

Benefits and barriers of computer assisted language learning and teaching

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Abstract: With the great development of computers and Internet, more and more second language teachers and learners are using computers for foreign language teaching and learning today. Although the use of computer in teaching and learning has a positive effect on the achievement levels of second language learners, there are still some barriers to the widely application of computers. This paper, first, from the historical perspective studies the different developing phases of computer assisted language teaching, and then mainly, examines the benefits and barriers of computers in language teaching and learning. The paper emphasizes that language educators must recognize both the benefits and limitations of using computers so that they can try their best to overcome the barriers and get the maximum effectiveness of technology to enhance second language learning.

Key words: Computer Assisted Language Learning (CALL); behaviorist theories; communicative CALL; integrative CALL

1. Introduction

Inspired by the rapid development of technology from the 1980s, computer has now become an influential component of second language learning pedagogy. Educators recognize that utilizing computer technology and its attached language learning programs can be convenient to create both independent and collaborative learning environments and provide students with language experiences as they move through the various stages of second language acquisition (Kung, 2002).

The purpose of this paper is to discuss the opportunities to use computer in the second language learning, and some training or explanation in their application. Therefore, it seems to be necessary to explain the benefits and barriers of computer technology to teachers and students. Only after guiding do teachers and students realize the benefits of computer technology for second language learning, then they can apply computer appropriately and join those computer assisted language learning programs at their own will.

2. Three phases of CALL

Though CALL has developed gradually over the last 30 years, this development can be categorized in terms of three somewhat distinct phases which many scholars refer to as behavioristic CALL, communicative CALL, and integrative CALL. Each stage corresponds to a certain level of technology as well as a certain pedagogical approach.

2.1 Behavioristic CALL

The first phase of CALL, conceived in the 1950s and implemented in the 1960s and 1970s, was based on the behaviorist theories of learning. Programs of this phase entailed repetitive language drills and can be referred to as “drill and practice”. Drill and practice courseware is based on the model of computer as tutor. In other words, the computer serves as a vehicle for delivering instructional materials to the students. A number of CALL tutoring systems were

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developed for the mainframe computers which were used at that time. They remained as an insignificant alternative for language learning until the spread of the microcomputer into educational settings in the early 1980s.

2.2 Communicative CALL

The second phase of CALL was based on the communicative approach to teaching which became prominent in the 1970s and 1980s. Advocators argued that all CALL courseware and activities should build on intrinsic motivation and should foster interactivity—both learner-computer and learner-learner. And they felt that the drill and practice programs of the previous decade did not allow enough authentic communication to be of much value. A variety of CALL programs were developed and used during this phase of communicative CALL. Computer did not only serve as the knower of knowledge, the process of finding the right answer also involved a fair amount of student choice, control, and interaction. The purpose of the communicative CALL activity is not so much to have students discover the right answer, but rather to stimulate students' discussion, writing, or critical thinking.

2.3 Integrative CALL

Though communicative CALL seems like a significant advance over behavioristic CALL, it still began to come under criticism. No longer satisfied with teaching compartmentalized skills or structures, a number of educators were seeking ways to teach in a more integrative manner, for example, using task- or project-based approaches to integrate learners in authentic environments, and also to integrate the various skills of language learning and use. The challenge for advocates of CALL was to develop models which could help integrate the various aspects of the language learning process. Fortunately, advances in computer technology were providing the opportunities to do just that. Integrative approaches to CALL are based on two important technological developments in the mid-1990s. One was the dramatic increase in commercial multimedia for language learning as CD-ROMs became standard in home computers. The other was the development of the World Wide Web. Because of the web and increased access to the Internet in general, the past decade has seen a major shift toward tool uses, and many newcomers to CALL define the field almost entirely in those terms. The greatest contribution made by the network-based technology is that people can share the information resources and communicate with one another no matter when and where they are. The free and huge amount of English information resource is the prerequisite to the online English language learning (Warschauer, 2000). This led to a new perspective on technology and language learning and teaching, which seeks both to integrate various skills, for example, listening, speaking, reading and writing, and also integrates technology more fully into the language learning and teaching process.

3. Benefits of computer assisted learning and teaching

Nowadays, CALL is gaining more popularity in foreign language learning, it mainly enjoys the following benefits for second language learners:

3.1 Call programs could offer second language learners more independence from classrooms

First, one big difference between computers and teachers is that computers will never get tired and can repeat the same thing again and again without complaining. Whatever it is programmed to do, it can do over and over as often as necessary, which is good, in particular, for slower students. Furthermore, computers can keep teaching resources for a longer time, which is almost impossible in the traditional classroom. The teaching resources can then be shared by other teachers and students. Thus, computer provided a platform for the communication between teachers and students. In contrast to traditional second language classroom study, students can study more independently, leaving the teacher more time to concentrate effort on those parts of second language teaching that are still hard or impossible by the computer, such as pronunciation, work on spoken dialogue,

training for essay writing and presentation.

