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Research Article

A Review of Research in Computer-Assisted Language Learning (CALL) in Iran**Negin Naderi**

Department of English Language Teaching, Shiraz Branch, Islamic Azad University, Shiraz, Iran

Ngin.ndr76@gmail.com

ABSTRACT

As a form of the use of technology in the field of English language learning/teaching, Computer-Assisted Language Learning (CALL) or the use of computers in language learning and teaching began in early 1970s and since then it has found its way into the field rapidly. Since 1970s, increasing use of computer as an instrument for facilitating the process of language teaching and learning and providing language learners and teachers with opportunities and resources for higher language achievement has been shown to be promising in English language teaching (ELT). However, just recently CALL materials have been applied in the Iranian educational system and particularly English Language Teaching field. In other words, still traditional mainstream teaching methods, techniques and materials are being used in many educational environments including schools and institutes. In this paper, theoretical background of CALL is presented followed by a section on CALL and language learning. Then, the researcher reviewed previous studies on CALL in Iran. Finally, the study is concluded.

Keywords: Technology, language learning, computer-assisted language learning (CALL).





1. INTRODUCTION

As a form of the use of technology in the field of English language learning/teaching, Computer-Assisted Language Learning (CALL) or the use of computers in language learning and teaching began in early 1970s and since then it has found its way into the field rapidly (Elyasi & Pourkalhor, 2014). Some scholars (e.g., Mayer, 2005; Agca & Özdemir, 2012) believe that computer makes foreign language materials easy to access and use and makes language learning more meaningful through personal engagement. This meaningfulness is justified by the combination of words and pictures which enables language learners to establish verbal and pictorial mental models and benefit from connections between them. Also, they justify computer use in the educational settings by saying that CALL may promote language learners' motivation by personalizing information.

Since 1970s, increasing use of computer as an instrument for facilitating the process of language teaching and learning and providing language learners and teachers with opportunities and resources for higher language achievement has been shown to be promising in ELT (Habbash, 2015; Watmani et al., 2024). However, just recently CALL materials have been applied in the Iranian educational system and particularly English Language Teaching field (Mousavi et al., 2024). In other words, still traditional mainstream teaching methods, techniques and materials are being used in many educational environments including schools and institutes. Thus, inevitably many stakeholders in ELT field, including English language teachers and learners are not familiar with the new positive opportunities and potentials of incorporating computer technology into English language teaching programs. In this review paper, the researcher will cover the following sections: technology and language learning, CALL and its theoretical background, CALL and language learning, previous studies on CALL in Iran, and conclusion. Novelty of this study is closely tied to novelty of technology in language teaching. Given that technology in language teaching is not old, any study on this issue is considered novel. This study contributes to knowledge base in the realm of technological education and educational technology.

2. TECHNOLOGY AND LANGUAGE LEARNING

The last decades of the 20th century have been characterized with the development of technology in human life. One of the manifestations of developments that are used in teaching-learning processes is the use of electronic tools as means for transferring the usual classroom activities to the cyberspace, while conferring



students and instructors with a superior connectivity for the development of one-on-one and many-to-one relationships (Luján-Mora & de Juana-Espinosa, 2007).

According to Namvar and Rastgoo (2008), the role of new technologies in changing education and improving learning and teaching in education cannot be ignored. Today, some universities and institutes use various technologies to apply virtual and distance education.

Appearance of new technologies has an enormous effect on all levels of human life. Education also has been affected by these technologies. Internet and its facilities have had the most prominent effects in relation to other technologies. The belief is that technology can motivate students to write and do research and also read other lines of research, give them a platform to explore and analyze the various internet materials they gain both independently out of the class and in the classroom (Oravec, 2003).

Application of technologies is considered as a shift of paradigms through which learners learn “How to learn” instead of “learning certain subjects and materials” and using them in education makes achieving this aim easy by providing students with the opportunity to write and publish their ideas, read other experts’ writings, create cooperative and collaborative environments and so on (Du & Wagner, 2005).

A prominent manifestation of the use of technology in language learning is CALL. According to Beatty (2003), the application of Computer-Assisted Language Learning (CALL) may be helpful for learners to improve their reading, writing, listening and speaking skills, and their autonomy in learning. Jones and Fortescue (1987) stated that computers may be useful in developing the learners’ reading skills in three areas of incidental reading (reading for the purpose of completing the activity successfully); Reading comprehension (presentation of traditional questions through CALL software and learners should give an immediate response for reading comprehension) and Text manipulation (in which software programs offer various types of continuous texts that learners can study both in terms of content and structure). Also, Jones and Fortescue (1987) believed that because developing reading skills involves deducing the meaning of new words from context and training students to read efficiently, various kinds of exercises such as matching the words with their meanings or displaying are offered by software programs.

