Effective Uses of Computer-Based Software in Teaching the Listening Skill in ESL

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Abstract
The primary concern of the present study was to investigate the effective uses of computer-based software in teaching the listening skill in English as a second language (ESL) at higher education institutions. It aimed to find out if computer-based software can be used as a teacher Replacement or Supplement, either at the beginning or end of the listening lesson. In order to assess the effect of CALL-use, an Experimental Study was carried out. 80 post-SPM respondents enrolled in an Intensive English course at UniSZA (formerly known as KUSZA and UDM) were chosen for this study. Two achievement post-tests were administered for data collection. The data results were analysed using SPSS. The results of the study revealed that the way computerized material was used made a considerable effect on the achievement of the students. When it was used as a supplement at the beginning of the lesson, the students scored better results than those students received computerized treatment at the end of the lesson. When it was used as a teacher replacement, the students did not score well in the tests. The results also showed that non-computerised treatment was effective for teaching the listening skill.

Introduction
Recent years have revealed a growing interest in using computers for language teaching and learning. A decade ago, only a small number of specialists was concerned with the use of computers in the language classroom (Warschauer & Healey, 1998). However, the role of computers in language instruction has now become an important issue facing large numbers of language teachers throughout the world. For the teachers, the question now is not of whether but how computers can aid in the language learning process (Hubbard, 1996).

The rapid technological advances of the 1980s and 1990s have raised both the expectations and the demands placed on the computer as a potential learning tool. With recent advances in multimedia technology, computer-assisted language learning (CALL) has emerged as a tempting alternative to earlier modes of supplementing or replacing direct student-teacher interaction, such as the language laboratory or audio-tape-based self-study.

Studies carried out to investigate the effect of CALL on learning languages have shown that CALL demonstrated a positive effect on students’ learning and language competency. Most of the studies have been made on aspects of language learning such as vocabulary, spelling, grammar, reading and writing.

The listening skill, which has been regarded by many as the most important skill in language learning, has been neglected in the field of CALL. This, according to Warschaueur (1998), is probably because sound capable computers were not in widespread use until fairly recently.

The computer is seen to be of great help in teaching listening skills in that it can, apart from enjoyment and excitement, do something that is almost impossible to accomplish in whole-class instruction, that is to verify comprehension on an individual basis and to interact with each student based on his or her listening skills (Frommer, 1989). Frommer also pointed out that words could be presented visually and aurally to illustrate the correspondence between the two.

When a computer is combined with CD-ROM or videodisk, it can provide extra-linguistic supports, such as clear sounds, pictures, real-life video images, animations, etc. These extra-linguistic supports provide help for second language students’ comprehension (Hsu, 1994).
Literature Review

Computer-Assisted Language Learning (CALL)

Computer-assisted language learning (CALL) came into view in the 1960s' (Ahmad et al, 1985). The rapid growth in computer technology and the frequent use of computers among the linguists and literary researchers opened up the way for the introduction of computers in language teaching and learning.

In the early stages, CALL, according to Coughlin (1989), was little more than an imitation of older, more familiar media. As put by Underwood (1989: 71),

*The tendency was rather to try to push and squeeze current language learning materials to fit the computer, to “computerize” our lab exercises, or imitate unabashedly the teaching machines or programmed instruction of the recent past.*

Early attempts with computers often emphasized drill-and practice grammar exercises (Charischak, 2000) and it was found that students were not very interested in using such software (Nagata 1993, Nicholas & Toporski, 1993). However, since the mid-1970s, CALL has changed. It has been developed on the context- and communication based approaches supported by current educators (Coughlin, 1989).

When the goal is communication in language learning, then language drills fit into only a small part of language learning. However, drills are required particularly in the first stages of vocabulary acquisition where giving the same information in multiple modes, such as visual plus aural plus textual, enhances recognition and recall (Warschauer & Healey, 1998).

