

THE UNIVERSITY OF HULL

An Empirical Study of the Use of Computer-Based Material for the
Teaching of the Listening Skill in English as a Second Language
to Students of a Higher Education Institution in Malaysia

being a Thesis submitted for the Degree of

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by

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ABSTRACT

An Empirical Study of the Use of Computer-Based Material for the Teaching of the Listening skill in English as a Second Language to Students of a Higher Education Institution in Malaysia

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. This study also aimed to measure students' motivational reactions to instructional materials, to examine students' computer background, to examine any significant relationships between any of the variables and also to see if there are gender differences in any of these. In order to assess the effect of CALL-use, an Experimental Study was carried out.

The respondents consisted of 80 post-SPM students enrolled in Intensive English Course at KUSZA, Malaysia. Two achievement post-tests and two sets of questionnaires were administered for data collection. The data results were analysed using SPSS (Statistical Package for Social Science) with statistical techniques of ANOVA, Analysis of Covariance, Pearson's Product-moment correlation and t-tests for independent samples. The results of the study revealed that the way computerised 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 computerised 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.

In the light of these results, certain recommendations were made for the teaching of the listening skill in ESL at KUSZA. It was recommended that computerised instruction be used as a Supplement to teacher teaching at the beginning of the lesson rather than at the end of it. Further research is needed to be carried out with larger groups of respondents so that the findings can be generalised to other situations.

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LIST OF ABBREVIATIONS

IMMS	Instructional Materials Motivation Survey
KBSR	Kurikulum Bersepadu Sekolah Rendah (Integrated Primary School Curriculum)
KBSM	Kurikulum Bersepadu Sekolah Menengah (Integrated Secondary School Curriculum)
KUSZA	Kolej Ugama Sultan Zainal Abidin (Sultan Zainal Abidin Islamic College)
SPM	Sijil Pelajaran Malaysia (Malaysian Certificate of Education)

CHAPTER ONE

INTRODUCTION TO THE RESEARCH

1.0 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 and 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.

The studies on the effectiveness of CALL have shown that CALL can be at least as effective as conventional instruction in English as a second language (ESL) classrooms. CALL has also been used as an adjunct to classroom instruction in some cases and as the sole method of instruction in

others (Chapelle & Jamieson, 1986). CALL has also been tried with various levels of students and as stated by Okey (1985), it is effective as a supplement particularly at lower grade levels.

Most of the studies on the effectiveness of CALL 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 (Warschauer and Healey, 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).

1.1 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. The problem was obvious when in 1991, Prime Minister Mahathir made a press statement highlighting his concerns regarding the poor results in English in Malaysian Certificate of Education (SPM) (Phillay, 1998). The researcher's/author's experience of teaching undergraduates (after SPM results) at Sultan Zainal Abidin Islamic College (KUSZA), 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).

With this problem in mind, this study was designed to investigate effective ways of teaching the listening skill, using computers, to undergraduate students at higher education institutions. It was decided to use computers with the listening skill because as explained earlier, computers are found to be capable of providing a lot of excitement and fun for the students. It seemed important to find out if with new techniques where the use of audio is possible, computers can be used to teach the listening skill effectively too. Further more, the government is promoting the use of the computer in teaching and learning. Therefore it seems appropriate to investigate the effective uses of computers to teach the listening skill in ESL in higher education institutions in Malaysia.

1.2 Objectives/Purposes of the Study

In this study, the Malay students on an Intensive English course at KUSZA would use an interactive CD-ROM program to help them practise their listening comprehension. The research tries to find out if computer-based software can be used to teach the listening skill better than the non-computerised material, which uses maps, graphs and blackboard. The research also tries to investigate whether computer-based software is more effective used as a supplement at the beginning of the lesson or at the end of it.

In general, the research tries to:

1. investigate effective uses of computer-based material in teaching the listening skill in ESL.
2. measure students' motivational reactions to the instructional materials.
3. examine relationships between motivation and achievement.
4. try out the type of software suitable for teaching the listening skill.
5. provide recommendations related to the use of computers in the teaching of the listening skill in KUSZA.
6. give suggestions for teachers' roles when using a computer classroom for ESL listening work and
7. support the establishing of a computer laboratory in KUSZA.

1.3 Scope Of the Study

The present study particularly examines the teaching side of using computers for the listening skill. To carry out the research, it was decided to experiment with students attending the Intensive English Course at KUSZA (Malaysia). The students were chosen because they were about to enrol in higher education institutions. It seemed appropriate to find out their reactions and achievements in the use of computers to learn English so that the findings could be used by KUSZA or any other similar higher education institutions in Malaysia.

1.4 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 four treatments with the use of computers. The students were also given background information questionnaires and Instructional Materials Motivation Survey (IMMS) questionnaires, which asked for the students' reactions to instructional materials.

The students were given two achievement post-tests. One was given after the computerised treatment and another one was given after the non-

computerised treatment. The data were analysed using SPSS (Statistical Package for Social Science) software.

Students' background information and IMMS questionnaires were also analyzed using SPSS. Their results were taken into consideration to draw conclusions as to the effectiveness of computer-based software on the learners' achievement in the listening skill in English as a second language. A more detailed explanation and justification of the methodology is provided in chapter four.

1.5 Significance of the Study

This study was expected to provide useful information on how computers could be used to teach the listening skill in English as a second language, whether as a replacement, or as a supplement, either at the beginning or the end of the lesson. The findings of the study would also, it was hoped, allow educators to see how students' backgrounds interact with the computerised instruction and achievement. The findings would also provide better understanding of the students' motivational reactions to computerised instruction and whether there are also any gender differences. The findings would also highlight whether there is a significant relationship between achievement and motivation. This would enable educators and teachers alike to provide meaningful and appropriate computerised instruction for the students learning the listening skill.

Its findings can be used as a basic guideline for further research related to the teaching and learning of the listening skill with CALL in higher education institutions. It is hoped that the information and insight provided will lead to improvements in the use of CALL for teaching and learning in all higher education institutions in Malaysia.

1.6 Definition of Terms

The following terms will be defined for this study:

CAI (Computer-Assisted Instruction)

It involves the use of the computer for direct contact with the learner. It can be used for practising recently acquired skills. It can also be used to teach new skills (Hofmeister, 1984).

CALL (Computer-Assisted Language Learning)

A language learning technique in which the student interacts with instructional language stimuli at a computer terminal on a one-to-one basis or in pairs (Hsu, 1994).

CD-ROM (Compact Disc-Read Only Memory)

This is a storage device that uses laser technology to present audio and video displays. CD-ROMS are much smaller than videodisks, but have great storage capacity (Thompson & Schmidt, 1993).

ESL (English as a Second Language)

It is a language learned by students who are non-native English speaking and they learn it as their second language.

1.7 Limitation of the Study

The study is confined to the use of computers in the teaching and learning of the listening skill in KUSZA, one of the higher education institutions in Malaysia. The background of the students and the facilities provided might vary from one institution to another. The experimental study had the following limitations:

- The participants in this study were not chosen randomly.
- The experiment was performed in one institution using students attending one intensive course. Thus the generalisability of the study is limited to the situations with the same characteristics as in this study.
- The study was conducted in a limited duration.
- It was not possible to interview the students.
- Only one teaching style was used in the experiment.
- Due to the difficulty in getting the right time to teach the class because of lack of co-operation from some of the members of staff teaching the course, students had to have extra time for this experiment. This could have been a burden to them and hence may have hindered them from performing at their best.

1.8 Organisation of Chapters

The chapters are arranged as follows:

Chapter Two explains the role of English in the Malaysian educational system and the development of CAI and CALL in Malaysia in order to provide background information for the study.

Chapter Three outlines the literature relevant to the study which includes the Communicative Approach, the listening skill, and CALL. This chapter is divided into three sections. The first section deals with the role played by the Communicative Approach in highlighting the listening skill and the advantages and disadvantages of the approach. The second section emphasises the listening skill and highlights the importance of the skill in teaching the second language. The third section discusses the potential of CALL and its limitations. It also discusses findings in research related to the use of computers in language teaching.

Areas related to the research methodology are outlined in Chapter Four. The chapter describes the need for an experimental design for this study, the computer-software used and the achievement post-tests carried out.

Chapter five concentrates on the analysis of the data based on the experiment done and also on the two sets of questionnaires distributed to the students. The analysis was quantitative in manner. The findings would, it was

hoped, provide the answers to the objectives outlined.

Chapter Six presents the findings based on the research done. This chapter discusses the results of the experimental research done and the responses to the questionnaire distributed to the Intensive English course's students at KUSZA.

In Chapter Seven, conclusions, recommendations and further research are put forward to serve as guidelines for all those involved in the running of English courses in KUSZA so that a more successful implementation of such courses with CALL can be achieved.

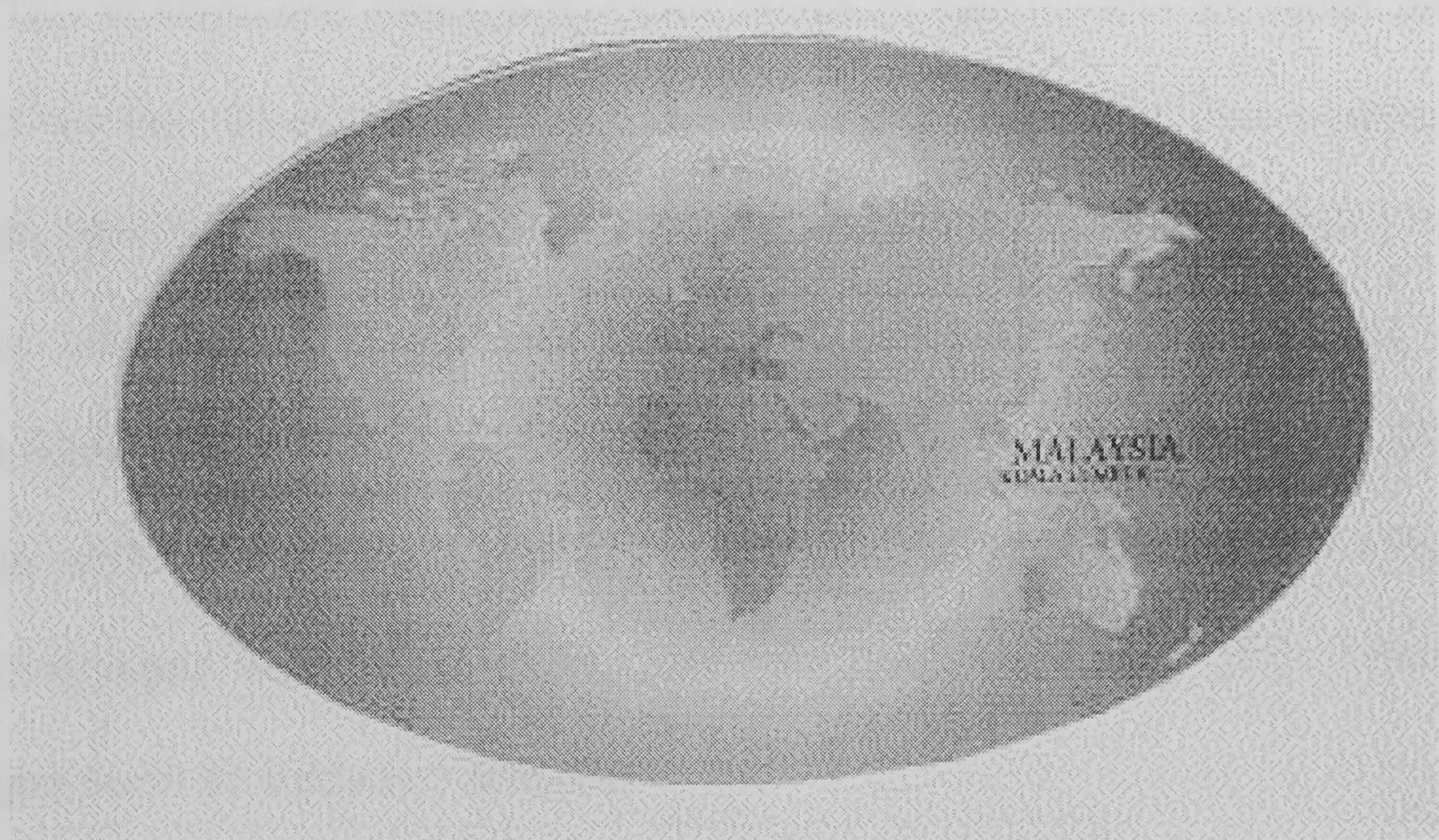
CHAPTER TWO

THE ROLE OF ENGLISH AND THE DEVELOPMENT OF CAI AND CALL IN MALAYSIAN EDUCATIONAL SYSTEM

2.0 Introduction

In order to understand fully the role of English in the Malaysian educational system, it is important to take account of a variety of factors including the geographical location and the historical background of the country which are reflected in the changing pattern of the educational system.

2.1 The Geographical Location



Malaysia is a young nation in the heart of South East Asia. It is one of the world's developing countries. It is a tropical country and situated 7 degrees north of the Equator. Malaysia occupies Peninsular Malaysia, which is across

the Johore causeway from Singapore and the two states of Sabah and Sarawak on the island of Borneo (Kalimantan). Peninsular Malaysia is made up of twelve states which are Perlis, Kedah, Kelantan, Pahang, Terengganu, Selangor, Perak, Melaka, Negeri Sembilan, Pulau Pinang, Johor and Wilayah Persekutuan. The Peninsula has its frontiers with Thailand while Sabah and Sarawak, border the territory of Indonesia's Kalimantan. Peninsular Malaysia is separated from Sabah and Sarawak by the South China Sea.

Malaysia is a multi-racial country and has a population of approximately 20 million. This consists of the main racial groups of Malays and other Bumiputera (60 percent), Chinese (30.9 percent) and Indians (8.4 percent) with Eurasians and others forming a tiny fourth group (0.7 percent) (Pakir, 1993). The Malays and other indigenous races of Sabah and Sarawak are grouped as the "Bumiputera". Islam is the official religion of the country. However, other religions such as Christianity, Buddhism, Hinduism and so on are also practised. The national and official language of the country is Bahasa Malaysia, which is the language of the Malays. Apart from Bahasa Malaysia, which is the main language spoken in the country, there are other major languages such as English, Mandarin and Tamil and other native languages such as Kadazan and Iban.

Malaysia's multi-racial, multi-cultural, multi-lingual, and multi-religious composition is a result of British colonial economic policies in the 19th and early 20th centuries. The British encouraged foreigners to migrate to meet

the labour shortage especially in tin mines and rubber plantations. Since the Malays were more interested in padi farming, the Chinese had to be brought in by the Colonial Government to work in the tin mines and the Indians in the rubber plantations in the early 20th century. Immigration was halted in the 1930s. By that time, a sizeable proportion of the population was of immigrant stock (Phillay, 1998).

2.2 Historical Background

During the British colonial period, there were four school systems with four different languages of instruction involved. At primary level, Malay or Bahasa Malaysia was used for Malay funded schools, English for schools funded by the Christian missionaries, Mandarin for schools funded by Chinese communities, and Tamil by Indian funded schools. English or Mandarin was used at secondary school, and at tertiary level, the only language of instruction for all subjects was English.

When the Alliance Party comprising the United Malay Nationalist Organisation (UMNO), Malayan Chinese Association (MCA) and Malayan Indian Congress (MIC) was elected to power, one of its priorities "was the establishment of a National system of education to (a) restructure the system to provide national unity; (b) develop a national language; and (c) redress economic imbalances" (Watson, 1983:136). As emphasised in the Razak Report of 1956 (Government of Malay, 1956), a national education system was necessary to create a common culture and a new national identity in the

plural society.

In 1960, the Razak Report was reviewed and as a result in 1961 an Education Act was produced. The Education Act of 1961 became the national policy based on a common language (Bahasa Malaysia), common content syllabus and common public examinations. In order to control the curriculum and the examination system centrally and to restructure the school system, the Ministry of Education was set up.

The use of Bahasa Malaysia as the medium of instruction in schools was implemented progressively (Phillay, 1998). It started with year one of primary school in 1970. However, Chinese and Tamil medium instruction have remained available at the primary school level, but Malay and English are included as compulsory subjects. In the National Schools and the National Primary Schools (formerly English medium), Malay is used as the language of instruction with English as a compulsory second language (Pakir, 1993). As stated in the Razak Report, English is taught in all schools, as Malaysians need the language in economic and professional fields.

2.3 Education Structure

Malaysia provides 11 years of free schooling. Its formal school system has a 6-3-2-2 pattern. Respectively, this pattern represents the primary (6 years: Classes 1-6), lower secondary (3 years: Forms 1-3), upper secondary (2 years: Forms 4-5) and post-secondary levels (2 years which are Lower Six

and Upper Six). Education at the tertiary level is provided by universities, colleges and institutes. The structure of the formal school system is shown in Appendix (1).

The educational system allows flexibility and room for individual approaches as apparent at the pre-school and again at tertiary level. However primary and secondary education is highly structured. A specific curriculum is used which enables the sound acquisition of fundamental knowledge and skills.

For post-secondary education, there are many choices available for the students. There is a two-year Sixth Form programme, which prepares students for entry into local and foreign universities. There are also the matriculation programmes offered by some colleges and universities. Alternatively, the students may choose from a range of certificate and diploma courses offered by various polytechnics and colleges (Ministry of Education, 1998).

2.4 English in Malaysian Education

English in Malaysia is considered as a national second language. Despite the decision to introduce Bahasa Malaysia as the medium of instruction, the government was committed to a policy of maintaining English as a strong second language. English is described in the National Education Policy as 'the second most important language, in the sense that it is second only to the national language, and it is to be taught as an effective second language in Malaysian schools' (Asmah, 1987:158).

2.5 English Language in the Economic Sector

English in Malaysia is also needed to facilitate international trade, diplomacy, tourism, and the advance of science and technology in the country (Crismore et al., 1996). With the advancement of technology, which moves people into a world with no national frontiers, the increasing presence of English is noted. As pointed out by Datuk Sri Najib (the Education Minister) 'if we are to think in the global terms that information technology (I.T) is propelling us forward, then English must be seen as becoming increasingly useful. Schools and institutions of learning have to strategize to find ways for the more effective teaching of English if we are to produce learners capable of accessing and using the information travelling the electronic superhighways' (Ministry of Education, 1998).

Various government documents continue to stress the economic, international and political value of English. The Malaysian leaders have pointed out that English will definitely play a large role in achieving the goals of development and progress by the year 2020. In a news report, the Malaysian Education Minister stated that the 'English Language is vital for the (economic) survival of a nation' and is also vital for education at the tertiary level (*The Star*, 1995:7).

2.6 The Teaching of English in Malaysia

History had made the English language almost native in pre-independent Malaysia. However, in 1967, when the National Language Policy in Malaysia was implemented, there was a gradual phasing out of the English language as the main medium of instruction in secondary and tertiary education in the country. Bahasa Malaysia became the sole medium of instruction in schools, fully effective in 1983, with English as a compulsory second language. Rather than a medium of instruction, English became a single subject on the time-table. With its diminishing status in education, English now plays a minimal and sometimes an almost inexistent role in the lives of ordinary Malaysians despite the importance attached to it by the authorities.

The Ministry of Education has attempted to rectify the situation by comprehensively reformulating the Integrated Secondary School Curriculum (KBSM) introduced in 1987.

2.6.1 Primary School

Primary school begins at six years of age, and may be completed within five to seven years. To cater for the multi-ethnic nature of its population, Malaysia has set up two categories of schools: the National and National-type schools. At this level, the emphasis is on acquiring strong reading and writing skills as well as building a solid foundation in mathematics and basic sciences. Two assessment examinations at years three and six are used to

evaluate students' performance. Outstanding students at year three can opt to go straight into year five (Ministry of Education, 1998).

2.6.1(i) The Primary School English Syllabus

The English Language Programme for primary schools is planned in accordance with the National Education Philosophy which has, at its core, the concept of lifelong education geared towards a balanced and harmonious development of the whole person intellectually, spiritually, emotionally, and physically. The syllabus aims to equip pupils with basic skills and knowledge of the English language so as to enable them to communicate, both orally and in writing, in and out of school.

By the end of primary school, pupils should be able to achieve the following:

- i. To listen to and understand simple spoken English in certain given contexts;
- ii. To speak and respond clearly and appropriately in familiar situations using simple language;
- iii. To read and understand different kinds of texts for enjoyment and information; and
- iv. To write for different purposes and in different forms using simple language.

(Huraian Sukatan Pelajaran KBSR Bahasa Inggeris Tahun 1,1996:2)

2.6.2 Secondary School

Secondary school offers a comprehensive education programme. The curriculum includes a wide range of subjects from the arts and sciences as well as vocational and technical subjects that provide a practical bias and a hands-on approach to learning.

Following the lower secondary assessment examination (PMR) at form three, students move into more specialised fields of study at the upper secondary level, based on choice and aptitude, and are re-evaluated at year five through the Malaysian Certificate of Education (SPM) assessment examination. At upper secondary level, several technical and vocational schools have been set up to provide technically-biased academic education and pre-employment skills. Some secondary schools offer the Malaysian Higher School Certificate (STPM) programme which qualifies students for entry into the national universities, colleges and teacher training institutions (Ministry of Education, 1998).

2.6.2(i) The Secondary School English Syllabus

The syllabus for secondary school English in use now was formulated in 1987 and is known as *The English Syllabus in the New Integrated Secondary School Curriculum, 1987* (KBSM Syllabus). This syllabus, which was designed to be in line with the National Educational Philosophy aims to:

build upon and extend the proficiency of the students from the primary schools, so as to equip them with the skills and knowledge of English to communicate in certain everyday activities and certain job situations; and also to provide points of take-off for various post-secondary school needs.

(Huraian Sukatan Pelajaran Bahasa Inggeris Ting.5, 1991:1)

The syllabus incorporates communicative principles while at the same time preserving some elements of structuralism. It organises content around the four skills of listening, speaking, reading and writing. It hopes to provide competence in language for social use and in performing functions in everyday living.

2.6.3 Higher Education System

Higher education in Malaysia provides opportunities for academic pursuit and the advancement of knowledge. Apart from producing professionals to meet national manpower needs and requirements, higher education also aims to provide facilities for research and consultancy services. Institutes of higher education include universities and colleges, which are co-ordinated and monitored by the Higher Education Division (Malaysian Ministry of Education, 1990).

As education becomes increasingly international in character, Malaysian universities are becoming more contemporary in outlook. Each university has developed its own competitive strengths. Courses and programmes offered are demand-driven and sensitive to changes in the global environment.

In 1949, Malaysia's first university, the University of Malaya, was set up in Singapore. Today there are 10 national universities and a number of private universities. There are also a number of private and state owned colleges which offer professional and semi-professional courses at diploma, advanced-diploma and degree levels. One of them is Sultan Zainal Abidin Islamic College (KUSZA) where the experimental research in this study was done.

Presently, these universities and colleges cater for about 20% of those within the tertiary education age group. The national target is to achieve a substantial increase in the present stock of graduates to around 40% by the year 2000, to meet the needs of future development objectives (Ministry Of Education, 1998).

2.6.3(i) English in Higher Education Institutions

English was phased out as a medium of instruction at the tertiary level in 1983. After that the medium of instruction was Malay and the teaching of English as a subject was offered to students who required a certain level of achievement in the language.

However, many believe that the teaching of English at the tertiary level should be made compulsory. One of the reasons given is that when Bahasa Malaysia was made the official language and the medium of instruction at all levels of education, there was the problem of producing textbooks written in

Malay. Even though this has been partly solved at the primary and secondary school levels (Pakir, 1993), students at the University still have to use textbooks written in English.

Apart from the lack of books in Malay for various disciplines at tertiary level, as Asmah said:

Another reason is the general attitude, now becoming policy, which requires Malaysians reaching the level of tertiary education to have acquired a second language. To the Malaysians, English is the logical choice for the obvious reason that this is the only language of wider diffusion that they had been most familiar with for the last two hundred years or so (1987:165).

Since the teaching of English as a subject at tertiary level is not compulsory, it is up to each individual institution to run its own course of English. Certain universities have their own entrance requirement for English. The requirement varies from one institution to another. Some require their students to get a good credit in English before being admitted to the institutions. For Sultan Zainal Abidin Islamic College (KUSZA), one of the higher education institutions in Malaysia, a pass in the subject would be a minimum requirement to gain entry there.

2.7 Sultan Zainal Abidin Islamic College (KUSZA)

Sultan Zainal Abidin Islamic College, popularly known as KUSZA, is a very special and unique college. This is because it was one of the earliest colleges in Malaysia and is fully supported by state government. In addition,

KUSZA is Islamic in character although it is not limited to Islamic theological studies. It is a comprehensive institution of higher learning where the teaching of all fields of knowledge is infused with Islamic values and the Islamic philosophy of knowledge. KUSZA offers courses which range from Islamic Theology to business, computer science, law and also engineering.

KUSZA was set up in 1981 as one of the higher learning institutions by the state of Terengganu government. The idea came out of the concern about lack of local people in high-level government positions and the need to upgrade the local education level.

KUSZA initially accepted students for the SPM and STPM Certificates. In June 1982, KUSZA started offering a Diploma in Islamic Studies programme. A Diploma in Business Studies programme was later introduced in July 1985. Starting from 1986, KUSZA no longer accepted students for the SPM and STPM Certificates but instead concentrated on Diploma level only. The first group to graduate from KUSZA with the Diploma in Islamic Studies was in 1985. For the Diploma in Business Studies, the first group graduated in May 1988 (KUSZA, 1998).

Applications to study at KUSZA always exceed the places offered. Since the number of applicants always outnumbered the places offered, only the best applicants are accepted. 80% of KUSZA students are local residents; the other 20% come from all over the states in Malaysia and outside Malaysia. Those who are from outside Malaysia are Muslim students from countries

such as the Republic of China, Nigeria, Singapore and Thailand. They are offered Islamic Studies courses which are run in Arabic.

To produce students who can assimilate its philosophies, KUSZA provides many facilities for its students. One of them is its hostels. As a small higher education system, KUSZA is able to practise a full boarding system where all its students can stay at the hostels and to have their meals at the Dining Halls provided. Currently, KUSZA is equipped with 16 hostels, which can accommodate about 2500 students. For the academic facilities, KUSZA provides lecture halls and rooms, tutorial rooms, workshop, library, computer laboratory, language laboratory and other facilities required by any higher education institution.

KUSZA has developed in accordance with time and needs. It started with one school of study and now it has five schools of study and two centres. The schools are Islamic Studies, Business Studies, Mass Learning, Lifelong Learning and Industrial Technology. The two centres are the Language Centre and Information Technology Centre.

The schools offer Diploma, Advanced Diploma and Degree courses to the students. For instance, the School of Islamic Studies offers Diploma and Advanced Diploma Programmes in a number of courses such as Usuluddin, Syariah and Dakwah. Seven Diploma and Degree courses are offered by the School of Business Studies including Marketing, Finance, International Trade, Accounting, Personnel, Banking and Information Technology.

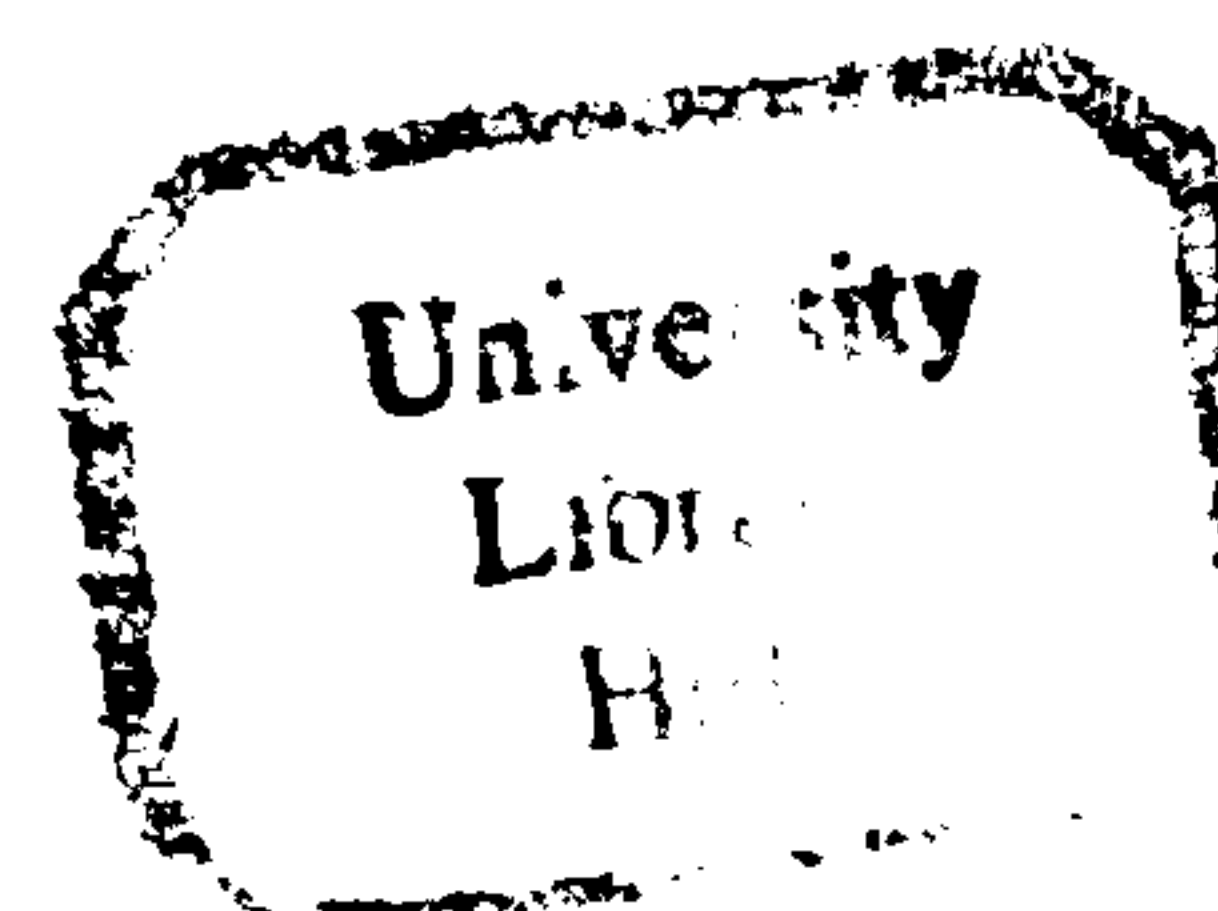
KUSZA aims to produce quality-educated students. To do so, KUSZA makes it a requirement that all of the students must have good results in their SPM examination prior to entry (a different entry qualification is applied to those from outside Malaysia) and they also have to have good results in their English and Arabic examinations. A student cannot proceed to another level without having passed the earlier level in English. A pass in the language is a requirement for them to graduate.

To upgrade its status, KUSZA has also made partnerships with local and foreign higher learning institutions. It has made twinning degree programmes with IIU (International Islamic University) and the University of Malaya (MU). For the 1998/1999 academic year, KUSZA offered 14 Degree, Diploma and Certificate programmes (KUSZA, 1999).

One of the Certificate courses offered by KUSZA that has attracted many post-SPM students is the Intensive English Course. The course is offered by the school of Lifelong Learning and is run in co-ordination with the Language Centre. The Language Centre provides the expertise of its language instructors.

2.8 KUSZA Intensive English Course

The KUSZA Intensive English Course is popular among school students waiting for their SPM results. Even though there are other Intensive English courses offered by other higher education institutions in the country, the one



offered by KUSZA is special in that it caters for the students who come from Islamic secondary schools only. The six-week course is held during the school holidays in March and April every year while the students are waiting for their results.

The course is done intensively in that all the four language skills, that is listening and speaking, reading and writing and also grammar, are taught in those six weeks. Normally, these skills would be taught over four semesters where there are 16 weeks in each semester: listening and speaking are introduced in the first semester, followed by grammar in the second semester. Writing is taught in semester three and reading skill in semester four.

This intensive course is specifically designed and offered to students who have completed their form-five education and are intending to pursue their studies in colleges and universities. They are usually about 17 years of age. Only students who come from Islamic secondary schools are eligible for this course, as we have already noted. They also need to have acquired good results in the SPM Trial Exams with at least a pass in English language.

The applicants who are accepted to join the Intensive course are the top 10% students in their respective schools even though their English scores do not have to be in the top 10%. The requirement is just a pass in the English language subject. The rationale is that the Intensive English course will help able students with their English so that they can prepare themselves for

further education or for their vocational needs. For those with a good English score, the course will help them further with the language such as to prepare them to adapt reasonably to any academic situation that demands the use of English.

The participants have to pay a fee to be able to participate in the programme. The fee also covers the accommodation and the meals provided by the institution.

This Intensive English course offers a continuity in some of the skills that the students have learnt while they were in secondary schools which are listening, speaking, reading and writing skills and grammar. In the intensive course, these four skills and grammar are taught more comprehensively and deeply. The course offers 30 hours of English instruction per week, with 6 hours each per week for the Writing, Reading and Grammar, and 6 hours for Listening/Speaking combined and another 6 hours for a new subject being introduced in the course - English for Academic Purposes (EAP).

There were 15 language instructors involved in teaching the Intensive English course held in March and April 1997 and they were from the Language Centre. One of them was elected by the Dean of the School of Lifelong Learning as a Co-ordinator to help with the smooth running of the course. The co-ordinator was in charge of the materials to be used and the assignments of the instructors. These 15 instructors who volunteered to teach the course were paid according to the number of hours they taught.

They are paid extra because the Intensive English course is not part of their normal duty with the Language Centre and the time allocated to teach the Intensive course is apart from the normal timetable with the Language Centre. Those who could fit in with the Intensive course timetable usually applied to be the instructors. As indicated earlier, the Intensive English course was run by the School of Lifelong Learning.

Eighty students attended the Intensive English course held in March 1997. These students were placed in three groups based on their Trial SPM result. The three groups were A, B, and C. Each group was taught by five different instructors for the five different skills. The classes for the Intensive course normally ran from at 8.00 am until 3.50 p.m. with a one hour break at 1pm.

Table 1: Group A Timetable.

Time	8.00	9.00	10.00	11.00	12.00	1.00	2.00	3.00
Day	9.00	10.00	11.00	12.00	1.00	2.00	3.00	4.00
Satur.	L&S	L&S	Writing	Writing				
Sunday	Read.	EAP	Writing	Writing		B	EXP.	Gram.
Monday	L&S	Gram.	Gram	EAP	EAP	R	Read.	EXP.
Tues.	Writing	EAP		Gram.	Read.	E	L&S	Gram.
Wed.		EAP	Gram	L&S	Writing	A	Read.	Read.
Thurs.	EXP.		L&S	Read.	EAP	K		

Read= Reading EAP= English for Academic Purposes
 Gram.= Grammar EXP= Experiment L&S= Listening And Speaking

As shown in Table 1, the classes were held six days a week with Friday a day off. In the state of Terengganu, Sunday is a weekday. The experiment (EXP) was done during the time when the students were free, in between the classes. It was agreed that the topics used in the experiment would not be taught again by the instructors in the normal listening class.

As stated in the syllabus for the Intensive English course, at the end of the course, students should have acquired reasonably well the basic skills of listening, speaking, writing, reading, and the structures of the English language. Students should also be able to adapt reasonably to any academic situation that demands the use of the rudiments of English (Azam, 1990).

2.9 Recent Development in Education

Phenomenal technological development in information technologies in the industrialised countries, according to Tg. Shahdan (1993), poses a great challenge to developing countries such as Malaysia. As stressed by Carnoy, Daley, & Loop (1987) this development increases the demand for higher levels of technical skills among graduates of the educational system in any given nation.

According to Naisbitt (1991:1):

We are moving toward the capability to communicate anything to anyone, anywhere, by any form, voice, data, text, or image - at the speed of light.

Such is the importance of computers in the world today that not to use computers will be considered by many as being in the outer darkness. In order to survive in economic terms and compete internationally, Malaysia cannot afford to ignore computers and related information technologies (Tg. Shahdan, 1993). In reaction to the public's demands and awareness that the world is gradually moving into the information age and that computers are

here to stay, computers have definitely entered the education scene in Malaysia.

2.10 Computer-Assisted Instruction (CAI)

Computers have made an impact in Malaysian secondary schools with computer literacy programmes adopted through computer clubs, computer camps and later through a formal introductory course on computers. Since then schools have become more and more acquainted with better computers to keep up with more sophisticated types of software and courseware (Jamalleyyah, 1994).

The development of the computer in secondary schools in Malaysia can be divided into two phases (Zoraini, 1991). The first phase was 1981-1989 where the focus was on computer literacy, that is to acquire knowledge about the computer. As shown in Table 2, from only one computer club set up by La Salle Secondary school in 1981, the number has grown of secondary schools setting up their own computer clubs. The second phase is known as the computer-integrated learning phase, from 1989 to the present. The focus is on learning **through** the computer and also learning **with** the computer. Even though the statistics for the number of computer clubs is not available after the year 1990, one can imagine that the number would be phenomenal in the 1990s.

Table 2: Computer Clubs in Malaysian Secondary schools

Year	Number of Computer Clubs
1981	1
1984	70
1985 (March)	127
1985 (September)	167
1986 (October)	478
1988	500
1990	800

Source: Ministry of Education; "Programme to Boost,"

Computimes, 1987 ("Vital Statistics")

Encouraged by the growth of school computer clubs and pressured by the growing awareness and interest of the public towards computer use in schools, the Ministry of Education formally introduced the computer in schools by launching a Computer Literacy Pilot Project (CLPP) in April 1986. In this project, twenty schools in Peninsular Malaysia, Sabah and Sarawak received five microcomputers of the same model and a printer each with applications software. A subject called 'An Introduction to the Computer' was carried out with Form Four students. However, the project was put on hold the following year due to lack of funds (Computimes, 1987) and also when it was found to duplicate many computer club activities (Ng, 1989; Goh, 1988).

