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COMPUTER-ASSISTED LANGUAGE LEARNING (CALL) IN ENGLISH-LANGUAGE TEACHING

By

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INTRODUCTION

Computer-assisted language learning (CALL) strikes an unfamiliar note especially on many a paranoid and computer-illiterate teachers in the language teaching circles. Nevertheless, it may also come as a surprise to these teachers that CALL has been around for quite some time since its early experimentations in the 60s. The United States was the earliest to experiment with the idea of using the computer to teach foreign languages to university students. The Stony Brooke Project was one of its earliest experiments which used computer-programmed materials to teach elementary German to English-speaking students of the State University (Underwood 1984: 41).

Soon Britain followed suit and developed similar versions of computer-assisted learning programmes. In fact Britain's entry into this field was instrumental in bringing about the term CALL which, in recent years, has gained much popularity in the American 'English as a Second and Foreign Language' (ESL/EFL) circles. In Malaysia, CALL is very much in its state of infancy. An awareness of CALL only began to 'infiltrate' the Malaysian language teaching circle in the late 80s and early 90s. Even then, it was confined to a very small group of Malaysian language teachers who had developed an early interest in computer-aided instruction and had the privilege of actually using computers to prepare teaching materials. When computer literacy first permeated the Malaysian educational arena in the mid 80s, computers were mainly used by teachers and students from the science and technical fields. CALL then was an echoic term barely heard, identified, let alone experimented with by language teachers all over Malaysia.

TRADITIONAL ROLE OF COMPUTERS IN LANGUAGE TEACHING

With regard to the general scenario in CALL, the computer has traditionally performed the following functions:

- predicting learners' acceptable responses and errors and providing instant feedback (typical of the 'wrong-try-again' method);

- aiding teachers in teaching or emphasizing grammatical items relating to morphology, syntax and lexis in drill-based activities;

- serving as a source of quick and instantaneous reference for teachers and learners (Kenning and Kenning 1984, Henson 1993).

In the following section, I will attempt to analyse the present-day applications and limitations of CALL in the context of classroom language teaching and learning.

APPLICATION OF CALL IN LANGUAGE CLASSROOM

First, how can CALL contribute to classroom language teaching and learning? In order to understand its application in the language classroom, it is important to know how the computer assists teachers and learners organize and manage teaching and learning respectively.

Teacher perspective

From the teacher's standpoint, the computer enables him to handle different kinds of materials for language teaching in the classroom. This ranges from the one way presentation of information in the form of texts and graphics to the more sophisticated audio-video types (Ahmad et al 1985, Henson 1993).

When efficiently used, the computer allows the teacher to make better use of his time and expertise to present a new set of learning experience to his students. The experience itself can be motivating to them as it offers a change to the otherwise boring 'chalk-and-talk' method. The teacher can use the computer, with the help of an off-screen projector, to present his teaching materials in a lively and animated form (Underwood 1984, Higgins 1995). The computer, being endowed with visual capabilities enables the teacher to 'move syllables and characters around the screen' and this provides a graphical illustration of key lexical items.

For the teacher who is familiar with word processing but not adept at using available graphic software to design his material, he can, at best, use the computer to display ready-made language learning programmes available in commercialized CD-ROMs. In Malaysia, these ready-made programmes are readily available and reasonably priced.

In addition, the teacher can also use the computer to manage instruction by treating it as a personal tutor. For instance, the computer can be used for engaging students in drill-based and simulation activities. In other words, the teacher can use the computer to expand the types of instruction his students receive while at the same time improving his mode of instruction (Henson 1993, Underwood 1984).

Having the computer taking care of routine classroom drill-and-practice exercises saves the teacher a lot of preparation time which he can use to develop and organise the more interaction-based communication tasks. When it comes to drills, the computer is capable of doing a much better job as it is not subjected to the inherent emotional frailties the human teacher has. In other words, the computer has no 'off-days' (Drunkel 1991, Ahmad et al 1985).

Learner perspective

Computers provide for efficient use of drills and practice which are essential for learners at the elementary level. It is crucial that learners who are not sufficiently equipped with the basic linguistic knowledge be 'drilled' with the basic elements of grammar. The computer is also an untiring tutor to the learner for it is patient and has no 'off-days' (Kenning and Kenning 1984, Ahmad et al 1985).

When the learner has acquired a reasonable degree of linguistic competence, he can advance to a higher level task which requires some form of limited interaction with the computer. A range of programmes which provides for simulation activities may well be of great help in making CALL a more worthwhile and highly stimulating experience for the learner. According to Underwood (1984), simulation involves using linguistic competence as a means to an end rather than as an end itself. It offers the learner an innovative and challenging way of using the computer for probelm-solving in the target language.