Similarly, Healey (1999) referred to benefits of computers in developing reading skills such as skimming, scanning, recognizing details, main ideas, topic sentences and quick reading. Also, He believed that CALL may be helpful for learners in improving their writing skills. As an example, he mentioned that word processing programs are useful and time saving in the sense that the students can add a paragraph or check grammar mistakes easily while writing their assignments and the students are provided with various types



of options which enable them to add tables and save the changes in a text. Besides, students can revise their writing and better organize their assignments by checking the spelling, punctuation and sentence structure. This view has also been mentioned by other researchers (e.g., Howie, 1989; Dunkel, 1991; Neu & Scarcella, 1991).

3. CALL AND ITS THEORETICAL BACKGROUND

The field of CALL involves the use of a computer in the language learning process with the aim of teaching various aspects of the language learning process through the use of the computer (Fatehi Rad & Atashdast, 2023; Rayani & Fatehi Rad, 2023). CALL is a relatively new field which is tied to other fields including psychology, Second Language Acquisition (SLA), Artificial Intelligence (AI), Computational Linguistics, Instructional Technology and Design and Human Computer Interaction (HCI). Thus, it can be said that CALL is interdisciplinary in nature. This interdependence is both positive and negative. It is positive in the sense that this makes CALL an interesting and it is negative because of the huge amount of available knowledge on the issue.

According to Ellis (2004), CALL is a form of computer-based learning which is characterized by bidirectional learning and individualized learning. He believed that the CALL is concerned with learning not teaching, because CALL materials are used in teaching with the aim of facilitating the language learning process.

However, in spite of its multidisciplinary nature, some researchers believe that Because there exists no universally accepted theoretical basis for practitioners in the field, CALL is not a mature field and lacks a theoretical framework and this makes comparison of different study findings difficult it hard for researchers.

4. CALL AND LANGUAGE LEARNING

According to Beatty (2003), the application of CALL may be helpful for learners to improve their reading, writing, listening and speaking skills, and their autonomy in learning. Similarly, Healey (1999) referred to benefits of computers in developing reading skills such as skimming, scanning, recognizing details, main ideas, topic sentences and quick reading. Also, He believed that CALL may be helpful for learners in improving their writing skills. As an example, he mentioned that word processing programs are useful and time saving in the sense that the students can add a paragraph or check grammar mistakes easily while writing their assignments and the students are provided with various types of options which enable them to



add tables and save the changes in a text. Besides, students can revise their writing and better organize their assignments by checking the spelling, punctuation and sentence structure.

Some scholars (e.g., Hanson-Smith, 2000; Pennington, 1989) discussed about the potential of computer programs for developing the learners' listening and speaking skills. They stated that listening software programs provide voice tracks that allow students to hear a native speaker. These programs allow students to hear the parts that they do not understand over and over again. Also, students also have the opportunity to develop their pronunciation.

Regarding CALL advantages for second language learning, there is a consensus among educators that using computer technology and its related language learning programs paves the way for independent and collaborative learning environments and provide students with language experiences in various stages of second language acquisition.

In their opinion, CALL

- provides the students with the experiential learning,
- gives them more learning motivation,
- enhances their academic achievement, increases authentic study materials,
- encourages greater interaction between teachers and students and students and peers,
- emphasizes the individual needs,
- administers useful stimuli for language learning,
- provides multisensory input and higher-level tasks,
- provides visual and audio materials,
- provides authentic materials and tasks, a lot of fun games and communicative and interactive activities that reduce the learning stress and anxiety,
- provides repeated lessons as often as necessary,
- Provides an enriched environment that can help students develop a positive attitude towards CALL,
- Increases learners' motivation,



