

New Perspectives on CALL

(Computer Assisted Language Learning) for Second Language Classrooms

Siyaswati

siyasw@yahoo.com

Hertiki

h3rtlk1@gmail.com

Universitas PGRI Adi Buana Surabaya

Abstract

The focus of this paper is the implementation of Computer Assisted Language Learning (CALL) which has been defined as "the search for and study of applications on the computer in language teaching and learning" (Levy, 1997, p. 1) and is now used routinely in a variety of instructional situations. As a result, language teachers are increasingly required to possess CALL expertise that includes both practical skills and a thorough understanding of information technology (IT) theory. Teachers may need to design, implement, and evaluate CALL activities in their classrooms; they may be put in charge of setting up and operating a multimedia language laboratory. Demonstrating CALL'S in promoting both fluency and accuracy in the target language as well as improving motivation and learner autonomy. By using CALL will give beneficial to the second language learner

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A. Introduction to CALL

Computer-assisted language learning (CALL) has been defined as "the search for and study of applications on the computer in language teaching and learning" (Levy, 1997, p. 1) and is now used routinely in a variety of instructional situations. As a result, language teachers are increasingly required to possess CALL expertise that includes both practical skills and a thorough understanding of information technology (IT) theory. Teachers may need to design, implement, and evaluate CALL activities in their classrooms, they may be asked to supervise an institution-wide project or to work with other institutions to develop CALL-based exchange programs, or they

may be put in charge of setting up and operating a multimedia language laboratory. It is thus becoming essential for teachers to be familiar with.

In this introductory chapter it reviews the rise of CALL and its applications by considering the historical context of computers and their changing role in second language (L2) learning. It noted the growing body of research CALL options within the classroom, at the institutional level, and at the broader level of inter-institutional collaboration. It demonstrated CALL'S effectiveness in promoting both fluency and accuracy in the target language as well as improving motivation and learner autonomy.

B. Computer use in L2 learning

The integrative CALL, arose in the mid 1990s and has been made possible by the development of powerful desktop computers that support rapid use of the Internet, local area networks (LANs), multimedia, and linked resources known as hypermedia (Warschauer, 1996a). Currently, a typical multimedia language program might allow students to do a reading assignment in the target language, use a dictionary, study grammar and pronunciation related to the reading, perhaps access support materials and translations in the students' first language (L1), view a movie of the reading, and take a comprehension test on the reading content, receiving immediate feedback, all within the same program. This is a highly interactive and individualized approach, with the main focus on content supported by modules instructing learners on specific skills (Kern & Warschauer, 2000).

Much of the theory underlying integrative CALL is derived from the Vygotskian sociocultural model of language learning (Wertsch, 1985) in which interaction is regarded as essential for the creation of meaning. Thus, person-to-person interaction is a conspicuous feature of many current CALL activities. The rise of LANs to teach writing interactively and e-mail exchange programs among students, classes, and institutions are examples of interactive language learning activities, as are multiplayer role-playing games and interactive online real-time learning situations such as MOOs (multipleuser-domain object oriented) and simulation games played by different users. The rise of the Internet has promoted the use of

CALL for information retrieval, creating the concept of computer literacy, a term referring to the development of skills for data retrieval, critical interpretation, and participation in online discourse communities (see Felix, 1999, 2002; Hawisher & Self, 2000; Murray, 2000; Warschauer, 1999). Learner autonomy—the influential concept from general education suggesting that students learn better when they discover things through their own efforts rather than when they receive knowledge passively through instruction—is an important goal of the current view of CALL (Healy, 1999).

A second feature of integrative CALL is the movement away from language-learning software and CD-ROMs to Web-based activities that allow learners flexible, self-paced access to information (Felix, 1998, 1999, 2000; Lin & Hsieh, 2001; Scholnik, 2002; Warschauer, 1999). Thus, both teachers and students increasingly view computers and CALL as means to an end—the end being authentic, Web-based communication for meaningful purpose—rather than merely as a tool for language learning.