In December 1986, a joint committee of the Ministry of Education (MOE) and the Malaysian Institute of Microelectronics System (MIMOS) on computer use in schools was set up. In January 1989, the Education Minister accepted

the suggestions and recommendations made by this joint-committee which were:

- to develop a national policy for Computers in Education (CIE);
- to formulate an Integrated Computerisation Plan;
- to set up a National CIE Network; and
- to establish a National Educational Database.

This acceptance by the Education Minister marks the beginning of the second phase for computers-in-education (CIE) in Malaysia. The Computers in Education development centre was established by the Ministry to coordinate and implement the project with the ultimate aim of exposing young Malaysians to information technology and preparing them for an information-rich society. It also aims to raise the quality of education. The CIE project formed part of the Sixth Malaysia Plan, which is a five-year interval plan (1991-1995).

The Computer Integrated Learning System better known as Sistem ComIL was launched on 8th of August 1991 by the Minister of Education. ComIL (derived from a Malay word, which means cute or beautiful) provides three different types of software: an authoring tool, a database programme, and a networking application. The ComIL project was expected to enhance the teaching and learning process through the use of specially prepared educational software, automate school administrative work, and facilitate educational research and development (Khoo, 1991b).

In addition to Sistem ComIL, the Minister of Education announced a pilot programme for the Computers In Education project involving 60 selected secondary schools to begin at the start of the 1991/92 school term (Khoo, 1991a). These schools were equipped with 21 computers each.

The use of computers to aid specific teaching and learning was proposed by the then Deputy Director of the Ministry of Education in Dec. 1992. This proposal was endorsed in Feb. 1993. In the first stage concentration would be on Mathematics and English. The program was going to be introduced to the sixty schools which had been chosen for the Computers in Education project. In 1993, the Computer Aided Learning (CAL) Program was expanded through the pilot projects in 15 primary schools in Selangor, one of the states in Malaysia. The aim was to help improve the rural pupils' achievement in Mathematics and English language subjects (Tg. Shahdan, 1993). For teaching and learning purposes, Curriculum Development Centre (CDC) had developed software on 40 English and Mathematics topics for Years Four to Six. For example, the courseware on money begins with an introduction on Malaysian ringgit and sen, followed by simple exercises on currency addition and subtraction. Controlled by the computer, students can progress to more advanced exercises only when they have completed the basic ones.

In addition to the courseware, CDC also provides CD-ROMS for use in schools. The English-based software covers a wide range of subjects and its usage relies on teachers' initiatives.

Table 3 Milestones in Malaysian Educational Computing

1981	First computer club
1983	First computer camp
1985	Computer Education pullouts- Computimes (New Straits Times) & Computers (The Star)
	First Annual Software Writing Competition
1986	Computer Literacy Pilot Project (CLPP)
1987	CLPP discontinued
	Joint Ministry of Education-MIMOS committee formed
1989	Joint committee's report to Minister of Education
1991	Launch of Sistem ComIL
	Launch of pilot project to 60 schools
1993	Endorsement of CAL (Computer Aided Learning)

(Zoraini, 1991) and

(Tg. Shahdan, 1993)

2.11 The Development of CALL in Malaysia

Even though computer-assisted language learning (CALL) is not new in language teaching, the application of this technology in the Malaysian classroom is still in its early stages. However, the interest in CALL can be traced back as far as 1986 when University Pertanian Malaysia (UPM) organised its first COMPUTESL seminar-cum-workshop, which was attended by many teachers. According to Tan (1990:6) "Following this, CALL became quite a common and popular topic in local seminars on educational computing".

In a press statement made by the Prime Minister Mahathir Mohammad in 1991, he expressed his concerns regarding the poor results of the SPM examination, at the end of secondary education. He was concerned that if Malaysia's workforce were not competent in English, Malaysia might lose its economic competitiveness and also find it difficult to progress in the industrial and technical fields (Phillay, 1998).

When Datuk Sri Najib (the Education Minister) urged the schools and institutions to strategize to find ways for the more effective teaching of English (Ministry of Education, 1998), many saw computers as the source that could help accelerate the teaching of English.

The efforts made by the Malaysian Ministry of Education in promoting the use of the computer in teaching and learning at schools have been

supported by local universities and colleges. Local universities and colleges show their support by offering courses in their teacher preparation programmes. Courses such as Principles and Usage of Computers in Language Learning have been offered by the Education Faculty of the University of Malaya. A three-credit-hour course on computers and language learning was made a requirement by the Agriculture University of Malaysia for all undergraduates majoring in the Malaysian or English language (Tg. Shahdan, 1993).

In 1994, the Faculty of Education and the Computer Centre of University Pertanian Malaysia (UPM) introduced an exclusive locally made computer presentation of an English language teaching module that combined the use of multiple media in a computer-controlled entity to prepare for the need for technological advancement for the achievement of the goals of Vision 2020, a vision set by the Malaysian Prime Minister. The Prime Minister of Malaysia stressed that by 2020 Malaysia must be a completely united nation which is distinguished by the pursuit of excellence. By 2020 Malaysia hopes to become a fully developed nation with a mature democratic society, that is, a society that is fully moral and ethical, strong in religious and spiritual values and also a society that is fully liberal and tolerant; that is, scientific and progressive, innovative and forward looking.

The teaching model that is prepared is integrated, innovative and interactive and is suitable for language learning for any level of students. The module presents a variety of activities such as the presentation of a piece of

authentic material with a storyline that contains the teaching of universal values and leadership norm in the personality of "Princess Diana". It also presents a pronunciation and vocabulary drill, and for further application introduces a certain concept into a poem, "The owl and the pussy-cat", for wider use of the literature form, integratively. Other aspects of language learning skills can also be developed within the lesson frame for wider scope of presentation for future use (Jamaleyyah, 1994).

With the integration of sound, voice interaction, text, video, and animation, it has been made possible to create self-paced interactive learning environments that promise to enhance the classroom model of language learning significantly. According to Pennington (1996), research has shown that language lessons delivered through the computer "may be inherently more salient, less threatening, and more easily available than some other presentational modes..." (1996:6). Pennington also cites a wide variety of studies that show that CALL is more focused and more individualised than many other learning media, so increasing the effectiveness of instruction for some individuals or populations of learners.

However, as with any new innovation, there are bound to be problems in the implementation of computers in language teaching and learning. According to Nuraihan (1994), teacher resistance was one of the factors hindering the successful implementation of CALL in Malaysia, apart from the lack of access to computers, lack of co-ordination among staff and lack of support from the institutions involved.

These problems need to be tackled because the use of computers in language learning promises the creation of a better learning environment in higher education institutions. With advanced development in computers, the computer is now able to convey messages from a single computer screen in an effective and captivating way. Therefore, more efforts should be made in using CALL to teach specific skills in English as a Second Language. The effort made by UPM is one of the steps forward in using CALL to teach English as a Second Language. This, together with the encouragement made by the Minister of Education would be the motivational forces that will encourage many higher learning institutions to use CALL.

2.12 Conclusion

History had made the English language in pre-independent Malaysia almost native and the language used to be one of the mediums of instruction at all levels of education in Malaysia. However, it was gradually phased out and officially made the second language in the country. Even though English language is taught only as a second language in Malaysia, its use is still regarded by many as very important. This is apparent when English is widely used in many aspects of Malaysian life. However, since English has been relegated to only a subject in the curriculum, there has been a decline not only in the standard but also the students' achievement in the examination, as stressed by the Malaysian Prime Minister. Concerted efforts have been made by the Malaysian Ministry of Education to improve the teaching and

learning of the English language and one of them is by placing more emphasis on computer use in language teaching and learning.

CHAPTER THREE

LITERATURE REVIEW

3.0 Introduction

This chapter will discuss the related literature that pertains to the experimental research done. Since the experimental research aims to look at the different uses of computer-based materials to teach listening skills within the Communicative Approach, it is important to consider the Communicative Approach, listening skills and computer assisted language learning in the review. Hence, this chapter is organised into three sections. First, the review of the Communicative Approach aims to show the importance of the approach in the teaching and learning of ESL. Secondly, the listening skill section aims among other things to explain what the skill entails and the types of listening activities normally carried out in second language classroom and lastly, the section on Computer Assisted Language Learning (CALL) aims to highlight the special features of the technology and its relevance to the teaching and learning of a second or foreign language.

3.1 The Communicative Approach

The development and introduction of new classroom practices and approaches to designing language programs and materials reflects a commitment to finding more efficient and more effective ways of teaching languages. The developments seem to have originated at least in part from the discontent and dissatisfaction that teachers and applied linguists felt toward the existing state of affairs.

The discontent that teachers and applied linguists in the 1960s felt towards approaches that emphasised the teaching of grammatical forms and paid little or no attention to the way language is used in everyday situations, grew into a widespread reaction against them (Crystal, 1988). The discontent as expressed by Newmark (1979), cited in Johnson (1981), is about the 'structurally competent' student, the one who has developed the ability to produce grammatically correct sentences, but is still unable to perform a simple communicative task.

One of the communicative tasks illustrated by Newmark (1979) cited in Johnson (1981) is 'asking for a light from a stranger'. A structurally competent student might respond in a perfectly grammatical way by saying 'have you fire?' or 'do you have illumination?' or 'are you a match's owner?' Yet, as Newmark (op.cit) points out, however grammatical they may be, the native speaker would never use any of these ways.

The phenomenon of the structurally competent but communicatively incompetent student has shaped recent development of movements in language teaching. There is a concern to develop foreign language teaching into a means for communication. We call this the communicative approach. It has been realised that ability to manipulate the structures of the language correctly is not sufficient, and that that kind of ability is only a part of what is involved in learning a language. Students may know the rules of language usage, but can still be unable to use the language. There is, according to Johnson (1981), a 'something else' that needs to be learned, and this

'something else' involves the ability to be appropriate, to know the right thing to say at the right time. Hymes (1972:45) insisted that "there are rules of use without which the rules of grammar would be useless".

Dissatisfaction with earlier methods or approaches to second language teaching such as the audiolingual and cognitive approaches that were based on the conscious presentation of grammatical forms and structures and did not adequately prepare learners for the effective and appropriate use of language in natural communication opened up the way for the communicative approach to make itself established in the mid-1970s. The communicative approach has presented a new view of language and language learning.

According to Richards & Rogers (1986), the movement began as a largely British innovation which focussed on alternative conceptions of a syllabus. However, since the mid-1970s the movement has expanded worldwide. Richards & Rogers (1986) point out that both American and British proponents see it as an approach that aims to:

- a) make communicative competence the goal of language teaching and
- b) develop procedures for the teaching of the four language skills that acknowledge the interdependence of language and communication.

Since the mid 1970s, the Communicative Approach has been adapted to meet the different requirements of the elementary, middle, secondary, and post-secondary levels. The underlying philosophy of the approach has also

spawned different teaching methods known under a variety of names such as notional-functional, teaching for proficiency, proficiency-based instructions and communicative language teaching, (Galloway, 1993) but with the same aim that is to achieve communicative competence in the learners.

The Communicative Approach is in widespread use in schools and colleges in the UK (Laurillard and Marullo, 1993). In Malaysia, the English Language Syllabus follows the tradition of communicative language teaching (CLT). One of the features advocated in the English Language Syllabus for Form Five in Malaysia seems to be in line with Brumfit's characteristics of CLT (1987:5) which is "an emphasis on the content of the activity rather than overt language learning". The aim of the Syllabus is to develop communicative competence among the learners.

3.1.1 Development of the Concept of Communicative Competence within the Communicative Approach

In the most general terms, it can be said that a 'Communicative Approach' is one which recognises the teaching of 'communicative competence' as its aim. The development of the concept of communicative competence in language learning and teaching can be traced back to 1966, when the American anthropologist D.H. Hymes first discussed it publicly. Hymes defined competence as capability located in individual persons, and translated Noam Chomsky's concept of underlying shared knowledge as "systematic potential" (Cazden, 1996). According to Chomsky:

linguistic theory is concerned primarily with an ideal speaker - listener in a completely homogeneous speech community, who knows its language perfectly and is unaffected by such grammatically irrelevant conditions as memory limitation, distractions, shifts of attention and interest, and errors (random or characteristic) in applying his knowledge of the language in actual performance (Chomsky, 1965:3).

Chomsky further adds that the focus of linguistic theory was to characterise the abstract abilities speakers possess that enable them to produce grammatically correct sentences in a language. Chomsky's view was opposed by Hymes who stresses that linguistic theory needs to be seen as part of a more general theory incorporating communication and culture. Hymes believes that communicative competence is what a speaker needs to possess in order to be communicatively competent in a speech community. To Hymes, a person who acquires communicative competence acquires both knowledge and ability for language use with respect to

1. whether (and to what degree) something is possible;
2. whether (and to what degree) something is feasible in virtue of the means of implementation available;
3. whether (and to what degree) something is appropriate (adequate, happy, successful) in relation to a context in which it is used and evaluated;
4. whether (and to what degree) something is in fact done, actually performed, and what its doing entails.

(Hymes, 1972: 281)

Hymes' concept of communicative competence has had the most significant impact on linguistics and language teaching. He has shifted the emphasis of language teaching from grammatical forms to learners' knowledge of the

functions of the language, and their skill and ability to select appropriate kinds of language for use in specific situations.

This kind of ability is seen as important by the educators and linguists who felt that students needed to know how to communicate using appropriate social language, gestures, or expressions. According to Galloway (1993), the students were at a loss to communicate in the culture of the language studied. This is because the students were not learning enough realistic, whole language.

The need to teach students this “missing ability” is proposed also by Savignon (1983). Savignon is one of the foremost proponents of communicative competence in foreign language teaching. Savignon (1983), proposes the inclusion of “negotiation of meaning” in her definition of communicative competence. Savignon sees the ability of a learner to interact fluently and appropriately in the target language as the main aim and sees little need to highlight the teaching of grammatical structures. Hence, in Savignon’s attempt to stress the importance of the negotiation of meaning in communication, she pays less attention to the position of grammatical accuracy.

Many other proponents of the Communicative Approach neglected linguistic competence and accepted the premise that linguistic form emerges on its own as a result of learners engaging in communicative activities. In other words, the proponents of the Communicative Approach have the view that

language learners gain linguistic form by seeking situational meaning, that is, the linguistic form is learned incidently rather than as a result of focussing directly on it (Schmidt, 1991).

The view is opposed by cognitive psychology which has different principles. For example, according to Schmidt (1991), for learning to take place efficiently the learner must pay attention to the learning objective and must then practise the objective so that it changes from part of a controlled process to part of an automatic process. That is why some critiques levelled at the Communicative Approach stress the importance of teaching grammatical structures explicitly because if this were done, the students would master the language better and be able to use it accurately in communication.

The need to look at the role of grammar which has sometimes been neglected as a valid component of language instruction with the emergence of the Communicative Approach has been stressed by Celce-Murcia (1991). Celce-Murcia, one of the staunch supporters of the Communicative Approach, points out that different researchers applying a range of conceptual frameworks and different technical terminologies in second language teaching have expressed the belief that making learners aware of structural activities and formal properties of the target language will greatly increase the rate of language attainment. Celce-Murcia tries to highlight the importance of teaching grammatical structures explicitly to the learners while

at the same time paying attention to the roles grammar plays in communication.

A focus on form as a crucial element in task-based teaching is also suggested by Long and Crookes (1992) and Ellis (1993) while Fotos (1993) advocates actually using grammar as content in communicative activities. In Fotos' study, students were engaged in an interactive problem-solving task about grammar. They were given data and asked to infer the rule. In subsequent tasks, these students noticed instances of the structure in question far more frequently than those in classes with no focus on form. The study also revealed an interesting finding where those who had a grammar lesson with explicit rule presentation did even better.

This changing climate in the language teaching profession was described by Fotos (1994: 343) as follows:

Grammar consciousness-raising tasks can therefore be recommended to the field of language teaching as useful pedagogy at a time when many teachers are seeking acceptable ways to bring formal instruction on grammar back into their communicative classrooms, and other teachers are searching for communicative activities which harmonize with the goals of more traditional educational curricula emphasizing the formal study of language properties.

3.1.2 Two Important Studies of the Communicative Approach

Majhanovic et al. (1995) point out that the work of Savignon at the University of Illinois in the 1970s was the one that really set the groundwork for other texts oriented toward communicative language teaching. Savignon (1983) states that standard language classes would not be able to produce students who could use their language to communicate with others. However, Savignon theorised that students could be trained how to perform certain communicative acts.

The Illinois experiment was carried out with the help of college students in beginning French classes. The students were divided into three groups. Each group had to attend five scheduled classes per week. For four of five classes, all three groups followed the regular programme using the assigned text. However, on the fifth day, the groups were assigned different activities. One of the groups received instructions on how to perform a number of communicative functions in French such as greetings and leave taking, information getting and giving, providing description, and so on. At the end of the 18-week session when all groups were tested, it was found that the linguistic competence among the three groups was roughly equal; however, the group that had practised communicative functions clearly surpassed the other two groups in communicative competence.

From the experiment, it was obvious that as with other skills, one learns to communicate by communicating. Savignon concluded that expressly

communicative activities should become a part of second language classes if students are to be able to communicate in their second language.

Another important study was made by Swain (Cummins & Swain, 1986). She wanted to measure the extent to which students could communicate effectively incorporating the three elements of communicative competence suggested by Canale (1983): grammatical, discourse and sociolinguistic. Swain compared Grade 6 early immersion students to francophone counterparts and found that the native speakers performed significantly better on grammar tasks. However, with regard to discourse tasks, there were minimal differences between the two groups. With regard to sociolinguistic tasks, immersion students tended to perform as well as the native speakers.

These two empirical studies highlight the importance of giving more comprehensible input to the students. The massive input provided will expose the students to as much target language as possible because this will permit them to process language data unconsciously, and consequently learn much more than can be explicitly taught. It will also allow them to understand by focusing on meaning without attending openly to form. However, according to Netten & Ferguson (1995) providing input alone will not be sufficient to help the students in all communicative tasks. From the observations she made, Swain (Cummins & Swain, 1986) concluded that more opportunities for comprehensible output be provided to the students where meaning was negotiated. The reason is that in order to negotiate

meaning, students would be forced to test hypotheses about language and move beyond semantic analysis to syntactic analysis. Swain believes that this would push students to acquire the grammatical competence they lack.

3.1.3 Features of the Communicative Approach

Many researchers have contributed to the components or strands of the Communicative Approach. Canale and Swain (1980) list four major components that they believe characterise communicative competence. These four are grammatical competence, sociolinguistic competence, discourse competence and strategic competence.

1) Grammatical competence refers to what Chomsky calls linguistic competence (Richards, 1986). It means the mastery of the language code where according to Canale (1983) the focus is directly on the knowledge and skill required to understand and express accurately the literal meaning of utterances.

2) Sociolinguistic competence refers to an understanding of the social context in which communication takes place. It includes role relationships, the shared information of the participants, and the communicative purpose for their interaction (Richards, 1986). Sociolinguistic competence involves the ability to produce and understand utterances which are suitable and appropriate in terms of the context in which they are uttered. Maley (1986) lists three instances of inappropriate though perfectly well formed utterances:

'Sit down please!' (Spoken to an important guest - but with the intonation pattern reserved for commands.)

'How old are you?' (Asked of a middle-aged professor one is meeting for the first time.)

'Why has your face gone red?' (Asked of someone who has just been embarrassed by an insensitive personal question.) (1986:87)

3. Discourse competence refers to the interpretation of individual message elements in terms of their interconnectedness and of how meaning is represented in relationship to the whole discourse or text (Richards, 1986). It deals with the ability to combine meanings with unified and acceptable spoken or written texts in different styles. Widdowson (1978) gives an example of the lack of discourse competence:

Speaker A: What did the rain do?

Speaker B: The crops were destroyed by the rain.

According to Maley (1986), the reply is grammatically and sociolinguistically acceptable, however, in discourse terms, it just 'doesn't fit'. A better answer, would be 'It destroyed the crops' (Maley, 1986:88).

4) Strategic competence refers to the verbal and non-verbal strategies which learners may find useful either to make up for breakdowns in communication or to enhance the effectiveness of communication. The hesitation fillers such as 'um', 'you know', etc. are used to make up for breakdowns in communication while paraphrase such as if one doesn't know the word for 'book mark' (Maley, 1986:88), it can be referred to as 'the thing you put in a book to keep your place' are used to enhance the effectiveness of communication.

Larsen-Freeman (1986) and Littlewood (1981) label the third component listed by Canale & Swain (1980), that is “sociolinguistic competence” as “functions”. Freeman and Littlewood give more explanations regarding that particular component. Freeman says that:

When we communicate, we use the language to accomplish some function, such as persuading, arguing, or promising. Moreover, we carry out these functions within a social context. A speaker will choose a particular way to express his argument not only based upon his intent and his level of emotion, but also on whom he is addressing and what his relationship with that person is. For example, he may be more direct in arguing with his friend than with his employer (1986:123).

Littlewood (1981), demonstrates giving an example of a single communicative function of “closing the door,” which can be expressed by a number of linguistic forms such as: “Close the door, please”, or “Could you please close the door?”, or “Would you mind closing the door?”, or “Excuse me, could I trouble you to close the door?”. In other words, several kinds of forms can be used to carry out a single function. Thus, the learner needs knowledge of forms and meanings and functions.

However, since communication is a process, it is insufficient for the learner to simply have knowledge of target language forms, meanings and functions. What the learner also needs is the ability to apply this knowledge in negotiating meaning appropriately.

Williams (1995:12) lists the features which according to her are shared by most classrooms aiming at communicative competence. They are:

- emphasis on using authentic language including rich, varied, and unpredictable input;
- emphasis on tasks that encourage the negotiation of meaning between students and between students and teacher, presumably with the goal of making input comprehensible to participants;
- emphasis on successful communication, especially that which involves risk taking;
- minimal focus on form, including:
 - a) lack of emphasis on error correction; if it does occur, it is likely to be meaning focused, and
 - b) little explicit instruction on language rules;
- emphasis on learner autonomy and choice of language, topic, and so on.

3.1.4 Learner Autonomy

The emphasis on learner autonomy has been pointed out by many researchers. According to them, learners should be as autonomous as possible and learners should take responsibility by setting their own goals, planning practice opportunities or assessing their own progress (Dickinson, 1992; Cotterall, 1995; Widdowson, 1996).

The pedagogical justification for wanting to foster the development of learner autonomy rests on the claim that in formal educational contexts, reflectivity and self-awareness produce better learning (Little and Dam, 1998).

3.1.5 Communicative Activities

The notion of communicative competence as a goal of second and foreign language teaching has had much influence on teaching approaches. Most recent language programmes claim to promote communicative language teaching, and indeed, many second language teachers claim to teach communicatively.

However, the degree to which these activities can contribute to second language instruction and the extent to which they can contribute to second language proficiency is less clear. This is expressed by Majhanovich and Hu (1995:67) when they say:

But what exactly is meant by communicative language teaching? Judging from programmes on the market, communicative language teaching can mean anything from modified audiolingualism to cognitive code teaching with an emphasis on context, to holistic language teaching through themes, an approach that seems to avoid the explicit presentation of language structures if at all possible.

Baker (1993) however is more positive with these communicative activities. He points out that there is more than one way to get students to develop communicative competence. What is needed to develop that competence is for innovative teachers and administrators to take into considerations the theoretical directions and practical examples of strategies consistent with second and foreign language theory for classroom implementation, in accordance with their student needs.

Richards et al. (1986) point out that the exercises are suitable if they enable learners to gain the communicative objectives of the curriculum, engage learners in communication, and require the use of such communicative processes as information sharing, negotiation of meaning, and interaction.

Johnson (1982) describes some of the many forms of classroom activities that are used by language teachers which are compatible with the Communicative Approach :

Wright (1976) achieves it by showing out-of-focus slides which the students attempt to identify. Byrne (1978) provides incomplete plans and diagrams which students have to complete by asking for information. Allwright (1977) places a screen between students and gets one to place objects in certain pattern: this pattern is then communicated to students behind the screen. Geddes and Strurtridge (1979) develop "jig-saw" listening in which students listen to different taped materials and then communicate their content to others in the class. Most of these techniques operate by providing information to some and withholding it from others (1982:151).

However, some linguists and educators prefer to divide the classroom activities in the Communicative Approach into certain kinds for easier teaching. Paulston (1992) for example, divides communicative interaction activities into two basic kinds depending on the teaching point. The first kind deals with the exercises in communicative performance which aim at developing linguistic competence. The second one is exercises in getting meaning across in a socially acceptable way to develop communicative competence.

Littlewood (1981) on the other hand, suggests that the two main categories of activities are pre-communicative activities and communicative activities. In pre-communicative activities, the students are provided with opportunities to practise the specific elements of knowledge or skill which compose communicative abilities. In communicative activities, Littlewood distinguishes between “functional communication activities” and “social interaction activities” as major activity types.

Examples of the tasks in functional communication activities outlined by Richards et al. (1986) are learners comparing sets of pictures and noting similarities and differences; working out a likely sequence of events in a set of pictures; discovering missing feature in a map or picture; one learner communicating behind a screen to another learner and giving instructions on how to draw a picture or shape, or how to complete a map; following directions; and solving problems from shared clues. For the social interaction activities, Richards et al. include conversation and discussion sessions, dialogues and role plays, simulations, skits, improvisations, and debates.

Communicative activity, according to Littlewood (1985) is a matter of degree, and he says that both the teacher and the learner can determine the degree of communicativeness of an activity or activities. Littlewood believes that how the teacher presents the activity and whether the learner expects his performance to be evaluated according to its communicative effectiveness, its grammatical accuracy, or both will determine the degree of communicativeness.

Netten and Ferguson (1995) believe that instruction using a Communicative Approach can be successful if four major requirements are provided to the students. The requirements are:

- the need to teach language form in a functional context;
- the need to provide second language input that is comprehensible to the student;
- the need to develop interaction in the classroom which is as authentic as possible, and
- the need to engage students in production of the target language.

Netten & Fergusson emphasise the importance of teaching strategies which allow the negotiation of both meaning and form, and the use of reference questions to make communication more realistic.

Communicative language teaching often makes use of real-life situations that necessitate communication. This is where the teacher sets up a situation that students are likely to encounter in real life. Unlike the audiolingual method of language teaching, which relies on repetition and drills, the Communicative Approach can leave students in suspense as to the direction and outcome of a class exercise, both of which will vary according to the students' own reactions and responses. Student's motivation to learn comes from their desire to communicate in meaningful ways about meaningful topics.

Duquette (1995) has outlined a number of goals to increase communicative competence in students. One of them is that classroom students should be able to use comprehension skills through listening and viewing. It means that

special attention should be given to the teaching of listening and reading (viewing) which are also known as receptive skills. Receptive skills, long thought to be an offshoot of production, are now being recognised as an integral part of any language teaching or learning approach (Painchaud & Leblanc, 1995:24).

3.1.6 The Listening Skill in the Communicative Approach

As mentioned by Gerngross (1984), the Communicative Approach puts great emphasis on listening. The listening skill highlighted in the approach is of two types. The first type is based on Krashen and Terrell's natural hypothesis theory (1983), as well as Krashen's updated comprehensible input theory (1994) where the emphasis is on language acquisition rather than learning. This is because in order to achieve the aim of the approach, that is to instill communicative competence among the learners, students need to be given as much comprehensible input as possible before they can communicate.

The second type of listening highlighted in the approach functions as part of communicative interaction where listening is referred to as the activity of paying attention to and trying to get meaning from something we hear (Underwood, 1989). The students learn to listen so that they will be able to attend to what they hear, to process it, to understand it, to interpret it, to evaluate it, and to respond to it. The students learn to become involved and active listeners. This second type of listening is used in the present study where the listening skill is taught as part of communicative interaction.

It is fair to say that the emergence of the Communicative Approach highlights the listening skill which has previously long been neglected in language teaching. As pointed out by Danaher (1996), more is demanded of the listening skill than the other skills with the emergence of the Communicative Approach.

James Asher (1977), Harris Winitz (1981), Tracy Terrell (1983), and Anderson and Lynch (1988) who are pioneers of comprehension-based instruction have made a permanent change in the status of listening comprehension. They have highlighted the priority of listening comprehension over all other language skills. They believe that listening is the key to progress and success in speaking, reading and writing (Irons, 1995). Asher, Winitz and Terrell's work focusses on improvements in comprehension-based language teaching at the primary and secondary levels, while Courchene et al. (1992) and Irons and Paribakht (1992) study recent strategies for teaching comprehension to university students. The present study will look at the use of computer-based materials in the form of CD-ROMS which are equipped with text, audio and visual to help teach the listening skill to students in one of the higher education institutions in Malaysia. This skill is discussed at greater length in the next section.

3.1.7 Roles of the Teacher

It is believed that the teacher's roles in the language classroom change if he or she adopts the Communicative Approach. Linguists and second language teachers look at the changes in the teacher's roles with mixed feelings.

Maley (1986) queries the roles of the teacher in the Communicative Approach when he says :

The teachers can no longer be regarded as possessing sacrosanct knowledge, which they dispense in daily doses to their docile flock. Instead they will need to set up tasks and activities in which the learners play the major overt role. It is then their job to monitor these activities and to modify and adjust them as time goes by (1986:89).

In this statement, Maley implies that teacher's position is much less spectacular and at the same time much less secure. Littlewood (1981), agrees that teacher's role in the learning process is less dominant but maintains that the role is still necessary. The reason Littlewood gives is that since the classroom is not the natural environment, it will not provide learners either with adequate exposure to the foreign language or with adequate motivation to communicate through it. Therefore the students still need the teacher to provide them with adequate exposure or motivation. Littlewood however cautions the teacher to be prepared to subordinate his/her own behaviour to the learning needs of his/her students.

It is also said that Communicative Approach means expecting too much from the teacher. This is voiced most persuasively by Medgyes (1986) who believes that the Communicative Approach places greater demands on the teacher than certain other widely-used approaches. Thompson (1996) points out that there is truth in the dissatisfaction voiced by Medgyes regarding the demands made on the teacher in the Communicative Approach. This is because, according to Thompson:

Lessons tend to be less predictable; teachers have to be ready to listen to what learners say and not just how they say it, and to interact with them in as 'natural' a way as possible; they have to use a wider range of management skills than in the traditional teacher-dominated classroom. In addition, non-native speakers of English probably need a higher level of language proficiency-or rather, a different balance of proficiency- or rather, a different balance of proficiency skills- to be able to communicate with ease (1996:14).

Many linguists and educators see the role of the teacher as a facilitator of his/her students' learning (Littlewood, 1981; Breen & Candlin, 1980 and Larsen-Freeman, 1986). As facilitator the teacher has many roles to fulfill. One of the roles, according to Littlewood is as a manager of classroom activities where in this role, one of the major responsibilities is to establish situations likely to promote communication. During the activities the teacher also acts as an advisor, answering students' questions and monitoring their performance. At other times he/she might be a 'co-communicator', engaging in the communicative activity along with the students.

Breen and Candlin describe the roles by saying:

The teacher has two main roles: the first role is to facilitate the communication process between all participants in the classroom, and between these participants and the various activities and texts. The second role is to act as an independent participant within the learning-teaching group. The latter role is closely related to the objectives of the first role and arises from it. These roles imply a set of secondary roles for the teacher; first, as an organizer of resources and as a resource himself, second as a guide within the classroom procedures and activities. A third role for the teacher is that of researcher and learner, with much to contribute in terms of appropriate knowledge and abilities, actual and observed experience of the nature of learning and organizational capacities (1980: 99).

Larsen-Freeman (1986) sees teachers in communicative classrooms talking less and listening more. The teacher sets up the exercise, but because the student's performance is the goal, the teacher must step back and observe, sometimes acting as referee or monitor.

Richards & Rodgers (1986) add that teachers are also assumed to be able and willing to act as needs analyst, counsellor, and group process manager. The demands placed on teachers are not only apparent in the communicative approach but also when using CALL (computer assisted-language learning). When conducting CALL lessons, teachers' roles are expected to be more demanding where it will be the teachers who design, set up, and run the computer labs and ensure that the software, hardware, and room arrangements satisfy the requirements of an ESL class.

Whatever the role, the teacher is still the primary element in instructional effectiveness. Without the teacher, the other salient features of the approach, learner-centredness and appropriate materials cannot be implemented (Bolitho, 1990).

All in all, in the Communicative Approach, teachers are seen in many roles. It is no longer sufficient for the teachers to be mere imparters of knowledge. They are seen with more vital roles to play such as the manager, facilitator, counselor, needs analyst and many other roles. All this asks for more commitment and involvement from the teachers and the need to better prepare the teachers to handle the communicative classes should be high in the agenda of teacher training.

3.1.8 Roles of the Students

As with the teachers' roles, the students' roles in Communicative Approach also change. According to Maley (1986), students will no longer find it is sufficient to follow the lesson passively. They will need to involve themselves as real people in the activities in which they are asked to participate inside and outside the classroom. This gives them more freedom and more responsibility.

Students are, above all, communicators. Larsen-Freeman (1986:131) says:

They are actively engaged in negotiating meaning - in trying to make themselves understood - even when their knowledge of the target language is incomplete. They learn to communicate by communicating.

Students interact with one another in various configurations: pairs, small groups, and whole group. Because of the increased responsibility to participate, students may find they gain confidence in using the target language in general.

Since the teacher's role in the Communicative Approach is correspondingly less dominant than in a teacher-centered approach, students are seen as more responsible managers of their own learning. They have to take the initiatives to make sure the activities turn out to be the ones they wanted.

When using CALL, more autonomy is given to the students. This can be seen in the use of CD-ROM with its wealth of material in different media and its in-built feedback making it suitable for autonomous learning. The students can assess their own progress and only proceed to the higher level of the computerised software activity when they are satisfied with their progress.

3.1.9 Evaluations of the Communicative Approach

Like any other language teaching approach, the Communicative Approach tends to undergo a natural process of cyclical development. Firstly, the method is proposed, then accepted, applied and eventually criticised or

evaluated. The Communicative Approach is no exception to this cyclical process (Celce-Murcia et al., 1997). The Communicative Approach appeared in the 1970s and spread in the 1980s. In the early 1990s, the approach was increasingly criticised or evaluated by language professionals. Evaluations are considered important in any teaching approaches to see whether the approach has given any contributions toward language learning. Swan (1985) talks about the positive aspects of the approach by saying that:

During the last few years, under the influence of the 'Communicative Approach', language teaching seems to have made great progress. Syllabus design has become a good deal more sophisticated, and we are able to give our students a better and more complete picture than before of how language is used. In methodology, the change has been dramatic. The boring and mechanical exercise types which were so common ten or fifteen years ago have virtually disappeared, to be replaced by a splendid variety of exciting and engaging practice activities. All this is very positive, and it is not difficult to believe that such progress in course design has resulted in a real improvement in the speed and quality of language learning (1985:2).

It can be said that the Communicative Approach covers a lot of areas. Courses, methods, activities and the students themselves are all involved with this Communicative Approach.

Like any other teaching methodologies, there are also negative aspects of the approach, as mentioned by Swan (1985) :

The Communicative Approach unfortunately has most of the typical vices of an intellectual revolution: it over-generalizes valid but limited insights until they become virtually meaningless; it

makes exaggerated claims for the power and novelty of its doctrines; it misrepresents the current of thought it has replaced; it is often characterised by serious intellectual confusion, it is choked with jargon (1985:2).

Duquette(1995) is among others who make more balanced evaluations of the Communicative Approach. He directs some words of criticism by saying that even though the arguments of the theorists promoting the Communicative Approach have been very convincing, many school boards and teachers remain unsure as to how to implement this approach in the classroom. They do not know which specific skills should be developed, at which levels, or what strategies should be used.

The opinion is also supported by Thompson (1996) who says that even though communicative language teaching is accepted by many applied linguists and teachers as the most effective approach among those in general use, there are still many teachers who remain somewhat confused about what exactly Communicative Language Teaching (CLT) is. He asserts that:

At the more abstract end, there is general agreement that CLT involves an emphasis on communicating by means of the foreign language; at the practical classroom end, CLT is strongly associated with a number of particular activity types, such as problem-solving and pair work. But in the middle ground, the area where theory meets practice, things become less certain. For example, what exactly does CLT set out to teach? Is there such a thing as a communicative language syllabus? If so, what does it consist of? Is it simply a notional-functional syllabus under a new name? Or does CLT only exist as a methodological approach, a

way of helping learners to practise the skills needed to put their knowledge of the foreign language into use? (1996:9).

It seems that what teachers need is more continuity in their programmes so that not only can they relate strategies to outcome expectations, observe and verify from time to time an increase in competence in their students, but also can understand how one element of a programme relates to another and many other things .

Others who criticise look at the approach which emphasizes the use of the target language in the classroom, deemphasizes grammar instruction, and stresses the use of authentic materials and exercises as being unrealistic, unsystematic, and beyond the capabilities of many students (Wolff, 1994).

Some language professionals call for certain reforms and suggest changes to the Communicative Approach. Much of the criticisms and research that was aimed at offering improvements was related to two main issues that is the linguistic content base of the Approach and the pedagogical treatments of linguistic forms in the approach. The lack of firm linguistic guidelines, according to Celce-Murcia et al. (1997) led to a diversity of communicative approaches that shared only a very general common objective, namely, to prepare learners for real-life communication rather than emphasising structural accuracy.

