

Implications & Applications of CALL in Interactive Reading at Amman University

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This article describes Computer-Assisted Language Learning (CALL) in relation to interactive approach to reading. The author has designed an experiment on the speed of reading on the screen with adequate comprehension and the traditional method of text reading in the classroom. Compared with the traditional classroom methodology, the author raises questions whether computers are a challenge to the teacher's existence, and how the foreign reading CALL can facilitate the building of relevant background knowledge. Given the limitations of this article, some of the implications and applications can be drawn from this study.

Parameters of CALL

The main theme of this conference is Computer Assisted Language Learning (CALL) which comes under different names and with different shades of emphasis and determination in many parts of the world. There is, in other words, a general sense that TEFL (teaching English as a foreign language) demands some range of methodologies which, here in this conference, you are calling **CALL 2000**. And these are in opposition to some other set of qualities associated with traditional approaches to the reading venture. We use this conference to clarify the implications for teaching methodology and the role of the language teacher we are striving to inculcate. And there is a further point: we are not here talking only at the level of methodological choices. The issues we are addressing are not so trivial: we must recognise that this debate may result in reducing the cost of foreign language teaching and at the same time improving teaching and learning, that is, the educational process. For some, CALL may be a double-edged sword, depending upon its utilisation.

There are several limitations of CALL that may impede its progress. Some of these stem from the nature of the computer itself, while others relate to

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the present state of CALL and to the lack of funding and of general recognition of CALL as a worthwhile activity. In the first place there are technical questions. The teacher must make sure that the CALL courseware is 'portable', i.e. it can be run on more than one make of computer. For example, converting computer software from IBM to Apple is very expensive and time-consuming if not impossible.

In this paper, therefore, I shall try to do four things. Firstly, I will look at the way in which the computer may be a challenge to the teacher's authority, and attempt to point to some characteristics inherent in CALL. Secondly, I will look at the way in which interactive reading be interpreted and attempt to point to some of the difficulties inherent in the traditional approach to reading. Thirdly, I will look at the way in which CALL might motivate the learners to read intensively and extensively. Fourthly, I will investigate the implications and applications of interactive reading and be utilised in formulating CALL programs.

Background

The computer may be perceived as a threat to the teacher's role and his professional status. Both teacher and students are reluctant to utilize the computer and they resist the introduction of CALL. However, integrating computers into English language development and reading classes, experience suggests that they can be used to improve the quality of student work (Davidson et al. 1994). The use of word-processors in reading is another aspect of materials design. Fox (1989: 10) expresses his views as follows:

The discussion of the use of word-processors in vocabulary learning introduces another aspect of materials design. This is authenticity, and relates to the closeness to 'real life' activities and thus 'relevance' of the learning material.

Consequently, I have decided to design an experiment where students are required to read a text of 738 words, on the screen for the following reasons:

(a) Different reading rates occur because of individual differences in the way learners read EFL, resulting in boredom for fast readers in class reading, and frustration for slow readers who are never allowed to complete their reading assignment (Nyns 1988). If we wait for them, these students will feel no pressure at all to read quickly.

(b) Since these students are majoring in English language and literature, it becomes imperative we improve their reading speed. The huge advantage of word processors and the assistance available from dictionaries as they represent real interaction between the students and the computer. Last (1992:237) claims that:

.....the word-processor enables the learner and the teacher to interact in a much more fluid and powerful way than has previously been possible.

(c) It is possible to animate the text, so that reading becomes a more dynamic activity than the traditional way of reading in a book.

(d) By animation, words become full of life and can create an immediate effect on the learner. In addition, the use of colour can enhance the motivational aspect of the computer. It is possible to highlight important structures and metaphors. Potentially this is a great advantage over the linear fixed presentation of a book.

(e) The monitor screen is limited in size so that less text will be visible than in a book which would keep the students motivated.

Hence, a group of twelve students taking an “Advanced Reading Comprehension and Writing” course as an English major requirement are divided into two groups: controlled and experimental. The controlled group read and answered the questions on the text in class. It took them about three hours to complete the assignment. The experimental group, instead of meeting in class, they read the text on the screen, and answered the questions using the keyboard. It took them an hour to carry out the assignment with the same results.