Regarding the future of CALL and the direction of educational technology in general, the point has been made repeatedly that no one knew what a powerful communication tool the telephone would eventually become, how the car would transform transportation, or how important television would become as a global medium. In the same way, from our current vantage point at the start of the computer era, it is impossible to visualize the changes that will occur as a result of its future development. Some researchers caution against the destruction

of human relationships and the fragmentation of human society as a result of computer-mediated communication (CMC) preempting face-to-face interaction, warning that "improved tools are still projecting an unimproved and thoroughly unrevolutionary agenda" (Brown, 1997, p. 245). Other researchers (e.g., Ogden, 1995; Warschauer, 1999) predict that it heading toward a world without borders, with the rise of knowledge brokers and information literates as the new aristocracy and power elite. However, still others caution that the expensive technology and infrastructure required for online activities tend to privilege the culture and educational pedagogies of the advanced nations, creating a hegemonic "digital divide" between technological haves and have-nots (e.g. Crystal, 2001; Hawisher & Self, 2000; Hoffman & Novak, 2001; Murray, 2000; Warschauer, 2003). However, Murray (2000) observed that the new communication technologies such as video conferencing and e-mail have not yet replaced the old forms such phone calls and letters, but rather complement them, so the direction of the relationship between language learning and technology is still unclear.

Nonetheless, most researchers agree that a major shift is taking place (see discussions in Crystal, 2001; Murray, 2000; Warschauer, 2003)—a shift in the use of general technology and a shift in education away from the teacher-centered classroom toward a learner-centered system where the learner is in control of the lesson content and the learning process. CALL has historically been rooted in educational technology, and

findings from the general field of education will continue to be influential in determining its future directions. The general differences between education in the pre-computer industrial society and education in the computer-based information society are summarized. The most effective uses of CALL support this new model of education, and language teachers need to be able to respond by creating CALL-based activities for their particular instructional situation. A quote that has made the rounds of language teaching e-mail lists and online journals during the past several years states the situation clearly: "Technology will not replace teachers; teachers who use technology will replace those who don't!" Teachers must therefore find opportunities to gain CALL skills by taking courses in computer technology, teaching themselves, and using their colleagues and the World Wide Web as resources, this last option suggested to be especially significant in skills development (Egbert, Paulus, & Nakamichi, 2002).

Education in the Pre-Computer Society Versus Education in the Information Society adapted from Pelgrum (2001, p. 164).

Education in the Pre-Computer Society

- School is isolated from society
- Information on school functioning is confidential
- Teacher initiates and controls
- Low emphasis on communication

- Teacher-fronted instruction of students often work in groups or pairs or singly.
- Evaluates students
- Student Mostly passive learning
- Learning mostly at school
- Little teamwork
- Answers questions from text-book
- Low interest in learning

Education in the Information Society

- ✓ Integrated in society
- ✓ Information on school functioning is openly available
- ✓ Empowers students to find appropriate instruction for their particular learning
- ✓ Teacher as facilitator guides the students' in the whole class dependent learning;
- ✓ Helps students evaluate their own progress
- ✓ High emphasis on communication skills
- ✓ Actively in charge of own learning
- ✓ Learning at school and outside of school
- ✓ Asks questions; learns to find answers to books or teacher questions
- ✓ Much teamwork
- ✓ High interest in learning

C. Development of CALL

CALL in developing linguistic proficiency and communicative

competence in L2 learners as well as promoting increased levels of learner autonomy, motivation, satisfaction, and self-confidence. For example, mid-1990s summaries of CALL research noted positive results from its use, indicating that CALL permitted students to control the pace of their learning and their interaction with others, and encouraged them to become better writers because they had an authentic audience and a purpose for writing (Pennington, 1996; Pennington & Stevens, 1992; Warschauer, 1995; Yates, 1996).

The use of CALL and distance learning activities was found to create classroom discourse communities and encouraged shy students to participate more fully (Palloff & Pratt, 1999; Warschauer, 1996b). Students also reported that CALL activities helped them develop their ideas and promoted learning from their classmates. In addition, developing expertise in using computers gave students feelings of pride and achievement and greatly encouraged their autonomy as learners (see summaries in Warschauer, 1996b, 1999; Shetzer & Warschauer, 2000). Thus, CALL has been shown to produce a number of favorable learning outcomes.

D. CALL Activities

CALL has been divided into seven general types of activity (Warschauer 1996a). One of the most important is writing. This includes word processing, text analysis, and desktop publishing, often combined with communication over a LAN. Though Students use of spell checkers and grammar checkers is common in these types of activities, much

more sophisticated and interactive approaches are also possible. Many L2 teachers, for example, now request their students to use computers to write essays then to e-mail each other what they have written or to post their essays on a LAN. The students then discuss and correct each other's writing (in this volume, see Braine, chap. 6; Pennington, chap. 5), engaging in meaningful discourse and creating knowledge through interaction.