Even though the early 1990s saw a growing dissatisfaction with several aspects of the Communicative Approach, many teachers and teacher

trainers now feel comfortable with the goals and terms of the approach, as affirmed by Thompson:

Whatever the situation may be as regards actual teaching practices, communicative language teaching (CLT) is well established as the dominant theoretical model in ELT. There have been recurrent attempts to take stock of CLT and to identify its characteristic features and in areas such as teacher training the principles of CLT are largely treated as clearly understood and accepted (1996:9).

3.1.10 Conclusion

This section looks at the development of the current approach practised in second language teaching and learning that is the Communicative Approach. The development discussed includes the concept of the approach, the important studies, the components, the highlighted skill, the communicative activities, roles of the teachers and the learners, and the evaluations of the approach. It is important to know the features or characteristics of the approach to see how it is applicable to the teaching of the listening skill, using CD-ROMS. It is therefore appropriate to discuss the Listening Skill next.

3.2 THE LISTENING SKILL

The listening skill is one of the four skills in language learning that learners of English as a second language need to master. In many countries where English is learned as a second or foreign language, those responsible for the curriculum and the examinations have, according to Underwood (1989:ix), introduced an element of listening into their programmes. The need for the listening skill is obvious because, according to Littlewood (1985:65):

Most learners (of foreign languages) will spend considerably more time in listening to foreign language than in producing it themselves. It is not only that they must understand what is said to them during face-to-face interaction. There is also a vast range of situations where they will be the silent receivers of messages directed at them, from radio, television, announcements and a multitude of other sources.

In the past few years, the importance of listening comprehension has been increasingly stressed. Numerous reports have shown the success of language teaching methods that emphasise listening rather than speaking as the main priority in the early stages of language learning. Krashen (1981) believes that the most important element in language learning is meaningful input-listening to language that carries an actual message to the learner. According to Krashen, all other factors which are thought to encourage or cause second language acquisition only work when comprehensible input is provided.

Winitz (1981) sets forth the beliefs underlying the inclusion of listening skills in foreign language teaching and learning by saying that:

Language rules are most easily and accurately acquired by inference. The basic data are the sentences of a language. The ease with which learning takes place depends upon the programmatic sequencing of the sentences. Language acquisition is primarily an implicit process because the acquisition of linguistic knowledge is not, for the most part, under the explicit control or conscious awareness of the student. Furthermore, explicit instruction in (surface) rules may be harmful to the learning process.

The rules of a language are so complexly interrelated and so sufficiently detailed as to preclude errorless learning without exposure to a large part of the grammar of a language. In this regard language acquisition is viewed as non-linear because information in later lessons provides clarification of material presented earlier.

Comprehension is a teaching routine whereby the student is systematically exposed to the sentences of a target language. Production exercises, grammatical drills, and practice exercise in translation are not generally used as teaching routines, although they may occasionally be used to test comprehension.

Speaking will develop given sufficient comprehension training although there is only preliminary research to support this contention (1981:xvii-xviii).

Listening is seen as the most important skill which can help the beginning level students prepare for speaking and later on for reading and writing. Danaher (1996) points out that large amounts of listening practice before

speaking or reading may prepare the learner to acquire a second language with a greater efficiency than if he or she were taught all the skills simultaneously. Another assumption for the focus on listening comprehension is that language acquisition is an implicit process in which linguistic rules are internalised by extensive exposure to authentic texts and particularly to comprehensible input which provides an appropriate level of challenge to the listener (O'Malley & Chamot, 1990).

The goal of all second or foreign language instruction, according to Postovsky (1981) and the other comprehension-approach methodologists is the development of communicative competence and oral fluency. In order to achieve proficiency in speaking, Belasco (1981) points out, proficiency in listening comprehension should be developed first. Proficiency in listening will lead to proficiency in speaking.

The notion is supported by Cook when she stated that “the point is that listening must come first because a person cannot utter something before having heard it” (1986:33).

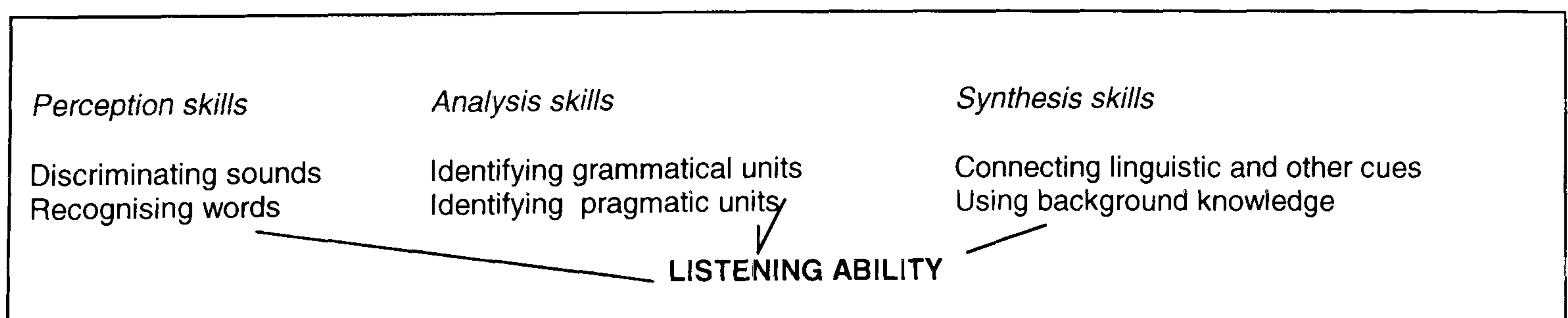
3.2.1 Definition of Listening Skills

Many definitions have been given to the phrase “listening skills” in language teaching. Underwood (1989) defines the phrase as “listening and understanding skills” or “listening comprehension skills”. Listening is the activity of paying attention to and trying to get meaning from something we hear. It plays an active role in communication.

Rost (1991) defines listening by looking at the essential component skills. He lists the components as:

- discriminating between sounds;
- recognising words;
- identifying grammatical grouping of words;
- identifying 'pragmatic units' - expression and sets of utterances which function as whole units to create meaning;
- connecting linguistic cues to paralinguistic cues (intonation and stress) and non-linguistic cues (gestures and relevant objects in the situation) in order to construct meaning;
- using background knowledge (what we already know about the content and the form) and context (what has already been said) to predict and then to confirm meaning;
- recalling important words and ideas.

For listening to be successful, all these skills need to be integrated. Rost (1991) calls the integration of these perception skills a person's listening ability.



Rost, 1991:4

3.2.2 The Importance of Listening Skill

In Corson (1988), Littlewood (1989), and Brumfit (1995)'s studies, listening comprehension gained more importance than ever before in acquiring L1, L2, or a foreign language. The finding reflects the fact that comprehension itself seems to be the first stage through which children must go, before they produce their own speech.

In summarising the importance of listening in second and foreign language teaching, Rost (1994) states that:

1. Listening is vital in the language classroom because it provides input to the learner. Without understanding input at the right level, any learning simply cannot begin.
2. Spoken language provides a means of interaction for the learner. Because learners must interact to achieve understanding, access to speakers of the language is essential. Moreover, the learners' failure to understand the language they hear is an impetus, not an obstacle, to interaction and learning.
3. Authentic spoken language presents a challenge for the learner to attempt to understand language as native speakers actually use it.

(1994:141-142)

3.2.3 Listening and Hearing

Listening needs to be differentiated from hearing. This is because as claimed by Turner (1995), they are two different things. People can hear the radio on

in the background and be aware of the sound but not be listening to the words being spoken or the music being played.

Hearing is a physical process where sound is taken in through the ears. Listening on the other hand involves mental processes. When listening takes place, it involves not only hearing but also paying attention, understanding and interpreting (Underwood, 1989; Anderson & Lynch, 1991; Turner, 1995). When people are listening they are engaged in the activity of constructing a message. Listening is an active process in contrast to hearing which is thought of as a passive affair because it does not involve mental processes.

Gary and Gary stated that:

We do not mean passively hearing language; this is hearing not listening. By listening we mean active listening, a process whereby the learner is actively attempting to understand and respond to oral communication carefully presented in meaningful context (1981:7).

Noss (1981) discriminates between the words 'hearing' and 'listening' as denoting different concepts related to receiving audible signals. Hearing, according to him denotes an awareness of sounds without necessarily including comprehension of the meaning these sounds are intended to convey while listening includes both comprehension and the mechanics of hearing.

According to Anderson and Lynch (1991), "hearing what is said" or "speech perception" and "understanding what is meant" or "interpretation" are the

main aspects of listening. These aspects are referred by Widdowson (1983) as systematic or linguistic knowledge (knowledge of phonological, syntactic, and semantic components of the language system), and as schematic or non-linguistic information (background knowledge, factual, socio-cultural, procedural knowledge, and the use of language in discourse).

It seems that it takes more than just hearing to be able to listen well. Apart from paying attention and understanding, listening also needs interpreting of the message received. Therefore, as suggested by Noss (1981), second language learners must have the skills to both hear and listen.

3.2.4 Listening Situations

There are many situations in which listening is important. Underwood (1989) and Rixon (1986) outline some of the learning situations that should be prepared for the students. One of them is listening to live conversations in which one takes no part, where listening is referred to as 'eavesdropping'. There might or might not be a particular purpose for it. The listener in either case is often not in a position to intervene and has to sort out the message without being able to seek clarification or repetition of any of the points.

Other listening situations are listening to announcements at the airports, railway stations, etc., listening to the news, the weather forecast etc. on the radio, watching the news, listening to the radio for entertainment, watching television for entertainment, watching a live performance of a play, watching

a film in a cinema, listening to records, following a lesson, attending a lecture, listening on the telephone, following instructions, listening to someone giving a public address and so on. These are the situations the students normally face in their daily lives. Including the situations which are as real and as near to reality as possible (authentic situations) to the students, will help them in developing their listening comprehension skills. As pointed out by Raphan, “people learn best from presentations that most likely simulate reality” (1996:24).

Ur (1990) adds some more listening situations which according to her are not all pure listening activities but do involve some aural comprehension which is an essential component of the communicative situation. She adds situations such as being interviewed or interviewing, attending a formal occasion (wedding, prize-giving or other ceremony) and getting professional advice for example from a doctor. These learning situations should also be considered as possible situations when planning experiences for listening work.

In real life, the listener is usually expected to use more than one language skill simultaneously. Rixon (1986) gives a case of ‘listening to a talk or lecture’, which often requires the taking of notes. This situation requires the listener not only to understand what is being said, but to select only the important, relevant information and reduce it to a form that can quickly be taken down in writing and remain understandable later. Rixon pointed out that this situation requires a complex combination of skills.

3.2.5 Listening and Background Knowledge

Listening is explained by current models of listening as an active and constructive process where background knowledge is important. This background knowledge (also known as schematic knowledge) is referred to by Anderson & Lynch as one of the 'information sources in comprehension' (1988:13). Brown and Yule describe this schemata as 'organised background knowledge which leads us to expect or predict aspects in our interpretation of discourse' (1988:248). Richards (1983) calls such ideas 'script competence', that is knowledge we process in advance about the subject-matter or context of the discourse.

Research on the competent listener/reader has shown that being able to use general knowledge about language and culture as well as appropriate strategies is important when trying to understand a text (Painchaud and Leblanc, 1995). Relationship between background knowledge and **reading** comprehension has been carried out in a number of ways. These are cultural knowledge (Johnson, 1982), technical knowledge (Mohammed, 1984), vocabulary knowledge, topic familiarity and contextual visuals. However, few empirical studies have explored relationship between prior knowledge and **listening** comprehension. Mueller (1980) did empirical research on the effects of visual contextual cues on listening comprehension for different levels of aptitude in beginning college German students. The aptitude variable consisted of two levels (high and low) that was determined by the participants' grades in the preceding German course. He found that the

students who had the contextual visual before hearing the passage scored significantly higher on the recall measure than those in the Visual-After and No-Visual groups. This difference was noted especially with students at the lower aptitude level, leading Mueller to conclude that the effects of visuals are related to the students' proficiency level where the more proficient the learner, the less crucial the visual aids are for comprehension.

It is important to provide listeners with the background information needed to understand the message. Dunkel (1986) believes that whether the listening material is scripted or non-scripted, authentic or pre-cooked for the second language learner, background information should be provided for the listeners so that they can develop 'script competence'.

3.2.6 Listening Purposes

In normal life, according to Brown (1990), there are reasons for listening, and interests and purposes which listening serves. And there are also reasons for listening in language learning. The reasons are many and varied, depending on what the students need and wish to do (Underwood, 1989). Galvin (1985) identifies four types of listening, with general corresponding purposes.

1. Transactional listening where the general purpose is to gain new information.
2. Interactional listening where the general purpose is to recognise the personal component of a message. Tann (1985) calls this purpose 'listening for discussion'. He continues:

There are many features of language to which we listen. We listen to the tone and the intonation, to the accent and the style of talking. We listen to how something is said. We learn to take cues from these (paralinguistic) features of language. These features can provide information about the speaker, the situation and how to structure a response. We also listen to what is said. We have to learn to listen and to respond, in order to talk with a person , rather than at a person. Hence listening is also a social skill necessary for conversing, discussing or learning with others (1985:25).

3. Critical listening where the purpose is to evaluate reasoning and evidence.
4. Recreational listening where appreciating random or integrated aspects of event is its general purpose. Tann (1985), calls this 'listening for pleasure'. Rixon (1986) calls this type of listening 'extensive listening'. It is where a person listens to something in a relaxed way, not concentrating on every word, but for the sheer pleasure of following the content of what is said. An example is the experience of listening to an interesting or amusing radio programme, which poses no particular problems of language or difficulty of concepts.

According to Rixon (1986), the experience of extensive listening is important to help all students to keep their motivation and interest high, as well as giving them valuable extra contact with English in its spoken form.

3.2.7 Teaching Listening

The deliberate teaching of listening comprehension as a part of a foreign or second language is very recent in terms of the history of language teaching. Its development lies mostly in the last thirty years (Brown, 1990). Tracing back, it was found that there have been many approaches used by the language teachers to teach the skills. These approaches can be put under three major stages in the development of ideas for teaching listening skills.

3.2.7(i) Recognising the Code

The traditions of structuralist linguistics influence the first stage. This is where students were assumed not to be able to use the phonological code sufficiently well to identify which words were being used by the speaker and how these were organised into sentences. The students were found to be relatively very much more successful at interpreting the written form of the language (Brown 1990).

To help the students, they were given 'drilling' exercises to discriminate between 'minimal pairs' of vowels (seat/sit) and of consonants as those in seize/seethe. Exercises on stressed syllables, stressed words and then on the identification of whether the final pitch of an intonation contour rose or fell were also given.

However, according to Brown (1990:14):

An obvious problem with the approach from a methodological view point of view was that it was preparing students to listen to words spoken slowly and certainly in isolation.

Such an approach is seen as not adequate in preparing students to listen with understanding to the foreign language and has almost completely disappeared in the 1980s as a feature of courses in listening comprehension.

3.2.7(ii) Listening to Extended Discourse

The second stage sees the approach that let the students practise listening to extended discourse. They were given the opportunity to listen to the target language.

However, as with the first stage, this approach also posed a problem. The students were required to demonstrate their understanding of the extended discourse which lasted for as much as seven minutes by identifying the words used, the meanings of the words and the cohesive structure of the discourse. This type of exercise is an extraordinarily difficult task even with adult native speakers of English because in order to show that you understand, you have to have an ability to memorise the discourse. This method discourages unsuccessful students from further effort.

3.2.7(iii) Listening with a Purpose

As claimed by Johnson and Morrow (1981), the key element in a communicative approach to listening is the purpose which underlies it. To them, people never listen without a purpose.

Listening with a purpose is also highlighted by (Ur, 1990) when she says:

Our expectations may often be linked to our purpose in listening: if we want to know the answer to a question, then we will ask, and expect to hear a relevant response. In many cases this leads to our 'listening out' for certain key phrases or words (1990:3).

With the two previous stages in mind, this approach recognises that in normal life we do not process discourse as though all of it were equally interesting or equally worthy of being remembered. As stressed by Clark and Linden (1997:21), "a second language learner does not need to understand every word that is spoken to understand the meaning of a passage".

Further more, we have reasons for listening and are quite capable of skimming over or paying particular attention to the discourse that we hear. This approach requires the students to listen for, and to select for attention, certain specific points in the discourse.

As pointed out by Ur (1990), being able to ignore what is not important is a sign of an effective listener while Kelly (1991) states that an ability to

distinguish words is of little benefit if the listener cannot learn to use other language knowledge, such as being able to anticipate what the speaker will say next or predict sound patterns.

Galvin (1985) adds that the purpose helps the listener select appropriate strategies for seeking clarification, for noting down certain details, and for scanning for the intent of the speaker.

3.2.7(iv) Combining the Approaches

All the earlier practices are taken into consideration when a new approach to teach listening skills is set up.

a) Bottom up processing

Models of auditory perception of language such as Watson and Smeltzer's (1984) describe bottom-up aural processing as the act of receiving specific sound input. Some students may have difficulty in discriminating between some of the vowel and consonant distinctions made in English, some in the reduced or disappeared syllables in the stream of speech and so on. This difficulty will make the student unsure of which word is being used unless there is enough information to make it clear.

The foreign learner needs to control the phonological code (bottom-up) of the target language sufficiently to be able to use the richness of cues at this level. Without this raw data of language input, there is no linguistic message.

b) Top-down processing

Watson and Smeltzer's (1984) models of auditory perception of language use the term 'top-down processing' for the cognitive ability to understand language or where the context is used to make predictions of what is heard. The students need to develop sufficient conceptual structure to enable them to assimilate the new information meaningfully into it. 'Familiar knowledge' has to be established by the foreign learners so that it can be imported into the new language successfully. Contextual knowledge is used to narrow down, to constrain, the interpretation of what the speaker says. Top-down processing focuses on the way in which familiar knowledge can be used to determine what the form of the message is likely to be or to have been in a particular context. Training in making intelligent guesses will play an important part in learning to understand the spoken form of a foreign language.

These researchers explain the process as being simply that the mind sets up the expectations, and the sound provides confirmation. If what the listener hears is weak, unfamiliar, or incomplete, the listener needs to employ higher cognitive skills. For this to occur, Clark and Linden (1997) propose that the listener needs to interpret context and to hear clearly what is being said.

c) Making Inferences

This is an activity that is particularly dependent on familiar knowledge. It focuses on the way in which the competent listener 'knows' a good deal more than is actually specified in the message. As stated by Wringe (1989);

What is understood will depend as much on what the recipient brings to the situation as on what is actually said or written. What he brings will be both his knowledge of the world and his familiarity with the language. This knowledge enables him to anticipate what he is about to hear or read (1989:49).

The important point for students to know is that it is frequently the case that a lot of the content that is understood from a discourse is not actually stated at all.

3.2.8 Significant Approaches or Movements in the Teaching of the Listening Skill

Although the teaching of the listening skill is very recent in terms of the history of language teaching, it has already produced a significant number of movements. Some of them are the Total Physical Response (TPR) approach, the immersion programmes, the natural approach and the content-based courses.

In TPR, advocated by Asher (1969), students are asked to show their understanding of sets of directions by actually performing them. This is where students listen and react, as would happen in the normal use of the

language. The directions given vary, ranging from simple orders in the imperative into much more complex directions, involving conditions, for instance. Although TPR is limited in scope to concrete language, TPR has had and continues to have a large following, especially for beginner level language teaching (Painchaud and Leblanc, 1995).

A type of Immersion programme was first set up in 1965 in St. Lambert, in the Province of Quebec (Lambert and Tucker, 1972). It is a programme of studies where subject matters (mathematics, history, arts, physical education, etc.) are taught in the second language. The aim is to promote the acquisition of the target language through other disciplines as opposed to the regular second language course. The students are asked to listen (and read, later on) and are expected to perform on that basis. The programmes, for all their flaws, according to Painchaud and LeBlanc (1995) have been a great success.

The other movements are Krashen and Terrell's (1983) Natural Approach, based on Krashen's views on language acquisition and the Content-Based approach where students are taught the target subject matter in their second language and receive coaching from a language teacher to help them with whatever difficulties they might encounter (Hauptman et al., 1989).

3.2.9 Listening Activities

To develop students' listening ability, Rost (1990) suggests that a great deal of exposure to spoken language and a lot of practice in all kinds of listening situations be given to the learners. There are many listening activities that can be given to the students. Dunkel (1986) highlights the importance of constructing listening exercises around a task where students are required to do something in response to what they hear that will demonstrate understanding and will maintain attention. "They can mark a picture or a diagram according to a set of oral instructions" (Dunkel, 1986:103).

Ur (1990) divides the learning activities into two categories. The first category consists of different kinds of listening for perception exercises where the main objective is simply to train the learner to perceive correctly the different sounds, sound-combinations and stress and intonation patterns of the foreign language. The second category, according to Ur;

is composed of a number of different kinds of listening for comprehension exercises, ranging from very 'passive' ones, where the learner simply listens, making little or no response, to very 'active' ones, where the listening is only the preliminary to or basis for more sophisticated activities involving other language skills and imaginative or logical thought (1990:33).

For this category, Ur (1990) includes four types of activities depending upon the learner's response:

1. Listening and making no response.
2. Listening and making short responses.

3. Listening and making longer responses.
4. Listening as a basis for study and discussion.

For 'Listening and making no response' type, Ur (ibid) lists activities such as following a written text, listening to a familiar text, listening aided by visuals (such as pictures or diagrams), informal teacher-talk, and entertainment (such as stories, songs, or films and television programmes (51-67).

For 'Listening and making short responses' type, activities outlined by Ur (1990) are those such as: obeying instructions (such as physical movement, constructing models, and picture dictation), ticking off items, true/false exercises, detecting mistakes, aural cloze (with a written text or without a written text), guessing definitions, noting specific information (such as specific items and areas of information) pictures (which involve identifying and ordering, and altering and marking), maps (which involve giving directions, naming features and alterations), ground-plans, grids and graphs (67-126).

For the third type of activity, 'Listening and making longer responses', Ur includes repetition and dictation, paraphrase, translation, answering questions, answering comprehension questions on text, predictions, filling gaps and summarising (1990:127-147).

The fourth type of activity, 'Listening as a basis for study and discussion' Ur (ibid) includes problem-solving, jigsaw listening (such as interviews, comedy,

drama, adventure, rhetoric and poetry) and a post-script: conversation (148-167).

For the purpose of this study, two activities suggested by Ur (1990), *Giving Directions* and *Naming Features* were used with the students. *Giving Directions* which is also known as *Following a Route* is a popular and reasonably authentic activity (Underwood, 1989). These two activities are further discussed in Chapter 4.

3.2.10 Listening Session

A good pattern for a listening session, as suggested by Underwood (1989), should include among others the pre-listening stage, the while-listening stage and the post-listening stage. Chambers (1996) also stresses the needs to introduce pre-listening activities, while-listening activities and post-listening activities when teaching listening skills.

a) Pre-Listening Activities

According to Chambers (1996) any listening activity is preceded by pre-listening activities to put the listening in context, to access pupils' knowledge of the language and knowledge of the topic and to arouse certain expectations.

When at the railway station, people expect a certain kind of vocabulary and register, and this helps understanding.

Expectation is an integral part of the process (Smalley and Morris, 1992:28).

Pre-listening activities also serve to arouse curiosity, to give a reason to listen which goes beyond an obligation to do what the teacher says. Such activities may include discussion of a picture, a question and answer session, a short piece of reading and so on (Underwood, 1989).

b) While-Listening Activities

What the students are asked to do during the time that they are listening to the text are known as while-listening activities. The students are given a while-listening activity once they are tuned in to the linguistic content of the text. According to Underwood (1989) while-listening activities are used to help learners develop the skill of eliciting messages from spoken language. This while-listening activity focuses on the global as opposed to the detail.

How many people are talking? Where are they? What is their mood? How do you know? How close to the truth was your prediction in the 'what happened next?' exercise? Such broad questions, which with a little bit of thought, can be posed and answered in the target language, focus on what the pupils understand, not on what they do not understand (Chambers, 1996:25).

To encourage students to listen and carry out the activities, while-listening activities should be interesting and simple, that is they should be easy to handle. According to Underwood (1989), while-listening work should provide opportunities for students who listen well, but who may be less strong in other skills, to succeed.

c) Post-Listening Activity

The end of while-listening activities does not mark the end of the process. The knowledge gained should be reinforced and built upon in the post-listening activities. Post-listening activities covers all the work related to a particular listening text which are done after the listening is completed (Underwood, 1989). These activities can be longer than while-listening activities because at this stage the students have time to think, to discuss, to write. Some of the popular post-listening activities are problem-solving and decision-making, role-play, interpreting and written work. In this way the listening element is part of a learning whole.

3.2.11 Teaching or Testing?

Many researchers are concerned with the classroom methods that many teachers use in teaching listening. One of the researchers' concerns is what the teachers think of as tools for teaching listening comprehension in fact amount to a form of continuous testing. "It is a truism to point out that the

technique of asking questions after a reading or listening task is a testing technique and not a teaching technique” (Mc Donough 1981:74).

Underwood (1989) has tried to change teacher’s views on the relative balance between testing and teaching. She said that it is important that the exercises should not be treated as test items. They are designed as aids to aural comprehension practice, directing the students’ attention to ‘focal points’ on the tape so that they will learn to listen more effectively.

It is important to remember that the purpose is to assist concentration and to guide the listener through the text, not to test the ability to make correct sentences based on the content of the listening text (Underwood, 1989:48).

The worries over the matter are also expressed by Dunkel (1986) when she points out that response tasks should be success-oriented and should focus on training not on testing listening comprehension.

Chambers (1993) expressed his worries over the teaching of listening as a test because he found out that generally pupils put listening activities far from the top of their list of favourite activities.

3.2.12 Materials for Teaching Listening Skills

For many years, the listening skill was neglected in the language classroom. One of the reasons was the lack of available material specifically developed for and focussed on the teaching of listening skills. However, this is no longer the case now because according to Chambers (1996), there are now more

than enough textbooks and support materials, brimming with imagination and creativity, to meet our needs and the needs of our pupils. What Chambers sees now as the problem with the teaching of listening is that of progression.

3.2.13 Visual Materials

A real-life listening situation is normally rich in environmental clues as to the content and implications of what is said. In the classroom these environmental clues will usually be represented by different kinds of visuals. They can be pictures, sketches on the blackboard or overhead projector, objects and so on. The presence of these visuals can help in contextualising and bringing to life the listening situation as well as aiding comprehension of the language (Ur, 1990).

According to Barakat (1985), effective language comprehension skills are acquired only in a psycholinguistically sound environment and to her, such an environment includes the use of contextualisation linguistic materials. She adds that contextualisation is best achieved through the use of electronic media such as audio recordings, videotapes, films and computers. The type of media to select depends on the desired pedagogic objective, the nature of the particular learning situation, learner characteristics and the capabilities of the media.

Studies have revealed that visual support can enhance listening comprehension. In Rubin's (1990) study, she found that the listening

comprehension of high-school beginning Spanish students who watched dramas on video improved significantly over students who received no video support for their listening training.

A study on the impact of video on listening comprehension of second-semester university French students was carried out by Secules et al. (1992). In the study, the control group used a “direct method” text and did pattern practice, pronunciation exercises, reading activities with a focus on grammar, and communication activities (question/answer and role-play). In the experimental classes, students used the *French in Action* video series. Teacher and class composition variables were controlled. The treatments given were viewing the dramatic section of the tape, followed by comprehension questions and guided discussions. This study also used workbooks, audio-tapes, structure exercises and communicative activities. The finding of this study shows that the experimental group scored higher overall in listening comprehension than the control group. The experimental group also outscored the control group on questions involving main ideas, details, and inferences.

In the present study, the electronic media, computers were used with the students. CD-ROM material which was provided with audio, graphic, text and other facilities such as Repeat and Help options was used to teach the listening skill to find out the effective uses of computers in teaching the skill. More details of the computer-based material used are provided in Chapter 4.

3.2.14 Authentic Materials

One of the aspects that is of concern with the teaching of listening skills is the use of authentic materials. Since the early 1970s, much has been debated about what constitutes authentic speech. Forman (1986) made the strictest distinction between “authentic” and “non-authentic”. If the text is produced in response to real life communicative needs rather than as an imitation of real life communicative needs, then, according to Forman, the text is authentic.

According to Little et al. (1988) “authenticity” has been one of the characteristics of the communicative movement in language teaching. They believe that if language is to be a medium of communication, there should be a strong thread of continuity between what goes on in the classrooms and the characteristic modes of communication in the target language community.

The collection and exploitation of authentic materials was stressed in 1980s (Chambers, 1996). It is considered desirable to give students authentic materials or texts for several reasons. Little et al. (1988) outline some of the reasons. First because they have been written for a communicative purpose they are more interesting than materials or texts which have been created to illustrate the usage of some feature of the target language. So learners will find them more motivating than invented texts. The next reason is, because they revolve around content rather than form, authentic materials or texts are

more likely to have acquisition-promoting content than invented materials. Another reason is that it was also found that the child learning its first language or the adult immersed in a second language community enjoys an infinitely higher level of exposure to the target language than in a language classroom.

Chambers (1996) adds another reason for using authentic materials, pointing out that the students can practise listening to the kind of speech they will actually encounter in real life. This kind of listening will help them understand and respond to what English native speakers are saying.

However, not all teachers approve of the use of authentic materials in teaching the listening skills. According to Underwood (1989), the main reason teachers give for not using the materials is that such materials are too difficult. The use of authentic materials may overwhelm beginners (Omaggio, 1986; and Oxford & Scarcella, 1994). Danaher (1996), on the other hand suggests that authentic listening texts should be made more readily available and be used more frequently than the specially constructed materials.

Whether authentic materials are used or not, according to Rixon (1989) the important thing is always to meet the needs of the learners. "Authentic materials are best used where the learners themselves are likely to appreciate them and accept them in spite of difficulties" (1989:20). Whether the texts are always authentic is seen by Underwood (1989) as not

important. What is important is that the listening work should be more than just prose read aloud and course-book tapes. Therefore, students need to be exposed to as wide a selection of listening texts as possible, be they authentic or not.

3.2.15 Conclusion

This section highlights the importance of the listening skills in teaching English as a second language. The listening skill which was previously neglected in second language teaching has been given new life and a new look with the emergence of the Communicative Approach. This section describes what listening entails and the listening situations that are offered to ESL students. The type of activities and the use of visual and authentic materials are also discussed.

3.3 COMPUTER-ASSISTED LANGUAGE LEARNING (CALL)

Machine-aided foreign language instruction has long been used with students. Audio tapes and films which have been used for the past 40 years are now being supplemented by computer-based instruction and interactive media (Willets, 1992). Computer-based instruction and interactive media are used as an aid to presentation, reinforcement or assessment of material to be learned (Davies & Higgins, 1984). The increasing use of technology in language study implies that technology is here to stay.

3.3.1 Early Technologies in Language Teaching

There were two early revolutionary technological developments in foreign language study. They were the traditional (audio) language laboratory and automatic machine translation. These two innovations emerged in the 1950s during the era of structural linguistics. These innovations were supported enthusiastically by the proponents of the audio-lingual method (ALM) (Hoffman, 1996).

The structuralists believed that people learn languages by using them (Omaggio, 1986), not by memorising the vocabulary and grammar rules as practised in grammar-translation methods of language teaching. They rebelled against grammar-translation methods of language teaching and instead they placed great emphasis on development of oral skills, when

possible in situations of total immersion in the second language (Kartunnen, 1985). However, total immersion in most instances was not possible. That was when the use of the language laboratory seemed very appropriate. However, as cited by Underwood, "...the lab nearly did us in" (1989:71).

There were several reasons for the failure of the language lab or rather the shortcomings of the lab. Hoffman (1996) mentions that exercises used in the lab were strictly mechanical in design, did not relate to real-world experiences, and allowed at most passive responses from students. Furthermore, headsets were seen as barriers and uncomfortable to use, and the machines often functioned poorly or broke down entirely. Apart from the poor design of lab courseware, the hardware in the lab (Otto, 1989) and lack of motivation on the part of students (Kartunnen, 1985) were some of the other reasons for the failure of the language lab to meet the expectations of the linguists.

Automatic machine translation was also a failure. It failed what it was expected to do: that is, translating and mapping by algorithm the text of one language onto the other (Hoffman, 1996).

3.3.2 Computer Based Technology

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 emphasised drill-and practice grammar exercises 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 and 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.

3.3.3 Computer and Language Laboratory

Among language teachers, there is still fear that the computer will one day turn out to be as much of a disappointment as the language laboratory. Lab exercises, according to Hoffman (1996:24) were criticised because “they were rigidly mechanical in design, did not relate to real-world experiences, and allowed at most passive responses from students. Headsets were cumbersome and uncomfortable to use, and the machines often functioned poorly or broke down entirely”.

However, many still believe that the language laboratory is the right place for improving pronunciation and listening comprehension provided that improvement and innovations be made in recorded materials. Computer networks are already gradually replacing the old style cassette based AAC language laboratories in most learning institutions.

According to Jamaleyyah (1994:2):

Many institutions have transformed the traditional audio laboratories into language and resource centres that offer a variety of media-audio, video and computer to assist learners at many levels and in many disciplines. Consequently, the language lab has evolved into a multimedia learning centre that can deliver a wide range of audio programmes, television materials, and computer courseware in a variety of disciplines.

Hoffman (1996) believes that most of the learning institutions will sooner or later seek to experiment with multimedia learning centre with a variety of tools available for language students, which is becoming increasingly affordable and which has been proven to provide endless benefits to the learners.

There are many reasons why the computer is preferred to the language lab or to many earlier types of educational technology. One important reason is CALL's interactivity. This interactivity is considered the most important advantage of CALL materials. One of the very real drawbacks of the language laboratory is that the sequence of items on a given tape is entirely fixed. Because of its nature as a linear medium, standard tape equipment cannot respond variably in any way to the student's answers, whether these are right or wrong (Yazdani, 1986).

In contrast, even simple computerised materials can be highly interactive in the sense that the computer program responds differently and appropriately to the 'best' answer, alternative correct answers, predicted wrong answers, and other wrong answers. Immediate and informative feedback can thus be provided, and students are generally kept continuously aware of the results of their use of language.

Another benefit provided by computers as opposed to the language lab is student-centredness. Well-designed programmes are highly student centred. One aspect of this is self-pacing, where students are generally given

complete control over the speed of presentation of material. If they wish, students can usually choose to work repeatedly on topics that are interesting or difficult for them. As pointed out by Liou (1998:11), the computer allows the learner to control “options, pace, sequence, amount of content, and direction of learning”.

The computer will provide patient, tireless practice for as long as necessary. In this context, the emotionally neutral tone and absence of a peer group audience permit students to take risks, make mistakes, and try again to a much greater extent than they might be willing to do in “public” (Yazdani, 1986).

Students are also continuously active and involved in CALL materials. This is because they have to participate, that is by answering all the questions. The program will not continue until the students take the necessary step. This again contrasts with other technology, such as the language laboratory, in which the taped material will continue to roll along regardless of even complete inactivity on the part of the students.

3.3.4 Reviews of the CAI/CALL Effectiveness

Research on the effectiveness of computer-assisted instruction (CAI) and computer-assisted language learning (CALL) has been an ongoing process (Warscheaur and Healey, 1998). Some of the major areas of software-related research in CAI/CALL have been on effects of skill-building software,

particularly writing, the uses of CAI/CALL, the levels of student ability and student attitudes/motivation toward computer.

3.3.4(i) CALL and Aspects of Language Learning

In terms of aspects of language learning, CALL's work with vocabulary, spelling, and grammar is regarded as being the most useful for students, while reading and writing lessons came next (Leidy et al., 1980; Ng & Oliver, 1987). In another study, vocabulary, verb conjugation, and adjective or pronoun agreement with the subject are found appropriate for computerised drill (Blomeyer, 1985; Pusack, 1983). Since the computer is well suited to the kinds of drill and practice that reinforce structural knowledge of a language, Hoffman (1996) believes that it is the best tool available for taking tedious grammar drills out of the immediate classroom while keeping them in the curriculum.

Robyler et al. (1988) concluded in their meta-analysis study of the effectiveness of CALL that drills can be used to develop lower level skills whereas tutorials work better with higher level skills. Ultimately, the effectiveness of the type of CAI employed will depend on many variables such as the instructional strategy accompanying the CAI and the type of skill being taught.

Research on specific skills other than writing has tended to focus on student attitudes toward drills and effectiveness. The results have been mixed,

largely because the types of software, teacher roles, and student tasks have been quite diverse. One skill area where research is just beginning is listening, probably because sound-capable computers were not in widespread use until fairly recently (Warschauer and Healey, 1998).

3.3.4(ii) 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 the end of the conventional teaching lesson.

3.3.4(iii) Uses of CAI/CALL

Studies conducted by Edwards et al. (1975); Fisher (1983) and Ng & Oliver (1987) revealed that when integrated with classroom instruction, CAI has been found to be consistently more effective when used as a supplement to classroom instruction than when it is used alone and when it is consistent with the classroom materials (Blomeyer, 1985). The finding of Jakobsdottir and Hooper's study (1995) also revealed that computer-based foreign language lessons can be a valuable supplement to traditional language-learning techniques.

CALL which provides individualised instruction has been used as an adjunct to classroom instruction in some cases and as the sole method of instruction in others (Chapelle & Jamieson, 1983; Crosby, 1983; Okey, 1985). Edwards et al. (1975) and Okey (1985) believed that CAI is effective as a supplement particularly at lower grade levels. Kulik et al. (1983) also argued that total

reliance on computers as a replacement for the teacher is not a practical nor effective strategy for computer-based education.

