

## คอมพิวเตอร์ช่วยสอนภาษา: ประโยชน์และข้อจำกัด CALL: Advantages and Limitations

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### บทคัดย่อ

ปัจจุบัน เทคโนโลยีคอมพิวเตอร์ถูกนำมาใช้เพื่อการเรียนการสอนในสาขาวิชาต่างๆ อย่างแพร่หลายในส่วนของการเรียนการสอนภาษา นักวิจัย นักวิชาการ ตลอดจนผู้สอนต่างตระหนักถึงบทบาทของคอมพิวเตอร์ช่วยสอนที่เพิ่มมากขึ้นเรื่อยๆ ด้วยเหตุนี้ผู้เขียนจึงได้รวบรวมผลงานวิจัยและข้อคิดเห็นที่น่าสนใจเกี่ยวกับการใช้เทคโนโลยีคอมพิวเตอร์เพื่อประโยชน์ในการเรียนการสอนภาษาไว้ในบทความนี้ ส่วนแรกของบทความจะกล่าวถึงความเป็นมาของคอมพิวเตอร์ช่วยสอนภาษาและแนวทางในการนำคอมพิวเตอร์มาใช้ในการเรียนการสอนภาษาในปัจจุบัน จากนั้น ผู้เขียนได้นำเสนอแนวคิดทั้งในเชิงบวกและเชิงลบเกี่ยวกับการใช้คอมพิวเตอร์สำหรับการเรียนการสอนภาษาผ่านมุมมองของนักวิจัยและนักวิชาการด้านภาษา กล่าวคือ นอกจากประโยชน์ของการนำคอมพิวเตอร์มาช่วยสอนภาษาแล้ว คอมพิวเตอร์ยังมีข้อจำกัดที่ควรคำนึงถึง ทั้งนี้ เพื่อให้ผู้สอนได้สังเกตเห็นถึงผลกระทบต่างๆ ที่อาจเกิดขึ้นกับผู้เรียนและชั้นเรียนของตนเอง ประเด็นสุดท้ายเป็นการรวบรวมคำแนะนำและข้อเสนอแนะในการนำคอมพิวเตอร์มาช่วยในการเรียนการสอนภาษา เพื่อให้ผู้เรียนและผู้สอนได้รับประโยชน์สูงสุด

### Abstract

Presently, the application of computer technologies for pedagogical purposes have been spectacularly realised across a variety of disciplines. In terms of foreign language teaching and learning; researchers, educators, and teachers are aware of the increasingly prominent role of computer-assisted language learning (CALL). The article, therefore, manifests interesting research findings and opinions concerning computer usage in the sphere of language education. In the first section, the emphasis is put on history and new trends of CALL usage. Then, computer and language learning and teaching are discussed through contrastive points of view based on a literature study of researchers and educators involved in language pedagogy. Instead of reviewing extensive advantages of CALL for both teachers and learners, limitations are also discussed, particularly for the teachers to gain a critical insight as to how computer technologies may affect language learners and classrooms. Finally, suggestions and recommendations for integrating CALL into language classroom are provided in order to maximise the exploitation of computer technologies to its full potential.

**คำสำคัญ** : คอมพิวเตอร์ช่วยสอนภาษา

**Key words** : Computer-Assisted Language Learning (CALL)

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## 1. Introduction

The advancement of computer-assisted language learning (CALL) technology on language education has grown dramatically and is currently widespread in a variety of contents, contexts, and tasks. In addition, a wealth of pedagogical possibilities has been offered for both teachers and learners whether they are in face-to-face classroom or distant learning mode. Garsez (1995) points out that computer assisted language learning is a specific domain in the interface between computer and education which provides tools to help people learn foreign languages. Previously, foreign language teachers principally had used computer as the provider of supplementary materials. However, at present, the emphasis has been put on the use of computer as an essential part of daily learning and teaching (Almekhlafi, 2005).

Research findings have proved that the use of computer has a positive effect on learning achievement and psychological standpoints, regarding language anxiety, motivation, and autonomy. Nonetheless, as a tool for learning and teaching, computer also has scope and limitations for effective ways of usage together with its disadvantages by comparison to face-to-face classroom instruction. Consideration of these attributes is essential for the discussion of integrating computer technology in the field of language education. Based on a study of literature, the article will provide an overview of well-grounded advantages and limitations of CALL usage in language learning and teaching.