A second type of CALL is communicating. This includes e-mail exchanges, student discussions with each other or with their teacher on LANs, MOOs (sites on the Internet where student do role-playing games and talk with each other), and real-time chat. These activities are particularly useful for foreign language teaching where students share the same L1 because they create the need to use the foreign language for authentic communication. Another CALL activity is use of multimedia. This includes courseware presented on CD-ROM or online for study of specific skills such as pronunciation or grammar, and integrated skills-based or communicative practice hyperlinks allow students to access a range of supplementary material for learning support. Other CALL activities involve the Internet, such as Web searches for information and student construction of home pages. Related to this is the field of information literacy, a concept similar to computer literacy and referring to the ability to obtain information from the Internet and process it selectively and critically/ The tremendous amount of online resources means that teacher evaluation of Web sites and L2 learning

materials has now become an important aspect of Internet-based activities.

An additional use of CALL is concordance and referencing, or using a corpus to examine the range of usages for grammar and vocabulary items, and using online dictionaries for definitions and usage information. Yet another significant use of CALL is distance learning. In the United States, United Kingdom, and Europe, many college professors now teach some or all of their courses online. Research on distance learning and courses with online components suggests that online students make the same gains as those achieved by students receiving a regular "brick-and mortar" lecture (McIntyre & Wolff, 1998). Although it began only recently, distance learning via the Internet has already developed into an important field, with a rapidly increasing number of publications on its implementation and evaluation.

E. Strengths and Weaknesses of CALL

1. Strengths

Interactivity is a crucial strength of the new technology. The computer is interactive, first of all, by virtue of the fact that the user can gain control over learning and therefore becomes an active participant in the learning process. Interactivity also allows the instant feedback from the computer. The interactivity of the computer makes it especially suited for implementing learner-centered teaching methods.

Multimedia should be considered truly revolutionary for language pedagogy. The new technology really shines in its presentation of form and

meaning. The sound and graphic capabilities of the computer not only have improved presentation; they have also made possible what conventional textbooks cannot do. Digitized audio has made possible the modeling of pronunciation. The teaching of characters' stroke order and direction has taken a giant step forward from the cumbersome representation on paper to the animated demonstration formerly achievable only with a human instructor. Still or animated graphics for illustrating meanings and speech production may both educate and entertain.

The computer's ability to store and manipulate data also makes it possible to keep scores, log errors and track learner performance. The consistency and patience of the computer is not only crucial for learning by association and repeated exposure. Paradoxically, without the possible ill-effects of an over-bearing human teacher, the patient and interactive computer can provide a very user-friendly and learner-centered learning environment.

In addition to the above-mentioned general characteristics, digital speech technology in particular has enabled the graphic display of the relevant acoustic properties of speech such as amplitude, pitch level and frequency composition.

2. Weaknesses

Some educators and syllabus designers must be very critical of software programs that they consider using in their teaching contexts. A

program may look very good the first few times it is viewed, but dynamic, visual qualities are not sufficient to assure that it will be effective in teaching the target material. Users may quickly tire of the spinning characters, lights and whistles. The content and methodology of the program has to be the principal rationale in choosing a CALL program.

3. Advantages of CALL

Many educators indicate that the current computer technology has many advantages for second language learning. The following are the advantages as stated by many experts:

3.1 Interest and motivation

Classical language teaching in classroom can be monotonous, boring, and even frustrating, and students can lose interest and motivation in learning. CALL programmers can provide student ways to learn English through computer games, animated graphics, and problem-solving techniques which can make drills more interesting (Ravichandran 2000).

3.2 Individualization

CALL allows learners to have non-sequential learning habit; they can decide on their own which skills to develop and which course to use, as well as the speed and level by their own needs.

3.3 A compatible learning style

Students have different style of learning, and an incompatible style for students will cause serious

conflicts to them. Computer can provide an exciting “fast” drill for one student and “slow” for another.

3.4 Optimal use of learning time

The time flexibility of using computer enables students to choose appropriate timing for learning. Winter (1997) in Kiliçkaya (2007) stressed the importance of flexible learning, learning anywhere, anytime, anyhow, and anything you want, which is very true for the web-based instruction and CALL. Learners are given a chance to study and review the materials as many times they want without limited time.