- provides new opportunities to promote language development by improving reading, writing, listening, and speaking skills as well as grammar, vocabulary knowledge and pronunciation,
- includes infinite source, materials and aids that students can build on their language learning focusing on each skill or focusing on the language,
- can help language learners strengthen their linguistic skills,
- provides various communicative and interactive activities,
- affects learners' learning attitude,
- Helps learners build their self-instruction strategies and self-confidence,
- makes mechanical exercises and drills more interesting and effective in grammar and vocabulary learning,
- helps learners develop their self- esteem and this,
- allows flexibility and individuality in test administration,
- can tailor the test items in terms of difficulty according to the test takers proficiency,
- Can provide more accurate assessment of the examinee's language ability because computers are more accurate than humans in scoring and reporting the results,
- may minimize any special practice effects, studying for the test, and cheating,
- provides diagnostic feedback very quickly and effectively to each student on his or her incorrect answers,
- allows students to work at their own pace,
- Allows shorter tests than traditional testing,
- involves simulations, multimedia production, and communicative and interactive input,
- provides the interdisciplinary and multicultural learning opportunities for students,
- provides students with chance of independent studies,



- have a unique instructional capability for topics that involve social situations or problem solving, such as interpersonal solving, foreign language or second language learning,
- Provides the necessary environment, equipments and privacy for students,
- Provides technology-learning environment,
- provides a less threatening, rich environment and stress free atmosphere,
- provides students with the chance to express themselves better than face-to-face interactions in a classroom,
- provides students with a more relaxed learning atmosphere

In spite of its potentials and benefits, CALL has its own shortcomings and disadvantages which have been recognized by the researchers in the field. These include:

- financial problems,
- hardware problems,
- Software problems,
- internet connection problems,
- users' fatigue and loss of concentration,
- increased educational costs
- harm to the equity of education,
- need to computer expertise,
- need to basic technology knowledge and training courses in computer technology,
- need to adaptability on the part of teachers,
- limitations of computers in processing the complex language input,
- limitations of computers in dealing with learners' unexpected problems, questions and responses,



- frustration generated due to down servers or broken links,
- need to a large number of items in an item bank (compared with traditional language testing),
- being time consuming and costly (compared with traditional language testing),
- need to technical algorithms in computer adaptive test (CAT),
- need to the larger sample size for pre-test and calibration,
- problems of estimating ability reliability.

5. PREVIOUS STUDIES ON CALL IN IRAN

Talebinezhad and Azizi Abarghoui (2013) investigated the Iranian high school students' general attitudes towards computer- assisted language learning (CALL), and using CALL for teaching EFL receptive skills including reading and listening. It was shown that students have a positive attitude towards integrating CALL into the curriculum. Moreover, it was revealed that the participants have a positive attitude toward CALL for listening and reading skills.

Zarei and Hashemipour (2012) investigated the effect of CALL on EFL learners' general and academic self-efficacy. According to the results, a significant difference exists between the effects of CALL and traditional instruction on Iranian EFL learners' general and academic self-efficacy. That is, CALL has a significant impact on EFL learners' general and academic self-efficacy.

Nosrati (2015) explored EFL students' and teachers' perceptions of the use of computer technologies and their use in foreign language teaching and learning. According to the obtained results, both teachers and learners had positive attitudes toward computer technology use in foreign language teaching and learning. The other finding of the study was that there was a significant difference between the teachers' and the learners' attitudes toward CALL applications.

Ghanbari et al. (2015) investigated the effect of a computerized program on developing vocabulary and reading comprehension of Iranian EFL learners. The results showed significant differences between the mean scores of experimental and control in favor of the experimental group, confirming the significant effect of the program on vocabulary and reading comprehension of the learners.



Sadeghi (2013) sought to see whether CALI has a significant impact on English language learning in Iranian learners. As shown by the results of t-test, there was a statistically significant difference between the experimental and control groups' post-test mean scores, showing a significant effect of CALI on English language learning.

Iravani and Tajik (2012) dealt with the impact of computer assisted grammar teaching on students' grammar learning. According to the results, using CALL in teaching grammar leads to a significant improvement on the students' grammar learning. Therefore, it can be concluded that computer assisted grammar teaching has a significant effect on students' grammar learning.

Tabatabaei (2017) sought to investigate the effect of CALL on learning idioms among EFL learners. As revealed by the results, those benefited from CALL could learn the idioms significantly better than the group who was taught through traditional method. This implies that CALL significantly affects EFL learners' idiom learning.

Ghalami Nobar and Ahangari (2012) investigated the effect of CALL on improving Iranian EFL learners' task-based listening. According to the results of data analysis, as a result of using CALL, a significant improvement of EFL learners' listening comprehension was observed. Therefore, it can be concluded that CALL significantly impacts improving Iranian EFL learners' task-based listening.