However, it is still too early to claim that the design and implementation of CALL software has satisfied the needs of the learners and teachers because there are many interrelated factors that have to be considered such as the learning theory and the current approach used in language teaching.

CALL and Listening Skills

The importance given to listening skills in language learning and communication is growing among teachers and scholars (Rubin, 1994). It has been argued that listening should come before speech production in foreign language acquisition as it does in first language acquisition (Asher, 1988; Krashen & Terrell, 1983). Ample opportunities for listening comprehension should therefore, according to Jakobsdottir and Hooper (1995) be provided, especially at the early stages of foreign language instruction. Allen (1993) points out that listening is the skill that can be much enhanced by the use of technology.

However, the use of the computer with the listening skill is still at an early stage. As stressed by Conrad (1996), the knowledge base for central areas of CALL applications such as co-operative learning, listening comprehension, or intelligent feedback was too small in 1995.

Few empirical studies have explored the relationship between computer-based material and listening comprehension. Jakobsdottir and Hooper (1995) developed a computer-based foreign language lesson to study the effects of text, context, and gender on listening comprehension and motivation of 109 fifth grade students studying Norwegian. In the study, the students were required to respond to spoken commands, with text and a story absent or present. Jakobsdottir and Hooper found that presenting spoken language with text appeared to assist the development of listening skills. When text was used, the finding revealed that students made fewer errors on the subsequent comprehension test and gave higher relevance and confidence motivation ratings than when text was absent. Girls scored higher than boys in the achievement post-tests and rated the lesson higher, showing that girls tend to like different kinds of software than do boys. A significant interaction was found between context and gender regarding achievement where girls, but not boys, made fewer errors after a story-embedded lesson.

In another study, Brett (1997) investigated the comparative effectiveness of multimedia. The study investigated listening performance in a computer-based multimedia environment. It compared learner success rates on comprehension and language recall tasks while using the three different media of audio, video (with pen and paper responses) and multimedia. The results of learners' performance on tasks showed more effective comprehension and recall while using multimedia than either audio or video plus...
pen and paper. A learner questionnaire has indicated the possible reasons for this greater success rate of multimedia. It seems to provide gains in efficiency and the provision of simultaneous, on-going feedback seems to support learners' interpretations of messages.

In this present study, the listening skill will be taught to the 17 year old students attending an Intensive English course at one of the higher education institutions in Malaysia using computer-based materials. The aim is to find out the effective uses of the computer-based materials in teaching the listening skill whether as a replacement for conventional teaching, or as a supplement, either at the beginning or at the end of the conventional teaching lesson.

The Development of CALL Materials
CALL developers claim that CALL offers an environment in which a second language student can participate in interactive learning. Today it has become vital to include interactive multimedia instruction in courseware design and application. Higher levels of interactivity have been developed which enable students to obtain text for definitions, pictures, or sound by just pointing and clicking on the objects (Siribodhi, 1995) or which allow them to request modification of the input they receive in order to aid their comprehension (Hsu, 1994).

In an experiment done on student reaction when using CALL, Adamson (1996) found that the students prefer and enjoy the type of software that is flexible and user-friendly. They prefer the software that provides explanation errors, instead of simply stating that an error has been made. Adamson suggests that for future development of CALL materials, students' views and should be considered in the designing of the materials because, as stated by Brindley (1989),

One of the fundamental principles underlying learner-centred systems of language learning is that teaching/learning programmes should be responsive to learners' needs. It is now widely accepted as a principle of programme design that needs-analysis is a vital prerequisite to the specification of language learning objectives. This is further supported by Ter-Minasova (1990), who claims that no new methodology or technology will succeed unless students perceive it as responding to their needs.

As suggested by Jakobsdottir and Hooper (1995), effective technology use should reflect the changes in language instruction that have occurred in recent years. This has also been highlighted by Armstrong & Yetter-Vassot (1994) who stress the need for more software that engages learners in communicative task-based activities and is based on current learning theory.