Simulation games such as **MYSTERY and ADVENTURE** are not only motivating, they also encourage social interaction. In **MYSTERY**, the player moves through a maze by giving commands such as 'climb up the stairs ... turn left' ... etc. According to Higgins, '*part of the fun is finding out what instructions the computer understands... aa well as exploring the maze, you explore the language*' (Higgins 1983 as cited in Underwood 1984 : 56). **ADVENTURE** likewise, provides a context in which 'reading for meaning' has a very clear, definite purpose to the learner. The learner proceeds step-by step in giving commands, asking for information and even sidetracking occasionally. Such simulation tasks promote not only the learning of language but most important of all its use in negotiating meaning.

An interesting development in CALL of late is that there have been some inroads in the direction of **artifical intelligence (AI)**. A handful of programmes which attempted to experiment with AI were developed in the early 80s in the United States and Britain. A report by Sanders (1983) describes an 'intelligent' game for practising German. This programme, called **SPION** is basically a simulation of which the task is to find the correct route from the West Berlin Airport to Berlin City. Students do this by asking questions and giving instructions. Along the way they must find and interpret clues needed to gain access to secret information. It

does not only understand student-generated input, it also recognizes grammar mistakes of certain kinds (Sanders 1983 as cited in Underwood 1984).

Other programmes which offer a communicative approach to CALL are **GRAMMARLAND** and **QUESTIONS**. These programmes, developed by Higgins and Underwood respectively allow learners to ask questions for a change and require the computer to come up with the answers. They involve learners in a more meaningful form of language practice which entails freer interaction between the learner and the computer (Higgins 1995, Underwood 1984). For learners who have a working knowledge of programmes like **ECLIPSE**, **PINPOINT** or **SEQUITOR**, the computer certainly provides them with challenging problem-solving tasks in which they must guess overall meaning from a given word.

Electronic E-mail is another good example of how the computer can be utilized by learners to communicate short messages to friends or teachers. Even though E-mail does not exhibit any form of natural communication, it in fact allows the learner to put to use his knowledge of the language to convey meaning. The **INTERNET**, on the other hand, enables the learner to surf for information while at the same time stimulates an interest to read computer texts in the target language.

Despite the progress made in CALL this far, there lies a long road ahead for computers to achieve the kind of feat human teachers are capable of. Countless literature on CALL has dubbed the computer as a 'dumb machine'. However, it is not my intention to portray the computer as a dumb machine merely capable of obeying orders. Rather, I view the computer's limitations as 'limitations in the programmes 'or as Higgins (1983) puts it '*limitations in the minds of the programme writers*' (cited in Underwood 1984 : 50). What follows represents an attempt to highlight some limitations in CALL.

LIMITATIONS OF CALL IN THE LANGUAGE CLASSROOM

What is really missing in many CALL programmes is that humanistic element which characterises real-life negotiation of meaning between a human language teacher and his students. According to Underwood (1984), these programmes do not seem to exploit the inherent flexibility of the computer to interact with the user in an intelligent way. Nor do they allow the learner to do anything creative, that is, to say what he wants to say rather than what the computer wants him to say.

The parochial nature of most computer programmes to date is evident in the still-popular **'Wrong-Try-Again' (W-T-A)** models. These largely drill-based programmes may help to reinforce linguistic knowledge but do the learner no apparent good beyond that. In other words, the computer still plays the role of taskmaster or tutor to which students oblige in giving correct answers and follow instructions.

Another defect of the W-T-A model relates to the type of feedback it gives learners. The most common strategy is to judge learner's answers as either right or wrong. After two or three attempts, the computer simply gives the answers. The learner will not be able to figure out where he has gone wrong as the computer is programmed only to judge right or wrong responses (Underwood 1984, Higgins 1995).

The lack of creativity in W-T-A programmes can be seen in the way it tries to simulate what the teacher does in the classroom - *drills*. Yet the computer does not do the job any better than does the teacher as it is incapable of anticipating learners' emotional needs. Apart from enabling the learner to repeat the drill at his own pace, there is not much that the computer does in the way of allowing students to use language meaningfully (Ahmad et al 1985, Kenning and Kenning 1984).

The computer also cannot conduct an 'open' dialogue with the learner. It has neither the vocabulary nor the ability to understand the enormous range of utterances possible in human language (Ahmad et al 1985). Ambuiguity of language is certainly an area the computer can least confidently handle. Having seen the present limitations of CALL, we should not be daunted to discover the potentials the computer has as a source of novel learning experience for the classroom. Nor should the computer be perceived as a 'total idiot', merely following orders from the master. Rather the computer's limitations are dependent on the programme writers. In the words of Underwood, '*Computer understanding comes only as a result of clever* and *relatively complicated programming*' (Underwood 1984 : 70).

Perhaps one of the more realistic limitations of CALL for language teaching is the high cost of acquiring and maintaining computer systems. This is indeed a serious setback in the context of the Malaysian language teaching experience where priority is accorded to the technical fields of learning such as engineering or the quantitative sciences. Hefty costs may also be incurred in acquiring trained teaching staff and technicians.