In a study by Alavi and Abdollahipour (2014), the effect of technology confidence, computer accessibility, frequency of use, level of education, gender, and age was explored on learners' attitudes towards CALL in university courses. It was shown that the students' gender is significantly correlated with their attitudes towards CALL. Also, the students' computer access, computer use, computer literacy, technology confidence and their attitudes towards CALL were found to be significantly correlated. But the relationship between the students' age, level, and teaching experience and their attitudes towards CALL was not significant.

Hoseini (2014) sought to investigate the effect of using weblog on Iranian EFL learners' descriptive paragraph. In comparison with the traditional method of teaching writing using weblog was significantly more effective on the descriptive paragraph of the Iranian EFL learners. Therefore, it was concluded that using weblog has a significant impact on Iranian EFL learners' descriptive paragraph.



Behjat and Yamini (2011) investigated the differential effects of weblogs, wikis, and podcasts on EFL learners' writing skill. As indicated by the results, all the tools led to a significant improvement in the students' writing scores. According to this result, a significant effect of wikis, weblogs, and podcasts on the Iranian EFL learners' writing ability is concluded.

Ahmadi (2018) reviewed the existing literature on the role of new technologies in EFL learning. The bottom line of the review was that a technology plan should be implemented wherein integration strategies and purchasing decisions are taken into account. It was also recommended that in using technology, the attitudes of teachers unfamiliar with the advantages of technology should be changed for the effective use of technology. Moreover, it was argued that when using technologies in the classroom, teachers should use the most effective educational approach.

Sedaghatkar (2018) investigated the effect of CALL on Iranian university students' vocabulary retention. According to the results, immediately and one month after instruction, a significant difference was found between vocabulary scores of the experimental and control groups. This shows that CALL plays a significant role in the immediate and delayed vocabulary retention of the students.

6. CONCLUSION

This paper reviewed the Iranian studies conducted on CALL. The prevalent trend observed in the studies is that most of the studies have dealt with the effect of CALL on various skills of English language among the Iranian EFL learners. Besides, one study touched the effect of CALL on learners' self-efficacy. And learners' attitude towards using CALL was the subject of one of the reviewed studies. The common finding among most of the studies was that CALL has a significant effect on English learning among EFL learners.

REFERENCES

- Agca, R.K., & Özdemir, S. (2012). Foreign language vocabulary learning with mobile technologies. *Procedia - Social and Behavioral Sciences*, 83, 781-785.
- Alavi, S., & Abdollahipour, M. (2014). The effect of technology confidence and computer accessibility on EFL university students' attitudes towards the use of call in university courses. *International Journal of Language Learning and Applied Linguistics World (IJLLALW)*, 7(3), 289-299.



- Beatty, K. (2003). *Teaching and researching computer assisted language learning. Applied Linguistics in Action Series*. Pearson Education.
- Behjat, F., & Yamini, H. (2011). E-Tools to assist EFL learners' writing skill: Wikis, weblogs, and podcasts. *The Journal of Applied Linguistics*, 4(1), 27-32.
- Du, H.S., & Wagner, C. (2005). Learning with weblogs: An empirical investigation. In *Proceedings of the 38th Annual Hawaii International Conference on System Sciences (HICSS-38)*. IEEE Computer Society.
- Dunkel, P. (1991). *Computer-assisted language learning and testing: Research issues and practice*. Newbury House.
- Ellis, R. (2004). Individual differences in second language learning. In A. Davies, & C. Elder (Eds.), *The handbook of applied linguistics* (pp. 525-551). Blackwell.
- Elyasi, L., & Pourkalhor, O. (2014). The Effect of recorded instructional tv programs and traditional teaching on Iranian high school students. *Asian Journal of Management Sciences & Education*, 3 (3), 125-131.
- Fatehi Rad, N., & Atashdast, M. (2023). Investigating the effect of input-based and output based instruction through divergent and convergent tasks on Iranian EFL learners' learning English idioms. *Journal of English Language and literature Teaching*, 2(1), 15-26.
- Ghalami Nobar, A., & Ahangari, S. (2012). The impact of computer assisted language learning on Iranian EFL learners' task-based listening skill and motivation. *Journal of Academic and Applied Studies*, 2(1), 39-61.
- Ghanbari, N., Shamsoddini, M.R., & Radmehr, A. (2015). The effect of CALL on vocabulary learning and reading comprehension of Iranian EFL learners. *IOSR Journal of Research & Method in Education (IOSR-JRME)*, 5(4), 95-103.
- Habbash, M. (2015). Learning English vocabulary using mobile phone: Saudi Arabian EFL teachers focus. *European Scientific Journal*, 11(35), 446-458.
- Hanson-Smith, E. (Eds.). (2000). *CALL environments: Research, practice, and critical Issues* (2nd ed.). TESOL