We can conclude that teaching reading via the computer may contribute to increase the rate of reading. The results of this experiment are consistent with the evaluation of the British National Development in CALL which was carried out by Kemmis and his colleagues (Kemmis et al. 1977).

This is another application of the computer which is the use of the Viwbook. Last (1992) maintains that the concept revolves round the notion of an electronic book which can be read by page on screen. This program is suitable for advanced learners of Amman University, for example because Last (1992:238) there are a number of Viewbook titles ranging from subjects like politics to Shakespearean texts.

The computer role

The computer is a teaching tool whose role in education is that of a medium. It is entirely dependent on the teacher in many ways: for instance, it cannot create educational material without being instructed by a human. All the language material and instructions for presentation are to be specified by the teacher. It is the teacher who decides what instructions (e.g., students' responses, the time taken to read or answer) are given to the student. However, CALL may be superior to other technological aids in a good number of ways:

- (a) The computer can handle a much wider activities than other existing machines.
- (b) The computer presents several aspects of particular promise. Prominent among these is its versatility in handling different kinds of material.
- (c) For the student, the computer offers many services. The computer's flexibility of time allows the student the choice of when to study particular topics and how long to spend on them.
- (d) Experience has also shown that learning with a computer is rated highly by students because of its prestige. Therefore, the computer can be a powerful motivating force for productive study. Thus motivation is, quite obviously, an important factor in encouraging reading and the computer can increase that motivation.

(e) The computer can bridge the gap between the artificiality of the classroom and the real world. The computer capacity of simulating reading may lead to methodological changes in kind and degree.

Reading types

This paper will deal with reading because it is probably the most important skill students will need for success in their studies. They need to read lengthy assignments in different subjects with varying degrees of detail and difficulty. If they read slowly, they will have to spend too much time reading their assignments so that their other work may suffer. In addition, at university levels in a foreign language, the ability to read the written language at a reasonable speed and with adequate comprehension has been recognised to be as important as oral skills, if not more important (Eskey 1970). As such we are not concerned with learning to read in the sense of learning what noises are represented by what graphic symbols, nor are we concerned with reading aloud, which is dealt with under the teaching of speech.

In foreign language teaching situations for academic purposes or specific purposes, especially at Amman National University, where the medium of instruction is English in most colleges that make extensive use of the texts written in English, reading is of paramount importance. Moreover, without reading proficiency, foreign language readers cannot succeed nor can they compete with native English-speaking counterparts. Thus, for those groups of students, effective reading in a foreign language is critical. Interactive approaches to reading hold much promise for our understanding the complex nature of reading, especially as it occurs in a foreign language and culture. Almost all language skills involve reading, whether incidental or text manipulation or reading comprehension.

Interactive reading

According to the theory of interactive reading, reading is not passive, but rather active, and in fact interactive. When a computer is used, the reader cannot see other pages and he is consequently more committed to his choices. It is an attempt at what is called, in relation to computers, an

‘interactive’ process. This word is often misused and misinterpreted, frequently being interpreted as a situation where the program user is prompted to type on-word response to questions. In this context, there is no room for interpretation. ‘Interactivity’ implies participation rather than key-pressing and a truly interactive program will involve the user as an important partner in the process.

Interactive reading involves both top-down and bottom-up skills. Terms like top-down or bottom-up models are merely metaphors for the complex mental process of reading, “top” here referring to such “higher” order mental concepts as the knowledge and expectations of the reader, and bottom to the physical text on the page. This leads us to address such questions as: how and to what degree literate foreign language readers employ lower-level processing skills and how these interact with higher level strategies? The bottom-up model (Eskey 1973) was inadequate as a model of the reading process of the reader; it failed to recognise that students utilise their expectations about the text based on that knowledge of language and how it works.

In an interactive model, the reader need not (and the efficient reader does not) use all of the textual cues. Since the interactive model of reading assumes that skills at all levels are interactively available to process and interpret the text, CALL programs should include material at all levels. In its simplest form, such a CALL program subsumes both top-down and bottom-up strategies. This model incorporates the implications of reading as an interactive process, that is, the use of background knowledge, expectations, contexts, and so on. At the same time, it also incorporates notions of rapid and accurate future recognition for letters and words, and spreading activation of lexical forms.