FUTURE DIRECTIONS OF CALL

In this section, I will attempt to evaluate the present application of CALL and offer new directions in using computer software in language learning. Although drill-and-practice-based CALL will still have its definite role in the classroom, future emphasis should really be on communicative or interactive CALL. This calls for more programmes which focus on how students use linguistic knowledge to communicate in real-life intentions with the computer. I strongly advocate a more meaningful and realistic approach to learning language for which a communicative CALL is potentially capable of. This requires a much greater effort by programme writers which may also suggest developing CALL in the direction of 'Artificial Intelligence'

(AI). AI entails studying how the computer can be used as a natural human partner by the user in transacting communicative, real-life tasks (Underwood 1984).

The common denominator of communicative CALL is that students are in control of learning and that they are able to relate subject matter in a naturally personal way. By this, students are free to create their own learning experience rather than binding themselves to a prefabricated lesson (Higgins 1995, Underwood 1984). The role of the computer is that of a facilitator even more so an ally in learning rather than a taskmaster. Communicative CALL does not aim at replicating or simulating classroom learning. Rather it creates a novel activity that would be difficult to do without a computer. Thus in line with current theories and practices in teaching methodology which stress the communicative aspect of learning, there is a need for programme writers to develop language programmes which are more sensitive to the learner, allowing for freer interaction between him and the computer. In the word of Barrutia "*we need to think not in terms of grander hardware but rather in terms of making hardware conform to grander and more humanistic programmes*" (Barrutia 1970 cited in Underwood 1984 : 61).

IMPLICATIONS OF CALL FOR LANGUAGE TEACHING

With the gradual 'encroachment' of computer technology into the realm of language teaching, a few pedagogical issues pertinent to the teacher and learner arise. How will CALL influence the course of second language classroom instruction? To what extent will CALL affect the mutually-interdependent relationship between the teacher and the learner?

For the ESL learners, CALL is to play an increasingly significant role in their learning. First, they need the computer's word processor to type out assignments or produce attractive presentations in the target language. Simulations in the guise of computer games allow students to interact with the computer, using the target language to give instructions and seek clarification while engaging in problem-solving. The introduction of simulation games is a significant change in CALL as it takes students to a higher level of thinking than the mundane 'wrong-try-again' programmes. Meanwhile, students are not entirely independent of teachers because computers cannot decide what students will learn, teachers can (Drunkel 1991, Henson 1993).

As such the teacher should not assume that computer-based curricula are teacher-proof or even adequate (Drunkel 1991). The teacher is to take a firm stand on how he will use the computer and its applications for teaching and also what students will do with the computer. The fear that the computer will take over the role of the human teacher does not arise as computers are supplementary tools for teaching, to be used in any way the teacher pleases.

The increasing awareness and use of CALL in Malaysian institutions of higher learning means that many paranoia-stricken and computer-illiterate language teachers will have to get to know what CALL is all about and what it can do to enrich the teacher's teaching experience. This applies especially to teachers who want to keep abreast of new developments in teaching and therefore want CALL to be part of their students' classroom learning. The use of CALL materials also means there are opportunities for collective peer-learning because students will need to get into small groups to discuss or evaluate the programmes they have used (Ahmad et al 1985).

At present, most CALL language learning programmes are of the W-T-A type and they are readily available in commercialized CD-ROMs. The advantage of these drill-based programmes is that they save the teacher valuable time in having to conduct grammar drills in the classroom. The teacher can leave the routine drills to the computer while he concentrates on the more interaction-based communicative tasks for the classroom. Easy access to CALL-based programmes which are easy to operate, requiring no programming skills is a factor which will enchance the use of the computer in language learning (Underwood 1984, Henson 1993).

Perhaps a more important implication of CALL for language learning is that teachers will be more aware of the prevailing weaknesses in their teaching methods. The effect can be two-fold. First, the teacher concerned will be 'forced' to explore new teaching techniques which do not involve any use of the computer to enchance teaching effectiveness. Alternatively, the teacher may find it necessary to introduce the CALL as part of his classroom instruction especially in areas where he feels the computer is capable of doing a more efficient job. Some highly-motivated teachers may even be tempted to get into basic programming and write their own CALL programmes even though it is not required of them as language teachers.

CONCLUSION

With the slow but steady entry of computer technology into the sphere of language teaching, there is optismism for CALL to play a significant role as a supplementary mode of teaching language effectively. In other words, CALL should be seen as an 'ally' in teaching and learning, not a 'slavedriver' (Underwood 1984). There is, however, no apparent need for teachers to get involved directly in programming. What is more important is that teachers should start exploring the vast potentials which CALL can offer in helping to enrich their teaching experience. It is for this reason that I recommend a more inquiring attitude amongst language teachers towards new technology. There is no place for 'technology-phobia' and even more so the 'caped fear' that the computer will take over completely the role of the human teacher in the near future. Just remember this, "..... *the computer is merely a tool, to be used or not, as the teacher thinks fit*". (Kenning and Kenning 1984 : 1).

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