In a study conducted by Robinson et al. (1985), it was found that even the students who were most enthusiastic about being away from their classroom instructors at the beginning of the study looked forward to returning to the classroom by the end of the study. In Verano's observation (1987) of college students at the United States Air Force Academy, it was found that CALL students who were isolated from the classroom missed classroom instruction by the end of the study. These two findings highlight the importance of integrating individual CALL work with the total program of language instruction, including the classroom, rather than configuring it as an independent activity.

3.3.4(iv) CALL and the Level of Students

In 1983, in his review of the previous two decades of CAI literature, Fisher concluded that the medium had been proved effective for both low and high achievers. However, lower-ability students seem to gain more from CAI than do higher-ability students (Feurzeig, Horwitz & Nickerson, 1981). The secondary level meta-analysis also found stronger effects of CAI with low-aptitude versus talented students (Kulik, Bangert & William, 1983). This finding can be attributed to the features that the computers possess such as the ability to give individualised instruction, provide immediate feedback,

patience and so on that the slower and lower aptitude students find rewarding.

3.3.4(v) Computer Motivation

An important factor in successful implementation of CAI/CALL in the classroom is user acceptance, which may be influenced greatly by the user's attitudes or motivation toward computers. Several reviews have explored the effect of CAI on student attitudes. Kulik et al. (1980) and McDougall (1975) found that generally, student attitudes toward computers and instruction after CAI have been positive. This may be due to a high correlation between success in the course and regular completion of work on the computer. However, as found by Blomeyer (1985) and Lozano et al. (1985), students tend to demonstrate a more positive attitude toward CALL materials written by their own instructors. In this present study, the students' motivation toward commercially available computer-based materials was examined.

CALL with its interactive feature, seems to have potential for moulding appropriate educational behaviours and positive attitudes in ESL learners. A series of studies (Kulik et. al., 1983; Kulik & Kulik, 1987) on attitudes using computers and subject matter/learning or self-esteem, all suggest that students hold positive attitudes toward using computers and toward the subject matter taught as a result of having access to computers. The analysis of Roblyer et al. (1988), however, did not support this notion. Yet, Johnson, Johnson, & Stanne (1986) believed that CAI seems to have

potential for shaping appropriate educational behaviours and positive outlooks in learners. Dunkel (1987) also believed that the enhancement of self-esteem as a result of the knowledge and use of computers could lead to improved confidence and enthusiasm for many ESL learners.

Gardner (1990) examined relationships between attitude, motivation, and achievement in foreign language learning among adolescents in grades 7 to 11. In his conclusion, he stated that a fairly substantial relationship exists between achievement and motivation in secondary language learning. However, it was found that girls may tend to be motivated to achieve in different ways than are boys. In Pawling's (1999) study of the nature of language learning using CD-ROM packages, she found that there were no gender differences in linguistic performance. In view of these conflicting results, in this study the relationship between performance and motivation was examined separately for girls and boys.

3.3.5 The Development of CALL Materials

Since modern CALL is still in an experimental stage, its potential as a medium is still being explored and software is in short supply. The past use of CALL had many limitations, often attributed to the courseware that was mainly text-based. There was also very limited end-user interaction and participation. Interaction and participation are seen as important in language learning because according to the theory and research on second language

acquisition (SLA), modification in the interactions between second language students and native speakers may have a positive influence on their acquisition of language (Long, 1983; Allright, 1991; Larsen-Freeman & Long, 1991).

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 for errors, instead of simply stating that an error has been made. Adamson suggests that for future development of CALL materials, students' views and needs should be considered in the designing of the materials because, as stated by Brindley (1989:63),

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 & 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.

However, Kenning & Kenning (1983) believe that the computer is only an instructional medium, one which is not tied to any teaching method. Its task is to help the teacher across a range of teaching activities and to help the learner in acquisition, if he or she needs this help. This is supported by Willets (1992) who says that educational technology is no more than a medium for teaching that can free the teacher to focus on helping students develop skills for which “live, unprogrammed feedback and interaction of the language teacher” are necessary (1992:4).

Even though CALL itself has no underlying learning and linguistic theory, it can benefit both teachers and learners, no matter what particular method and syllabus the teacher clings to in a given course (Kecskes, 1988). As suggested by Guberman (1988), a combination of psycholinguistic theories with teaching strategies will help to improve CALL software.

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 explored and exploited. This not only involves knowledge and equipment. It also involves the attitudes of those who deal with it.

3.3.6 CALL and the Communicative Approach

In recent years, educational computer software based on the Communicative Approach has been developed. This is due to the belief accepted by both researchers and practitioners in second language acquisition that being proficient in a language means acquiring a satisfactory communicative competence. The need to use computers in teaching communicative competence is further highlighted by Laurillard (1991) who states that communicative teaching methodology prevalent in classroom teaching now is unlikely to meet all learner's needs. In consequence, an increasing number of CALL practitioners have directed their attention to the question of how computers can best be used to support communicative language teaching (Armstrong and Yetter-Vassot 1994; Herron and Moos 1993 and Patrikis 1995).

As pointed out by Frommer (1989), the computer can do something that is almost impossible to achieve 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 further adds that words could be

presented visually and aurally to illustrate the correspondence between the two. Visuals such as still pictures and animation, which are very important aid for spoken language comprehension (Rubin, 1994), can also be combined with digitised speech. This view is also supported by Thierry (1996) who believes that the availability of audio, video and texts resources can guarantee that language practice is achieved in a communicative way, provided that the data are authentic technical documents.

Since 1990, much has been achieved in the area of software design. However, as pointed by Adamson (1996), many of the packages commercially available are difficult, if not impossible, to integrate fully into courses with a communicative perspective.

The difficulties in designing materials suitable for communicative ideas might be due to the difficulties in providing the machine itself with enough knowledge of the world so that it has the ability to produce communicative competence. CALL writers have claimed that the computer can enhance linguistic competence, but can do nothing to develop communicative competence, even though, according to Higgins & Johns (1984), this is still debatable.

Characteristics of the communicative classroom as outlined by Conrad (1996) include:

- student-centred rather than teacher-fronted instruction;
- an anxiety-free atmosphere;

- well-define open-ended tasks that engage the student in meaningful language use;
- intrinsically motivating activities that stimulate interaction and collaboration between students and instil a sense of responsibility for learning on the part of students;
- resources that help students comprehend the language presented to them or elicited by them.

It might not be easy to embody all the characteristics of the communicative classroom in the software but progress and developments have been achieved in CALL research and recent technical and software engineering methods.

3.3.7 CD-ROMS for Language Learning

In the past, many language teachers felt that information technology had little to offer beyond text manipulation and word processing. Now the technology has changed. It has developed and grown fairly rapidly. The easy control of the computer together with the aspects that make the technology of more use and interest to linguists have been produced. 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).

In language learning and teaching, multimedia CD-ROM can offer a multi-skill, multi-sensory environment for language learning. Using a CD-ROM with headphones and recording facilities, for example, a learner can practise right across the four 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 learning 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 CD-ROM 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 on 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.

3.3.8 CALL in Higher Learning Institutions

There is widespread use of computers in teaching English as a second language in higher learning institutions (Adamson, 1996). Adamson also believes that there is a perception that students enjoy this type of work, and that it can liberate teachers from some of the more repetitive aspects of language teaching. However, some language teachers are slow and reluctant to accept the computer software for teaching. Diadori (1990) came to a number of conclusions about the slow acceptance of computer software for teaching languages and the reasons for the reluctance of some language teachers to become involved in this field. Diadori (1990; 81) concludes that the most important factors involved are: mistrust by teachers; high costs and the lack of courseware that might be easily integrated into a communicative or notional-functional syllabus. To some extent, all of these problems remain. Hagen (1993), stresses that if the technology is to be used and accepted by the teachers, it must be presented to teachers in schools as a solution to problems rather than yet another problem. When fully integrated, technology

can provide a powerful tool to enhance learning. However, in order to be a solution, technology must be easy to use and readily available.

3.3.9 Potential Contributions of CALL to Language Learning

3.3.9(i) Interactivity and Learner Control

Based on past research, there are some findings that suggest the effectiveness of CALL in ESL classrooms. No one can deny the fact that CALL tends to be more effective than other instructional media in the ESL classroom because CALL is interactive. In fact, according to Karttunen (1985) and Liou (1992), its interactivity and learner control are two significant attributes of CALL courseware that make it particularly attractive for educational purposes.

CALL should not be confused with other instructional media such as tape players or movie projectors because there is a qualitative difference between conventional instructional media and CALL. Conventional media are unidirectional, that is they present information to the student but do not receive any feedback from the student. CALL, however, is interactive or bidirectional. It does not only present information to the student but it often requires the student to respond and then the computer evaluates his/her response. Many CALL programmes offer explanation to the student when he/she gives a wrong answer.

The interactive capacity allows the learner and the system to conduct a “two-way learning session” (Kennedy, 1989:50) during which the students can review what they have learned and request assistance in the form of clues. Learner control allows the learner to control “options, pace, sequence, amount of content, and direction of learning” (Liou, 1992:11).

3.3.9(ii) Immediate Feedback or Remedial Instruction

The implications of this interactive instructional medium are obvious. CALL can provide immediate feedback or remedial instruction. Unlike workbook exercises, CALL lessons are incapable of ignoring a lack of response or a mistake. If an answer is incorrect, the computer will say so, and refuse to move on until a correct response is given. This is what the students need. They need to know that their answers are correct and particularly in grammar tutorials, need to be able to apply their knowledge to real-world situations (Curtin & Shinall, 1987).

In a comprehension test, for example, the student does not have to wait for another day to find out whether his/her understanding was correct. CALL ability to give immediate feedback may increase student motivation (Feurzeig et al., 1981, Leidy et al., 1980) The opportunity to provide immediate and meaningful feedback is indeed one of the greatest benefits of using computers. Regular concentrated interaction with a computer supplying instant feedback is claimed to be a very effective way of learning.

3.3.9(iii) Thoroughness and Patience

Studies have shown that students enjoy the work done with the computers and feel considerably more relaxed with the computer than they do in class. As all experienced teachers know, enjoyment and relaxation greatly enhance learning. In an experiment done by Adamson (1996) he found that what the students find useful can be summarised as the thoroughness and patience of the computer. The computer can repeat as many times as necessary without evidence of irritation in the intonation. In a study conducted by Robinson et al. (1985) the students commented that the computer was a forgiving and very patient tutor. The responses given point up things that students find lacking in the communicative classroom, like time for repetition and explanation, straightforward correction of all errors, the possibility of learning and being corrected without the rest of the class being aware of it. These are some of the needs that the students bring to the language classroom.

Adamson (1996) also argues that the possibility of students working together as observed on language learning tasks encourages thought about the linguistic structures on which the students are working and so helps them, in a way that normal communicative language classes and private study do not, to articulate their perceptions of how the linguistic system of the foreign language works. The computer replaces the teacher with non-threatening sources of information and corrects in an impersonal way. This encourages especially shy students and gives them the confidence to explain to one

another their ideas about the foreign language, so reinforcing their active knowledge of the systems of the language.

3.3.9(iv) Learning Time

Another commonly studied variable regarding effectiveness of CALL was learning time. Several researchers found that the use of CAI reduces the amount of time a student needed to acquire the content of a given subject (Feurzeig et al., 1981; Kulik et al., 1980; Orlansky, 1983). However, according to Chapelle & Jamieson (1986), time spent in CALL was not a significant predictor of end of semester English language proficiency.

Not only can the computer save the student's time, it can also save the human tutor's time by correcting "simple" errors. Even at tertiary level, first-year students are apt to make relatively straightforward errors to which a computer program should be able to draw their attention and offer remedial advice, thus freeing the human tutor for more advanced work (Yazdani, 1986).

3.3.9(v) Individualised Instruction

Another major factor that could lead to the effectiveness of CALL in ESL classrooms is its individualised instruction. It is common knowledge that learners differ in their abilities, aptitude, and learning styles in language learning. CALL materials, however, can be designed to cater for individual differences in various ways. For example, the duration of CALL instruction can be altered to adapt to individual differences until some criterion of skill and knowledge is attained. CALL can provide some of the individualised instruction that will reach each learner at his or her present level of achievement. There is no pressure on the slow plodding learner to hurry, while the fast learner may move quickly through a lesson without the boredom and frustration of waiting for slow classmates to respond. The quick and over-confident learner is brought in touch with reality, as the machine will not continue until the learner provides appropriate responses (Yazdani, 1986).

3.3.9(vi) Number Crunching Ability

The attribute that has given the computer its greatest potential, its number crunching ability, has perhaps been its greatest liability in the area of software development for courseware in the humanities disciplines, including linguistics (Ginsberg, 1989; Watson, 1986). The computer's ability to keep track of scores when exercises have only right or wrong answers (number crunching) helps to explain the plethora of drill-and-practice routines and the

relative dearth of much beyond. However, even though computers can do a lot of things, as yet they cannot reason (Ginsberg, 1989).

3.3.10 Other contributing factors

Other factors that contribute to its effectiveness are described in terms of its advantages. Sanders and Kenner (1984) reported the results of a survey of students about the usefulness of structural material presented on the computer. The computer seemed to offer the students the following advantages:

- it was able to meet their large demands for grammar exercises and rules that were not met in the classroom, giving them necessary remedial practice without causing them to feel embarrassed;
- the scores that the machine can generate were perceived as a motivating factor; and
- using the computer was described as pure 'fun', regardless of the limitation of the material. Other advantages are its availability, accuracy, impartiality, tirelessness, and privacy (Ahmad et al., 1985; Kenning & Kenning, 1983; Wyatt, 1984).

The computer can also handle an impressive range of activities and perform programmed functions at remarkable speed. It can vary exercises each time they are done, move students along from easier to progressively more difficult exercises (Karttunen, 1985) and, within limits, revise its language to approximate that of the learner (Kennedy, 1989). When students fail to

answer questions correctly after repeated attempts, the computer can provide individualised instruction in the form of clues or explanations (Palmberg, 1989). In many respects, the computer appears to be limited only by the designer/programmer's ability to take into account all possible contingencies. On top of all this, students generally like working with computers and are able to learn many things better and more quickly than in a traditional classroom setting (Kennedy, 1989).

As far as language teachers are concerned, they do not have to assemble a series of teaching tools such as overhead transparencies, screens and overhead projectors, cables, tape segments, audio, video clips and video cassette players each time they enter classrooms, yet with CD-ROM material they can present rich audio and visual effects (Jamaleyah, 1994).

The status of the computer in education is well stated by Schulz (1993:40):

The computer has its niches in language learning. We have to find out where they are and what we have to do to fill them.

3.3.11 Summary

The role that computers play in language teaching has changed significantly over the last 30 years (Warschaeur and Healey, 1998). What was limited to text and drill exercises has developed into multimedia programmes. Computer-assisted language learning is gradually replacing the language laboratory in the teaching and learning of second and foreign language. Language teachers felt that the laboratory has in one way or the other failed

them. Now, with the widespread use of computers in all aspects of human lives, the language teachers are turning to computers to help them with the teaching and learning of language. There are many benefits contributed by the computer in the teaching and learning of second and foreign languages. The most impressive ones are its interactivity and learner control. Other contributions are immediate feedback, thoroughness and patience, learning time, individualised instruction, number crunching ability and some other factors. Because of these many benefits, the computer is increasingly used in higher learning institutions where the students find the activities done with the computer motivating and they enjoy doing the work with the computer. There are certain language learning aspects which have been proven to be effective and useful when used with CALL. The elements are vocabulary, spelling, grammar, reading and writing. However, there is another use of the computer which is thought to be highly effective and useful to the students. That use is the listening skill which has in the past been neglected not only in using CALL but also in the teaching and learning of second and foreign languages in general. The few empirical studies done on using computers to teach the listening skill have opened up findings related to the type of computer-based software that enhances listening and the type of media suitable for teaching the listening skill. There is also a need to see how CALL can best be used to teach the listening skill, whether as a replacement or enhancement at the beginning or end of the lesson so that the effective uses of CALL can be identified.

3.3.12

Conclusion

There is a strong belief that the computer is a useful tool for teaching languages. There are so many benefits that computers can contribute to language teaching that not to use them means being left behind. Even though the computer has been proven to be effective and useful in teaching certain aspects of the language, the listening skill seems to be the one that is least tried. There is a need to see how the listening skill in the Communicative Approach can best be tackled with the computer. The findings would be interesting because it would then show whether CALL can best be used as a replacement or enhancement in the teaching of listening skill or whether the listening skill is best taught using non-CALL techniques. Having discussed the related literature, the conduct of the research is outlined next.

CHAPTER FOUR

RESEARCH METHODOLOGY

4.0 Introduction

In the 1980s, no single medium or means of instruction produced as much excitement in the conduct of elementary and secondary education as did the computer (Becker, 1990). The excitement has led to computers being used in many ways in language teaching. Computer assisted language learning (CALL) has been used as an adjunct to classroom instruction in some cases and as the sole method of instruction in others (Chapelle & Jamieson, 1983). CALL has also been tried with various levels of students and as stated by Okey (1985), it is effective as a supplement particularly at lower grade levels.

The many past studies on the effectiveness of CALL were made on aspects of language learning such as vocabulary, spelling, grammar, reading and writing. However, 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. According to Warschauer and Healey (1998), this could be probably due to the non-availability sound-capable computers which were not in widespread use until fairly recently. With the invention of the CD-ROM which allows the learner to make use of a combination of text, video and audio, it seems appropriate that the effective uses of the computer for the listening skill be studied. Further more, the best possible uses of the computer have

yet to be found. This is because according to Jamalleyyah (1991), we have not fully exploited the potential of the medium.

As pointed out by Handfield and Maddux (1988), every individual can achieve his or her goal if he or she finds the most effective way to learn and they suggest that more research is needed with the aim of finding the most effective ways of using computers at given levels with given kinds of students and in given subjects. The need to find out the best way of using the computer to help with the teaching and learning of listening skills arises because there has not been a single piece of research reported which attempted to investigate and compare several ways of using computers to teach the listening skill within a single study.

Therefore, it seems important that research be carried out to find out the effective ways of using the computer to teach the listening skill. With that in mind, the objectives of this study are to find out if CD-ROM can best be used as a teacher Replacement or Supplement, either at the beginning of the lesson or at the end of the lesson, to examine students' computer background, to measure students' motivational reactions to instructional materials and also to examine gender differences in any of these. In order to assess the effect of CALL-use, an Experimental Study is required.

4.1 Experimental Study

By experiment we refer to that portion of research in which variables are manipulated and their effects upon other variables observed. (Campbell & Stanley, 1963:1)

Experimental research deals with the research design that tries to establish cause-and-effect, to see what effect will there be on (x) if (y) is introduced, removed, administered and so on.

Any experimental design has two purposes:

1. to help a researcher answer a research question, and
2. to control for possible rival hypotheses or extraneous variables.

(Huck et al., 1984)

Experimental research designs are classified according to the degree of control that is exercised over extraneous variables that is by the validity and reliability of the measures taken in the experiment. On the quality of the experiment, Huck et al stress that (1984:224),

The quality of the experimental design determines the degree to which a researcher can exercise experimental control, that is the extent to which rival hypotheses or extraneous variables can be controlled and ruled out.

There are three chief categories of experimental research design. They are true experimental designs, quasi experimental designs and pseudo experimental designs.

True experimental designs are designs where the researcher builds in full controls for the threats to ward off the effects of extraneous variables and incorrect manipulation of treatments. True experiments involve:

- a. two or more groups, so that there can be at least one treatment group and one control group.
- b. the random assignment of subjects to groups, so that equivalency of groups can be assumed.

Quasi-experimental designs have to be used when true experimental designs are not feasible, that is when total control over the experiment is not possible. This usually happens in educational research (Cohen & Manion, 1994) when assigning students to groups randomly does not seem practicable. The third type of research design is the pseudo experimental design where the researcher does not have a built-in control that can confirm that the treatment and not some other change has been the cause of an observed effect.

Even though true experimental designs are preferable to other experimental designs because of their control over extraneous variables, it often seems impossible to use such designs in an educational setting because of the lack of rigid control of participants. That was the case in this study, and since it used existing classes and groupings where it is not possible for the researcher to assign the participants randomly to groups, quasi experimental research (Campbell & Stanley, 1963) was chosen, with certain modifications made to suit the constraints of the study.

Hence it can be said that the use of “field” experimental studies has its own limitations. Even though the studies have greater external validity (more “real life” relevance), they have reduced internal validity (less control of experimental and extraneous variables). However, the studies are useful for practising teachers because they represent the reality of the situations. The findings could help the teachers with their teaching, as is one of the objectives of this study.

4.2 Quasi-Experimental Designs

Quasi-experimental designs are used when it is not feasible to use true experimental designs. According to Cohen & Manion (1994), at best, the researchers may be able to employ something approaching a true experimental design in which they have control in at least one of the following:

- a. the time when the observations are made.
- b. the time when the treatment is applied, and
- c. the assignments of treatments to groups.

4.3 Reliability and Validity

As with any experimental design, there are threats that need to be taken care of in order that the reliability and validity of the research are ensured. A valid test usually denotes a measurement of what it is supposed to measure.

A reliable test usually denotes a decrease in measurement errors and indicates stability and consistency in the results of the research.

4.3.1 Reliability

Reliability, as defined by Kirk and Miller (1986:19) is “the extent to which measurement procedure yields the same answer however and whenever it is carried out...” For this study, a reliability test was carried out to check the internal consistency of the data. The goal of such a test, according to Hull and Nie (1981:248) is “to assess how reliable a sum or weighted sum across variables is as an estimate of a case’s true sum.” In the present study, Cronbach ALPHA was used to study the reliability of the instruments used (Achievement Post -tests and the IMMS Motivation scores).

4.3.2 Validity

The validity of a measurement according to Borg and Gall (1983) is the degree to which it measures what it intended to measure. Chapelle and Jamieson (1991) explain validity by dividing it into two types, internal validity and external validity. Internal validity refers to the accurate attribution of observed experimental results to the factors that were supposed to be responsible for those results. External validity denotes the applicability of research results to instructional and research contexts other than the one in which the research was carried out.

Irrespective of the type of experimental design, there are factors that interfere in the extent to which the experiment is either interpretable or generalizable.

Factors that affect the interpretability of experiments are called threats to internal validity. Sources of threats to internal validity are history (that some other event may occur during the course of the experiment), testing (that the participant may perform better on the post-test simply as a result of having done the test), maturation (that the participant may have undergone biological or psychological changes during the course of the experiment), instrumentation (that people when used as raters or observers may change their observational technique) and mortality (that participants may be lost) (Haron et al; 1992). As will be shown, efforts were made in the study to minimise these threats to internal validity as far as was possible.

Factors that affect generalizability of experiments are called threats to external validity. External validity is concerned with to what populations and instances or settings the results of the experiment can be generalized. If the findings made can be generalized, the study is externally valid (Cohen & Manion, 1980:194). As claimed by Cohen and Manion (1980:194), “without internal validity an experiment cannot possibly be externally valid. An internally valid experiment may or may not have external validity.”

4.4 Scope for Treatments in the Context of Kusza

For this study with KUSZA students, a quasi-experimental design was selected because of the reason mentioned above: that is, it was not possible to control the grouping of the students. Prior to the start of the study, the students had been placed in achievement level (ability proficiency) groups based on their results in the SPM Trial Exam and this was handled by the institution, that is KUSZA itself. Even though students in one of the groups were later randomly assigned by the researcher to the first two treatments, namely non-computer treatment and computer treatment, they came from the group which was initially formed by the institution. As required in the quasi-experimental design, the researcher managed to control the time when the post tests were given, the time when the treatment was applied and the assignment of treatments to groups.

4.5 Research Design

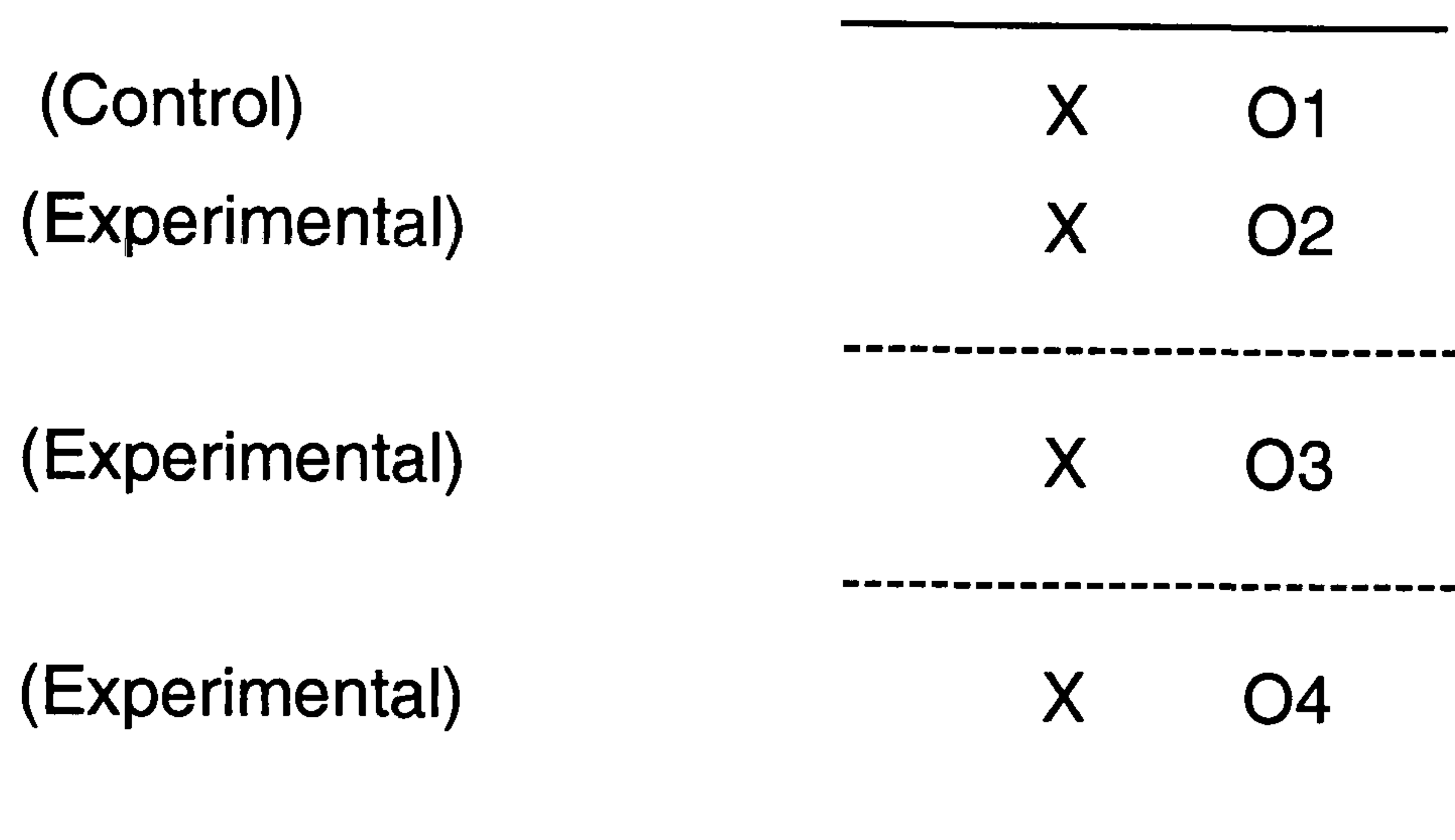
The research was designed after taking into considerations the institutional constraints where the study was to be carried out. It was essential for the institution not to disturb “established” or “normal” classes, hence Intensive course (special group) had to be used. The use of special group students limits the generalizability of the findings. Further more, due to confidentiality reason, the scores of SPM Trial Exam for each individual Intensive students were not made available. Therefore it was not possible to use the scores as covariant. The researcher had to provide a post-test instead for the

covariance analysis. Due to the difficulty in getting the right time to teach the lesson, only one hour was used at each time for all the groups. (Refer to Table 2). Even though there were a lot of institutional constraints that the researcher had to face, it was still beneficial to carry out the study at KUSZA and not at other higher education institutions. If as an employee at KUSZA, these were the constraints, one could well imagine how the constraints would have been if other institutions were used.

The number of students attending the Intensive course was only 80 and were put into three groups with obvious differences in ability. The small number of groups made it impossible to carry out the intended plan that was to have separate timetabling for the students so that observation could be made of students working with the computers. This was because students in one of the groups had to be split into two groups and had to have the same timetabling. Hence, it was not possible for observation to take place as intended.

Smaller groups of students were used with the use of computers as a replacement and not as a supplement. This is because the main aim of the study was to find out whether computer-based materials could better be used as a supplement at the beginning or at the end of the lesson, hence bigger groups of students were used (Groups B and C). Having considered all these constraints, the research was designed.

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:



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, background information and IMMS questionnaires given to the students. Further details regarding the diagram are given in Table 1, Descriptive Design of the Treatment Groups.

Table 1: Descriptive Design of the Treatment Groups.

TYPE	TREATMENTS (X)	PRE-MEASUREMENTS	POST-MEASUREMENT
NON-CALL (CONTROL)	NO-COMPUTER INSTRUCTION AT ALL	BACKGROUND INFORMATION QUESTIONNAIRE	GIVING DIRECTIONS NAMING FEATURES
CALL ONLY (EXPERIMENTAL)	CD-ROM INSTRUCTION ONLY	BACKGROUND INFORMATION QUESTIONNAIRE	GIVING DIRECTIONS NAMING FEATURES IMMS QUESTIONNAIRE
CALL 1ST (EXPERIMENTAL)	CD-ROM AT THE BEGINNING FOLLOWED BY NON-COMPUTER INSTRUCTION	BACKGROUND INFORMATION QUESTIONNAIRE	GIVING DIRECTIONS NAMING FEATURES IMMS QUESTIONNAIRE
CALL 2ND (EXPERIMENTAL)	NON-COMPUTER INSTRUCTION AT THE BEGINNING FOLLOWED BY CD-ROM	BACKGROUND INFORMATION QUESTIONNAIRE	GIVING DIRECTIONS NAMING FEATURES IMMS QUESTIONNAIRE

prior to the study, the college had placed participants into three achievement level groups based on the results of their SPM Trial Exam, for easier teaching and administration. For the purpose of the study, students in one of the groups were randomly assigned by the researcher to the first two treatments, namely non-computer treatment and computer only treatment. The other two groups received computer treatment at the beginning of the lesson or at the end of it. Before the treatment, the students were given the background information questionnaire to complete. Students in the first group which acted as the control group were taught using no computer at all, and then did the post-tests. They were not given the Instructional Motivational Materials Survey (IMMS) questionnaire, which asked for the students reactions to computerised instruction because they did not receive any computerised instruction. Students in the second group received computer treatment only, and then completed the IMMS questionnaire which asked for students' motivation towards the computerised instruction and did the post-tests. Students in the third group received computer treatment at the beginning of the lesson followed by non-computer instruction. They then did the post-tests and completed the IMMS questionnaire. Students in the fourth group received non-computer instruction first followed by computer treatment at the end of the lesson. They also did the post-tests and completed the IMMS questionnaire. Detailed timetable of the treatment conditions for each group is given in Table 2.

Table 2: Detailed Timetable of The Treatment Conditions for Each Group

Group A (A1 and A2)	Day/ Date	Treatment/Time
Week One	Sunday / 2nd. March 1997	Ordinary Teaching on Giving Directions (A1) (First Hour) / 2-3.00pm Computer Instruction Only on G. Directions (A2)
	Monday / 3rd March 1997	Ordinary Teaching on Giving Directions (A1) (Second Hour) / 3-4.00pm Computer Instruction Only on G. Directions (A2)
Week Two	Thursday / 6th March 1997	Post-Test on Giving Directions / 8-9.00am for both groups A1 and A2
Week Three	Sunday/ 10th March 1997	Ordinary Teaching on Naming Features (A1) (First Hour) 2-3.00pm Computer Instruction Only on N. Features (A2)
	Monday / 10th March 1997	Ordinary Teaching on Naming Features (A1) (Second Hour) 3-4.00pm Computer Instruction Only on N. Features (A2)
Week Four	Thursday / 13th March 1997	Post-Test on Naming Features-8.00-9.00am for both groups A1 and A2
Group B	Day/ Date	Treatment/Time
Week One	Monday / 3rd. March 1997	Computer Instruction on Giving Directions (First Hour) / 10-11.00 am
	Tuesday / 4th. March 1997	Ordinary Teaching on Giving Directions (Second Hour) / 12-1.00noon
Week Two	Thursday / 6th March 1997	Post-Test on Giving Directions / 2-3.00pm
Week Three	Monday / 10th. March 1997	Ordinary Teaching on Naming Features (First Hour) 10-11.00 am
	Tuesday / 11th. March 1997	Ordinary Teaching on Naming Features (Second Hour) 12-1.00noon
Week Four	Thursday / 13th March 1997	Post-Test on Naming Features-10-11.00am
Group C	Day/ Date	Treatment/Time
Week One	Sunday / 2nd. March 1997	Ordinary Teaching on Giving Directions (First Hour) / 10-11.00 am
	Tuesday / 4th. March 1997	Computer Instruction on Giving Directions (Second Hour) / 10-11.00am
Week Two	Thursday / 6th March 1997	Post-Test on Giving Directions / 9-10.00am
Week Three	Sunday / 9th. March 1997	Ordinary Teaching on Naming Features (First Hour) 10-11.00 am
	Tuesday / 11th. March 1997	Ordinary Teaching on Naming Features (Second Hour) 10-11.00am
Week Four	Thursday / 13th March 1997	Post-Test on Naming Features-9.00-10.00am

Data from the IMMS and Computer Background which had been converted into Likert-Scale and the post-test scores were analysed using ANOVA, Analysis of Covariance, Pearson's Product-moment Correlation and t-tests for independent samples. ANOVA was used to test the hypothesis that several population means are equal. To find the association between two variables, the correlation coefficient was used. The t-test procedure was used to test the hypothesis about the equality of two means for variables measured on an interval scale (Norusis/SPSS Inc., 1990:7). These tests were used to yield the necessary statistical information for the research questions listed below which were:

1. to find out if there is a significant relationship between students' achievement and the different types of treatments;
2. to find out if there is a significant relationship between students' achievement and their ability in the language (initial grouping)
3. to measure students' motivational reactions to instructional materials (IMMS)
4. to find out if there is a significant relationship between students' motivational reactions to instructional materials and the different types of treatments;
5. to examine students' computer experience;
6. to find out if there is a significant relationship between students' computer experience and their motivational reactions to instructional materials;

7. to find out if there is a significant correlation between students' achievement and their motivational reactions to instructional materials; and
8. to find out if there is a gender-treatment interaction in any the above.

4.6 Participants

The participants were 80 students from an English language course organised by KUSZA called the Intensive English course. The Intensive English course which is a six week course was held in March and April 1997. The course is done intensively and all the five skills, that is Listening and Speaking, Reading, Writing and Grammar, are taught in those six weeks. In normal course, these five skills would be taught over four semesters where there are 16 weeks in each semester. Listening and Speaking are introduced in the first semester, followed by Grammar in the second semester. Writing is taught in semester three and the Reading skill in semester four.

This intensive course is specifically designed for and offered to students who have completed their fifth form education and are about to start their studies in colleges and universities. They are about 17 years of age. Only those students who come from Islamic secondary schools are eligible to apply for this course.

As mentioned earlier, prior to the study, the college had placed participants into three achievement level groups based on the results of their SPM trial

exam, for easier teaching and administration. The scores of the SPM Trial Exam were given Distinctions (A 1 or A2) for top results, followed by Credits (3-6) for middle achievers and Pass (7 and 8) for low achievers. Those who failed were given F9. For the Intensive English course, the participants who scored A2 - C4 (Distinction 2 and Credits 3 & 4) were placed in the high group, namely Group A. Those participants with SPM's trial scores of C5 and C6 were placed in the middle group, namely Group B and finally those participants whose scores were in the P7 and below were placed in the low group, namely Group C. It should be noted that there was not a single participant with a score of A1(Distinction 1) who participated in the English Intensive course and there were only a few students who scored Distinction 2 in the course. So, those who scored Credits 3 and 4 had to be placed in the high group in order to make a group. All participants were non-native speakers of English.

Table 2: Students Grouping in Treatment Groups.

Type	Group	Grade Level	Freq	Percent
non-call	A1	2-4	16	20.0
call	A2	2-4	12	15.0
call 1st	B	5-6	26	32.53
call 2nd	C	7-9	26	32.5
Total	4		80	100

As shown in Table 2, the best 28 students were placed in Group A followed by the second 26 in Group B and the third 26 in Group C. For the purpose of the treatments, students in group A were further randomly divided into two groups. 16 students were put in the control group known as Group A1, where the students were taught using no computer at all while the other 16 students were placed in the Experimental group known as Group A2 where the students were given computerised instruction (using CD-ROM) only. The aim was to see if CD-Rom material can be used as a replacement to teach the listening skill.

The treatment given to Group B students was to observe the use of CD-ROM as a supplement at the beginning of the lesson (CALL 1st) and to Group C to observe the use of CD-ROM as a supplement at the end of the lesson (CALL 2nd).

The participants were 36 males and 44 females from all over the states in Malaysia. Descriptive information about the students' gender in each treatment group is shown in Table 3.

Table 3: Gender Description of the Treatment Groups.

Type	Gender		Total %
	Male	Female	
Non-CALL(A1)	8	8	16 (20.0)
CALL(A2)	5	7	12 (15.0)
CALL 1st(B)	14	12	26 (32.5)
CALL 2nd(C)	9	17	26 (32.5)
	36(45.0)	44(55.0)	80 (100)

4.7 The Administration of the Treatment

For the purpose of the study, the listening skill was given special treatment where computers were used to teach certain topics. Due to the difficulties in taking over the listening class at the specified time as in the time table, because of reasons such as the lecturers were paid for this Intensive Course and so some were not willing to let go of the classes, some of the listening classes for the study were held outside the normal class schedule.