3.2 Language learners have the option to study at any time and anywhere

Traditionally, learners must go to a class themselves at a fixed time and in a fixed classroom. If the place has a network of computer laboratories, learners can use the same materials wherever they are. They can even study at home if their personal computers have a link to their school's system or network. In addition, the teachers and students can not only get materials and information from the websites of their own country, but also from those of foreign countries.

3.3 CALL programs can be wonderful stimuli for second language learning

Currently, computer technology can provide a lot of funny games and communicative activities, reduce the learning stresses and anxieties, and provide repeated lessons as often as necessary. Those abilities will promote second language learners' learning motivation. Through various communicative and interactive activities, computer technology can help second language learners strengthen their linguistic skills, affect their learning attitude, and build their self-instruction strategies and self-confidence. The network, or the World Wide Web, is a virtual library at one's fingertips; it is a readily available world of information for the language learners and teachers. Both students and teachers can download very good learning and teaching materials from the Internet.

3.4 Computer can promote learning interaction between learners and teachers

When computer technology combines with Internet, it creates a channel for students to obtain a huge amount of human experience and guide students to enter the "Global Community". In this way, students not only can extend their personal view, thought, and experience, but also can learn to live in the real world. Warchauer (2000) indicated that the random access to Web pages would break the linear flow of instruction. By sending E-mail and joining newsgroups, second language learners can also communicate with people they never met before and interact with their own teachers or classmates. Shy or inhibited learners can greatly benefit from the individualized technology-learning environment, and studious learners can also proceed at their own pace to achieve higher levels. The quick development of Internet is also very useful for both teachers and students.

3.5 Computers can help classroom teaching with a variety of materials and approaches

Computers are helpful to motivate students in class. Language teaching in the past was teacher centered with the aids of blackboard, recorders and videos. Students may find it easy to get bored and confused. With computers, teachers can present pictures, videos and written texts related to the class with or without sound. Students feel things are more real and more understandable. In particular, many concepts and cognitions are abstract and difficult to express through language in language teaching area. It seems that computers can make up for this shortage by using the image showing on the screen. Thus, students do not get bored easily and they may become more active. At the same time, students can share their findings and information with teachers and classmates too, just by connecting their own computers with others in the class.

4. Barriers of computer-assisted language learning and teaching

Although there are many benefits of computer, the application of current computer technology still has its limitations. There are a lot of barriers to the use of CALL in language learning in many different aspects related to CALL.

4.1 Financial barriers are the main outstanding problems

Language teachers often have some financial barriers to afford the necessary hardware and software for CALL because the university administration does not spare an appropriation for CALL. In addition, computer hardware, software and programmes are continually updated with the technological development, which puts

more pressure on educators and learners who want to catch up with new technology. Some scholars argued that CALL will increase educational costs and harm the equity of education. When computers become a basic requirement for students to purchase, low-budget schools and low-income students usually cannot afford a computer. It will cause unfair educational conditions for those poor schools and students.

4.2 Computers cannot handle unexpected situations due to technological barriers

Language teachers sometimes have barriers, which are related to the system, such as viruses, connection problems or problems caused by the students unconsciously. Second language learners' learning situations are various and ever changing. Due to the limitations of computer's artificial intelligence, computer technology is unable to deal with learners' unexpected learning problems and response to learners' question immediately as teachers do. The reasons for the computer's inability to interact effectively can be traced back to a fundamental difference in the way humans and computers utilize information (Dent, 2001). Blin (1999) also expressed that computer technology with that degree of intelligence do not exist, and are not expected to exist for quite a long time. In a word, today's computer technology and its attached language learning programs are not yet intelligent enough to be truly interactive. People still need to put effort in developing and improving computer technology in order to assist second language learners.

4.3 Both teachers and students need training to learn to use computers

Acceptance of the new technologies is an important barrier for language teachers and learners because many of them may not be interested in computers and the Internet. They may usually prefer to teach in a traditional classroom because to teach CALL lessons requires them to learn many new things about computers and the Internet besides language. Many teachers do not have enough technical knowledge about computers and the Internet, and new programs and software are developing so fast that teachers sometimes feel they need to learn a new program. This will, definitely, add the workload of teachers, who are already working under great pressure. As for students, it will take them a long time and a lot of energy to learn the basic skills for using a computer. All these turned to be another barrier to language learners and teachers.

5. Conclusion

After we have discussed the benefits and barriers of computer assisted learning and teaching for current foreign language learning, we can find it necessary to apply computers in current second language class, although it still has limitations and weakness. Therefore, when we try to apply CALL programs to enhance their teaching or to help student learning, we should realize what the advantages and disadvantages are in current CALL programs in order to avoid for misemploying CALL programs and get its maximum benefits for our ESL teaching and learning.

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