The methodological problems of using CALL are still being discussed and debated in many countries among the linguists and language practitioners. The best use of computer as a medium to teach language is yet to be observed and exploited. This not only involves knowledge and equipment. It also involves the attitudes of those who deal with it.

CD-ROMS for Language Learning
In language learning and teaching, multimedia CD-ROM can offer a multi-skill, multi-sensory environment for language learning. With CD-ROMS, aspects such as the integration of text, graphics (still, animated and video) and high-quality sound are made accessible. The existence of CD-ROMS as a storage medium which integrates not only texts, graphics and high quality sound but also recording facilities and some include speech recognition facilities, has made technology a more useful tool in language learning (Bourne, 1996).

Using a CD-ROM with headphones and recording facilities, for example, a learner can practise right across the tour key skills in comparative privacy. This is something which learners value highly. The non-linear access to audio and video in particular is another major strength of the technology. It affords an immediacy and impact which tape-based technology cannot provide.

Pawling (1999) carried out research investigating the nature of language earning using CD-ROM packages. She examined cognitive processes and alternative learning experiences that contrast with conventional delivery modes in foreign language teaching. In her conclusion, she stated that CDROM can promote vocabulary acquisition, pronunciation and independent learning and has a major contribution to make to the development of language teaching and learning.
The availability of CD-ROM materials commercially requires the teachers to be careful in their selections of these resources. Teachers have to evaluate these resources for learning as effectively as they already evaluate books or video resources. There are some key questions outlined by Bourne 1996:60-61) that need to be asked when evaluating CD-ROM materials. They are:

- Are the levels of language suitable?
- Does it cater for differentiated access?
- How does it meet the differing demands of learners? teachers? the curriculum?
- Does it fit in with or complement our prevailing practice and methodology?
- Is it a flexible resource - e.g. can it be used by individuals, pairs, groups, etc.?
- Is it appealing/interesting/accurate?
- Does it support the four language skills? If not all, which?
- How does it link with/complement other materials we already have?

Others will be more technology-specific:

- Is it easy to use? What support/supervision might be needed?
- Does it require a minimum level of IT capability from learner or teacher?
- Does it actually run on the equipment we have?
- Do we need an upgrade to run video?
- Does it make the best use of the medium?
- Do the pictures add value? Would good stills work better than poor video? Can you turn text support on/off? Does it run in various languages the one CD?
- Can the user control what they do easily? (e.g. do you have to watch the whole of a video clip or can you dip in and out as you want?
- Is it easy to `find your way round`?
- Can what is on the disc be saved/printed/used in other programmes?
- Where/how often will learners (and teachers) have access to the resource?
- Is this type of resource more useful if widely available e.g. over a network?

For this study, the points outlined by Bourne have been considered before the commercially available CD-ROM materials were used with the students so that the aims to be achieved at the end of the lesson would be fulfilled.

**Statement of Research Problem**

The teaching of English in Malaysia has been problematic ever since the change over in the medium of instruction in schools from English to Bahasa Malaysia became fully effective in 1983. Since then the standard of English has been declining and many stakeholders from employers, educationists and linguists to parents have voiced their concern. Former Prime Minister Dr Mahathir Mohamad also recently urged young Malaysians to master the language if they did not want to be left behind (thestaronline, 2011). The experience of teaching undergraduates (after SPM results) at University of Sultan Zainal Abidin (UniSZA), one of the higher education institutions in Malaysia has revealed that these undergraduate students still show major difficulties in listening comprehension even after 11 years of English language education (6 years in primary school and 5 years in secondary school).

**Objectives/Purposes of the Study**

In this study, the Malay students on an Intensive English course at UniSZA would use an interactive CD-ROM program to help them practice their listening comprehension. During the study, the respondents were treated with one of three treatments with the use of computers which were using computer-based materials as a replacement for conventional teaching, or as a supplement, either at the beginning or the end of the conventional teaching lesson. Another group was treated as a control group where it received conventional teaching treatment.

