception of college-level ESL students, Altiner reported that the negative perceptions of learners change. He added that learners' attitude toward using this software was positive and they found it useful, usable and enjoyable.

This result is also endorsed by other researchers who have shown that students prefer to use different technologies and technology use can generate positive attitudes in learners (Oblinger, 2005). Moreover, other surveys revealed that computer-based flashcard

programs to a great extent can enhance learners` motivation by including various multimedia possibilities (Allum, 2004; Hulstijn, 2001; Nakata, 2011).

CONCLUSION

The prime goal of the current study was to investigate learning vocabulary via computer assisted vocabulary learning software by EFL high school students in Iran and its contribution to leaners' perception. In order to find the answer to the posed question, this study was conducted with 80 first grade high school students. They were assigned in to two experimental and control groups. The students of the experimental group were treated by using spaced repetition computer software (Mandegar software). The students in the control group however, received ordinary classroom instruction in each session. The result appeared to manifest that learners' perception improve by incorporating computerized devices.

SUGGESTIONS FOR FURTHER RESEARCH

The previous section highlighted the fact that there exist the possibilities of exploring the study in variously different ways so that considering this fact, the improvements and outcomes may be far better. This research was carried out on first grade high school students. Students at different age range and language proficiency levels can be subject to see whether CAVL has different effects on them. The same experiment with female students would be necessary to support the findings of this study. Other settings, exclusive of public school, could be selected and used such as language institutes, universities, and the like. Future research may examine computerized instruction on different language skills such as reading and writing.

BIODATA and CONTACT ADDRESSES of the AUTHORS

Hojjat MALEKI, MA holder from Zanjan University, is a Member of English language teaching groups of high schools of Iran. His main research interests are CALL, vocabulary acquisition and language testing.

Hojjat MALEKI, Faculty of Language and Literature,
Zanjan University, IRAN
Phone: 0989143919330
Email: Maleki.hojjat@gmail.com

Ali Aaghar GHASEMI, MA holder from Allame Tabataba'i University in Iran, is Ghasemi is Lecturer at the Aeronautical University of Shahid Sattari. He has presented a number of articles in ESP, CALL, Vocabulary Acquisition, Language Testing and Teacher Education. His papers have been published in national and international journals and conferences.

Ali Aaghar GHASEMI,
Allame Tabataba'i University,Tehran, IRAN
Phone: 0989112176901
Email: ghasemi.aliasghar@gmail.com

Mehdi MOHARAMI, graduate of Zanjan University in TEFL, has been teaching English in numerous language schools in Tehran. He is interested in the fields of First and Second language acquisition, CALL and Language Testing.

Mehdi MOHARAMI,
Faculty of Language and Literature,
Zanjan University, IRAN
Phone: 0989102090571
Email: mehdi.6788@gmail.com

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APPENDIX A

Questionnaire One

For the questions 1-9, indicate your answer by circling the appropriate number to match your opinion.

Name: …… Class: …… For the questions 1-9, indicate your answer by circling the appropriate number to match your opinion	Strongly disagree	Disagree	No opinion	Agree	Strongly Agree
1. I feel comfortable using computers.	1	2	3	4	5
2. I feel comfortable using the Internet.	1	2	3	4	5
3 .I often use online resources to improve my English.	1	2	3	4	5
4 .I feel comfortable studying English independently.	1	2	3	4	5
5 .I think vocabulary is an important part of language learning.	1	2	3	4	5
6 .I know how to study vocabulary effectively.	1	2	3	4	5
7. I enjoy learning vocabulary.	1	2	3	4	5
8. Learning vocabulary is easy.	1	2	3	4	5
9 .I think computers and the Internet can help me improve my English vocabulary.	1	2	3	4	5

APPENDIX B
Questionnaire Two

Name: ..... Class: ..... For the questions 1-10, indicate your answer by circling the appropriate number to match your opinion.		Strongly disagree	Disagree	No opinion	Agree	Strongly Agree
1	After taking CAVL courses, I know how to benefit from my PC to improve my English vocabulary.	1	2	3	4	5
2	CAVL is a stress-free environment to learn English.	1	2	3	4	5
3	CAVL is a more casual way of learning.	1	2	3	4	5
4	I know more about how to use computers after having taken CAVL courses.	1	2	3	4	5
5	It takes less time to learn vocabulary during CAVL classes.	1	2	3	4	5
6	I do not have technical problems in using computers during CAVL classes.	1	2	3	4	5
7	I prefer CAVL to traditional classrooms for Learning vocabulary	1	2	3	4	5
8	I prefer to read and learn vocabulary via computers.	1	2	3	4	5
9	Learning vocabulary via computers is more interesting and useful when supported with more information such as pronunciation of vocabulary	1	2	3	4	5
10	Computers help me self-correct my spelling and pronunciation.	1	2	3	4	5