In the following extract, we look at a range of question-and-answer programs that can be used for reading comprehension. Such programs give students a measure of independence from the teacher, who is therefore free to deal with particular problems. The interaction takes place between the reader, the reading text and the computer.

At first when you see the coolie on the road, bearing his load, it is as a pleasing object that he strikes the eye. In his blue rags, a blue of all colours from indigo to turquoise and then to the paleness of a milky sky, he fits the landscape. He seems exactly right as he trudges along the narrow causeway between the rice fields or climbs a green hill. He takes anything that comes handy. From sun and rain he protects his head with a straw hat shaped like an extinguisher with a preposterously wide, flat brim.

Computer programs can concentrate on particular aspects of reading. One is the use of prediction and the use of pre-reading questions to focus attention. In this example, students are about to do a variety of activities on an intermediate text about 'Chinese coolies'. To prepare them for their first reading of the text, the first activity is a true/false program, which offers the learners a number of true and false statements whose truth or falsity is established in the text. At the outset, the learners decide which are true and which are false without seeing the text. The text then becomes available on the screen and the learners can switch between the questions and any screen of text, searching for relevant information. The computer then gives feedback: for each question, it presents the learner's initial response, their final decision, and the right answer. However, such questions may not fulfil the criteria of interactive reading. Then the students are asked questions which require interpretation, deduction and critical thinking such as:

1. How does the coolie first strike the observer?
2. Pleasing to which sense in what way?
3. In what way does he 'fit the landscape'?
4. What is the most important thing at this point about his clothes?
5. What words are used to convey the shades of blue?
6. 'He seems exactly right'. What difference would it make if the writer had said, 'He is exactly right'?

Another necessary reading skill is the ability to deduce the meaning of unknown words from the context - and a prerequisite for this is the ability to decide which part of speech the word is. In English, the part of speech will often depend on the context in which the word is found. The computer displays a short text, a random word is highlighted, and the learner has to select the part of speech from a list of choices. A similar exercise could be developed highlighting speed reading: one major area of reading skills development is training students to read efficiently: to avoid laboriously reading every single word, but instead to read 'chunks', and to miss out

'unessential'. A simple and effective way to help the learner in his direction is to use a timing element.

Implication of the Interactive Model in the classroom

The implications of this model are numerous, and a few are in direct contrast to currently accepted views. For example, situational interpretation of lexical items is a part of vocabulary skills required for proficient reading (Stanovich 1980). Similarly, certain types of "phonic" exercises may be helpful to students (Beck 1980). Such an exercise is intended to help the students increase their peripheral vision, (the ability to see words on either side of the point at which one's eyes focus) practise rapid recognition of letters and words, and read by phrase without regression. Slow reading results from regression, the number of times one's eyes have to go back to a word or a phrase they did not see accurately the first time. CALL can help students move their eyes in a uniform rhythm by means of highlighting and animation. This will lead to an important component of an effective foreign language reading program (Stroller 1984). An exercise to train the learner's eyes is to highlight and paint the letter 'e', for example, so that the learner fixes his/her eyes on this point and let the screen move downwards as rapidly as possible to reveal each word. Then he/she practises reading the words in each column. He/She is to concentrate on the centre of the column and read straight down. Here is an example:

pet	press	ocean
her	opera	shell
men	piece	guest

An interactive model is a convincing model of the reading process (Eskey et al. 1988). Then we must ask ourselves what all this means for the classroom. For the teaching of ESL/EFL there seems to be two general implications:

(1) We must devote some time to teaching reading by means of bottom-up model. Even students who have developed strong top-down skills in their source language may not be able to transfer these higher-level skills to a foreign language context, especially in a language like Arabic which has a different script and system until they have developed a stronger bottom-up foundation of basic identification skills (ibid. 1988).

(2) On the other hand, we must also devote some time to top-down skills as reading for global meaning developing a willingness to make intelligent guesses at meaning. Students may develop appropriate and adequate schemata for the proper interpretation of the text.