## 2. History of CALL and Its New Trends

With respect to language education, computer-assisted language learning (CALL) can be traced back since the 1960s. According to Warschauer and Healey (1998), historical developments of CALL can be divided into three phases:

### 2.1 Behaviouristic CALL

The phase is a part of the broader field called "Computer-assisted Instruction (CAI)" conceived in the 1950s and implemented in the 1960s and 1970s. The pedagogical category was fostered by the behaviourist's learning model. Emphasis was on repetitive language drills (referred as drill and practice). In this respect, computer was regarded as an electronic tutor who allowed students to work at their individual paces. Language learners, retrospectively, were passive since they had to merely follow the instruction from the software.

### 2.2 Communicative CALL

In the late 1970s and early 1980s when the behaviouristic approaches to language learning was being theoretically and pedagogically rejected together with the popularity of personal computers, communicative CALL was emerging in agreement with cognitive theorists. These theorists advocate that learning was a process of discovery, expression, and development. Accordingly, the instruction of grammar was

conducted implicitly rather than explicitly. Furthermore, language learners were encouraged to generate their own utterances rather than manipulate prefabricated language, and use the target language predominantly or exclusively. At that time, the CALL software included text reconstruction programmes and simulations.

### 2.3 Integrative CALL

By the late 1980s and early 1990s, integrative CALL was developed in order to seek opportunities to integrate various language skills and computer technology into language learning process. As regards these integrative approaches, students learned to use technological tools as a process of language learning and use rather than using computer for isolated behaviouristic or communicative exercises.

The application of CALL is by and large in response to the trends in language teaching methodologies. Rüschoff (2002) states that, over the past decades, language theories have shifted from a highly guided to a more open environment with a very much emphasis on learner centeredness. Nonetheless, CALL materials should be designed less in a role of instructional systems and exploited more in a role of teaching and learning tools. In other words, these materials should be used as an additional medium of instruction or a supplement to textbooks and class materials rather than occupy teachers' places in class. In so doing, computer will facilitate the

implementation of language learning methodology that focuses more on authenticity of content, context, and task. For instance, a facet of CALL that requires learners to take part in online forums and discussion boards by using target language empowers and motivates learners to practise basic language skills in terms of negotiation and clarification of meanings. Learners are also able to practise a range of language skills through the access of audio and/or visual materials such as images, video clips, sound recordings, and presentations in the target language that are available free-of-charge on the Internet. These materials are exceedingly valuable as they can reflect current cultures and real language usages of native speakers. In this regard, learners are provided learning opportunities more in tune with the acquisition of competence needed in real-life communication.

### 3. Advantages of CALL

Many language educators and researchers present considerable advantages and strengths of CALL for second/foreign language learning and teaching. Murison-Bowie (1993) specifies some positive perspectives towards computer for language learning as follows:

1. Computer has the capacity to measure and record. Applying this to language learning, one can easily see that diagnostic and adaptive testing can enable a learner to start a teaching and/or learning program at the best point and to continue with the program at a

speed that relates to his or her ability to learn. If constant evaluation and record keeping are part of the learning culture, then both are most efficiently handled with technological assistance.

2. The building and use of computer databases provide learners with access to knowledge about the language or the worlds in which it is used enable learners to experience relevant language directly. This cannot only include secondary data from dictionaries and encyclopaedias, but also give learners direct access to the primary source of the language in use. For instance, with concordancing software and with proper guidance, learners can get large amount of evidence of how language is actually used. With such software, it is possible to search for all occurrences of a given word or combination of words in large amount of computer-readable text and to be presented with all those occurrences in a line or more of context. These “concordances” provide contextualised evidence of words in use from which it is possible to deduce meanings or induce rules of usage. This makes learners and teachers less dependent on secondary sources and unreliable information.

Warschauer and Meskill (2002) further state that the advantages of using new technologies in the language classroom puts language educators into a position where they should seek not only or even principally to teach students the rules of grammar, but rather to help them gain apprenticeship into new discourse communities. This is accomplished

through creating opportunities for authentic and meaningful interaction both within and outside the classroom, and providing students the tools for their own social, cultural, and linguistic exploration. The computer is a powerful tool for this process, as international cross-cultural discourse is frequently taking place in an online environment. Therefore, the main advantage of new technologies is that they can be used to help prepare students for international cross-cultural communication which are increasingly required for success in academic, professional, and personal life.

Finally, Zaphiris and Zacharia (2006) advocates the advantages of computer assisted language learning by saying that computer allows students to practise language situations interactively, including collaborate and share their learning experiences with other students and teachers in both synchronous and asynchronous communication modes.