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) consisting of 8 males and 8 females and 12 were chosen to be in Group A2 (Control Group) consisting of 5 males and 7 females. 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*.

Giving Directions was chosen because it is a popular and reasonably authentic activity (Underwood, 1989). Further more, *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).

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 computerised instruction at the beginning of the lesson while Group C received computerised 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.

4.7.1 Lesson on *Giving Directions*

a) 1st Treatment- Non-Computerised Instruction (Control Group)

i) The First Hour of Lesson

Group A1 students were taken to a classroom where they first completed a short questionnaire asking about their gender. The students were told to disregard the questions on computer experience in the questionnaire since they were of no relevance to them. With the Control Group students, no computer was used at all. The teacher teaching the group was the researcher herself. The researcher introduced the topic *Giving Directions* by writing on the board and explained all the common expressions used in giving the directions. The teaching was done in English with no translation at

all. Road maps were then distributed to the students to practise on the topic. The exercises given to the students in the Control group were made as close as possible to those of the computer treatment. The students listened to the researcher's voice recorded on the audio tape in giving the instructions and directions regarding the exercises. The students responded by writing down their short-response answers on the maps given. The researcher answered any questions that the students had concerning the exercises.

ii) Second Hour of the Lesson

The second hour of the lesson with the Control Group was done on another day in a class next to the Experimental Group's Computer Room. The second hour was the continuation of the lesson in the first hour when, as in the first hour of instruction, the students listened to the researcher's voice teaching the topic in English with no translation at all. In this hour, more maps and diagrams were given as while-listening exercises for the students. Again, the directions and things related with the exercises were handled by the researcher with the use of an audio tape. Any questions from the students were dealt with by the researcher.

- a) **2nd Treatment : Computerised Instruction Only (Experimental Group)**
- i) **First Hour of the Lesson**

At about the same time, the students in the Experimental Group were taken to a Computer Room near the Control Group's classroom. The reason was for easier administration of the two classes (Control and Experimental) which were going on at the same time. Group A2 students first completed a short questionnaire asking about their computer experience. Then for about 10 minutes, they were briefed on how to use the computer and how to operate the CD-ROMS. Later they were told to follow the lesson and to carry out computer exercises on *Giving Directions* using the disk *Telephone Talk 1*. The CD-ROMS were equipped with audio and text and coloured graphics of maps, and road routes. That is, the student would see a graphic representation of maps and road routes, then hear the directions given by a native speaker, and finally do exercises by clicking on the chosen responses on the screen. There were also hidden texts which would appear if a certain icon was clicked on to assist students with the understanding of the directions. The students could ask for the repetition of the directions as many times as they wished and they could also try the same exercises as often as they required until they were satisfied. Once the students were satisfied with their scores on *Giving Directions* using *Telephone Talk 1*, they then could proceed to the second disc *Telephone Talk 2* which provided more exercises on *Giving Directions*. The students either worked individually or in pairs on the computer lesson. They were left on their own to do the exercises on the

computer although the researcher was available to help with any technical problems of which there were very few. During the hour-long lesson, the students spent about 40 minutes doing the exercises with the computer.

ii) Second Hour of the Lesson

The second hour of the lesson was done on the same day as the second hour of the Control Group. Once the students were satisfied with their scores on *Giving Directions* using *Telephone Talk 2*, they then could proceed to another disk, *Listen!* which also comes in two sets. As in the *Telephone Talk*, *Listen!* also combines sound, pictures and text into interactive exercises to practise. Here too, the students could ask to hear the questions again and request for the help text by clicking on a certain icon. The first section of the disk is at the beginning level where the activities revolve around the road maps and the exercises are quite straight forward. Once a student had achieved a desired score, he or she she could then move to the second disk which is at the intermediate level.

c) 3rd Treatment- Computer At the Beginning of the Lesson

i) First Hour of the Lesson

The third treatment was done with Group B which consisted of 26 students (14 males and 12 females). The purpose was to see if the use of the computer as an enhancement to teach *Giving Directions* is more effective if used at the beginning of the lesson or at the end of the lesson.

For the two hours allocated for teaching *Giving Directions*, the first hour was done on computers. The class started with the students completing the background information questionnaire followed by the briefing on how to use the computer and how to operate the CD-ROMS. The students were then introduced to *Giving Directions* before they carried out computer exercises using *Telephone Talk 1*. The students worked either individually or in pairs on the computer lesson. The students were supervised by the researcher throughout their work on the computers. The only assistance given to students consisted of instructions on the use of the computer programme. Of the hour lesson, the students spent about 40 minutes doing the exercises with the computer.

ii) **Second Hour of the Lesson**

For the second hour of the lesson, the students were taught without using the computer; here too the teaching was done by the researcher herself. In the second hour of teaching, as a continuation of the computer exercise, more exercises on *Giving Directions* were given to the students by distributing road-maps (*the same ones used by the students in Group A1 in their first hour of the lesson*). The teaching applied here was the same as applied in Treatment 1, with the use of audio tape and without translation. The researcher answered any questions that the students had concerning the exercises.

D) 4th Treatment- Computer At the End of the Lesson

i) First Hour of the Lesson

The fourth treatment was with Group C which consisted of 26 students (9 males and 17 females). In this treatment, students were taught using no computer first, that is for the first hour. After completing the background information questionnaire, the researcher introduced the topic *Giving Directions* by writing on the board and explained all the common expressions used in giving the directions. Road maps as used by students in Treatment 3 were then distributed to the students to practise the topic. The researcher answered any questions that the students had concerning the exercises. Again, the same teaching applied to all the no computer treatment was applied to this group. Of the hour lesson, the students spent about 40 minutes doing the exercises on *Giving Directions*.

ii) Second Hour of the Lesson

The second hour of the lesson was with the computers. Before the students did the exercises on the computers, they were briefed on the use of computers and the CD-ROMS. They then carried out computer exercises using *Telephone Talk 1*. The students either worked individually or in groups of two. The students were supervised by the researcher throughout their work on the computers. The only assistance given to students consisted of instructions on the use of the computer programme. The students spent about 40 minutes doing the exercises with the computer.

A day after all the four treatments were done, the students were then given the post-test on *Giving Directions*. The test was done on the same day for all the students but at different times in the students' own classrooms. The test took about 30 minutes.

4.8 Courseware

4.8.1 Computer Treatment

The courseware for the computer treatment was taken from commercially available CD-ROMS produced by Multimedia and Eurotalk. The two CD-ROMS 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). Some of the suggestions outlined are given below:

- Are the levels of language suitable?
- 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?

Full suggestions by Bourne (1996) are given in Chapter 3 (section 3.3.8). After giving careful considerations to the suggestions outlined by Bourne (1996), the two software materials were chosen.

The materials chosen in this study seem to meet among others, one of the characteristics of the Communicative Approach which aims for communicative competence, that is the legitimacy of tasks. The tasks given are those of real-life situations that necessitate communication where the teacher sets up a situation that students are likely to encounter in real life. The materials also meet the requirement of the listening skill explained earlier where the materials are taught as part of communicative interaction. The students have to respond and react to the instructions given. And the immediate feedback and individualised instruction provided by the computer assisted language learning (CALL) make practising the listening skill more effective in terms of learning.

The two software materials chosen contain lessons on topics which are covered in the listening skill syllabus for teaching the Intensive students as outlined by KUSZA and also the exercises and level of English used which are for the beginning to intermediate level students are appropriate for the Intensive Students who have been identified as being at the beginning to intermediate level.

The activities provided by these two disks were for listening and speaking but for the purpose of the study, only listening activities were used. Each activity starts by presenting a small segment. The learner is asked one or more questions about it. All of the questions are listening comprehension activities that is they must be understood in order to be answered appropriately. The difficulty of these questions varies considerably. Some are fairly

straightforward (true/false types) while others are more challenging (multiple choice). The objectives of particular sets of questions also vary. Many of the true/false questions are direct comprehension checks to motivate learners to maintain attention. Others require the short-term retention of a key piece of information.

Once a topic is chosen, an introduction on what the topic is about is given by a native English speaker, with the graphics and contextual exercises. That is, the student sees a graphic representation of the topic, hears it pronounced by a native speaker, and finally does exercises in which the skill is tested.

4.8.1(i) *Telephone Talk*

Telephone Talk comes on two disks. Both disks contain a wide variety of language exercises involving audio, text, colour photographs and graphics. There are nearly one hundred dialogues in each disk for the students to work through, at their own pace. However, for the purpose of the study, the participants were restricted to listening and practising the exercises which came with the chosen topic only which was *Giving Directions*.

The students had to watch the Introduction first for an explanation of how to use the programme and a description of each section. For the listening exercises, every exercise consists of an example followed by five questions which check students' understanding of what they have heard. They can

listen as often as they wish and read the text of the dialogue if they need to. Exercises are scored so the students can see exactly how they are doing. There are also tests that change each time the students choose that option, so they can try it as many times as they like. In disk 1, the activities for each topic come in two stages, 1 and 2. So, for *Giving Directions*, the students could proceed to *Giving Directions 2* once they were satisfied with their scores in *Giving Directions 1*.

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

The screenshot shows a software interface titled "Giving directions - 1". On the left, under the heading "EXAMPLE", there are two questions: "How do I get to the RST office?" and "How do I get to Darnley Chemicals?". The main area features a map with a central point labeled "You are here." and several streets: Market Street, Church Street, High Street, New Street, Station Road, and Corporation Road. A legend on the right lists various locations with corresponding icons: Leighton and Hammond, RST Shipping, Shopping Centre, Town Hall, Grand Hotel, Bus Station, Darnley Chemicals, Railway Station, and Taxis. At the bottom of the interface, there is a row of five icons: a hand pointing, a door, a speaker, a person, and a hand pointing. The text "Telephone Talk 1" is written vertically on the right side of the interface. Below the interface, the text "Listening exercises" is displayed.

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*.

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

The screenshot shows a software interface for a listening exercise. At the top left is a telephone icon and the title "Giving directions - 1". Below this is a section titled "EXAMPLE What was the question?". It contains two questions: "How do I get to Agriplas coming from the south on the motorway?" and "How do I get to Eaton Plastics coming from the north on the motorway?". To the right of the questions is a map showing a road network. The map includes a "Ring Road" at the top, a "Town Centre" on the left, and "EATON PLASTICS" at the bottom. Roads are labeled "B270" and "M72". A road labeled "A431 Apsley" has an arrow pointing right. A north arrow is in the bottom left of the map. Below the map are five icons: a hand pointing, a door, a speaker, a person, and a hand pointing. At the bottom of the interface is the text "Listening exercises". On the right side of the interface, the text "Telephone Talk 2" is written vertically.

4.8.1(ii) Listen!

Like *Telephone Talk*, *Listen!* also combines sound, pictures and text into interactive quizzes and exercises to practice and develop students' English. *Listen!* has been developed by Eurotalk from the books and cassettes of LET'S LISTEN! and LISTEN UP! published by Heinemann.

Listen! comes on two disks, where the students were given the choice to select either American or British English. The students need to click on the buttons to select an activity. The first one is the easiest. The activities are all

different. Each time the student will be given instructions which they can listen to or read. When the students finish an activity, or if the student returns to the MENU, she or he will be given a score. This will appear in the score table.

The student can also do the quiz where they will hear twenty questions at random. They have to listen carefully to the questions because the students will not be given a second chance to answer. However, the student can ask to hear the questions again. The student can also ask to read the question and answers, but if he or she does, she or he will not get so many points.

For *Giving Directions*, there are two sets of disks used. The first disk is at the beginning level where the activities revolved around the road maps and the exercises are quite straight forward. Once a student has achieved a desired score, she can then move to the second disk which is at the intermediate level.

4.8.2 Non-Computerised Treatment

4.8.2(i) *Giving Directions*

There were two topics used for non-computerised instruction. The first one was *Giving Directions* which was used with Group A1 students, who received no computer treatment at all. The time allocated for teaching the topic was the same as that for the computer treatment, that is 2 hours. The class was handled by a teacher, who in this case was the researcher herself. The topic

was taught using road maps and diagrams. The blackboard was used to write down certain expressions used in teaching the topic. The exercises in the no computer lesson were similar in nature with that of the computer-based except that exercises were done on paper while listening to the audio-tape, using the instructor's voice giving the instructions. The students in the no computer lesson were able to consult the instructor on anything that they found difficult.

The same topic, *Giving Directions* was also used with Group B and Group C students who received computer treatment for only one hour. Group B which received computer treatment at the beginning of the lesson was taught with no computer at all for the second hour of the lesson while Group 3 which received computer treatment at the end of the lesson was taught with no computer at all for the first hour of the lesson. For the no computer lesson, the class was handled by a teacher who in this study was the researcher herself.

As with Group A1, students in Group B and Group C were also taught the topic using road maps even though the exercises given were fewer in number because students were also given access to computer exercises in another part of the lesson. The blackboard was used to write down certain expressions used in teaching the topic. The exercises in the non-computerised instruction were similar in nature to those of the computer-based material except that exercises were done on paper while listening to the instructor giving the instructions in the audio-tape. The students in the

non-computerised instruction were able to consult the instructor on anything that they found difficult.

4.8.2(ii) *Naming Features*

Another topic, that is *Naming Features*, was taught to all the participants for two hours using no computer at all. It was done in the same week for all the groups. For this lesson, students in Treatment 1 and Treatment 2 were put in the same group which is A, again. This is because they were to receive the same treatment, that is using no computer at all in the teaching. The lesson, *Naming Features* is similar in nature to *Giving Directions* in the sense that both use maps and diagrams. The lesson was taught by the researcher herself. However, instead of listening for the directions, in this lesson, the students were exposed to listening for information to be put on the maps and diagrams. The students listened to the instructions given by the researcher in the audio tape. Based on the information that they heard, they had to give a short-response either by writing it down or by answering it orally.

Due to the tight class schedule, the two hours of lesson were done on different days for each group. A day after the two hour lesson on *Naming Features*, students in the three groups were then given the post-test on *Naming Features*. The test was conducted on the same day but at different times in their respective classes. The test took about 30 minutes. The result of the *Naming Features* was used as a covariate with the result of *Giving Directions*. That is, students' scores on *Naming Features* were used to correct for between the group differences in ability.

4.9 Instruments

Two short response-type achievement post-tests, one background information questionnaire and one instructional motivation questionnaire (IMMS) were selected as the type of instruments used in this study.

4.9.1 Achievement Post-tests

The post-tests were used to measure students' listening comprehension scores. Testing employed the short-response format used during both the non-computer-based and computer -based lessons. The two post-tests given to the students to measure their listening comprehension scores were *Giving Directions* and *Naming Features*, adapted from Ur (1990). For both tests the students listened to an audiotape where the instructions and the directions to which the students had to respond were read by the researcher's colleagues.

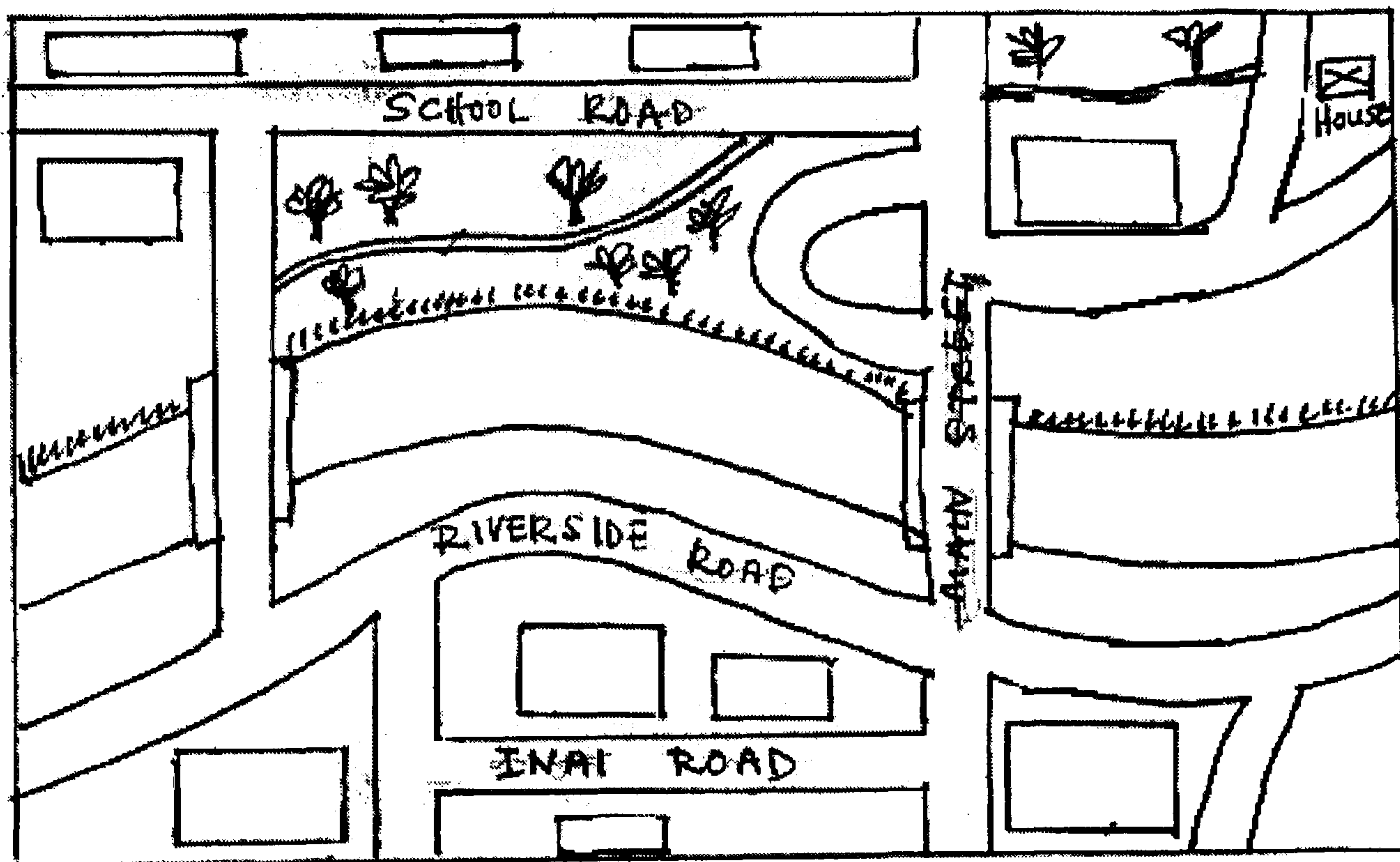
4.9.1(i) *Giving Directions*

The first post-test was on *Giving Directions*. The test consisted of two parts. The first part of the test was based on a road map. The test asked the students to listen to the directions read to them and then mark the places on the road map provided with A,B,C,D and E. They also had to trace the routes to those places (Adapted from Ur, 1990).

Sample questions from Giving Directions:

- A. Directions: Listen and then mark the places with A,B,C,D and E.**

When you come out of the house, turn left and go down to the junction. Turn right, go past A, the swimming-pool on your right and you'll come to the main street. There you turn left and go along the street, over the bridge. On the other side of the bridge there's a crossroad; if you go straight across it you'll find B, the shopping centre on your left...



- A= Swimming Pool**
- B= Shopping Park**
- C= Football Ground**
- D= Park**
- E= Cinema**

The second part of the test was also based on the road map. The test asked the students to listen and then decide where the directions read to them would take them. They had to write down the names of the places that they came to in the blanks provided.

B. Directions: Listen and decide where the directions will take you. Write down the names of the places in the blanks provided.

1. To start off with, cross the road outside the Cekap Chemicals and turn right into Market Street. Walk down Market Street and turn right at the traffic lights. You'll find our offices on the right-hand side.

2. Turn left, no...no...turn right as you come out of the bus station. Then turn left into Station Road, and then take the 2nd. turning on your left. You'll find it on the left-hand side.

(A copy of the post-test question on *Giving Directions* is in Appendix 2).

4.9.1(ii) Naming Features

Naming Features is the second post-test. This test also consisted of two parts. The first part of the test asked the students to identify features in a town landscape based on a discussion by a team of town planners. There are five sites available and the students have to decide where they will put on hotel, an old people's home, a multi-storey car park, a petrol station and a supermarket. The students were given different items listed under the map

and they had to write the appropriate letter beside each one. The second part of the test was based on a shopping centre-plan. The students were asked to mark in the kind of shop and the name of the shopkeeper based on the spoken passage (Adapted from Ur, 1990).

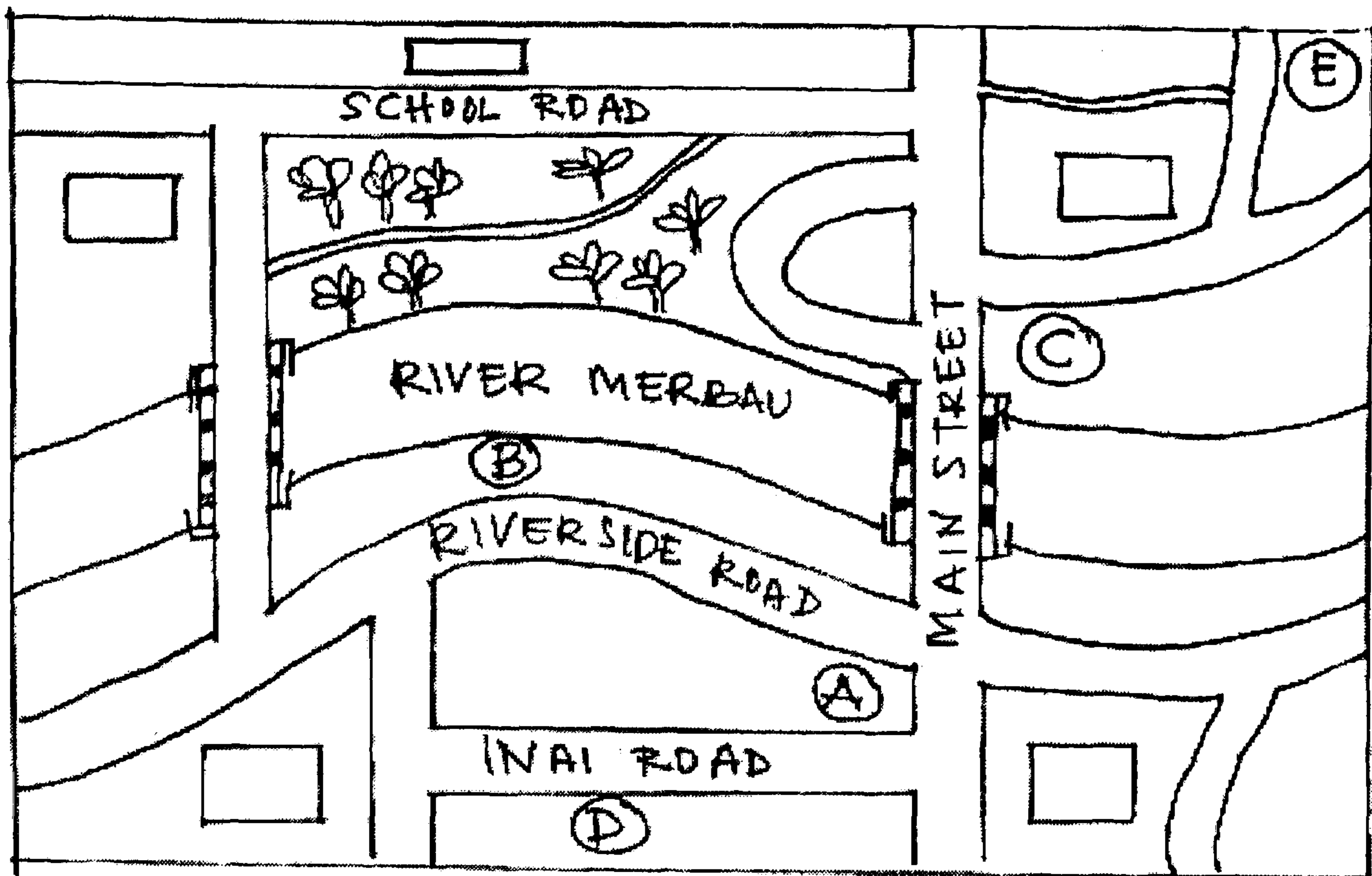
Sample questions from Naming Features:

A. Directions: Listen carefully to a team of town planners deciding where to put/place 5 buildings at the 5 sites available on a map marked A,B,C,D and E. Write the appropriate letter beside the items mentioned in the discussion.

Anuar: Right. Now I understand we have five sites available to us for the five building projects on our list.

Da: Yes. I've marked them A, B, C, D and E on your maps. A is on the corner of Main Street and Inai Road, opposite the shopping centre, B is between the river and Riverside Road, C is beside Main Street, between the river and the swimming pool, D is on Inai Road, at the bottom of the map, and E is at the top right hand corner, on Park Road.

NAMING FEATURES



- | | |
|-------------------------|---|
| A Cinema | = |
| A Hotel | = |
| A Swimming Pool | = |
| A Drug-Store | = |
| An Old People's Home | = |
| A Petrol Station | = |
| A Football Club | = |
| A Multi-Storey Car Park | = |
| A Supermarket | = |
| A Gymnasium | = |

B. Directions: Listen carefully to the plan of a shopping centre. You are to mark the kind of shop and the name of the shopkeeper in the plan provided.

Well, our new shopping centre is finished at last, and I know you are all waiting to hear who's to be where. Get your pencils ready to mark down your locations. Tina, I'm giving you the big site opposite the entrance for your coffee-shop- it's nice and central,

so that shoppers will find it convenient to drop in for a cup of coffee or other refreshments...

(A copy of the post-test question on *Naming Features* is in Appendix 3).

4.9.1(iii) Summary of the Material

Giving Directions and *Naming Features*, as explained earlier are popular topics which can provide authentic activities for the listeners. These two topics can be made more interesting by using maps of places which are familiar to the students. If real maps are used, then the content is 'real' and correspondingly more interesting (Ur, 1990). The students can be asked to do various kinds of listening activities with the maps or ground plans. They can trace on the map for the directions, or they can mark the places based on the directions given. Because of the interesting features of *Giving Directions*, the topic has been incorporated into several CALL programmes. In this study, the exercises and the tests given to the students required immediate brief responses by the learner. Thus, students are responding to each item of information as it comes up and not, on the whole, to the gist of an entire passage at once. It is hoped that with the right activities given to the students, their listening skill is enhanced.

4.9.1(iv) Scoring Procedures

Students were graded for accuracy (Oller, 1979). The achievement tests were scored by giving one point for each correct answer. No mark was

deducted for each response which was wrong, not recognisable, or if the student gave no answer at all (blank). Spelling errors which did not interfere with the meaning of the words such as grocerie, boutiq and omitted or inserted plural of words, such as toy or toys were not counted as errors.

4.9.2 Questionnaire

Two questionnaires were used in the study. They were the background information questionnaire and the IMMS questionnaire.

4.9.2(i) Background Information Questionnaire

Personal variables such as gender and computer experience were determined in the background information questionnaire distributed at the beginning of the first lesson with each group (see Appendix 4). Students in Group A1 who did not receive any computer treatment were only required to state their gender in the questionnaire distributed.

Some of the questions asked:

Gender: a) Female b) Male

Have you used a computer before?

a. Yes b. No.

4.9.2(ii) Motivation Scale

The second questionnaire used was a motivation survey. The Instructional Materials Motivation Survey (IMMS) questionnaire was completed by those students who had been given computer treatment, namely students in Groups A2, 3 and 4. The Instructional Materials Motivation Survey (IMMS) (Keller, 1989) focuses, in general, on the students' motivational reactions to instructional materials. The survey solicits responses which assess learner-reported Attention (A), Relevance (R), Confidence (C), and Satisfaction (S) according to Keller's ARCS model. For the present study the instrument was modified to refer to computer-based instead of paper-based materials. All the 36 items of the IMMS were included in the version used in the study.

Examples of items from each of the four sub-scales were respectively: (Attention) "The amount of repetition in this CD-Rom material caused me to get bored sometimes";(Relevance) "Completing this lesson successfully was important for me"; (Confidence) "This material was more difficult to understand than I would like for it to be"; (Satisfaction) " I really enjoyed studying this lesson."

Ratings to the statements were given on a five-point scale (1=not true, 2=slightly true, 3=moderately true, 4=mostly true, 5=very true).

The questionnaire was distributed at the end of the course. The questionnaire distributed to the students was translated into the Malay language for easy understanding. The respondents were given ample time to answer the questionnaire. (For the English version of the questionnaire, see Appendix 5 and for the Malay version of the questionnaire, see Appendix 6).

4.10 Strength of the Experiment

The strengths of the experiment as carried in this study are evident. One of them is that the experiment took place over a short period of time. This means that problems related to time (extraneous effects on the experiment and maturation of the subjects) are overcome. The experiment also can be done efficiently because of the shorter period of time needed. The threats related to testing are removed because each subject is only tested once. The last strength is that the experiment compares the performance of the groups and not the change in performance of one or more of the groups. Furthermore, the teacher variable is controlled because the researcher herself did all the teaching for the non-computer treatment.

4.11 Summary

This chapter has described the methodology used in the study. It has given a description of the experimental design, the procedures, the participants, the CD-ROM materials used, the materials for the non-computerised instruction given to the students and the two questionnaire instruments.

The experiment was carried out with 80 students attending an English Intensive Course in Sultan Zainal Abidin College, better known as KUSZA, in Malaysia. The aim was to investigate how CD-ROM based software could help in teaching the listening skill in English as a second language. There was a need to find out whether the computer software which provided students with audio, text and pictures could be used as a replacement or supplement, either at the beginning or the end of a more traditional lesson.

After each undergoing a different treatment, the groups took short-response post-tests. The result of the *Naming Features* was used as a covariate with the result of *Giving Directions*. Each student participated in this study for a total of four weeks. Data which were obtained from the achievement post-tests, background questionnaire and IMMS questionnaire were analysed to answer the research questions. The analysis of data is presented in the next chapter.

CHAPTER FIVE

ANALYSIS OF DATA

5.0 Introduction

The purpose of this chapter is to present the analysis of data. The data were analysed using SPSS-PC to perform procedures corresponding to the objectives and research questions of the study.

5.1 Descriptive Data

Table 5.1a: Background Information of the Sample.

Gender		
Male	36	
Female	<u>44</u>	
Total	<u>80</u>	
Computer Experience		
Yes	44	
No	19	
Missing	1	
Not given the questionnaire	<u>16</u>	(Non-CALL Group)
Total	<u>80</u>	

Table 5.1a represents the number of male and female students in the study and those with and without computer experience. It shows that the number of female students outnumbers the number of male students and also that those with computer experience outnumber those without computer experience. Sixteen students were not given the questionnaire asking for

their computer experience because it was not relevant for them. These students were in Group A1 that is the Control group which received no computer treatment at all.

Table 5.1b: Students' Grouping for Treatment.

Group	Grade Level	Treatment	Freq.	Percent
A1	2-4	NON-CALL(no computer at all)	16	20.0
A2	2-4	CALL(computer only)	12	15.0
B	5-6	CALL 1ST (Computer at the beginning of the lesson)	26	32.5
C	7-9	CALL 2ND (Computer at the end of the lesson)	26	32.5
Total		4	80	100

Table 5.1b shows the number of students in each group of treatment given. The small number of students both in Group A1 and Group A2 treatments was due to fact that they were from one group, that is Group A, which was divided into two for the purpose of the study. Group A1 was taught using no computer at all while Group A2 received computer treatment only. Group B received computer treatment at the beginning of the lesson and Group C received computer treatment at the end of the lesson.

As shown in Table 5.1c, female students outnumber male students. The table also indicates gender differences in treatment groups. Only in Group C there is a significant imbalance in the M/F numbers.

Table 5.1c: Gender Composition of Treatment Groups.

Group	Gender		Total
	Male	Female	
Non-CALL(A1)	8	8	16 (20.0)
CALL(A2)	5	7	12 (15.0)
CALL 1st(B)	14	12	26 (32.5)
CALL 2nd(C)	9	17	26 (32.5)
	36(45.0)	44(55.0)	80 (100)

5.2 Data Analysis

The data gleaned during this study fall into three categories. First, the achievement post-test scores; second, the Instructional Materials Motivation Scale (IMMS) scores taken from Keller (1989) and third, the students' computer background scores. The two post-test achievements were *Giving Directions* and *Naming Features* adapted from Ur (1990), as explained in Chapter 4. As described previously, they consisted of short-response questions.

5.2.1 Item Analysis

The use of item analysis is to analyse short-response question or other questions scored 0/1. Its main purpose is to assess the response level (facility) and the discrimination of each item and to compare these with acceptable levels. The facility is the proportion of the sample answering correctly. In order that items discriminate between 'good' and 'poor' students,

it is desirable that the majority of the items in a test should have a facility between 0.3 (30%) and 0.7 (70%). (A test should also contain some easier items (higher facility) and some harder items (lower facility) in order that the test can cover the full range of candidate ability.) The discrimination of a test is its ability to “spread out” the range of scores, that is to distinguish between the best and the weakest test-respondents.

5.2.1(i) *Giving Directions*

The table below (5.2a) shows the response level (facility) of the whole sample answering correctly for the first achievement test, *Giving Directions*.

Details of the test are explained in Chapter 4.

Table 5.2a: Students’ Response Level to Test on *Giving Directions*.

Question	Correct Response (Freq)	%
1	74	94.9
2	61	78.2
3	65	83.3
4	48	61.5
5	33	42.3
6	55	70.5
7	53	67.9
8	40	51.3
9	25	32.1
10	34	43.6
11	62	79.5
12	53	67.9
13	47	60.3
14	33	42.3
15	55	70.5

Table 5.2a shows that the majority of the items in the test had a facility between 0.3 (30%) and 0.7 (70%), the facility that is desirable in any test. There are only 4 items which had facility values that are outside the range for good discrimination but these items were not removed from the analysis at this stage because it was not known if they would increase the reliability of the test.

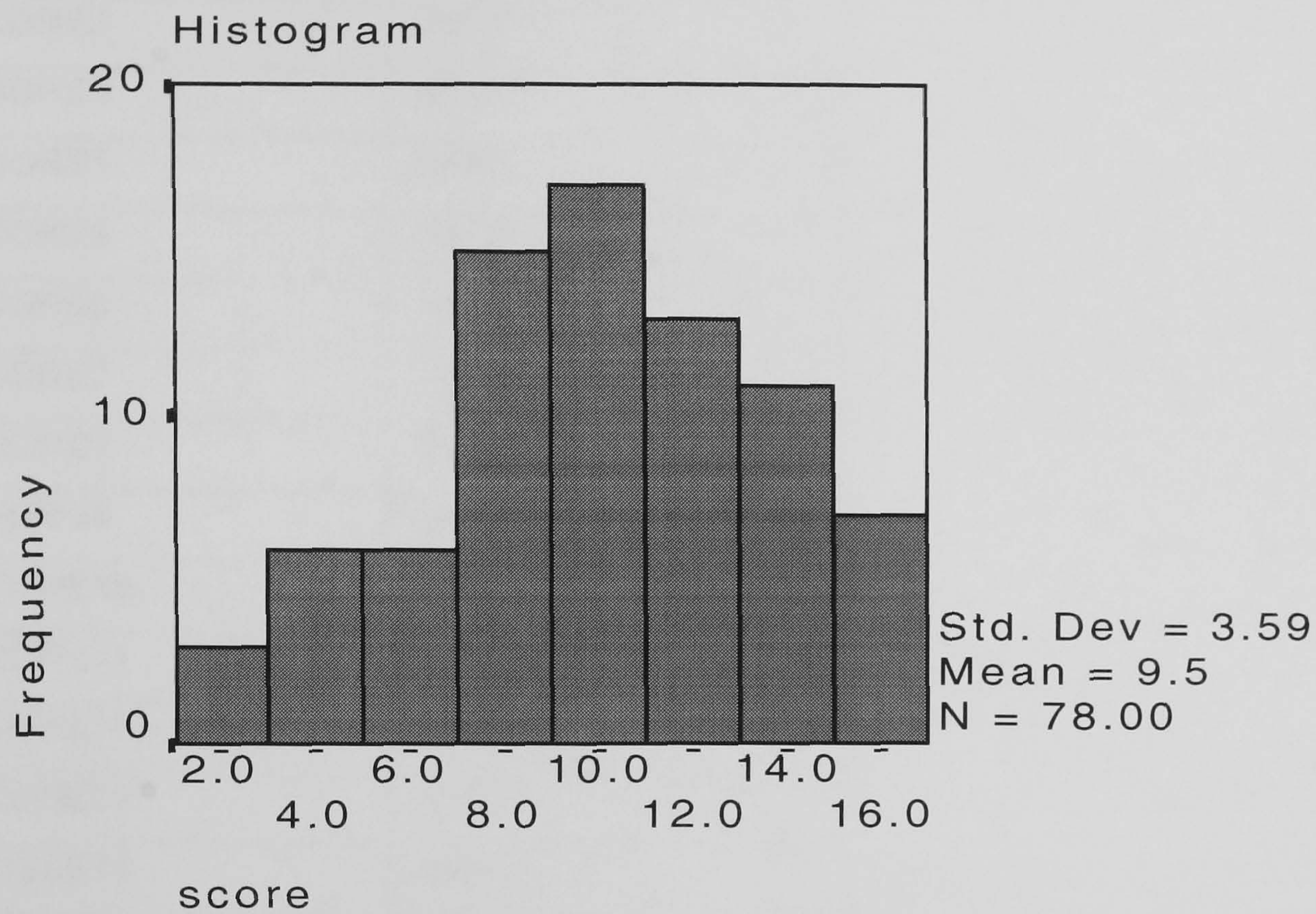
Table 5.2b: Total Score of *Giving Directions*.