**Method of Research**

This study has employed an experimental research methodology. It has adopted a quasi-experimental design because the students were not selected at random. Prior to the study, the students were assigned by the institution to one of the three groups based on their SPM Trial Exam results. During the study, the
students were treated with one of three treatments with the use of computers. The students were also given two achievement post-tests. One was given after the computerized treatment and another one was given after the non-computerized treatment.

**Research Design**

The research employed a modified post-test design. There are three experimental groups with one control group in the study. This design was used to find out if the CD-ROM can best be used as a replacement or supplement either at the beginning or at the end of the LISTENING lesson. It can be diagrammed as:

```
(Control) ___________________ X O1
(Experimental) X O2
(Experimental) X O3
(Experimental) X O4
```

The dashed line separating the parallel rows in the diagram indicates that the groups have not been equated by randomization, as explained earlier. X represents the treatments given to the groups and O refers to the post-tests given to the students.

**Treatment**

For the purpose of the study, the listening skill was given special treatment where computers were used to teach certain topics. Four different treatments were given to three groups of students. The first two treatments were given to Group A1 and Group A2. Group A1 was for the Control Group and Group A2 for the experimental group. 16 students were chosen at random to be in Group A1 (Control Group) and 12 were chosen to be in Group A2 (Experimental Group). The Control Group was to use no computer instruction at all to study the lesson on **Giving Directions**. The Experimental Group was to use CD-ROMS only to study the lesson on **Giving Directions**.

The aim was to find out if teaching the listening skill in a particular unit **Giving Directions**, is more effective using CD-ROMS or no computer at all by looking at the post-test scores of the students. In order to find out if the post-test scores were related to treatments applied or to ability grouping, a lesson on **Naming Features** was taught to the students in both groups using the same type of instruction, that is without the use of computer.

The other two treatments were given to Group B and Group C. Group B received computerized instruction at the beginning of the lesson followed by conventional teaching while Group C received conventional teaching first followed by computerized instruction at the end of the lesson. The objective of this part of the study was to investigate whether CD-ROMS could better be used as a supplement at the beginning or at the end of the lesson.

**Giving Directions** was chosen because it is a popular and reasonably authentic activity (Underwood, 1989). Furthermore, **Giving Directions** has been incorporated into several CALL programmes where the computer and videodisc simulations allow for static directions of imaginary (and authentic) routes to be traced on the computer screen (Esling, 1991).

To learn this topic, students went to the Computer Lab and were given brief instructions by the lecturer before they began using the CD ROMS. Each student was assigned to a computer and listened to the instructions using head sets. Once they were done and completed all the exercises using the two CD ROMS, they were given questionnaires to answer.
**Courseware**

**Computer Treatment**
The courseware for the computer treatment was taken from commercially available CD-ROMS produced by Multimedia and Eurotalk. The two CDs were Listen! and Telephone Talk. Listen! was produced by Eurotalk (1993) and Telephone Talk by Multimedia (1995). The selection of these two commercially CD-ROMS products was guided by the suggestions outlined by Bourne (1996).

Below is an example of an exercise taken from disk 2- Giving Directions 1.

![Example Exercise](image)

Disk 2 consists of language areas which are also featured on disk 1 but are dealt with at a higher level. For each area, the activities come in two stages, just as in disk 1. As with disk 1, once the students were satisfied with scores in Giving Directions 1 they then could proceed to Giving Directions 2.

Like Telephone Talk, Listen! also combines sound, pictures and text into interactive quizzes and exercises to practice and develop students' English.

**Findings**
The data from this study were obtained from two post-test achievements, Giving Directions and Naming Features adapted from Ur (1990). These tests consisted of short-response questions.

**Instrument Reliability Coefficients**
The CRONBACH Coefficient Alpha formula was used to estimate the reliability of the first achievement test, Giving Directions. The higher the reliability of a test, the smaller is the range of uncertainty associated (related) with each mark. For cognitive tests, values of r of 0.8 and above are acceptable. The reliability coefficient in Giving Directions was 0.81. For the reliability coefficient in Naming Features, table 1 shows that the alpha reliability coefficient was 0.92.