The literature study encompasses principal aspects of advantages that language teachers and learners are considered to gain. These involve performance diagnosis, self-access of real language use, opportunity for cross-cultural communication with native speakers, and interactive communication between teachers and students. Nevertheless, the fact that whether computer is useful language learning and teaching tools has been widely discussed among researchers, educators, and teachers. Negative aspects of computer technologies in the area of language education will be elaborated in the following topic.

#### 4. Limitations of CALL

In seeking ways to improve the quality of language education through the use of CALL, some has shed light on negative side of this technology and its uses through differing terms: disadvantages, weaknesses, problems, and limitations. On view of traditional conceptualisation of technology, Zhao (2005) underlines a crucial problem that limits the impact of technology on second language acquisition. To clarify, technology used for language education tends to focus on individual learning issues instead of learning process as a whole. Therefore, we can see a large amount of individual learning tools and experiments that help with grammar, vocabulary, reading, or writing whereas a comprehensive design that coherently uses technology to help the learners with all aspects of learning is exceptionally rare.

On the humanistic perspective, Hanson-Smith (2004) mentions a few salient points towards the language teaching by using computer technology. She points out that the effective use of technology is demanded of a heavy investment in teacher training. In other words, time has not been allocated for teachers to explore software and applications; teachers are not trained in appropriate ways of using such resources; or teachers play no role in setting up the centres. Due to these reasons, the learning centres at institutions worldwide are generally underused. In replacing conventional classroom instruction with computer technology, she adds that computer

cannot do most of significant tasks that teachers can. These are, for example, lesson planning, individual counselling, preparation and selection of appropriate materials for students, and evaluation of process and product. To cope with the technology explosion, teachers of the future will, in consequence, perform identical functions as they do now, but will make use of technology so that students are exposed to a richer and more simulating learning environment.

The aforementioned criticism towards computer use for language learning and teaching highlights the insufficiency of materials that promote integrative skills practices. Besides, using computer technologies in classroom demands careful preparation and selection of good materials as well as teacher training. Even though computer is used as an instructional aid, teachers' burdens are not lessened. Still, teachers are required to do lesson planning and materials selections while making learning environment more attractive to their students.

#### 5. Implications for Integrating CALL

Recent academic interest in the idea of language learning and new technology has promoted the development of computer-based language-learning systems throughout the world. Nonetheless, simply providing students with the variety and flexibility to work at their own level and pace through the technology is not sufficient to make a significant improvement.

Hirata (2006) claims that CALL designers and administrators often fail to focus on how students learn with the resources available. Instead, they concentrate on high-tech equipment and materials rather than the learners that use these resources. They tend to introduce such resources without considering students' personal histories and needs or deciding how to connect independent language learning to an existing language program. Without the proper supervision of instructors, many students are unlikely to know how to work effectively. It is often the case that students are not even sure about what to learn. As a consequence, the resources provided in such independent learning settings are not used to their full potential and the facilities may become underused by students.

Based on a literature study of how learners always have approached their learning tasks, Maingrad (1999) suggests ways to design and use CALL for effective language learning and teaching. These are:

1. Focus on form must go in tandem with focus on meaning. This allows attentive controlled processing which aids eventual automatic processing of information.

2. Practised strategies, which include repetition, memorisation, and using newly learned linguistic items, must take place within the concept of frequency, regularity, and recency. This will eventually lead to automaticity.

3. The learning environment must provide frequent, regular, and immediate feedback.

4. Error correction is two dimensional with self-monitoring on one side and correction by the teacher on the other. Error correction through the teacher is closely linked with feedback.

5. Trial-and-error elimination is essential. This is achieved through clarification or verification strategies, guessing, and deductive reasoning.

Supporting these claims, Hunt (1993) presents good characteristics of software programmes which will assist in promoting language learning and teaching. They should:

- be flexible for students at different levels of learning vis-à-vis language proficiency and performance.

- be able to thematically present and reinforce vocabulary and syntax within a rich and contextual framework.

- compose of appropriate contents for adult learners. Indeed, for the young learners, the programmes should be suitable for their ages.

- provide students opportunities to practise different language skills (listening, speaking, reading, and writing).

- encourage students to take risks with language by expressing themselves with unique and creative responses.

- give students opportunities for natural interactions.

- consist of different media and supplementary print materials.