Value	Frequency	Percent
2	3	3.8
3	1	1.3
4	5	6.4
5	4	5.1
6	2	2.6
7	9	11.5
8	6	7.7
9	7	9.0
10	10	12.8
11	8	10.3
12	5	6.4
13	4	5.1
14	7	9.0
15	7	9.0
Missing (Did Not Do the Test)	2	2.6
Total	80	100.0

Table 5.2b shows that the minimum score was 2 and the maximum was 15. There was no student who scored lower than 2. However, there were 7

students who managed to score the maximum, 15. The mean for the test *Giving Directions* was 9.5.

Chart 1: Histogram of Total Score for *Giving Directions*.



In Chart 1, indicating total score of *Giving Directions*, students are clustered towards the 'high' end of the variable, meaning that it is negatively skewed. This shows that more students scored high results in the test maybe due to the test being a little too easy for them.

Table 5.2c: Correlation Coefficient

Correlation score 1 to score 15 with Total Score in *Giving Directions*.

	SCORE
SCORE1	.3232**
SCORE2	.5991**
SCORE3	.4916**
SCORE4	.5379**
SCORE5	.5582**
SCORE6	.6588**
SCORE7	.6200**
SCORE8	.6723**
SCORE9	.6887**
SCORE10	.6977**
SCORE11	.4127**
SCORE12	.2967**
SCORE13	.3179**
SCORE14	.4201**
SCORE15	.5879**

* - Signif. LE .05 ** - Signif. LE .01 (2-tailed)

The (Phi) coefficient is a form of a Pearson coefficient when the data are binary. The above table (5.2c) shows the correlation values between each item and the total score in the first achievement test, *Giving Directions*. All items were found to have significant correlation values with the test as a whole. This shows that they all measure the same thing therefore they are the reliable test.

5.2.1(ii) Naming Features

Naming Features was the second achievement test given to all the participants following the traditional method of teaching. In this study, it was used as a covariant in a later analysis.

Table 5.2d: Response Level of *Naming Features*.

Question	Correct response (Freq.)	%
1	74	93.7
2	76	96.2
3	72	91.1
4	71	89.9
5	64	81.0
6	39	49.4
7	38	48.1
8	33	41.8
9	33	41.8
10	61	77.2
11	53	67.1
12	57	72.2
13	38	48.1
14	62	78.5
15	73	92.4

Question	Correct response (Freq.)	%
16	52	65.8
17	54	68.4
18	48	60.8
19	59	74.7
20	49	62.0
21	42	53.2
22	41	51.9
23	61	77.2
24	64	81.0
25	56	70.9
26	70	88.6
27	73	92.4
28	66	83.5
29	54	68.4
30	65	82.3

Table 5.2d shows the response level (facility) of the sample answering correctly for the second achievement test which needs 30 short responses from the students. It shows that about half of the items in the test had a facility between 0.3 (30%) and 0.7 (70%), the facility that is desirable in any test. All the other items were too easy.

Table 5.2e: Total Score for *Naming Features*.

Value	Frequency	%
4	1	1.3
5	1	1.3
7	2	2.5
9	3	3.8
10	2	2.5
11	1	1.3
12	2	2.5
13	2	2.5
15	1	1.3
16	4	5.1
17	2	2.5
18	4	5.1
19	2	2.5

Value	Frequency	%
20	3	3.8
21	4	5.1
22	4	5.1
23	8	10.1
24	3	3.8
25	6	7.6
26	5	6.3
27	2	2.5
28	3	3.8
29	6	7.6
30	8	10.1
Missing	1	1.3
Total	80	100.0

Table 5.2e shows that the minimum score for *Naming Features* was 4 and the maximum was 30. There was no student who scored lower than 4. However, there were 8 students who managed to score the maximum, 30. The mean for the test score was 21.2.

In Chart 2, indicating total score of *Naming Features*, students are clustered towards the 'high' end of the variable, meaning that it is negatively skewed. This shows that more students scored high results in the test. This test too was rather easy for the students.

Chart 2 Histogram of Total Score of Naming

Features.

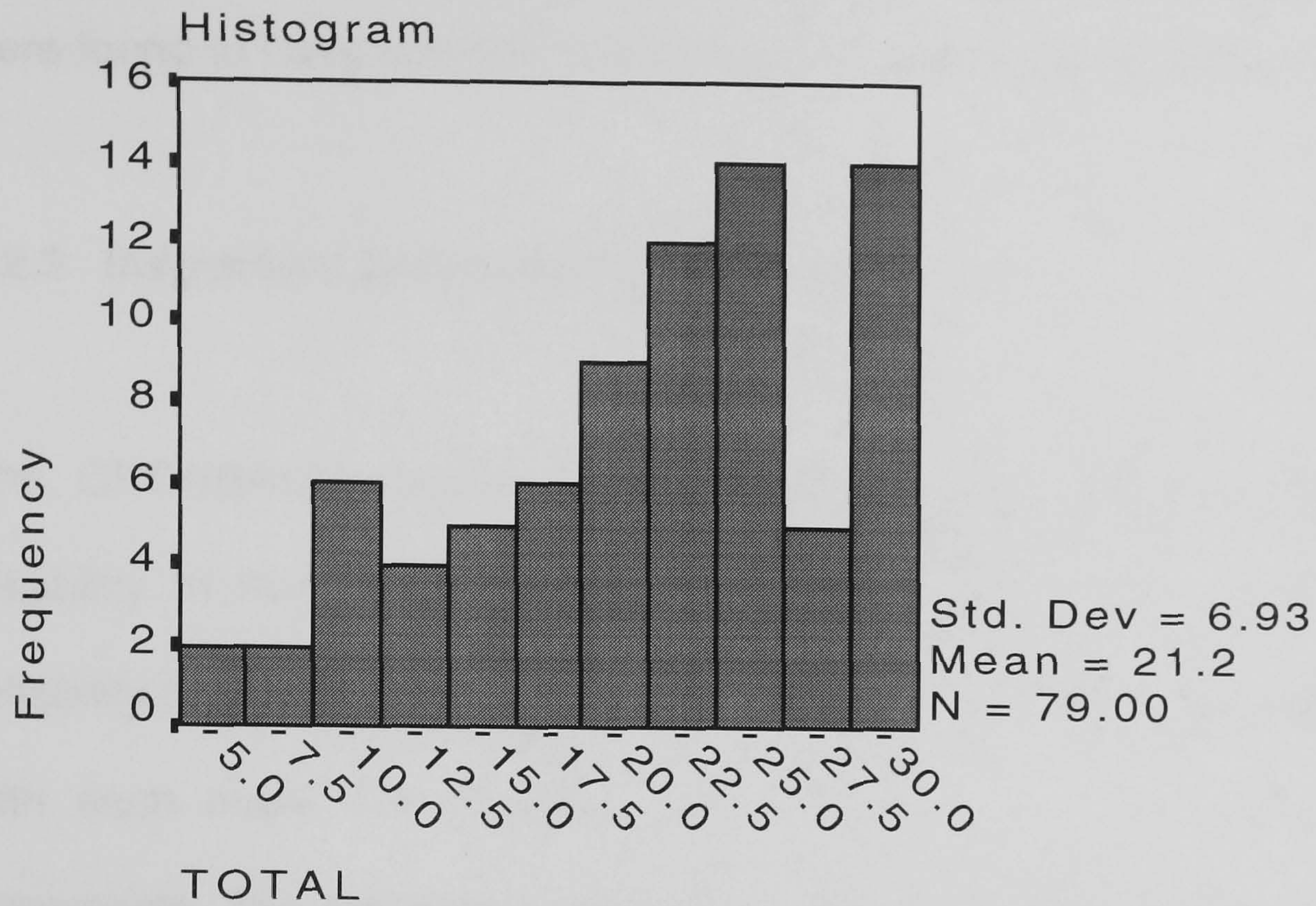


Table 5.2f: Correlation Coefficient.

Correlation score 1 to score 30 with Total Score in Naming Features..

SCORE	TOTAL
Score1	.3921**
Score2	.2843*
Score3	.5453**
Score4	.3260**
Score5	.4819**
Score6	.6355**
Score7	.6518**
Score8	.7219**
Score9	.6958**
Score10	.7423**
Score11	.7937**
Score12	.7141**
Score13	.4774**
Score14	.4574**
Score 15	.5559**

SCORE	TOTAL
Score16	.3724**
Score17	.3586**
Score18	.5001**
Score19	.6373**
Score20	.6691**
Score21	.5977**
Score22	.5893**
Score23	.4662**
Score24	.6319**
Score25	.5638**
Score26	.5758**
Score27	.4727**
Score28	.5128**
Score29	.5661**
Score30	.4219**

* - Signif. LE .05 ** - Signif. LE .01 (2-tailed)

Table 5.2f shows the correlation values between each item and the total score in the second achievement test, *Naming Features*. As shown, all items were found to have significant correlation values with the test as a whole.

5.2.2 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 5.2g shows that the alpha reliability coefficient was 0.92.

Table 5.2g: Instrument Reliability Coefficients.

Post-tests	No. of items	Mean	S.D.	CRONBACH Alpha
Giving Directions	15	9.46	3.59	0.81
Naming Features	30	21.42	7.02	0.92

5.3 Achievement Results

Students were given two post-test achievements in the study. They were *Giving Directions* and *Naming Features*. The results of the tests are presented in Table 5.3a. The table presents composite information, that is information gained by looking at all four treatment groups together.

Table 5.3a: Summary of Post-test Achievement Results for All Groups.

GROUP	1ST TEST GIVING DIRECTIONS		2ND TEST NAMING FEATURES	
	M	SD	M	SD
A1. NON-CALL Male (n=8)	13.37	1.59	28.75	1.48
Female (n=8)	10.37	3.70	24.00	2.67
A2. CALL Male (n=5)	8.00	3.80	28.20	3.03
Female (n=7)	8.00	3.82	22.57	4.96
B. CALL 1ST Male (n=14)	11.07	3.36	23.42	4.79
Female (n=12)	9.58	2.96	23.00	4.86
C. CALL 2ND Male (n=9)	9.77	1.85	13.33	7.31
Female (n=17)	6.26	2.89	14.31	4.54
	(Max. 15)		(Max. 30)	

The means and standard deviations on the two post-tests given to the students in the four treatments which are *Giving Directions* and *Naming Features* are presented in the above table (Table 5.3a). Higher scores indicate better performance or fewer errors.

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 the question, ANOVA was used, with *Naming Features*. To look for interaction between gender and treatment in any of the above, a two-way ANOVA was employed. Other tests were also carried out with achievement results to find out the effective uses of CD-ROMS to teach the listening skill in ESL.

5.3.1 Giving Directions

Table 5.3b: ANOVA: Achievement Test On *Giving Directions*.

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	3	186.3221	62.1074	6.4427	.0006
Within Groups	74	713.3574	9.6400		
Total	77	899.6795			

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 5.3b 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 5.3c: Between Differences Group on *Giving Directions*.

Mean	Group	Group C	Group A2	Group B	Group A1
7.5833	C				
8.0000	A2				
10.3846	B	*	*		
11.8750	A1	*	*		

The table above (5.3c) 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 computer 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. Students in Group B who received computer treatment at the beginning of the lesson, also scored significantly better results than students in 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 computerised instruction only. This is

interesting because students in Group A2 were generally better students in English than students in Group B. (Refer to ability table in Chapter 4).

5.3.1(i) Gender and Treatment Interaction

To find if the score of *Giving Directions* was affected by a pupil's gender and if there was a gender-treatment interaction, a two-way ANOVA was carried out. The two-way ANOVA table as shown below tabulates the F ratios and their associated significance levels for the main effects and the two-way interaction.

Table 5.3d: The two-way ANOVA of Gender-Treatment Interaction for *Giving Directions*.

ANALYSIS OF VARIANCE						
	G.DIRECT	score				
by	GENDER	gender				
	TREATMEN	Treatment				
UNIQUE sums of squares						
All effects entered simultaneously						
Source of Variation		Sum of Squares	DF	Mean Square	F	Sig. of F
Main Effects		280.337	4	70.084	7.570	.000
GENDER		69.146	1	69.146	7.468	.008
TREATMENT		182.348	3	60.783	6.565	.001
2-Way Interactions		29.611	3	9.870	1.066	.369
GENDER TREATMENT		29.611	3	9.870	1.066	.369
Explained		345.300	7	49.329	5.328	.000
Residual		648.084	70	9.258		
Total		993.385	77	12.901		
80 cases were processed.						
2 cases (2.5 pct) were missing.						

The table (5.3d) shows that there were significant main effects for both the gender (.008) and treatment (.001) factors where both factors were significant beyond the 0.01 level. As shown in Table 5.3e, male students (M=10.83 on the post-test *Giving Directions*) scored higher than did female students (M=8.29 on the post-test *Giving Directions*).

Table 5.3e Means and Standard Deviations of Giving Directions for Male and Female Students.

Description of Subpopulations					
Summaries of G.DIRECT score					
By levels of GENDER gender					
Variable	Value Label	Mean	Std Dev	Cases	
For Entire Population		9.4615	3.5918	78	
GENDER	1.00 Male	10.8333	3.1758	36	
GENDER	2.00 Female	8.2857	3.5427	42	

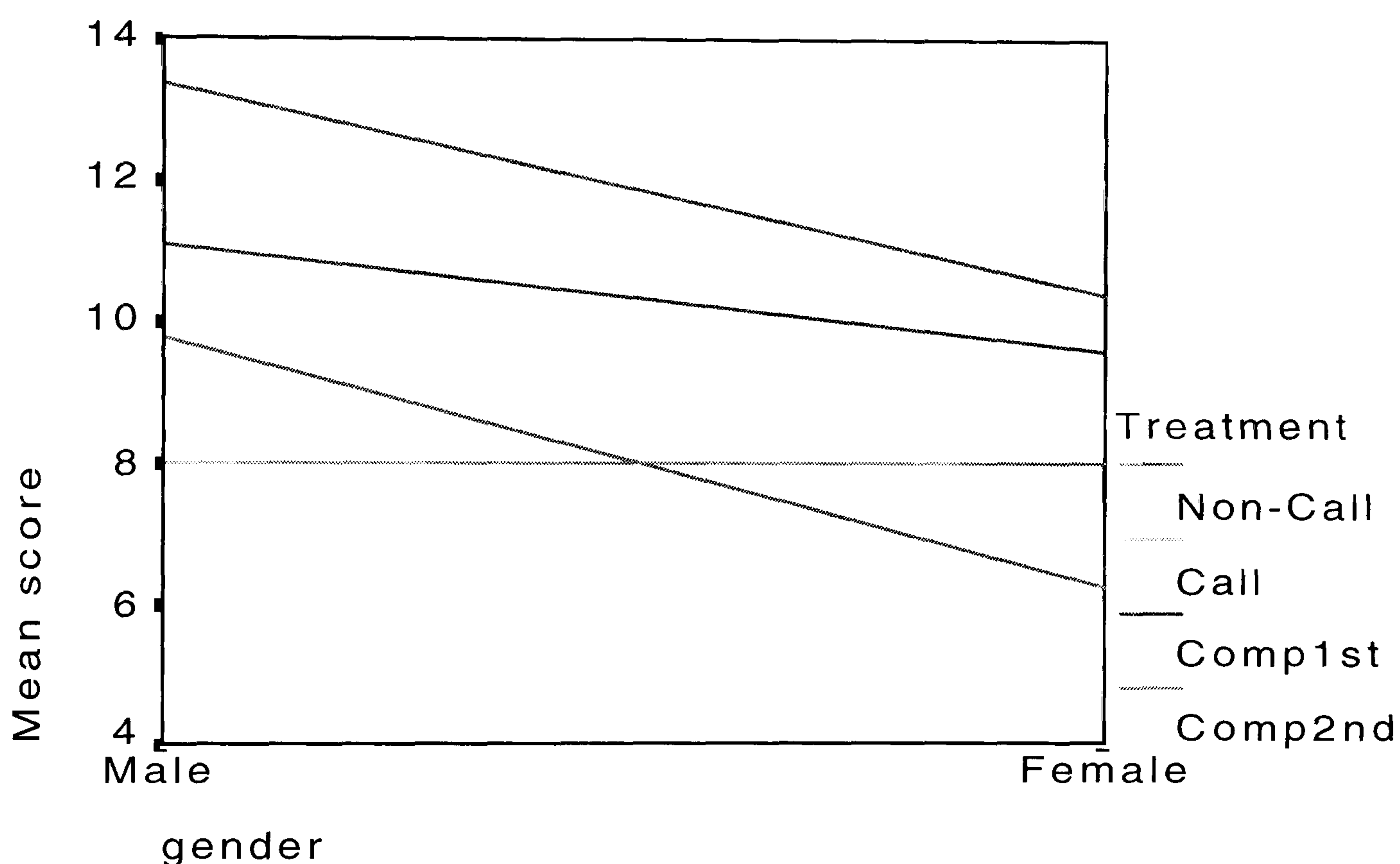
Also, as indicated in Table 5.3f, students in the NON-CALL group (M=11.87) scored higher than the three CALL groups (M=10.38, M=8.00 and M=7.58 for Groups B, A2 and C respectively).

Table 5.3f Means and Standard Deviations of Giving Directions for All Treatment Groups.

Description of Subpopulations - -					
Summaries of G.DIRECT score					
By levels of TREATMEN Treatment					
Variable	Value Label	Mean	Std Dev	Cases	
For Entire Population		9.4615	3.5918	78	
TREATMENT	1.00 Non-Call	11.8750	3.1596	16	
TREATMENT	2.00 Call	8.0000	3.6432	12	
TREATMENT	3.00 Comp1st	10.3846	3.2134	26	
TREATMENT	4.00 Comp2nd	7.5833	3.0491	24	

A between-subjects two-way interaction between gender and treatment as shown in Table 5.3d was not significant. It shows that the treatment factor had no different effects upon male and female students. The graph below shows the no interaction between the two factors. The absence of an interaction can be seen by the lines representing the treatments as remaining more or less parallel to one another (Bryman and Cramer, 1994).

Graph 5.3a: The graph showing the profile of male and female students over the levels of treatments.



5.3.2 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 (ability grouping)? To test the question, ANOVA was used with *Naming Features*.

As shown in table 5.3g below, 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 5.3g: ANOVA: Achievement Test On *Naming Features*.

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	3	1987.0883	662.3628	26.5143	.0000
Within Groups	75	1873.6015	24.9814		
Total	78	3860.6899			

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 5.3h: Between Group Differences on *Naming Features*.

Mean	Group	Group C	Group B	Group A2	Group A1
13.9600	C				
23.2308	B	*			
24.9167	A2	*			
26.3750	A1	*	*		

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.

5.3.2(i) Gender and Treatment Interaction

To find if the score of *Naming Features* was affected by a pupil's gender and if there was a gender-treatment interaction, a two-way ANOVA was carried out.

Table 5.3i: THE two-way ANOVA of Gender-Treatment Interaction for *Naming Features*.

ANALYSIS OF VARIANCE					
NAMING		NAMING			
by GENDER		gender			
TREATMENT		Treatment			
UNIQUE sums of squares					
All effects entered simultaneously					
Source of Variation	Sum of Squares	DF	Mean Square	F	Sig. of F
Main Effects	2176.230	4	544.057	24.972	.000
GENDER	104.848	1	104.848	4.812	.03
TREATMENT	1989.166	3	663.055	30.433	.000
2-Way Interactions	134.015	3	44.672	2.050	.115
GENDER TREATMEN	134.015	3	44.672	2.050	.115
Explained	2201.272	7	314.467	14.434	.000
Residual	1546.880	71	21.787		
Total	3748.152	78	48.053		

Table 5.3i shows that there were significant main effects for both the gender and treatment factors. Male students ($M=22.75$ on the post-test *Naming Features*) scored higher than did female students ($M=19.88$ on the post-test *Naming Features*) as shown in Table 5.3j. A significant effect for treatments means that the *Naming Features* scores differ between treatments where as shown in Table 5.3k, students in the NON-CALL group ($M=26.37$) scored higher than the other three CALL groups ($M=24.91$, $M=23.23$ and $M=13.96$ for Groups A2, B and C respectively). A between-subjects two-way interaction between gender and treatment was not significant (see Table 5.3i). It shows that the treatment factor has no different effects upon male and female students. Graph 5.3b shows the no interaction between the two factors. The absence of an interaction can be seen by the lines representing

the treatments as remaining more or less parallel to one another (Bryman and Cramer, 1994).

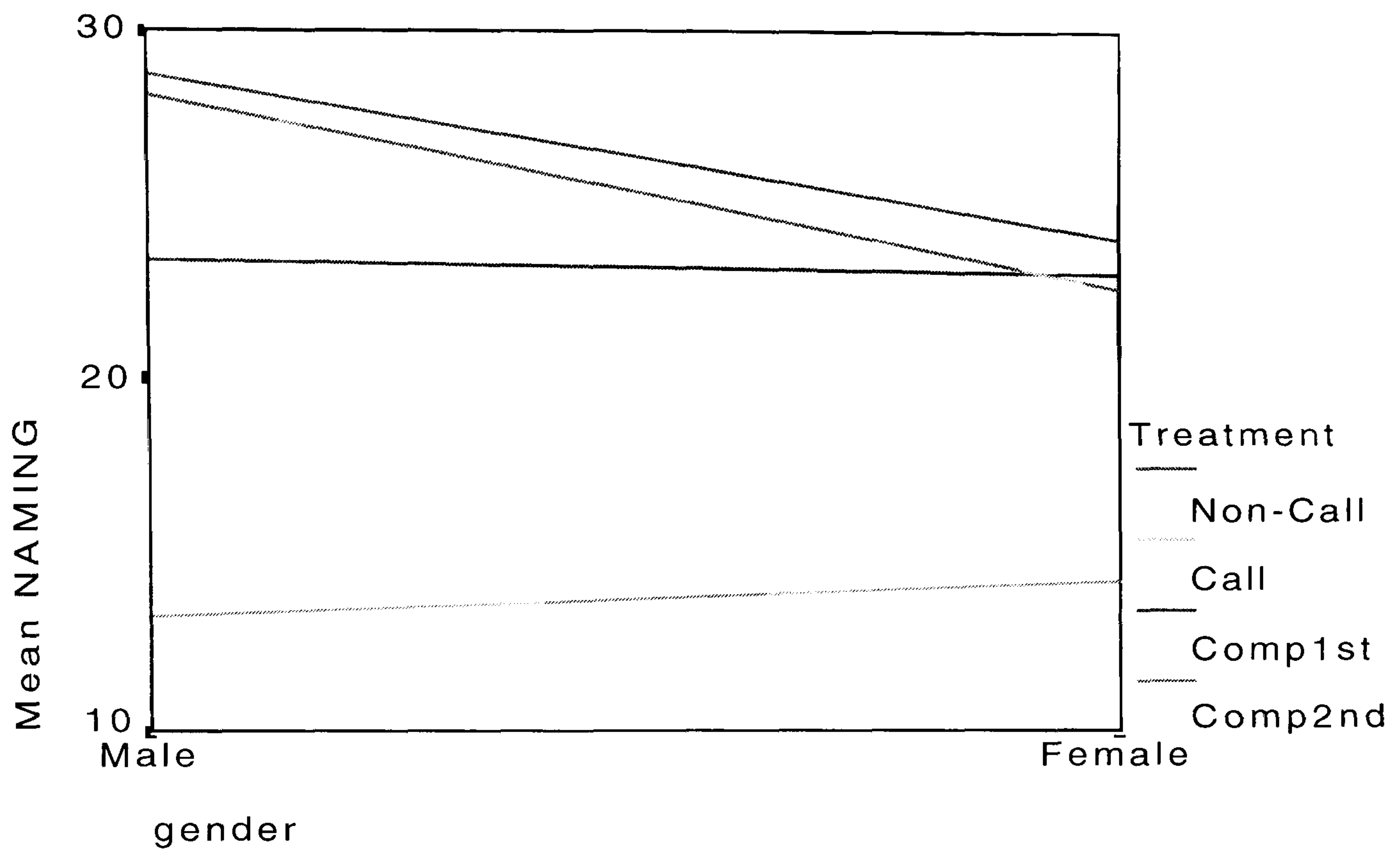
Table 5.3j Means and Standard Deviations of *Naming Features* for Male and Female Students.

Description of Subpopulations - -				
Summaries of By levels of	NAMING GENDER	NAMING gender		
Variable	Value Label	Mean	Std Dev	Cases
For Entire Population		21.1899	6.9320	79
GENDER	1.00 Male	22.7500	7.5984	36
GENDER	2.00 Female	19.8837	6.1070	43
Total Cases = 80				
Missing Cases = 1 or 1.3 Pct				

Table 5.3k Means and Standard Deviations of *Naming Features* for All the Treatment Groups.

Cell Means and Standard Deviations				
Variable .. NAMING FACTOR	NAMING CODE	Mean	Std. Dev.	N
TREATMENT	Non-Call	26.375	3.222	16
TREATMENT	Call	24.917	5.017	12
TREATMENT	Comp1st	23.231	4.735	26
TREATMENT	Comp2nd	13.960	5.564	25
For entire sample		21.190	6.932	79

Graph 5.3b: The graph showing the profile of male and female students over the levels of computer treatments.



5.3.3 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 analysed 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 5.3l, there is a significant relationship between those two achievement tests.

Table 5.3l: Significance of the relationship between the covariate and first achievement test (*Giving Directions*).

Regression analysis for WITHIN CELLS error term					
Individual Univariate .9500 confidence intervals					
Dependent variable .. G.DIRECT score					
COVARIATE	B	Beta	Std. Err.	t-Value	Sig. of t
NAMING	.22047	.42873	.075	2.947	.004
COVARIATE	Lower -95%	CL- Upper			
NAMING	.071	.370			

At .004, the above table (5.3l) 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 5.3m. The table shows that there was a significant treatment effect when *Naming Features* is covaried out (.025).

Table 5.3m: Analysis of covariance table.

Tests of Significance for G.DIRECT using UNIQUE sums of squares					
Source of Variation	SS	DF	MS	F	Sig. of F
WITHIN CELLS	678.91	72	9.43		
REGRESSION	81.86	1	81.86	8.68	.004
TREATMENT	93.78	3	31.26	3.32	.025

Table 5.3n 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).

Table 5.3n: Observed and adjusted means of achievement test, *Giving Directions* in the four treatments.

Adjusted and Estimated Means					
Variable ..	G.DIRECT		score		
CELL	Obs. Mean	Adj. Mean	Est. Mean	Raw Resid.	Std. Resid.
1	11.875	10.922	11.875	.000	.000
2	8.000	7.369	8.000	.000	.000
3	10.385	10.125	10.385	.000	.000
4	7.696	9.539	7.696	.000	.000

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 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.

5.4 Correlation

In order to find out whether there is a significant relationship between achievement and gender, a Correlation Coefficient was used. Separate correlation analyses between scores on the tests, *Giving Directions* and *Naming Features* were conducted for girls and boys.

5.4.1 Achievement (*Giving Directions* and *Naming Features*)

As indicated by the Correlation Coefficient in Table 5.4a, there was no significant correlation between *Giving Directions* and *Naming Features* for the boys. It means that those boys who scored well in *Giving Directions* did not necessarily score well in *Naming Features*.

Table 5.4a: Correlation coefficient between *Giving Directions* and *Naming Features* for Boys.

Variable	N	Correlation Coefficient	Sig.
Giving Directions	36	.3120	NS

For the girls, Table 5.4b shows that there was a significant correlation between those two tests, where the girls who scored well in *Giving Directions* generally also scored well in *Naming Features*.

Table 5.4b: Correlation coefficient between *Giving Directions* and *Naming Features* for Girls.

Variable	N	Correlation Coefficient	Sig.
Giving Directions	41	.5339	S

5.4.2 Cognitive Effects of Students' Computing Background

Students' computing background was analysed to see if it had any effect on the achievement and motivation of the students in the study. When the gender groups were analysed separately it was found that there was a slightly higher percentage of male users than female who had prior computer knowledge as shown in Table 5.4c.

Table 5.4c: Gender Differences in Prior Computer Knowledge.

	Male	Female
Have used Computer	20 (71.4)	24 (68.6)
Have not used computer	8 (28.6)	11 (31.4)
	28 (100)	35 (100)

Male students also used computers more often than female students as shown in Table 5.4d.

Table 5.4d: Gender Differences in Frequent Use of Computers.

	Male	Female
2/3 times	12 (42.9)	20 (57.1)
Quite often	6 (21.4)	9 (25.8)
Many times	9 (32.1)	4 (11.4)
Very many times	1 (3.6)	2 (5.7)
	28 (100)	35 (100).

However, where computer ownership is concerned, Table 5.4e shows that there were more but not significantly more female than male students who owned a computer. To see whether students' computing background or experience make any significant difference in the sexes' attitudes to the computerised instruction that they received, the t-test procedure was employed.

Table 5.4e: Gender Differences in Computer Ownership.

	Male	Female
Own Computer	7 (25)	11(31.4))
Do not own computer	21(75)	24 (68.6)
	28 (100)	35 (100)

5.4.3 Computing Background and Achievement Results

It would be interesting to know whether computing background (prior computer knowledge, computer ownership and frequent use of computers) makes any difference to the achievement of the boys and the girls. In order to find out, independent sample t-tests and correlation coefficients were carried out where appropriate.

5.4.3(i) Female Students

When gender groups were analysed separately, it was found that there was a significant relationship between prior computer knowledge and score on the test *Giving Directions* where female students who had prior computer knowledge performed better than those without prior computer knowledge as shown in Table 5.4f.

Table 5.4f: *Giving Directions.*

Variables	Yes			No			t	Sig.
	N	Mean	SD	N	Mean	SD		
Prior Computer Knowledge	23	8.65	3.25	10	6.10	3.14	2.09	S
Computer Ownership	10	8.50	3.86	23	7.60	3.21	.69	NS

However, computer ownership (Table 5.4f) and frequent use of computers (Table 5.4h) were not significantly related to the achievement of the girls in *Giving Directions*.

Table 5.4g: Naming Features.

Variables	Yes			No			t	Sig.
	N	Mean	SD	N	Mean	SD		
Prior Computer Knowledge	24	20.29	6.79	11	16.00	3.84	1.95	NS
Computer Ownership	11	19.90	4.65	24	18.50	6.97	.61	NS

For the second achievement test, *Naming Features*, Table 5.4g illustrates that no significant difference was recorded between girls with prior computer knowledge and those without. Computer ownership (Table 5.4g) and frequent use computers (Table 5.4h) were also not significantly related to the girls' achievement in *Naming Features*. Because there is no effect for *Naming Features*, the result in Table 5.4f (Prior Computer Knowledge and *Giving Directions*) might be a grouping effect. Further discussion on these results can be found in Chapter 6.

Table 5.4h: Correlation Coefficients between Frequent Use of Computers with Achievement Tests.

Variables	N	Correlation Coefficient	Sig.
Giving Directions	33	.3293	NS
Naming Features	35	.2387	NS

5.4.3(ii) Male Students

For the first achievement test, *Giving Directions*, prior computer knowledge and computer ownership did not reveal any significant relationship for the boys (Table 5.4i).

Table 5.4i: Giving Directions.

Variables	Yes			No			t	Sig.
	N	Mean	SD	N	Mean	SD		
Prior Computer Knowledge	20	10.35	3.39	8	9.50	2.56	.64	NS
Computer Ownership	7	11.57	1.98	21	9.61	3.35	1.45	NS

Table 5.4j: Naming Features.

Variables	Yes			No			t	Sig.
	N	Mean	SD	N	Mean	SD		
Prior Computer Knowledge	20	22.35	7.05	8	17.75	9.02	1.44	NS
Computer Ownership	7	26.85	4.59	21	19.09	7.71	2.5	S

For the second achievement test, *Naming Features*, the t-tests (Table 5.4j) showed that computer ownership relates significantly with it. Those who owned the computers scored better than those who did not. However, prior computer knowledge showed no significant difference with *Naming Features*.

Table 5.4k: Correlation Coefficients between Frequent Use of Computers with Achievement Tests.

Variables	N	Correlation Coefficient	Sig.
Giving Directions	28	.4775	S
Naming Features	28	.4655	S

For the boys, correlation coefficients (Table 5.4k) showed that frequent use of computers correlates significantly with both the achievement tests, *Giving Directions* and *Naming Features*. Generally, the more often the students used the computers, the better they scored in the tests.

As far as gender is concerned, male students performed better than female students in both the achievement tests, *Giving Directions* and *Naming Features*. When separate correlation analyses were conducted between scores on tests, *Giving Directions* and *Naming Features* for male and female students, correlation coefficients have shown that there was no significant relationship between the two achievement tests for male students as shown in Table 5.4a. This means that those males who scored well in *Giving Directions* did not necessarily score well in *Naming Features*.

The same does not apply for female students where as revealed by the correlation coefficients in Table 5.4b, there was a significant correlation between those two tests. This means that the girls who scored well in *Giving Directions* generally also scored well in *Naming Features*.

When computing background and achievement scores were analysed separately for female and male students, it was found that there was a significant relationship between Prior Computer Knowledge and *Giving Directions* for female students. Computer ownership and frequent use of computers however, did not correlate significantly with *Giving Directions* for female students.

Correlation Coefficients and t-tests also revealed that there was no significant relationship between any of the computer background with the second test, *Naming Features* for the female students.

When a test of correlation between computing background and achievement test was conducted for boys, it was found that frequent computer usage correlates significantly with both the achievement tests, *Giving Directions* and *Naming Features*. It means that, generally, the more often the students used computers, the better they scored in the tests. Computer ownership, as shown in the t-test table 5.4j, was found to have significant relationship with *Naming Features* but not with *Giving Directions* for the boys. Prior Computer Knowledge did not correlate significantly with any of the tests for the boys.

5.5 Motivation (IMMS)

The Instructional Materials Motivation Survey (IMMS) taken from Keller (1989) was treated as one of the main dependent measures in the study and was given to the students at the end of the study. The IMMS scores were analysed to find out students' motivation toward the computerised instruction (IMMS). There are four sub-scales within the IMMS: Attention, Confidence, Relevance and Satisfaction.

5.5.1 Scale Internal Reliability

CRONBACH'S Alpha was used to determine the internal consistency of the sub-scales within the IMMS. The reliability of each scale is shown in Table 5.5a. It shows that all scales had significant reliability. The Satisfaction scale had the lowest value; probably acceptable for a scale of only 6 items.

Table 5.5a: Reliability of the Instructional Materials Motivation Survey (n=80).

Scale	No. of Items	Mean	S.D.	Cr. Alpha	Keller's Alpha
Attention	12	47.73	6.11	0.74	.89
Confidence	9	36.73	5.16	0.76	.90
Relevance	9	34.77	4.97	0.68	.81
Satisfaction	6	26.19	3.30	0.62	.92

The reliability of each scale in the Instructional Materials Motivation Survey ranges from 0.62 to 0.76, an acceptable internal reliability. The reliability scores are lower than found by Keller (1989); in that study they ranged from .81 to .96. The difference in the instructional materials used was a possible reason for the difference in the scale reliability. Keller's IMMS used paper-based materials while this study used less familiar computer-based materials. Another possible reason is cultural differences. Keller's IMMS used students in the United States of America while this study used students in Malaysia. Also a time effect maybe possible as students' motivational reactions to instructional materials generally may have become more variable during the last 10 years.

5.5.2 Inter-Scale Correlation

Table 5.5b: Correlation Coefficients Between Scales (N= 71).

	Confidence	Relevance	Satisfaction
Attention	.4743**	.6165**	.6429**
Confidence		.2832*	.5651**
Relevance			.5173**

To see if the scales were inter-related, correlation coefficients were used and the results are shown in Table 5.5b. The table shows that most of the scales were strongly correlated indicating strong associations among all the scales.

5.5.3 Students' Motivation

IMMS was used to find out students' motivation toward the computerised instruction. The responses for each scale in the IMMS questionnaire using data provided by Intensive course students who used the CALL materials are illustrated in tables 5.5c-5.5f. For negative items, the category values have been reversed before they were added into the response total. The tables show the frequencies, means and the standard deviations for each item.

As shown in Table 5.5c, almost all of item means in the scale ATTENTION were greater than the item mid-point (=3.0), except for item 24, *"I learned some things that were surprising or unexpected"*. This could be because some of the students, as in Group C (CALL 2nd) were exposed to the materials in the classroom first, before they did the exercises with computers. To them, the things in the computer might not be surprising or unexpected anymore. Item 15, *"The materials on the screen look dry and uninteresting"* scored the highest mean in the questionnaire as a whole. As explained earlier, this negative statement has been reversed before the responses were added up and shown in Table 5.5c. The students find the

presentation of coloured road maps and routes together with the availability of text on the computer screen both interesting and eye-catching.

Table 5.5c: Descriptive statistics of frequencies, means and standard deviations for the items of the ATTENTION scale.