- Healey, D. (1999). Classroom practice: Communicative skill-building tasks in CALL environments. In J. Egbert & E. Hanson-Smith (Eds.), *CALL environments: Research, practice and critical issues*. TESOL.
- Hoseini, M.B. (2014). The effect of blogging on descriptive paragraph writing skill of the intermediate Iranian EFL learners. *International Conference on Social Sciences and Humanities*.
- Howie, S. H. (1989). *Reading, writing and computers*. Allyn and Bacon.
- Iravani, H., & Tajik, M. (2012). The effect of software-assisted grammar teaching on learning grammar of Iranian male junior high school learners. *Journal of Language and Translation*, 3(1), 23-28.
- Jones, C., & Fortescue, S. (1987). *Using computers in the language classroom*. Longman.
- Luján-Mora, S., & de Juana-Espinosa, S. (2007). The use of weblogs in higher education: Benefits and barriers. *Proceedings of the International Technology, Education and Development Conference*.
- Mayer, R.E. (2005). Introduction to multimedia learning, in R.E. Mayer (ed.) *The Cambridge Handbook of Multimedia Learning*. Cambridge University Press.
- Mousavi, S.R., Nemat Tabrizi, A.R., & Abbasi, M. (2024). Mediating Iranian EFL senior high school students' vocabulary acquisition: The role of SHAD application in technology enhanced setting. *Journal of Teaching English Language Studies (JTELS)*, 9(3), 45-60.
- Namvar, Y., & Rastgoo, A. (2008). Weblog as a learning tool in higher education. *Turkish Online Journal of Distance Education*, 9(3), 176-185.
- Neu, J., & Scarella, R. (1991). Word processing in the ESL writing classroom: A survey of student attitudes. In P. Dunkel (Ed.), *Computer-assisted language learning and testing: Research issues and practice* (pp. 169-187). Newbury House.
- Nosrati, V. (2015). Teachers' and learners' attitudes toward the use of web-based language learning (WBLL). *Journal of Applied Linguistics and Language Research*, 2(8), 1-12.
- Oravec, J. A. (2003). Blending by blogging: Weblogs in blended learning initiatives. *Journal of Educational Media*, 28, (2-3), 225-233.
- Pennington, M. C. (1989) *Teaching languages with computers: the state of the art*



Athelstan.

- Rayani, E., & Fatehi Rad, N. (2023). A qualitative assessment of supervisors' views towards examiners' perceptions: Fair justice or not? *International Journal of Foreign Language Teaching and Research*, 11(4), 161-168.
- Sadeghi, M.R. (2013). Computer assisted language instruction in EFL academic environment: A hindrance or a facilitator. *Basic Research Journal of Education Research and Review*, 2(6), 93-98.
- Sedaghatkar, M. (2018). The effect of computer-assisted language learning (CALL) on immediate and delayed retention of vocabularies in general English course. *International Journal of Applied Linguistics & English Literature*, 231-238.
- Tabatabaei, O. (2017). The effect of computer-assisted language learning (CALL) on learning idiomatic expressions: A case of Iranian EFL students. *Journal of Language, Culture, and Translation (LCT)*, 1(1), 119–137
- Talebinezhad, M.R., & Azizi Abarghoui, M. (2013). The Iranian high school students' attitude toward CALL and the use of CALL for EFL receptive skills. *Theory and Practice in Language Studies*, 3(2), 329-337.
- Watmani, R., Assadollahfard, H., & Behin, B. (2024). Assessment literacy and its relevance to teaching experience and academic background among EFL teachers in Iran. *Journal of Teaching English Language Studies (JTELS)*, 9(3), 19-34.
- Zarei, A.A., & Hashemipour, M. (2012). The effect of computer-assisted language learning (CALL)/web-based instruction on EFL learners' general and academic self-efficacy. *ACADEMIE ROYALE DES SCIENCES D'OUTRE-MER BULLETIN DES SEANCES*, 4(4), 108-118.