With reference to learner differences, Gstrein (2006) recommends how to use CALL in response to special needs of individual

learners. Initially, the learners' levels of language competence should be assessed and feedback relating to their preferred learning channels should be provided. Furthermore, language skills that need special training should be notified whereas a well-adjusted set of micro activities is presented to the learners. On the other hand, the learner should have an opportunity to decide which and when activities to be activated. Selecting personal learning time will foster concentration and prevents distraction. Simply put, some periods during the day are less apt for learning than others, depending on individual biorhythm as well as personal working timetables.

To put it briefly, prior to the integration of CALL into language class; preparation, introduction, and learning methods should be clearly explained so that the exploitation of these technologies will be at their full potential. Significant attributes including ways of learning as well as learners' variables in light of preferred learning strategy, age, personal needs, language level, required skills, and preferred learning timetable should also be taken into account for good CALL production as well as effective use of computer as language learning aid.

## 6. Conclusion

This article began with the brief overview of historical development of CALL and recent applications. Computer and technologies in language teaching and learning were then discussed from controversial perspectives. While the evolution of techno-

logies offers an exceptionally useful contribution to language education, abundant evidence of disadvantages and limitations have been explored. In this regard, prior to the integration of computer as a language learning and learning aid for enhancing language competence and performance, a myriad of factors associated with teachers, learners, including principles of instruction must be genuinely considered. Notwithstanding, computer is merely a sophisticated tool, advantages and/or disadvantages that they should offer are subject to accountability of users. Without careful attention, computer and technologies cannot become a valuable resource and provide richness in terms of pedagogical possibilities as it should be.

## 7. References

- Almekhlafi, A. G. 2005. The effect of computer assisted language learning (CALL) on United Arab Emirates English as a foreign language (EFL) school students' achievement and attitude. **Journal of Interactive Learning Research**, 17, 2, 121-142.
- Garsez, P. M. 1995. Helping Philippe: Constructions of a computer-assisted language learning. **Educational Linguistics**, 11, 2, 39-66.
- Gstrein, S. 2006. Integrated micro learning during access delays: A new approach to second- language learning. In Zaphiris, P. & Zacharia, G. (Eds.), **User-centered Computer Aided Language Learning**,

- pp. 152-175. London: Information Science Publishing.
- Hanson-Smith, E. 2004. Technology in the classroom: Practice and promise in the 21<sup>st</sup> century. **TESOL Professional Papers 4**. Available from: <http://www.tesol.org/pubs/catalog/downloadable/hanson-smith-1.html> (4 February, 2004).
- Hirata, Y. 2006. Evaluating students' perceptions of online counselor for independent language learning. In Zaphiris, P. & Zacharia, G. (Eds.), **User-centered Computer Aided Language Learning**, pp. 278-303. London: Information Science Publishing.
- Hunt, N. 1993. A review of advanced technologies for L2 learning. **TESOL Journal**, 3, 1, 8-9.
- Liou, H. 2000. Development of the ELT in Taiwan web site for English learning and teaching. **Learning Societies in the New Millennium: Creativity, Caring & Commitments**. Papers presented at the ICCE/ICCAI 2000 (International Conference on Computers in Education/International Conference on Computer-assisted Instruction). Taipei, Taiwan (2000, 21-24 November).
- Maingard, C. 1999. Evolutionary epistemology in language learning: Possible implication for CALL. **Recall**, 11, 1, 80-92.
- Murison-Bowie, S. 1993. TESOL technology: Imposition or opportunity? **TESOL Journal**, 3, 1, 6-8.
- Rüschhoff, B. 2002. Introduction: New trends in CALL, new technologies and language learning seen in perspective. **International Journal of English Studies**, 2, 1, ix-xv.
- Warschauer, M., & Healey, D. 1998. Computer and language learning: An overview. **Language Teaching**, 31, 57-71.
- Warschauer, M., & Meskill, C. 2000. Technology and second language teaching and learning. In J. Rosenthal (Ed.), **Handbook of Undergraduate Second Language Education**. Mahwah, NJ: Lawrence Erlbaum.
- Zaphiris, P. & Zacharia, G. 2006. **User-centered Computer Aided Language Learning**. London: Information Science Publishing.
- Zhao, Y. 2005. The future of research in technology and second language education. In Y. Zhao (Ed.), **Research in Technology and Second Language Learning: Developments and Directions**, pp. 445-457. Greenwich, CT: Information Age Publishing, Inc.