No	Items	VT=5	MST=4	MDT=3	ST=2	NT=1	M	SD
2	There was something interesting at the beginning of this CD-ROM material that got my attention.	3	14	7	6	0	4.21	1.02
8.	These CD-ROM materials are eye-catching.	39	13	3	2	1	4.50	.88
11.	The quality of the writing helped to hold my attention.	15	23	12	6	2	3.74	1.06
12.	This CD-ROM material is so abstract that it was hard to keep my attention on it (N).	32	11	10	4	1	4.19	1.06
15.	The materials on the screen look dry and uninteresting (N).	44	12	1	0	1	4.69	.68
17.	The way the information is arranged on the screen helped keep my attention.	18	26	10	4	0	4.00	.87
20.	This CD-ROM material has things that stimulated my curiosity.	31	16	6	5	0	4.25	.96
22.	The amount of repetition in this CD-ROM material caused me to get bored sometimes (N).	16	17	9	10	6	3.46	1.34
24.	I learned some things that were surprising or unexpected.	2	8	12	16	20	2.24	1.17
28.	The variety of exercises, illustrations, etc., helped keep my attention on the CD-ROM material.	25	20	7	5	1	4.08	1.03
29.	The style of writing is boring (N).	35	10	7	5	1	4.25	1.08
31.	There are so many words on the screen that it is irritating (N).	46	6	2	4	0	4.62	.85

Continue...

*VT= Very True, MST= Mostly True, MDT= Moderately True, ST= Slightly True, NT= Not True.

M= the mean and SD= standard deviation. N= negative items.

Note 1: For negative items, the category values have been reversed before they were added into the response total.

For the scale CONFIDENCE, table 5.5d shows that all of the item-means were greater than the item mid-point (3.0). The highest mean was for item 19 “*The exercises in this CD-ROM material were too difficult.*” This is again a negative statement which values have been reversed before they were added into the response total. The students are of the opinion that the exercises in this CD-ROM were easy. Some of the students as in Group C (CALL 2nd), were taught Giving Direction using non-computerised instruction first, before they were treated to computer exercises. They were exposed to the similar kind of activities in classroom, so they could have regarded the computer exercises as not that difficult. Another possibility is that since the exercises on the computer screen were equipped with HELP facilities where the students could ask for repetition, for text together with audio and so on, they considered the material as not that difficult.

Table 5.5d: Descriptive statistics of frequencies, means and standard deviations for the items of the CONFIDENCE scale.

No	Items	VT=5	MST=4	MT=3	ST=2	NT=1	M	SD
1.	When I first looked at this CD-ROM material I had the impression that it would be easy for me.	17	18	13	7	3	3.67	1.17
3.	This CD-ROM material was more difficult to understand than I would like for it to be (N).	40	5	10	2	1	4.39	1.00
4.	After reading the introductory information, I felt confident that I knew what I was supposed to learn from this CD-ROM material.	25	16	7	8	2	3.93	1.19
7.	The screen had so much information that it was hard to pick out and remember the important points (N).	23	19	9	5	2	3.96	1.10
13.	As I worked on this CD-ROM material, I was confident that I could learn the content.	19	22	8	9	0	3.87	1.04
19.	The exercises in this CD-ROM material were too difficult (N).	35	14	8	1	0	4.4	.79
25.	After working on this CD-ROM material for a while, I was confident that I would be able to pass a test on it.	17	22	14	5	0	3.87	.93
34.	I could not really understand quite a bit of the material in this CD-ROM material (N).	25	20	9	3	1	4.12	.97
35.	The good organisation of the content helped me be confident that I would learn this CD-ROM material.	27	22	6	3	0	4.25	.84

*VT= Very True, MST= Mostly True, MDT= Moderately True, ST= Slightly True, NT= Not True.

M= the mean and SD= standard deviation. N= negative items.

Note 1: For negative items, the category values have been reversed before they were added into the response total.

Table 5.5e: Descriptive statistics of frequencies, means and standard deviations for the items of the RELEVANCE scale.

No	Items	VT=5	MST=4	MT=3	ST=2	NT=1	M	SD
6.	It is clear to me how the content of this CD-ROM material is related to things I already know.	3	16	12	15	12	2.70	1.22
9.	There were pictures, or examples that showed me how this CD-ROM material could be important to some people.	22	23	7	4	2	4.01	1.05
10.	Completing this CD-ROM material successfully was important to me.	29	16	8	4	1	4.17	1.02
16.	The content of this CD-ROM material is relevant to my interests.	15	25	9	7	2	3.75	1.08
18.	There are explanations or examples of how people use the knowledge in this lesson.	19	24	8	5	2	3.91	1.06
23.	The content and style of writing in this CD-ROM material convey the impression that its content is worth knowing.	24	20	7	7	0	4.05	1.01
26.	This lesson was not relevant to my needs because I already knew most of it (N).	46	5	2	3	2	4.55	1.02
30.	I could relate the content of this CD-ROM material to things I have seen, done, or thought about in my life.	19	16	14	8	1	3.75	1.11
33.	The content of this CD-ROM material will be useful to me.	28	18	8	4	0	4.20	.93

*VT= Very True, MST= Mostly True, MDT= Moderately True, ST= Slightly True, NT= Not True,

M= the mean and SD= standard deviation. N= negative items.

Note 1: For negative items, the category values have been reversed before they were added into the response total.

As in the scale ATTENTION, almost all of the item-means in the scale RELEVANCE also were greater than the item mid-point (3.0). Only item 6 “/t

is clear to me how the content of this CD-ROM material is related to things I already know” did not achieve the item mid-point. The reason could be that the students were not yet exposed to the material before they did the exercises with computers as in the case of Groups A2 (CALL only) and B (CALL 1st). Only Group C students (CALL 2nd) were exposed to the material related to the topic first before they did the exercises with the computers.

Table 5.5f: Descriptive statistics of frequencies, means and standard deviations for the items of the SATISFACTION scale.

No	Items	VT=5	MST=4	MT=3	ST=2	NT=1	M	SD
5.	Completing the exercises in this CD-ROM material gave me a satisfying feeling of accomplishment.	27	18	7	4	2	4.10	1.08
14.	I enjoyed this CD-ROM material so much that I would like to know more about it.	42	7	6	1	2	4.48	.99
21.	I really enjoyed studying this CD-ROM material.	36	18	3	1	0	4.53	.68
27.	The wording of feedback after the exercises, or of other comments in this CD-ROM material helped me feel rewarded for my effort.	28	18	7	2	3	4.13	1.09
32.	It felt good to successfully complete this CD-ROM material.	35	13	5	2	3	4.29	1.10
36.	It was a pleasure to work on such a well-designed CD-ROM material.	44	8	4	1	1	4.60	.83

*VT= Very True, MST= Mostly True, MDT= Moderately True, ST= Slightly True, NT= Not True,

M= the mean and SD= standard deviation. N= negative items.

Note 1: For negative items, the category values have been reversed before they were added into the response total.

Table 5.5f illustrates that all of the item means of the scale SATISFACTION were greater than the item mid-point. The highest mean was for item 36 *“It was a pleasure to work on such a well-designed CD-ROM material.”* The CD-ROM material used by the students which were equipped with audio, coloured graphics, HELP facilities where the students could ask for the repetition of the spoken text as often as they wanted, the availability of text to enhance understanding, the different types of exercises available and immediate feedback to their responses could have contributed to the high rating received by item 36.

Tables 5.5c-5.5f show the item-means for the IMMS questionnaire. The scores of more than 3.00 for the item indicate strong positive motivation toward computerised instruction. Most of the items scored higher than 3 showing that the students are motivated toward the computerised instruction given to them. Item 15 showed the most favourable response from the students. It concerns students’ attention.

Table 5.5g: Mean Score Per Item.

Variable	Mean	No. of Questions	Mean per item
SATISFACTION	26.16	6	4.36
RELEVANCE	35.14	9	3.90
CONFIDENCE	36.53	9	4.06
ATTENTION	48.26	12	4.02

For the mean score per item (Table 5.5g), it seems that all the means are above the mid-point means where for Satisfaction, it is 4.36. The score of

4.36 was greater than the item mid-point mean, which was 3.0 and thus the score of 4.36 indicates strong positive motivation toward the computerised instruction. For Relevance, the score of 3.90 was also greater than the item mid point-mean and for Confidence, the score of 4.06 was also greater than the item mid-point mean. The scale Satisfaction received the most positive rating from the students.

5.5.4 Student Differences in Motivation

Analysis of variance was used to find whether there were differences among the students of the different treatment groups in terms of their motivation towards the instructional materials, in this case the use of CD-ROMS to teach listening skills. Motivation refers to all the four scales of IMMS. ANOVA is used to test the hypothesis that the several population means are equal. The results are tabulated in Table 5.5h.

Because $p > 0.05$ for the tests of the hypotheses, the questionnaire revealed that there is no significant difference in any of the scales in the IMMS between the groups. Differences in students' motivation towards the computerised instruction between the groups are not significant.

Table 5.5h: ANOVA: Students' Motivation towards the IMMS.

IMMS	Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Attention	Between groups	2	43.24	21.62	.54	.58
	Within groups	55	2193.87	39.88		
	Total	57	2237.12			
Confidence	Between groups	2	168.55	84.27	3.07	.05
	Within groups	55	1509.87	27.45		
	Total	57	1678.43			
Relevance	Between groups	2	39.79	19.89	.81	.44
	Within groups	55	1337.10	24.31		
	Total	57	1376.89			
Satisfaction	Between groups	2	46.44	23.22	1.99	.14
	Within groups	55	641.15	11.65		
	Total	57	687.60			

5.6 Students' Computing Experience and Motivation

The analysis revealed that students were positively motivated toward the computerised instruction. However, the results also revealed that the difference in the students' motivation towards the medium of instruction between the treatment groups was not significant. As such, it would be interesting to find out if any relationships exist at all between students' different computing experience and the four scales of IMMS.

In order to see whether computing background has any effect on the students four scales of IMMS, correlation analyses and t-tests between computing experience and the four scales of IMMS were conducted.

Table 5.6a: Computing Background and The Four Scales of IMMS

IMMS	Variables	Yes			No			tSig.	
		N	Mean	SD	N	Mean	SD		
Attention	Prior Computer Knowledge	38	48.34	6.52	19	48.63	5.55	-.17	NS
	Comp. Ownership	16	48.93	6.45	41	48.24	6.12	.38	NS
Confidence	Prior Computer Knowledge	38	37.42	4.53	19	35.26	6.52	1.46	NS
	Comp. Ownership	16	39.06	4.37	41	35.78	5.4	2.16	S
Relevance	Prior Computer Knowledge	38	35.10	4.67	19	35.84	4.78	-.56	NS
	Comp. Ownership	16	35.06	5.14	41	35.46	4.55	-.29	NS
Satisfaction	Prior Computer Knowledge	38	26.42	3.71	19	25.84	2.94	.59	NS
	Comp. Ownership	16	27.18	2.78	41	25.85	3.65	1.32	NS

Table 5.6a revealed that no significant relationship was recorded between computing background (prior computer knowledge and computer ownership) and all the scales in the IMMS except for Computer Ownership and the Confidence Scale. The correlation coefficient (5.6b) shows that there was also no significant relationship between students' frequent use of computers and the four scales of IMMS. These two tables (5.6a and 5.6b) indicate lack of significant relationships between students' computer background and their motivation scores on the four scales of IMMS.

Table 5.6b: Correlation Coefficient between Frequent Use of Computers and the Four Scales of IMMS.

Variable	N	Correlation Coefficient	Sig.
Attention	57	-.1926	NS
Confidence	57	.1557	NS
Relevance	57	-.0084	NS
Satisfaction	57	-.1569	NS

5.6.1 Gender Differences and Motivation

Table 5.6c: Gender Differences in the Four Scales of IMMS.

IMMS Variable	Male			Female			t	Sig.
	N	Mean	SD	N	Mean	SD		
Attention	24	48.41	6.70	34	48.15	6.03	.16	NS
Confidence	24	36.87	4.98	34	36.29	5.78	.40	NS
Relevance	24	34.87	4.54	34	35.32	5.22	-.34	NS
Satisfaction	24	25.58	3.82	34	26.55	3.20	-1.05	NS

The above t-test shows that there was no significant difference between male and female students in their motivation toward the computerised instruction.

5.6.2 Achievement and Motivation

Correlation analyses were conducted to see the relationship between certain variables in the study. To see if there is any relationship between students' achievement and their motivation towards the medium of instruction, Pearson Correlation was used.

Table 5.6d: Correlation Coefficients between the Four Scales of IMMS and *Giving Directions*.

Variables	N	Correlation Coefficient	Sig.
Attention	56	-.0166	NS
Confidence	56	.3027	NS
Relevance	56	.0884	NS
Satisfaction	56	.0466	NS

Pearson correlation analysis (Tables 5.6d and Table 5.6e) did not reveal a significant relationship between the four scales of IMMS and students' achievement in *Giving Directions* and *Naming Features*. It means that there was no significant relationship between students' motivation and their scores in the achievement tests.

Table 5.6e: Correlation Coefficients between the Four Scales of IMMS and *Naming Features*.

Variables	N	Correlation Coefficient	Sig.
Attention	57	.0480	NS
Confidence	57	.2367	NS
Relevance	57	.0973	NS
Satisfaction	57	.0796	NS

5.6.3 Separate Correlation Analyses between Motivation and Achievements for Female and Male Students

Separate correlation analyses between achievement and motivation were conducted for female and male students.

Table 5.6f: Motivation and Giving Directions (Male students).

Variables	N	Correlation Coefficient	Sig.
Attention	24	.0083	NS
Confidence	24	.2167	NS
Relevance	24	-.1501	NS
Satisfaction	24	-.1935	NS

For the males, Pearson Correlation analysis (Table 5.6f and Table 5.6g) did not reveal a significant relationship between achievement in *Giving Directions* and *Naming Features* and the four scales of IMMS.

Table 5.6g: Motivation and Naming Features (Male students).

Variables	N	Correlation Coefficient	Sig.
Attention	24	.0967	NS
Confidence	24	.2167	NS
Relevance	24	.2690	NS
Satisfaction	24	.0172	NS

Table 5.6h: Motivation and Giving Directions (Female students).

Variables	N	Correlation Coefficient	Sig.
Attention	32	-.0493	NS
Confidence	32	.3846	NS
Relevance	32	-.0061	NS
Satisfaction	32	.2216	NS

For the females also there was no relationship found between the four scales of IMMS and achievement tests as shown in Table 5.6h and Table 5.6i. This rather confirms the results shown in Table 5.6c.

Table 5.6i: Motivation and Naming Features (Female students).

Variables	N	Correlation Coefficient	Sig.
Attention	33	-.0027	NS
Confidence	33	.2224	NS
Relevance	33	-.0225	NS
Satisfaction	33	.2189	NS

5.7 Summary

This chapter described the analysis carried out on the three main dependent measures of the study, achievement scores, students' computer background scores and Instructional Materials Motivation Survey (IMMS) scores. ANOVA, t-tests, and correlation coefficients were used where appropriate to perform statistical tests corresponding to the research questions of the study (Chapter 4).

The analysis revealed that where achievement scores were concerned, there was a significant relationship between *Giving Directions* and the treatment groups. There was also a significant relationship between *Naming Features* and the ability grouping which means that students in better groups performed better in the achievement test. In order to find out whether the computer treatments make any significant difference in students' achievement, *Naming Features* was used as a covariate. As indicated in the

Analysis of Covariance, there was a significant treatment effect when *Naming Features* was covaried out (.025). In the Observed and Adjusted Means table, the data showed that Treatment 1 which used no computer at all scored the highest in the achievement tests, *Naming Features* and *Giving Directions* followed by Treatment 3 students who used CD-ROM materials as a supplement at the beginning of the lesson. Treatment 4 students who used the CD-ROM as a supplement at the end of the lesson scored the third and the last position went to Treatment 2 students who used the materials as a teacher replacement.

The results also showed interesting effects for gender. Where achievement was concerned, there was a significant difference between male and female students. Male students demonstrated higher achievement on both post-tests, *Giving Directions* and *Naming Features*. However, when gender groups were analysed separately, correlation coefficients showed that there was no significant correlation between *Giving Directions* and *Naming Features* for the boys, meaning that those boys who scored well in *Giving Directions* did not necessarily score well in *Naming Features*. For the girls, there was a significant correlation between those two tests. It means that the girls who scored well in *Giving Directions* generally also scored well in *Naming Features*.

When gender groups were analysed separately, only one variable of the computing background, Prior Computer Knowledge, correlated significantly with *Giving Directions* for the females. For the male students, Frequent Use

of Computers correlated significantly with both tests, *Giving Directions* and *Naming Features*.

The data supplied by students from Groups A2, B and C showed strong positive motivational reactions to the computerised instruction that they received. The four scales, Attention, Relevance, Confidence and Satisfaction (ARCS), had reliability values of 0.74, 0.68, 0.76 and 0.62 respectively. All the scales also received positive rating from the students with Satisfaction scale emerging as the winner with the mean score per item of 4.36. However, differences in students' motivational reactions (four scales) to computerised instruction between the groups were not significant. There was also no significant difference between male and female students in their motivational reactions to computerised instruction.

The analysis also revealed that no significant relationship was recorded between computing background and all the scales in the IMMS except for Computer Ownership and the Confidence Scale. No significant correlation between motivation measures and post-test scores however were found for either male or female students.

A discussion of findings and their significance follows in the next chapter.

CHAPTER SIX

DISCUSSION OF RESULTS

6.0 Introduction

The experimental research carried out to investigate the effective uses of two typical examples of CD-ROM based software which allows the learner to make use of a combination of text, video and audio, to teach certain topics in listening skill in English as a second language has revealed that to a certain degree, the way a computer is used can make a difference to the students' achievement. The study also revealed the effectiveness of using the ordinary or non-computerised instruction in teaching certain topics in the Listening skill in ESL.

The detailed findings of the study have been reported in Chapter Five of this dissertation. The purpose of this chapter is to summarise the findings obtained from the achievement scores, IMMS scores and the students' computer background data in order to draw some conclusions that will form the basis for continued work in this area.

Before the chapter proceeds with the discussion of results, it would be useful to summarise the principal characteristics of the experimental study carried out. They are:

- It was certainly ambitious in that several variables were studied.

- It took place under less than ideal conditions for experimentation; for example it was quasi-experimental and with marked differences between the groups.
- It was not possible to interview the students.
- Only one teaching style was used in the experiment.
- Only one institution was used.
- The study was conducted over a limited duration of time.
- The participants were not a normal student group.
- The students were regarded as motivated students.
- Due to the difficulty in getting the right time to teach the class, students had to have extra time for this experiment. This could have been a burden to them and hence may have hindered them from performing at their best.

Because the study was small scale, results were difficult to interpret because of confounding variables: gender, computer-use and so on. Small group sizes and lack of variety in CD-ROM materials and teaching style restrict the extent to which results may be generalised to other situations. Having given the characteristics and background of the study that indicate significant caveats, it would now seem appropriate to continue with the discussion of results.

6.1 Discussion of Results

Eighty students in the Intensive English course at KUSZA, one of the higher education institutions in Malaysia, participated in this study. The Intensive English course was not a 'standard' college course. The students who were placed prior to the study by KUSZA into three groups based on their SPM trial exam score were given four different treatments during the study. 63 participants in the experimental groups were given IMMS and computer background questionnaires. The results of the study are discussed according to the sequence of the research questions which are:

1. to find out if there is a significant relationship between students' achievement and the different types of treatments;
2. to find out if there is a significant relationship between students' achievement and their ability in the language (initial grouping);
3. to measure students' motivational reactions to instructional materials (IMMS);
4. to find out if there is a significant relationship between students' motivational reactions to instructional materials and the different types of treatments;
5. to examine students' computer experience;
6. to find out if there is a significant relationship between students' computer experience and their motivational reactions to instructional materials;

7. to find out if there is a significant correlation between students' achievement and their motivational reactions to instructional materials; and
8. to find out if there is a gender-treatment interaction in any the above.

6.1.1 Achievement Scores

The achievement scores in the study were taken from two post-tests achievement given to the students. They are *Giving Directions* and *Naming Features*. *Giving Directions* as explained in Chapter 4 was given after the students in three groups were given the computer treatment. *Naming Features* was given after the students were given non-computerised treatment. The reliability coefficient in *Giving Directions* was 0.81 and in *Naming Features*, the alpha reliability coefficient was 0.92. These values are acceptable for short (30 item) cognitive tests.

ANOVA (Table 5.3b) which was used to see if there were any differences among the students of the different treatment groups in terms of their achievements has revealed that for *Giving Directions*, there was a significant difference between the students' achievement with the treatment given.

To find out which group was different, a between differences group test was carried out. As shown in Table 5.3c, Group A1 (non-computerised instruction) and Group B (CALL first) were significantly different from

students of Groups A2 (CALL only) and C (CALL second). Groups A1 and B scored better results than Groups C and A2.

To find out whether this difference in achievement is due to treatments given or a consequence of prior grouping by ability, the scores of *Naming Features* were analysed. ANOVA was used to find out if there were any differences among the students of the different ability groups in terms of their achievements. ANOVA (Table 5.3g) has revealed that for *Naming Features*, there was a very strong relationship between students' achievement with the ability groups they were placed in. As expected, students in better groups performed better than the lower groups.

A between group differences (Table 5.3h) has shown that Groups A1, A2 and B were all significantly different from Group C. Group C received the lowest score in the test. Group A1, which scored the highest result in *Naming Features* was also found to be significantly different from Group B. This 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 followed by Group B.

To correct for between group differences in the CALL-based experimental work, a covariant was included. The scores of *Naming Features* were covaried out to find out whether there is a difference in achievement between the treatment groups. When Group Ability was covaried out by using *Naming Features* scores, as shown in Table 5.3m, there was a significant treatment

effect (.025). Table 5.3n shows that, controlling for *Naming Features* has little effect on the mean for 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 the students who received CALL 2nd. did better than those who received CALL only. The use of covariance technique was significant for this study because it helps to indicate one variable (study sequence) determining the effective use of computerised instruction in teaching the listening skill in ESL.

The different achievement of treatment groups could be attributed to all or any one of several reasons. Students ability, similarity of treatment condition materials with the post-test materials and the different time of use of computers during the lesson are some them. Certain confounding variables such as lack of self-directed learning and lack of familiarity with the use of computers that affect one group could also affect other groups. Taking these factors into considerations, the achievement of each treatment group is discussed.

6.1.1(i) Non-Computerised Instruction

In this experimental study, the study of between treatment group differences after analysis of covariance had corrected initial differences between the groups (see Table 5.3m) revealed that students receiving non-computerised instruction performed the best in the achievement test, *Giving Directions*.

This achievement could be attributed to all or any one of several reasons. One of them is the similarity of the lesson that the students received with the way the achievement test was conducted. During the lesson, students in the non-computerised instruction treatment were exposed to paper-based exercises by listening to the audio-tape for instructions. In the test, they also had to do a paper-based test, by listening to the audio-tape. Students may have become accustomed to receiving instructions through audio-tape and responding by writing the answers down on papers during the lesson and continued such behaviour during the post-test. They did not have to adjust much to the condition during the test. Their familiarity with the way the test was conducted helped the students in the non-computerised instruction to perform well in the test.

Another reason could be that they were already good ability students where no matter what treatment was given to them, they still came out the best. Another reason for the results showing non-computerised students scored the best may be the time allowed for the students to study the material. As shown, students' scores on the post-tests were very high indicating a degree of over-learning. That is all students in the non-computerised instruction were allowed time to master the materials.

6.1.1(ii) Computerised Instruction as a Supplement at the Beginning of the Lesson

Various studies have been carried out on the use of computers as a supplement to the language instruction. These studies have shown that computer use is effective if used as a supplement, and many have suggested that computer-based language lessons can be a valuable supplement to traditional language-learning techniques (Jakobsdottir and Hooper, 1996). However, the researcher could not find a single study of whether computer software use as a supplement is more effective at the beginning of the lesson or at the end of it. It seems that no one has studied the assumption that it is pedagogically more appropriate for language teachers to present the routine material first in a conventional classroom presentation and then use the CALL material to reinforce it for the learner.

The question of when CALL material is introduced in the lesson is particularly important in the teaching of the listening skill because as has been practised by many teachers, there are usually three stages in the exercises done with the students (see Chapter 3). The first part is the pre-listening stage, followed by while-listening and lastly the post-listening. The use of computers at the beginning of the lesson is seen as giving the students some pre-listening activities combined with the while-listening activities. These pre-listening activities are regarded as important because they will influence the rest of the learning. For the above reasons this study tried to investigate whether there is a difference in the achievements of the students receiving treatments at different times in the lessons.

The results of the study indicate that using computers as a Supplement at the beginning of the lesson facilitates the acquisition of listening skills during second language instruction. When CALL supplementary materials were used at the beginning of the lesson, students scored higher on the post-test than when the same materials were given at the end of the lesson. The students' achievement could be attributed to the fact that the computerised instruction was done at the beginning of the lesson, where the students were not yet exposed to the lesson hence they did not know what to expect from the CD-ROMS. As observed, they enjoyed doing the exercises on computers and this enjoyment contributed to their success. As stated by Adamson (1996), enjoyment and relaxation greatly enhance learning.

The finding could also be attributed to the pre-listening activities provided by the CD-ROM materials. The activities were presented in the form of examples with the use of coloured road maps and this would help trigger the interest of the students. As explained earlier, pre-listening activities are regarded as important because they influence the rest of the learning. As was found in this study, using computer based material to help do the first and second stages or pre-listening and while-listening activities helped the students to score better in their achievement tests than having these two activities done in the ordinary classroom instruction.

Many studies have highlighted the importance of the first stage activity which is used among others, to help arouse curiosity or trigger the students' interest in learning the subject matter (Underwood, 1989, Chambers, 1996).

When it is done by the computer, with the help of audio, colourful pictures and text, as has been shown in this study, it helps trigger the students' interest further.

The second stage is the while-listening activities. The while-listening activities provided by the CD-ROMs in this study contain many interesting features for example the repeat facility where the students could ask for the question or description to be repeated as many times as they wished and also the text facility where the students could ask for the sentence to be shown in text. These are some of the attractive features provided to the students for their while-listening activities that could have motivated students to continue using the materials throughout the lesson.

The first and second set of activities required in teaching listening seem to be better done by the computers rather than by ordinary classroom instruction. As highlighted by Warschauer and Healey (1998), although much of what is done at the computer can be done in other ways, some activities are far more productive with the resources that the computer can bring to bear.

The use of ordinary instruction after the computerised instruction as in Treatment 3, could have played the role of the third stage activity where the class was handled by the teacher. Any problem that the students had regarding the computer lesson was shared with the teacher during the ordinary instruction.

6.1.1(iii) Computerised Instruction at the End of the Lesson

Students receiving computerised treatment at the end of the lesson generally scored lower in their achievement tests than the students receiving computerised treatment at the beginning of the lesson. Among other reasons, their failure could be attributed to the order of the lesson, where it was used at the end of the lesson. Even though the end of the lesson was on another day, the students could easily predict the content of the lesson having been introduced to it earlier. This could have reduced their curiosity to study the computerised material.

6.1.1(iv) Computerised Instruction as a Replacement

In this experimental study, it has been shown that students receiving only computerised instruction performed the worst in the achievement test. The students' failure in this treatment group to do well in the achievement test could be attributed to the way the treatment was carried out. These students received computerised instruction only and they were left on their own to do the exercises on the computers. The sense of being left alone could have hindered them from performing well. These students had just finished their secondary school where during their school days, they were never or seldom left to do work on their own and then to be tested after that. Usually they were assisted by teachers and some people even claim that in fact, the students were spoon fed with information by the teachers. According to this view, when they were left to do work on their own and then tested, it took its

toll on them. They were not used to this “Autonomous” thing. As a result, computerised instruction as a teacher replacement failed. The failure was not of the medium but of its inappropriateness for students at a particular stage when they were not accustomed to self-directed learning.

This result supports the argument made by Kulik et al. (1983) that total reliance on computers as a replacement for the teacher is not a practical nor an effective strategy for computer-based instruction. Even though the same CD-ROMS with interesting features were provided for all the students, the sense of being left alone may have hindered the CALL only group from scoring well in the achievement tests. This shows that leaving students to deal with their own tasks, without prior training in self-directed learning, even with high achievers, failed. The students might still need teachers to help them. Further research needs to be carried out to see if computer as a replacement would work if the students are trained to work autonomously.

As suggested by Dickinson (1992), Cotterall (1995), Jones (1995) and Widdowson (1996), learners should be as autonomous as possible and should take responsibility by setting their own goals, planning practice opportunities or assessing their own progress. These suggestions show that it is necessary to help students move from reliance on the teacher to a state of being autonomous or self-directed.

Another reason could be their lack of exposure to the machinery, software and peripherals of CALL where as stressed by Olson (1988) this exposure is

important because it will increase students' 'comfort level' until a certain proficiency level, commonly a student's ability to use computer software without the teacher's help, is reached. It is known that practice is paramount and without a lot of practice with the computers and self-directed learning, the learning outcomes will not be as great as in traditional classes as was the case here.

6.2 Participants' Motivational Reactions to Instructional Materials

The IMMS questionnaire, taken from Keller (1989) involved 36 items which were used to measure students' motivational reactions to instructional materials. There are four sub-scales within the IMMS: Attention, Relevance, Confidence and Satisfaction (ARCS).

As shown in tables 5.5c to 5.5f, 34 of the 36 item-means were greater than item mid-point indicating strongly positive (favourable) motivational reactions to instructional materials among the participants. This finding seems to agree with the report made by De Felix et al. (1990), that ESL students in a fourth grade class were motivated by the use of interactive videodisc experience. The present findings also lend and extend empirical support to the conclusions reached by earlier researchers (Brady, 1990 and Phinney & Mathis, 1990) that students have positive attitudes about computer technology being used in the classroom and that such technology does have a positive impact.

Generally, it has also been reported that students tend to like using computers (Warschauer & Healey, 1998). In this study, all the item-means in the four scales of the IMMS questionnaire were greater than the item mid-point except for items 24 and 6. Item 24, "I learned some things that were surprising or unexpected" was lower than the item mid-point possibly because students in Group C, who received computer treatment at the end

of the lesson had been introduced to the topic earlier, in a non-computerised treatment, hence a possible for this item not to receive higher rating.

Before the start of the course, the students were regarded as motivated for other reasons. One of the reasons was they had to pay a certain fee to join the course. Not only did they have to pay a fee, they also had to sacrifice their holidays since the course was done during school holidays. Only motivated students would go through all this. Further more, the ability to pay could have indicated that the students could have come from higher socio-economic groups and this could have implications for their attitude and motivation. In a study by Burstall (1970), students with professional and clerical parental occupation were found to have a more positive attitude toward learning French in the primary school than those with semi-skilled and unskilled parental occupation. We have to recognise this quality of the students when making generalisations to other groups.

Table 5.5g shows the mean score per item where all the scales have means which are above the mid-point. The scale Satisfaction received the most positive rating from the students which was 4.36. The highest mean for the Satisfaction scale was for item 36 "It was a pleasure to work on such a well-designed CD-ROM material". It seems that the students were very satisfied with the CD-ROM material which was equipped with audio, colourful visuals and texts. Blomeyer (1985) and Lazano (1985) found that students tend to demonstrate a more positive attitude toward CALL materials written by their own instructors. In this study, the materials for CALL were taken from the

commercially available materials. So, it can be deduced that it is NOT necessary for teachers or the institution always to prepare their own material. After careful selection, cheap and easily available commercial materials which fulfil the suggestions outlined by Bourne (1996) (see Chapter 4) may suffice.

Table 5.5h has shown that there is no significant difference in any of the scales in the IMMS between the groups. Differences in students' motivational reactions to instructional materials between the groups are not significant.

6.3 Students' Computer Background

63 students in this study who were treated with computerised instruction were given a questionnaire requesting their details. This questionnaire was used to investigate students' computer experience. The analyses indicated that more than half of the students in this study had some form of computer experience as shown in Table 5.1a.

When the gender groups were analysed separately it was found that there was a higher percentage of male users than female who have prior computer knowledge and who make frequent use of computers as shown in Table 5.4c and Table 5.4d. This finding seems to agree with the observation made by Krendl, Broihier, & Fleetwood, (1989) and Sutton, (1991) that boys tend to use computers more than do girls. However, where computer ownership is

concerned, Table 5.4e shows that there were more female than male students who owned the computers although not to a significant degree.

6.4 Relationships between Variables:

6.4.1 Gender and Achievement Scores

As far as gender is concerned, male students performed better than female students in both the achievement tests, *Giving Directions* and *Naming Features*. This finding seems to contradict Jakobsdottir and Hooper's (1995) finding where, in their studies on the effects of Text, Context, and Gender on Listening Comprehension and Motivation using CALL, they found that girls demonstrated higher achievement on both the immediate and the delayed post-tests than boys.

One explanation for the achievement findings is that there were more less able female students who joined the Intensive course than male students, language wise. The number of female students who scored C7 and below in the SPM Trial Exam was greater than that of male students (see Chapter 4, Table 2).

When separate correlation analyses were conducted between scores on tests, *Giving Directions* and *Naming Features* for male and female students, correlation coefficients (Table 5.4a) have shown that there was no significant relationship between the two achievement tests for boys. This means that

those boys who scored well in *Giving Directions* did not necessarily score well in *Naming Features*.

A possible explanation for this non-significant relationship between *Giving Directions* and *Naming Features* for the boys is the difference in the way the two topics were taught. *Giving Directions* was taught using computerised instruction and *Naming Features* using non-computerised instruction. The way the topics was taught could have affected the achievement of the boys differently. Some male students could have responded more positively to computerised instruction and others to non-computerised instruction.

However, for female students, there was a significant correlation between those two tests (Table 5.4b). This means that the females who scored well in *Giving Directions* generally also scored well in *Naming Features*. It could be that the way the topic was taught did not affect the female students much. No matter how it was taught, the female students who performed better in one test could also perform better in another test. This implied that the way a topic was taught could affect female and male students differently. On the other hand, it may not be a computer effect at all. More research is clearly needed on this area.

6.4.2 Gender and Students' Motivational Reactions to Instructional Materials

There was no significant difference between the motivational reactions of male and female students to instructional materials in this study as shown in Table 5.6c. This finding seems to agree with the finding made by Koohang (1986) that gender did not make a significant difference to attitudes toward computers. However, this finding seems to contradict the finding made by Siann & Macleod (1986) who found girls tend to be more motivated than are boys by language based tasks on computers.

6.4.3 Students' Motivational Reactions to Instructional Materials and Achievements

No significant correlation between motivational reactions to instructional materials and post-test scores was found for the students participating in the study. Even though the students' motivational reactions to instructional materials in this study were positive, it does not mean their achievement test scores would be improved by the CALL material (Table 5.6d and Table 5.6e). This finding seems to agree with what Stenson et al. (1992) stressed: that students tend to like using computers, even when they may not make much progress and when they may feel that computers do not necessarily improve their language learning (Scholnik, et al., 1995/96).

Other researchers such as Lepper & Chabay (1985) and Clark (1982) have warned that increased motivation or enjoyment can impair performance. It is therefore not surprising that according to Jakobsdottir and Hooper (1996), there is still no clear evidence of connection between motivation and performance. As indicated by Clark (1982), there are other factors that could influence achievement and enjoyment differently. Factors such as prior knowledge of the subject matter, independence and conformity tendencies and anxiety about technology and about language learning might interact with ability and method to influence achievement and enjoyment differently.

Even though the strength and even the direction of the relationship between motivation and achievement is not clear, Simonson and Maushak (1995) stated that students are more likely to remember information, seek new ideas, and continue studying when they react favourably to an instructional situation.

When separate correlation analyses were conducted between the four scales of IMMS and achievements for female and male students, no significant correlation was found for either the female or male students as shown in Tables 5.6f-5.6i.

6.4.4 Students' Computer Background and Achievement

When students' computer background and achievement scores were analysed separately for female and male students, it was found that there

was a significant relationship between prior computer knowledge and *Giving Directions* for female students. Computer ownership and frequent use of computers however, did not correlate significantly with *Giving Directions* for female students.

Correlation coefficients also revealed that there was no significant relationship between any one of the computer background variables and the second test, *Naming Features* for the female students. It seems that for the female students, only prior computer knowledge correlates significantly with *Giving Directions* signifying that computer background does not seem to affect female students' achievement to any significant extent.

When correlation between computing background and achievement tests were conducted for boys, it was found that frequent use of computers correlates significantly with both the achievement tests, *Giving Directions* and *Naming Features*. It means that, generally, the students who used computers more often were also those who scored better in the tests. Computer ownership, as shown in the t-test table 5.4j, was found to have significant relationship with scores on *Naming Features* but not with scores for *Giving Directions* (Table 5.4i) for the boys. It was also found that prior computer knowledge did not correlate significantly with either test for the boys.

6.4.5 Students' Computer Background and Motivational Reactions to Instructional Materials

To see whether students' computer background or experience make any significant difference in the sexes' motivational reactions to instructional materials, the t-test procedure was employed. Table 5.6a revealed that no significant relationship was recorded between computing background (prior computer knowledge and computer ownership) and all the scales in the IMMS except for Computer Ownership and the Confidence Scale. The non-significant correlation coefficients (5.6b) show that there was also no significant relationship between students' frequent use of computers and the four scales of IMMS. These two tables (5.6a and 5.6b) indicate lack of significant relationships between students' computer background and their motivation scores on the four scales of IMMS.

This finding contradicts the finding made by Koohang (1986) that prior computer experience was one of the factors which was significantly related to more positive attitudes to computers.

6.5 CALL Software Materials

In this study, the software materials used were taken from the commercially available materials and the students were found to react positively to them. CD-ROMS used were provided with audio, text and graphics and inform the user when an error has been made. The use of pictures and voices helps in

providing more exciting learning environments to the students. The combination of these features attracted their attention as shown in Table 5.5c.

Based on the responses to the IMMS questionnaire, it was found that the students were satisfied with the CD-ROM materials used in the study where they regarded it “a pleasure to work on such a well designed CD-ROM materials”. This finding seems to agree with Adamson’s (1996) finding that students enjoy work with the computer.