<table>
<thead>
<tr>
<th>Post-tests</th>
<th>No. of items</th>
<th>Mean</th>
<th>S.D.</th>
<th>CRONBACH Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Giving Directions</td>
<td>15</td>
<td>9.46</td>
<td>3.59</td>
<td>0.81</td>
</tr>
<tr>
<td>Naming Features</td>
<td>30</td>
<td>21.42</td>
<td>7.02</td>
<td>0.92</td>
</tr>
</tbody>
</table>
Achievement Results
There were two main questions to be answered when listening achievement scores were considered. First, was there a significant difference between students’ achievement and the different types of treatments? To test this question, ANOVA was used with Giving Directions. Secondly, was there a significant difference between students’ achievement and their ability in the language (ability grouping)? Again, to test this question, ANOVA was used, with Naming Features.

Giving Directions

Table 2

<table>
<thead>
<tr>
<th>Source</th>
<th>D.F.</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F Ratio</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>3</td>
<td>186.3221</td>
<td>62.1074</td>
<td>6.4427</td>
<td>.0006</td>
</tr>
<tr>
<td>Within Groups</td>
<td>74</td>
<td>713.3574</td>
<td>9.6400</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>77</td>
<td>899.6795</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

ANOVA was used to see if there were any differences among the students of the different treatment groups in terms of their achievements. For the first achievement test, Giving Directions, table 3 shows that there was a significant difference between the students’ achievement with the treatment given. The criterion established to determine significance of $p < .05$ was more than satisfied by a $p$ value of .0006. To find out the groups which are different, a between differences group test was carried out.

Table 3

<table>
<thead>
<tr>
<th>Mean</th>
<th>Group</th>
<th>Group C</th>
<th>Group A2</th>
<th>Group B Group A1</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.5833</td>
<td>C</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.0000</td>
<td>A2</td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.3846</td>
<td>B</td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11.8750</td>
<td>A1</td>
<td>*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3 shows that there was no significant difference between students of Groups C and A2 where the first achievement test was concerned. Students in Group C received computerized treatment at the end of the lesson while students in Group A2 were given computer treatment with no conventional method of teaching at all. Students in both groups received low scores in their post-lesson achievement test, Giving Directions. Students in Group A1 who received no computer treatment at all were the best of all groups because they were significantly different from students of Groups C and A2. The difference in their achievement results might be attributed to the treatments given.

Group A1 in which students received no computer treatment at all gave the most promising result. This can be attributed to two things. One may be because of the treatment given and another thing is because they are already good students because as known they are placed in the best group based on their English results in the SPM Trial Exam. However, Group A2 in which students used computer as a replacement seemed not to do well at all in the achievement test. They were supposed to be among the best students just like students in Group A1 because both were in Group A. However, their scores can be attributed to the treatment given where the teaching was done solely by the computer, to see whether the listening skill can best be done using CD-ROM as a replacement.

Group B students who used CD-ROM as a supplement at the beginning of the lesson seemed to do better than students in Group C who used CD-ROM as a supplement at the end of the lesson. This could be attributed to the treatment given or because students in Group B were generally better students in English than students in Group C. However, Group B also did better than Group A2 which used computerized instructions only. This is interesting because students in Group A2 were generally better students in English than students in Group B.
Naming Features

In order to see if the students' results in Giving Directions were due to the treatments given, a second achievement test was given. The test, Naming Features was given a day after all the students were taught using the conventional method on the topic, Naming Features, for two hours. In this study, Naming Features was used as a covariate. The scores of naming Features were used to answer the second research question that is, was there a significant difference between students' achievement and their ability in the language? To test the question, ANOVA was used with Naming Features.