3.5 Immediate feedback

Students receive maximum benefit from feedback only if it is given immediately. A delayed positive feedback will reduce the encouragement and reinforcement, and a delayed negative feedback affect the crucial knowledge a student must master. Computer can give instant feedback and help the students ward off his misconception at the very first stage. Brown (1997) in Kiliçkaya (2007) listed the advantages of CALL as giving immediate feedback, allowing students at their own pace, and causing less frustration among students.

3.6 Error analysis

Computer database can be used by teacher to classify and differentiate the type of general error and error on account of the influence of the first language. A computer can analyze the specific mistakes that students made and can react in different way from the usual teacher,

which make students able to make self-correction and understand the principle behind the correct solution. (Ravichandran, 2007)

3.7 Guided and repetitive practice

Students have freedom of expression within certain bounds that programmers create, such as grammar, vocabulary, etc. They can repeat the course they want to master as many as they wish. According to Ikeda (1999) in Kiliçkaya (2007), drill-type CALL materials are suitable for repetitive practice, which enable students to learn concepts and key elements in a subject area.

3.8 Pre-determined to process syllabus

Computer enhances the learning process from a pre-determined syllabus to an emerging or process syllabus. For example, a monotonous paper exercise of ‘fill-in-the-blanks’ type can be made more exciting on the screen in the self-access mode, and students can select their own material. Therefore, CALL facilitates the synthesis of the pre-planned syllabus and learner syllabuses “through a decision-making process undertaken by teacher and learners together” (Breen 1986 in Ravichandran 2000).

4. Disadvantages of CALL

Although there are many advantages of computer, the application of current computer technology still has its limitations and disadvantages.

4.1 Less-handly equipment.

According to Ansel *et al* (1992) in Hartoyo (2006, 31), the CAL program is different from traditional books that can be carried around and studied wherever and whenever they wish: on a train, at home, in the middle of the night, and so on. School computers or language laboratory can only be accessed in restricted hours, so CALL program only benefits people who have computers at home or personal notebook.

4.2 Increased educational costs.

Gips, DiMattia, and Gips (2004) in Lai (2006) indicated that CALL will increase educational cost, since computers become a basic requirement for students to purchase, and low-budget school and low income students cannot afford a computer

4.3 Lack of trained teachers.

It is necessary for teachers and students to have basic technology knowledge before applying computer technology in second language teaching and learning. Therefore, computers will only benefit those who are familiar with computer technology (Roblyer 2003 in Lai 2006).

4.4 Imperfect current CALL programs

At present, the software of CALL mainly deals with reading, listening, and writing skills. There are some speaking programs have been developed recently, but their functions

are still limited. Warschauer (2004) in Lai (2006) stated that a program should ideally be able to understand a user's spoken input and evaluate it not just for correctness but also for 'appropriateness'. Speaking program should be able to diagnose a learner's problem with pronunciation, syntax, or usage and then intelligently decide among a range of options.

4.5 Inability to handle unexpected situations

The learning situation that a second-language learner faces are various and ever changing. Computers merely have artificial intelligence, and it cannot deal with learner's unexpected learning problem or response to learner's questions immediately as teachers do. Blin (1994) in Lai (2006) stated that computer technology with that degree do not exist, and are not expected to exist quite a long time. In other words, today's computer technology and its language learning programs are not yet intelligent enough to be truly interactive.

5. Conclusion

New Perspectives on CALL (Computer Assisted Language Learning) for Second Language Classrooms can be reached by implementing CALL in teaching and learning of English. Language teachers are increasingly required to possess CALL expertise that includes both practical skills and a thorough understanding of information

technology (IT) theory. The advantages of CALL can be outlined as providing motivation and autonomy for learner, compatible and time flexible learning, immediate and detailed feedback, error analysis, and a process syllabus. Some considerations must be given to the disadvantages of CALL, such as less handy equipment, high cost of education, lack of trained teachers and of CALL programs of perfect quality, and limited capacity of computers to handle unexpected situations.

CALL has certain advantages and disadvantages and teachers should know the strengths and weaknesses in applying CALL in ESL classrooms. It is agreeable that technological advancement and development has enabled the application of CALL programs in language learning and instruction, and it has become a new trend recently. Even so, computer technology still has its limitation and weaknesses. Therefore, we must first realize the advantages and disadvantages of current CALL programs before applying them to improve our teaching or to help student learning. In the end, it can avoid the mistake in employing CALL program and get the maximum benefit for ESL teaching and learning.

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