(3) It is possible to develop both top-down and bottom-up skills by extensive reading. Classroom work can point the way but cannot substitute for the act itself people learn to read by reading, not by doing exercises. The role of the teacher in the reading process varies from program to program, depending on such factors as the age, and proficiency of the students, their educational needs, time available, and so forth. A reading program that does not involve much reading is a waste of the teacher's and the students' time. As mentioned before, the use of the Viewbook can offer the learner a wide variety of reading materials.

Thus CALL plays a crucial role in developing the reading speed, which is determined in part by how many words one's eyes see at a single glance. Here is a comparison of three different readers on non-major English students at Amman University and how many stops their eyes may make.

Slow Reader

Getting exhausted quickly may indicate lack of vitamins.

Average Reader

Getting exhausted quickly may indicate lack of vitamins.

Fast Reader

Getting exhausted quickly may indicate lack of vitamins.

It is noticed that the slow reader's eyes must stop eight times, focusing on each word alone before moving onto the next. The eyes of the average reader stop five times because they are able to see about two words at a single glance. The eyes of the fast reader stop only three times. They focus at the centre of a phrase and three or four words, then move rapidly to the next phrase. The teacher via CALL must induce the learner to abandon the

word-by-word approach to reading by fixing his eyes at the centre and introducing timed reading exercises. Students must learn to skim to locate a specific word, fact, or idea quickly; and to get a rapid, general impression of the material. Both of those purposes are common in studying so that skimming is an important reading skill to learn.

Being able to read by phrases requires an understanding of what words go together grammatically. For example, if you can recognise modification patterns, prepositional or participial phrases, or dependent clauses, you can recognise which words are grouped together meaningfully. CALL programs can show these grammatical connections via painting and animation.

The reading teacher may do very little of what we normally think of as teaching, he or she may play a crucial role in the students' developing foreign language reading skills. The students must of course do the learning for themselves, but the teacher can often have a major effect on whether any given student chooses to go on reading in a language. A good teacher - or a bad one - can make a critical difference in performing a number of significant functions.

It is first of all the teacher who must create the world of reading in a particular class. It is the teacher who must stimulate interest in reading, who must project his or her enthusiasm for books, and who must help students to see that reading can be of real value to them. Since reading faces a crisis, CALL has appeared on the scene to rescue the reading process.

Interactive model application

Enjoyment ought to be one of the foremost aims and effects of education, partly because what we enjoy we feel inclined to go on with, and what we have disliked we drop as soon as we can. If we want our students to master reading skills, we had better make our language activities enjoyable, which will make teaching more enjoyable too, and far less, exhausting. This can be best implemented by CALL programs.

In general there are two ways to do this. Given the fact that students differ in their interests, as well as in their skills and potential rates of progress, the way is to develop a program that allows for a very high degree of

individualisation. Here is the role of CALL, where the students may be required to do as much reading as possible, but they make their own choices of reading material from a wide selection of appropriate texts. This is the reading computer lab approach. When the audio and video technologies are integrated with computers, CALL becomes not only complementary, but also essential. Consequently, CALL, then, involves an eclectic methodology, that is, the visual, the audio, and the cognitive. CALL meets the basic criteria of interesting materials and sufficient quantity. It has the additional advantages of allowing each student to progress at his or her own rate, to develop schemata in some area of interest, and to compile a personal record of reading.

It is necessary to introduce lectures, or show films to form a background knowledge to provide real motivation for reading about the subject. Student interest is stimulated by classroom 'give and take'. There is a natural blending of skills - listening, speaking, reading, and writing - as the students collectively pursue a common intellectual goal. Reading is no longer isolated: It simply becomes an integral part of the normal educational process. It is no longer taught as an end in itself but as a means to a more familiar end. Without reading sufficiently, there can be no learning.

Conclusion

Since people tend to read less, it is possible to foster reading by using the computer in a number of ways to promote reading. In devising such a scheme, consideration should be given to different age groups with different abilities and interests. Used properly, the CALL can provide much needed motivation and an exciting context for reading, but if it is misused, it could equally, prove a hindrance: it is 'a two-edged sword'.

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