As shown in Table 4, there was a significant difference between the students' achievement with the ability groups they were placed in. A p value of .0000 far exceeded the criterion of p<.05 used to determine significance. As expected, students in better groups performed better than the lower groups.

<table>
<thead>
<tr>
<th>Source</th>
<th>D.F.</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F Ratio</th>
<th>F Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>3</td>
<td>1987.0883</td>
<td>662.3628</td>
<td>26.5143</td>
<td>.0000</td>
</tr>
<tr>
<td>Within Groups</td>
<td>75</td>
<td>1873.6015</td>
<td>24.9814</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>78</td>
<td>3860.6899</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A between group differences test was conducted to find out which groups were different. It seems that Groups A1, A2 and B were all significantly different from Group C in the second achievement test, Naming Features. Group A1 is also different from Group B. All the groups received the same treatment on this topic (They were taught using no computer at all).

<table>
<thead>
<tr>
<th>Mean</th>
<th>Group</th>
<th>Group C</th>
<th>Group B</th>
<th>Group A2</th>
<th>Group A1</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.9600</td>
<td>C</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23.2308</td>
<td>B</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24.9167</td>
<td>A2</td>
<td></td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26.3750</td>
<td>A1</td>
<td></td>
<td></td>
<td>*</td>
<td></td>
</tr>
</tbody>
</table>

The finding could be attributed to the ability grouping in the pre-experiment placement of the students, where Group C consisted of students who scored the lowest in their English Trial exam results. It seems that there was a strong relationship between the ability grouping with their achievements. Students in better groups performed better in the achievement tests.

An Analysis of Covariance

Prior to the study, participants were grouped based on their proficiency ability by the institution where the study was carried out. During the study, different treatments were applied to the groups. The achievement scores analyzed showed that there were significant differences between the achievement post-test Giving Directions with treatments. Significant differences were also found between the achievement post-test Naming Features with ability grouping. Since this actually means that the higher the ability group level, the higher the score, this was the result that would be expected. However, it would be interesting to know, "If we allow for differences in student ability, is there a difference in achievement between the treatment groups?"

To find out the answer, the achievement score of Naming Features was covaried out. By controlling for Naming Features, an Analysis of Covariance was run. There are certain criterias that need to be satisfied before an analysis of Covariance can be carried out. First, there must be a statistically significant
correlation between the dependent variable and the covariate, in this case Giving Directions and Naming Features. As shown in Table 6, there is a significant relationship between those two achievement tests.

\textbf{Table 6}  \hspace{1cm} Significance of the relationship between the covariate and first achievement test (Giving Directions).

<table>
<thead>
<tr>
<th>COVARIATE</th>
<th>B</th>
<th>Beta</th>
<th>Std. Err.</th>
<th>t-value</th>
<th>Sig. of t</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAMING</td>
<td>.22047</td>
<td>.42873</td>
<td>.075</td>
<td>2.947</td>
<td>.004</td>
</tr>
<tr>
<td>NAMING</td>
<td>.071</td>
<td>.370</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

At .004, Table 6 shows that the relationship between the covariate (Naming Features) and the dependent variable (Giving Directions) was significant. Hence, it is appropriate to proceed with the covariate analysis.

The analysis of covariance table is displayed in Table 7. The table shows that there was a significant treatment effect when Naming features is covaried out (.025).

\textbf{Table 7}  \hspace{1cm} Analysis of covariance table.

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>DF</th>
<th>MS</th>
<th>F</th>
<th>Sig. of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>WITHIN CELLS</td>
<td>678.91</td>
<td>72</td>
<td>9.43</td>
<td></td>
<td></td>
</tr>
<tr>
<td>REGRESSION</td>
<td>81.86</td>
<td>1</td>
<td>81.86</td>
<td>8.68</td>
<td>.004</td>
</tr>
<tr>
<td>TREATMENT</td>
<td>93.78</td>
<td>3</td>
<td>31.26</td>
<td>3.32</td>
<td>.025</td>
</tr>
</tbody>
</table>

Table 8 shows an inspection of the adjusted means for the four treatments. It shows that controlling for naming features has little effect on the mean for Treatment 3 (CALL 1st), which remains at about 10 and on Treatment 1 (Non-CALL). However, it makes a considerable difference to the means of the other two treatment conditions, reversing their order so that students who received Treatment 4 (CALL 2nd) did better than those received Treatment 2 (CALL only).

\textbf{Table 8}  \hspace{1cm} Observed and adjusted means of achievement test, Giving Directions in the four treatments.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>11.875</td>
<td>10.922</td>
<td>11.875</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>2</td>
<td>8.000</td>
<td>7.369</td>
<td>8.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>3</td>
<td>10.385</td>
<td>10.125</td>
<td>10.385</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>4</td>
<td>7.696</td>
<td>9.539</td>
<td>7.696</td>
<td>.000</td>
<td>.000</td>
</tr>
</tbody>
</table>

The data showed that the treatments applied to the groups made a considerable change to the students' achievement. When there was no assistance from the teacher, as in Treatment 2 (CALL only), the students, from the supposedly good ability group, failed to perform as they should.
This is to suggest that to use CALL as a replacement for the teacher, as done in this study, is not very effective. There could be many reasons for the poor performance of the supposedly good ability students in the test. Leaving on them on their own to do the computer tasks, as in student-controlled learning, and then be tested, could be one of them. The students were not used to this kind of independent control over their study habits.

**Discussion**

The decision to investigate the effective uses of computerized instruction in teaching the listening skill would appear to be justified in that it has provided evidence to suggest the effective use of computers in teaching the skill. The results of the achievement post-tests, Giving Directions and Naming Features obtained from the students tend to suggest that if the computer is to be used in the teaching of the listening skill, then it would be more appropriate to use it as a supplement to and not as a replacement for traditional ‘teacher’ teaching.

More interestingly, this study has also highlighted the factor as to when the computerized instruction as a supplement might best be used in teaching the listening skills. As revealed by the results of the study, the computerized based material was better used at the beginning of the lesson rather than at the end. This finding gives a new insight as to when computer-based material of this type should be used in the lesson. Language teachers and educators alike should give careful consideration to the finding made because it could contribute to the effective teaching of the listening skill, the skill least liked by the students (Chambers, 1993).

In teaching the listening skill many studies have highlighted the importance of the first stage activity, one purpose of which is to arouse curiosity or trigger the students’ interest in learning the subject matter (Underwood, 1989; Chambers, 1996). First stage activity based on computer material with the help of sound, colourful pictures and texts can as has been shown in this study, help to trigger the student’s interest.

Second stage activity incorporates the while-listening activities. The while-listening activities provided by the CD-ROMS in this study contained many interesting features, which are basic for CD-ROM but unusual in class teaching. Possibly the most important of these is the repeat facility whereby students can ask for the question or description to be repeated as many times as they need and also the text facility allowing students to ask for the question or sentence to be shown in text. These are some of the attractive features provided to support the students during the while-listening activities that could have sustained students’ attention to continue using the materials.

The study also revealed that using computer as a total replacement for the teacher, as has been proven in many studies, failed to facilitate learning. Even though the same CD-ROMS were provided for the students in the total replacement group, the failure of the materials that were effective as supplements to succeed as total replacement may be attributed to the lack of students’ experience to doing things on their own and to working with the machine itself. Student scoring was significantly lower than in other teaching approaches. The students’ reliance on teachers to provide them with their study structure may have hindered them from scoring well in the achievement test. They could have felt at a loss to work on their own or they could have not paid much attention to their work. These findings highlight the importance of integrating CALL work with the classroom work, rather than configuring it as an independent activity, as in using it as a teacher replacement.

In short, Computer-Assisted Language Learning (CALL) holds considerable promise for effectively teaching the listening skill. This study is trusted to be used in the future as a starting point from which further research can be conducted.

**References**