Adamson (1996) summarises the students’ responses as pointing up things that students find lacking in the communicative classroom such as time for repetition and explanation, straightforward correction of all errors together with the possibility of learning and being corrected without the class being aware of it. And here in this study, these are also the features highlighted by the students which they might find lacking in the communicative classroom.

6.6 Conclusion

With the limitations on the findings explained earlier in the chapter, it can now be concluded that as has been found by many, (Edwards, Norton, Taylor, Dusseldorp, & Weiss, 1974; Ng & Oliver, 1987), computer based material used in this study is more effective when used as a supplement to classroom instruction than when it is used alone. It also has been demonstrated that computer based material is better introduced to the

students prior to teacher-led instruction rather than after such instruction. Possibly it is curiosity and eagerness that helped the students respond to the computer based material more positively when it was new and unknown at the starting of a topic. The students scored better results than their counterparts who received computerised instruction at the end of the lesson.

Gender also plays an important role in the achievement of students receiving computerised instruction. This study contradicts findings made in the previous research that female students scored better than male students when treated with computerised instruction. In this study, male students scored better in both the achievement tests.

The evidence from the results of the IMMS questionnaire distributed to the students is not conclusive but tends to suggest that CD-ROM materials used in this study were received favourably by the students probably because of their attractive combination of texts, graphics and audio. The students were found to have positive motivation toward the CD-ROMS materials. They regarded it “a pleasure to work on such a well-designed CD-ROM materials”. Given more time and exposure to the computerised material, they might acquire better results in their achievement tests. However, as explained earlier, the findings discussed are based on a study with recognised limitations.

CHAPTER SEVEN

CONCLUSION AND RECOMMENDATIONS

7.0 Introduction

The purpose of this chapter is to conclude the findings of the study corresponding to the objectives outlined in Chapter One. Recommendations and suggestions for future study will also be discussed. Before the chapter proceeds with the conclusion and recommendations, it is important to highlight some of the limitations of the study so that the conclusion and recommendations given will be appreciated.

First it should be recognised that this was a study based on a special group and therefore there are certain limitations to the findings. This is acceptable for experiments in untried fields when institutions are unwilling to disturb established classes and teaching schemes. Nevertheless the results are sufficiently clear and strong with small groups to make further larger-scale research justifiable. This should be conducted within the Institution using “real” students on “real” courses and with “real” teachers and a wider range of CALL CD-ROM materials.

Further research could be done with:

- larger sample size. Since the sample size of the students attending the Intensive English course is only 80, it would be useful to carry out research on a larger number of respondents, for example 320. The use of more respondents should increase the generalisability of findings

and strengthen the implications;

- longer exposure to the computer treatment to see if it has any effect on the students' achievement, for example from 6 weeks to 12 weeks;
- different kind of learners such as with less motivated students since it was found that students attending the Intensive English course were all motivated but not particularly able students and see whether there is a difference in their achievements;
- different academic background of students since the students in the study came from Islamic secondary schools all over the country whereas in the normal course of study, students come from different academic backgrounds and see if there is a difference in the motivation and achievement tests;
- different types of software to see whether there is a difference in the students' achievement; and
- different topics in the listening skill to see whether the outcome would be the same or not.

The outcomes of these experiments and sub-experiments could be favourable to increased use of CALL or not. If results are predominantly positive, then still further development is warranted.

With the limitations on the findings explained, it is now appropriate to proceed with the conclusions and later on the recommendations.

7.1 To Find out the Effective Uses of Computers Namely CD-ROMS to Teach the Listening Skill in English as a Second Language

The decision to investigate the effective uses of computerised 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 Intensive English course 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 computerised instruction as a supplement might best be used in teaching listening skills. As revealed by the results of the study, the computerised 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).

As mentioned earlier, 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 audio, colourful pictures and texts can as has been shown in this study, help to trigger the students' 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 the 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. Verano (1987) observed

that CALL college students at the United States Air Force Academy who were isolated from the classroom missed classroom instruction by the end of the study. 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.

7.2 To Measure Students' Motivational Reactions to Instructional Materials

The evidence from the results of the IMMS questionnaire distributed to the students receiving computer treatment is not conclusive, but tends to suggest that, in this study at least, the students showed strongly positive reactions to the computer-based instructional materials. All the four scales of IMMS; Attention, Relevance, Confidence and Satisfaction received high rating for item-means. The Satisfaction scale received the highest rating from the students indicating that they were very satisfied with the computerised materials presented to them. This may be due to the very appealing features of CD-ROM materials. Analysis by gender showed that male and female students had the same level of motivation to the computerised materials.

Nevertheless, observation, follow-up interviews, or long-term studies of students working with computers should be carried out to identify further reactions of the students to the computerised instruction. Further more, the students who participated in the study were likely to be relatively highly motivated and so representative of only a particular category of student. It

would therefore be useful to measure students' motivational reactions to computerised instruction on other, and especially less highly motivated, students.

7.3 To Examine Relationships between Motivation and Achievement

A clear connection between motivation and achievement is not evident in this study. There was no significant correlation found between any of the scales in IMMS and achievement scores. This means that even though the students' motivation toward the computerised instruction was high, this was independent of their achievement scores. This finding seems to support the statement made by Stenson et al. (1992), that students tend to like using computers, even when they may not make much progress and when they may feel that computers do not necessarily improve their language learning (Schcolnik et al., 1995). The result of no significant relationship between motivation and achievement was confirmed for male and female students separately. These results indicate that in this study gender may not be an important factor in the relationship between achievement and motivation.

7.4 To Investigate the Type of Software Suitable for Teaching Listening Skill

Based on the results of the IMMS questionnaires, it can be concluded that the CD-ROMS software provided for the students was highly liked by them. They considered the material as eye-catching and as having things that stimulated their curiosity. The availability of text, the variety of illustrations and the way the information is arranged on the screen all seemed to help keep the students' attention. The flexibility of the computer prevents the students becoming bored with constant repetition.

Since the software used for the study was taken from the commercially available CD-ROM materials and the students reacted positively toward it, it is possible that the available CD-ROM materials on the market could be used with the students in KUSZA. However, careful considerations should be given when choosing the materials because CALL packages, like most teaching resources, differ greatly in complexity, quality, and perceived usefulness (Berberich, 1998). When selecting the materials, emphasis should be given to the software that provides text with spoken words, colourful pictures or images, and audio, apart from other basic facilities. Further more, since the CALL classroom centres on students progressing at their own pace, the materials selected for use also need to reflect this emphasis.

7.5. To Provide Recommendations Related to the Use of Computers in the Teaching of the Listening Skill in KUSZA

This study has provided evidence to suggest that computerised instruction may have a beneficial role to play in the curriculum and may have potential to facilitate effective language learning, especially the listening skill, if certain steps are taken by all those involved in making any new innovation successful.

From the experimental research done, it was revealed that using computers as a supplement at the beginning of the lesson facilitated the acquisition of listening skills during second language instruction. When it was done at the beginning of the lesson, students made fewer errors during the achievement post-tests. It is therefore suggested that it would be more appropriate to use computerised instruction as a supplement at the beginning of the lesson, as an introduction to the ordinary classroom lesson in teaching the listening skills.

This study has also revealed that using computerised instruction as a teacher replacement failed to facilitate learning. Naiman et al. (1977) reported that most successful language learners assumed responsibility for their own learning. CD-ROM with its wealth of material in different media and its in-built feedback makes it suitable for autonomous learning. However, it did not work very well when used with the students in this study. This shows that leaving students to deal with their own tasks, without prior training in

self-directed learning, even with high achievers is not likely to promote success. One useful suggestion here is to give as much prior training in self-directed learning as possible so that the students would be comfortable with it. This prior training is important because it will increase students' "comfort level" until a certain proficiency level, commonly a student's ability to use computer software without the teacher's help, is reached (Olson, 1988).

Since KUSZA students were found to react positively toward the computerised instruction, this situation should be exploited by the teachers trying to introduce computers in the classroom because it would be much easier dealing with students who are motivated than those who are not. It should be noted that the motivated students would always be eager to try something new.

7.6 To Give Suggestions for Teachers' Roles in ESL Computer

Listening Classroom

In language learning institutions where use of computers expands, the roles of the teacher may change. Teachers' roles in ESL computer listening classrooms will be, among others, to design, set up, and run the computer labs and ensure that the software, hardware, and room arrangements satisfy the requirements of an ESL listening class. While this may involve a great deal of work, Neu and Scarcella (1991) point out that it is work well rewarded.

Many other challenges remain for the teacher in the ESL computer listening classroom. There is a need to make curricular changes for the implementation of PCs in the ESL listening classroom. Even though it is often an administrative decision to place ESL classes in the computer labs, teachers' opinion should be considered in determining which classes will be placed in the computer labs, how often they will meet in the labs, and who will teach these labs.

It should however be noted that even with the use of computers, the teachers still remain facilitators, guides, counselors, and information providers. The language teachers should be made aware of these roles. As stressed by Hanson-Smith (1995), the materials and pathways onto which teachers guide their students simply become electronic. Teachers should remain responsible for facilitating and assessing learning for each student as fully as possible. The computer laboratory still requires a high degree of interaction on the part of the teacher. The teachers should plan a CALL lesson, like any other lesson, carefully.

It would be appropriate to have computer laboratory teachers who are well qualified in handling the computer laboratory. Before computerised instruction is used, all computer laboratory teachers should attend an intensive training course that would expose them to the computer laboratory provision and the current techniques and strategies used in computerised instruction. It is also suggested that follow-up training courses be given to the teachers using computerised instruction so that they would be up-to date

with the latest developments in the use of CALL. The teachers are the ones who it is hoped will provide innovative learning experiences to the students in KUSZA with the use of the computer in language learning. To be able to do this, the teachers, as stressed by Somekh (1997), need to be competent and confident users of the hardware and software. Once the curricular changes are made and the materials have been selected, the greatest challenge is to rethink the role of the teacher in the classroom.

7.7 To Support the Establishing of a Language Computer Laboratory in KUSZA

Even though the present study does not provide very clear evidence for the establishment of a computer laboratory but enough to suggest further work, empirical research done in other areas of language skills especially writing has revealed promising results as to the use of computers in the teaching and learning. Therefore KUSZA should take further initiative to help build a computer laboratory.

KUSZA should consider that with the existence of a Computer Laboratory, it would save a lot of teachers' work which could then be spent on improving the students' language ability or other related works. Teachers do not have to assemble a series of teaching tools such as overhead transparencies, audio, video clips and video cassette players each time they enter classrooms, yet with the use of computers or CD-ROM materials, they can present rich audio and visual effects.

Although the cost of setting up a computer laboratory may seem daunting for KUSZA which receives its funds from the state government of Terengganu, it has been proved fruitful to pay for such facilities. Effort should then be made by those responsible in KUSZA for the establishment of the language computer laboratory in the near future.

7.8 Summary

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 as explained earlier. The results of further research could be used to further enhance the teaching and learning of the listening skill especially and other skills generally at KUSZA and other higher education institutions.

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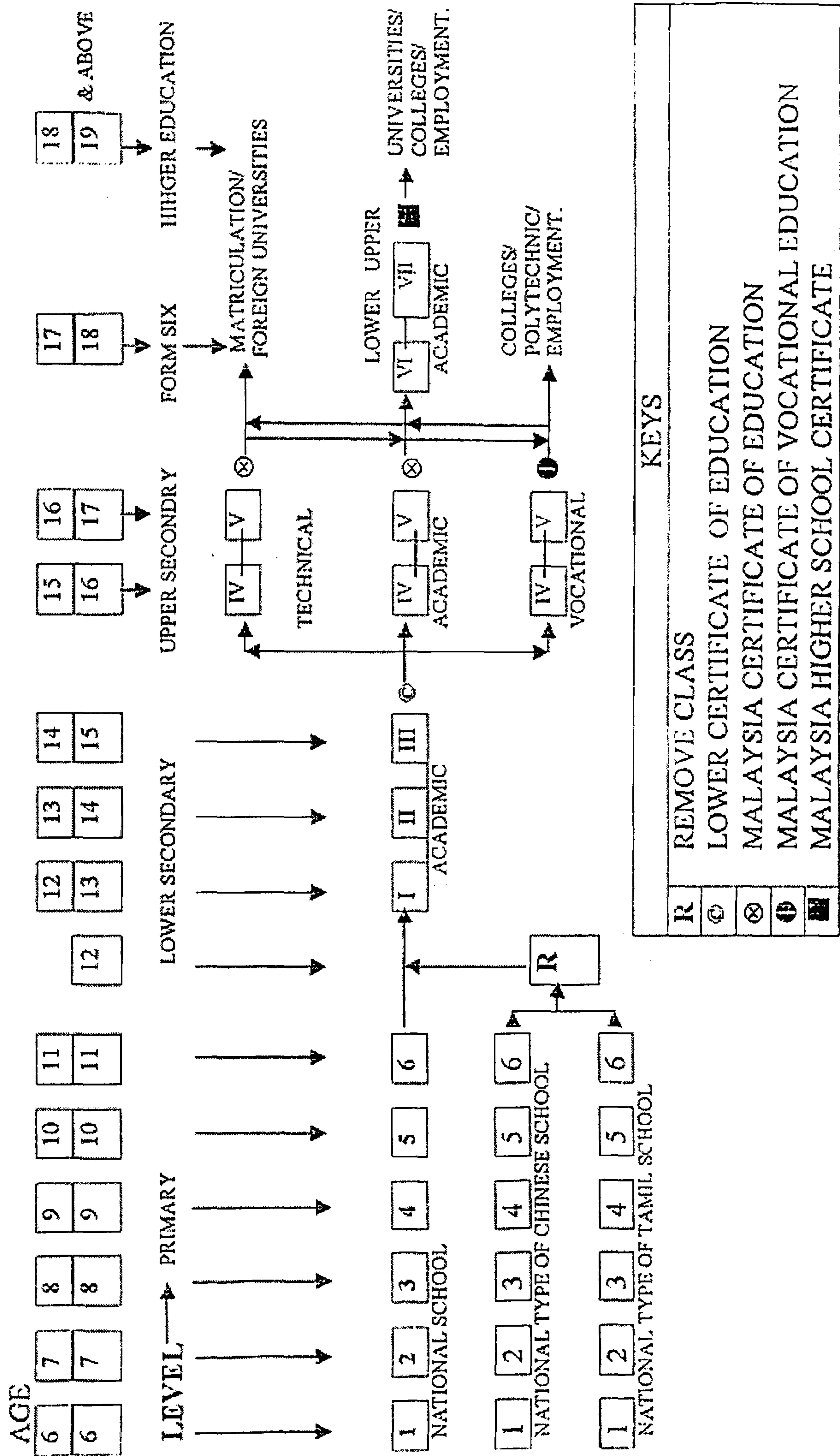
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Appendix 1:

THE EDUCATION SYSTEM IN MALAYSIA



Source: Malaysian Ministry of Education (1998).

Appendix 2:

Tapescript. Posttest on Giving Directions.

A) *Directions:*

Listen and then mark the places with A, B, C, D and E.

When you come out of the house, turn left and go down to the junction. Turn right, go past A, the swimming-pool on your right and you'll come to the Main Street. There you turn left and go along the street, over the bridge. On the other side of the bridge there's a crossroads; if you go straight across it you'll find B, the shopping centre on your left. Go in there and buy the things on my list. When you come out again, look for Inai Road, and go along it to the end. You'll see C, a football ground ahead of you. Go in there and buy two tickets for the match this afternoon. From the football ground, turn left towards the river, and go on until you come to Riverside Road. There you turn left and then immediately right again over the bridge. On the other side of the bridge you'll find D, a park on your right and then a little further along there's E, a cinema on a corner to your left. Please go in there and get their programme of forthcoming films. Then you can come home along School Road- go all the way until you get to Main Street again, which you cross, and you'll find a little path behind the swimming-pool; it's a short cut home.

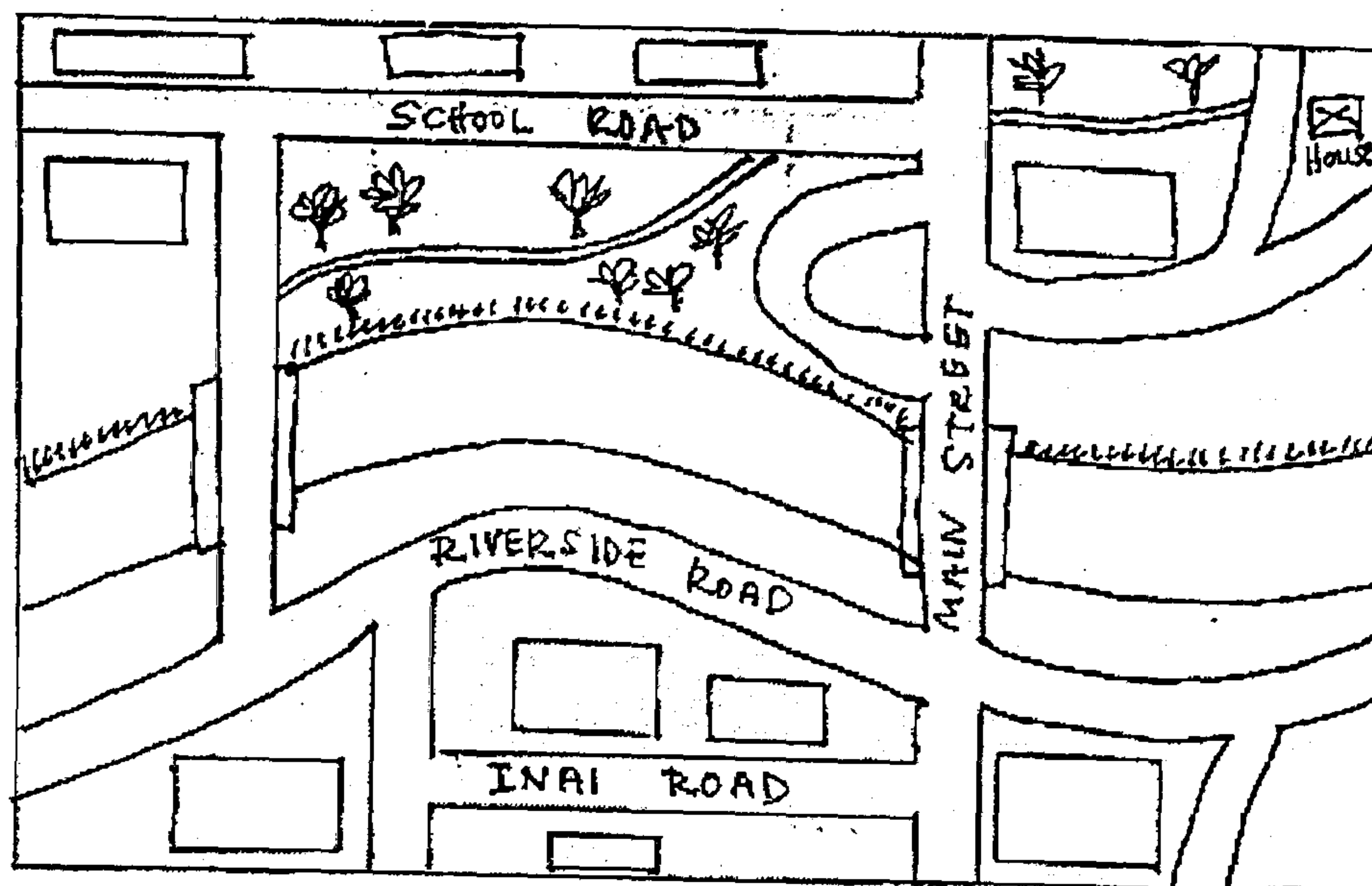
B) *Directions:*

Listen and then decide where the directions will take you. Write down the names of the places in the blanks provided.

1. To start off with, cross the road outside the Cekap Chemicals and turn right into Market Street. Walk down Market Street and turn right at the traffic lights. You'll find our offices on the right-hand side.

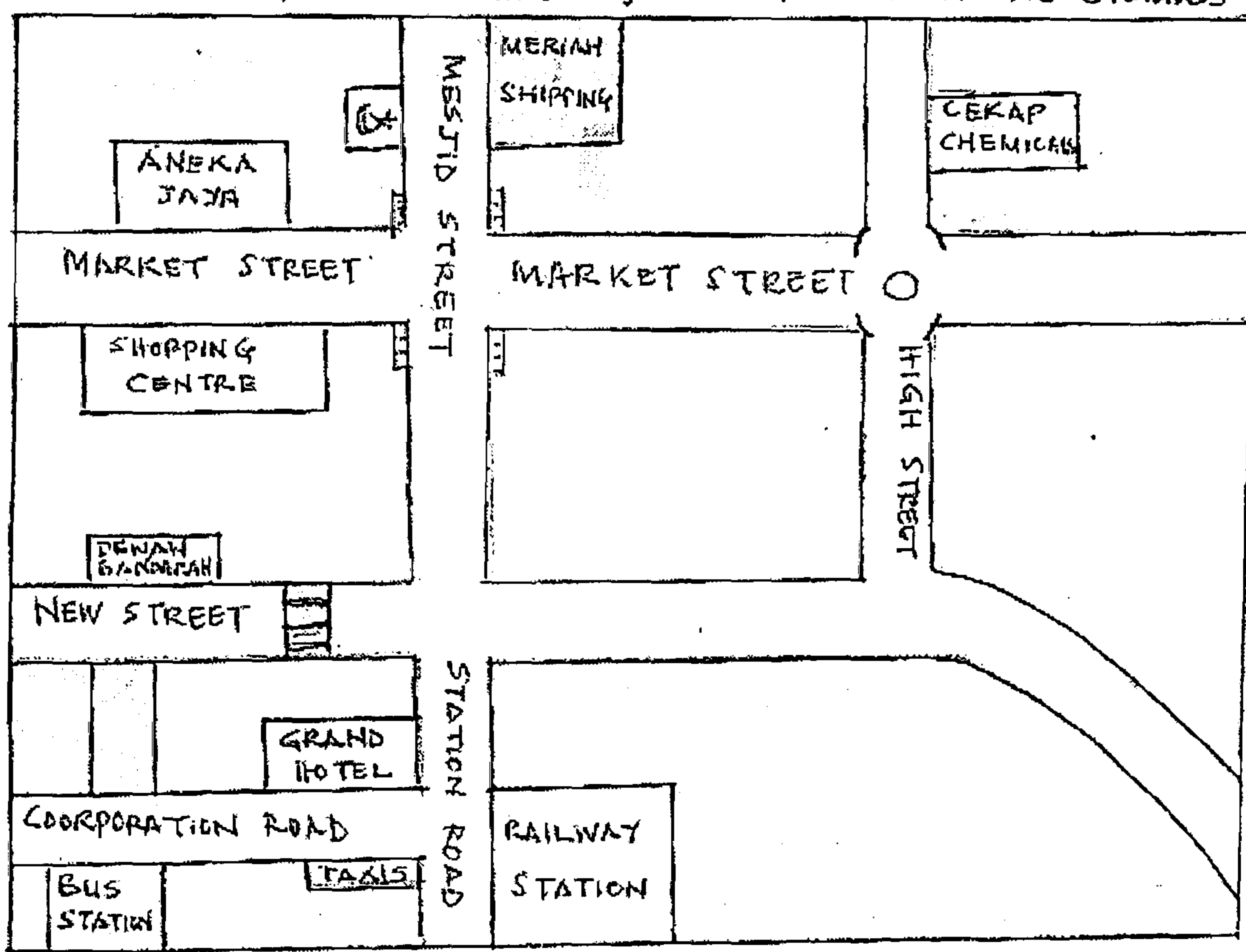
2. Turn left, no..no.. turn right as you come out of the bus station. Then turn left into Station Road, and then take the 2nd. turning on your left. You'll find it on the left-hand side.
3. This time, turn left as you come out of the Aneka Jaya and then right into Mesjid Street. Cross over New Street into Station Road and you'll find it on the next corner.
4. Next, what you have to do is to come out of the Dewan Bandaran and go down the street opposite and turn left. Walk down to the end of the road and you'll see it on the opposite side, to your right.
5. Turn left...yes, that's right..turn left as you come out of the Cekap Chemicals. Go straight across the roundabout and then take the next turning on your right. Walk down past the Pedestrian Crossing and you'll see it on your right.

LISTEN AND THEN MARK THE PLACES WITH A, B, C, D AND E.



- A = Swimming pool
- B = Shopping Centre
- C = Football Ground
- D = Park
- E = Cinema

Listen and then decide where the directions will take you. Write down the names of the places in the blanks provided below).



1. _____
2. _____
3. _____
4. _____
5. _____

Appendix 3:

Tapescript: Posttest on Naming Features:

A) Directions:

Listen carefully to a team of town planners deciding where to put/place 5 buildings at the 5 sites available on a map marked A, B, C, D and E. Write the appropriate letter beside the items mentioned in the discussion.

Anuar: Right. Now I understand we have five sites available to us for the five building projects on our list.

Da: Yes. I've marked them A, B, C, D and E on your maps. A is on the corner of Main Street and Inai Road, opposite the shopping centre, B is between the river and Riverside Road, C is beside Main Street, between the river and the swimming pool, D is on Inai Road, at the bottom of the map, and E is at the top right-hand corner, on Park Road.

Anuar: Thank you, I think that is very clear. Now we are to build a hotel, an old people's home, a multi-storey car park, a petrol station and a supermarket. Can I have any suggestions, please?

Razali: Well, I suggest we build the hotel at C. It's on the river, and it's very convenient for the swimming pool and shopping centre.

Da: I don't agree. That's a very noisy site. All the traffic coming off the motorway roars along Main Street - it's easily the busiest part of town. You want a quieter site for a hotel... E or possibly B or D.

Anuar: I suggest B for the hotel. It's quiet without being too far from the shopping centre, and it has a nice view, we can build the rooms so that they overlook the river and park.

Da: I agree.

Anuar: All right, let's go on to the petrol station. Now here we do need a site on the main road, to catch the motorway traffic. And noise doesn't matter. That means either A or C.

Razali: Either would do. Let's look at the other projects. The old people's home.

Da: Again we need somewhere quiet. D or E.

Anuar: E, definitely. D is far too close to the football ground. They make a lot of noise those football fans, and park their cars and motorbikes all the way down Inai Road.

Da: Well, we can solve that problem once we've built the car park. But even so, I do agree that E is a better site. It's opposite a park too, so the old people could be taken there for walks. Now what about the car park?

Anuar: It might be a good idea to have it at A, convenient for shoppers in the shopping centre.

Da: But we wanted A for the petrol station.

Razali: And what about the supermarket?

Anuar: Hmm the supermarket should be near the car park, don't you think?

Da: That solves the problem. If the supermarket is at A, then the petrol station has to be at C, that's the only other main-road site.

Anuar: And the car park at D. That way it'll provide facilities both for shoppers and for football fans.

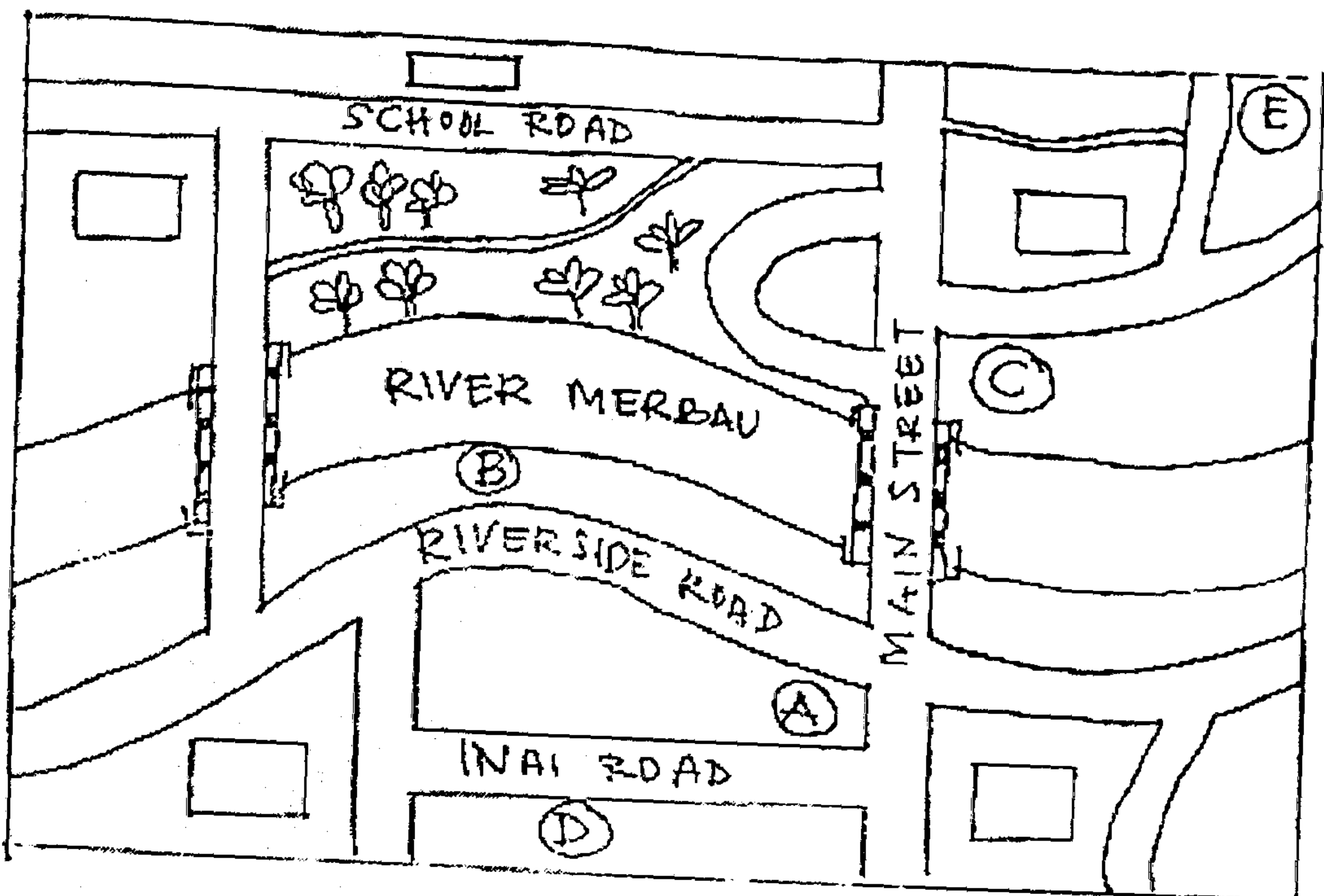
B) *Directions:*

Listen carefully to the plan of a shopping centre. You are to mark the kind of shop and the name of the shopkeeper in the plan provided.

Well, our new shopping centre is finished at last, and I know you are all waiting to hear who's to be where. Get your pencils ready to mark down your locations. Tina, I'm giving you the big site opposite the entrance for your coffee-shop. It's nice and central, so that shoppers will find it convenient to drop in for a cup of coffee or other refreshments. Now the food stores I'm putting in those three sites next to the entrance along the north-eastern wall. Jali, you can sell your fruit and vegetables beside the entrance; and Burhan, your bakery is next door. Carole, I'm giving you the corner site for your grocery store. On the other side of the entrance are Tony's gift's shop and Ella's toys. Now I know both of you want to be next to the entrance; in the end I decided to give the entrance site to Ella, because her shop will catch the eye of the children as they come in, and with any luck they'll get their parents to spend some money in there. O.K. The big separate site on the western side near Tony goes to Frances for her dress boutique, all right, Frances? Good. South of her there are three smaller sites which will go to Peter for his three businesses: jewellery (better have that near the dress shop, Peter), watches and clocks, and then in the corner the art shop-- a nice quiet place for people to look at your pictures and things. Along the eastern wall -- we'll give the biggest site to Rosemary, you use that for your book store: I know you'll be selling magazines and stationery as well as books, so you can use the space. Next to Rosemary there's a smaller space

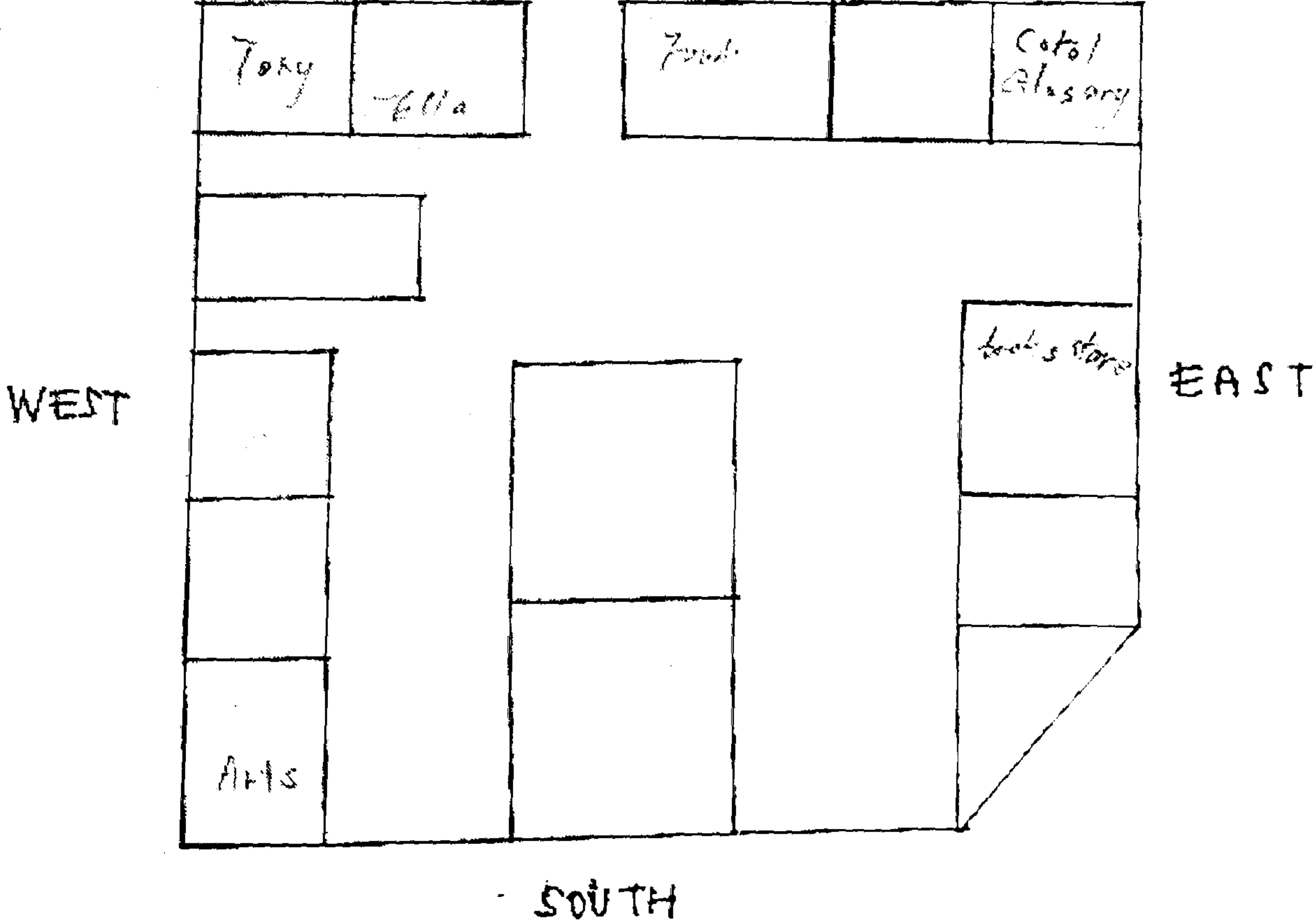
-- Sheila, you can have that for your kitchen-equipment store. Behind that is a very much smaller triangular room -- that'll be the washroom and toilets. Now the big site behind Tina's coffee-shop- we'll give to George for his furniture store -- you'll need all that space for your tables and chairs, George.

NAMING FEATURES



- △ Cinema =
- △ Hotel = B
- △ Swimming pool = C
- △ drug-store =
- △ An old people's home = E
- △ petrol station = C
- △ football club = P
- △ multi-storey car park = D
- △ supermarket = A
- △ gymnasium =

NORTH
entrance



Appendix 4:

Background Information Questionnaire

Please circle the answers appropriate to you.

1. Gender:

- a) Female b) Male

2. (a) Have you used a computer before?

- a) Yes b) No.

(b) If yes, is it

- a) 2/3 times b) quite often c) many times
d) very many times

3. Do you have a computer at home?

- a) Yes b) No

Appendix 5:

(English Version)

IMMS

Instructional Materials Motivation Survey

INSTRUCTIONS

1. There are 36 statements in this questionnaire. Please think about each statement in relation to the Instructional materials you have just studied, and indicate how true it is. Give the answer that truly applies to you, and not what you would like to be true, or what you think others want to hear.
2. Think about each statement by itself and indicate how true it is. Do not be influenced by your answers to other statements.
3. Record your responses on the answer sheet that is provided, and follow any additional instructions that may be provided in regard to the answer sheet that is being used with this survey. Thank you.

- 1 (or A) = Not true
- 2 (or B) = Slightly true
- 3 (or C) = Moderately true
- 4 (or D) = Mostly true
- 5 (or E) = Very true

1. When I first looked at this CD-ROM material, I had the impression that it would be easy for me.
2. There was something interesting at the beginning of this CD-ROM that got my attention.
3. This CD-ROM material was more difficult to understand than I would like for it to be.
4. After listening to the introductory information, I felt confident that I knew what I was supposed to learn from this CD-ROM material.
5. Completing the exercises in this Listening CD-ROM material gave me a satisfying feeling of accomplishment.
6. It is clear to me how the content of this CD-ROM material is related to things I already know.
7. The computer screen showed so much information that it was hard to pick out and remember the important points.
8. These CD-Rom materials are eye-catching.
9. There were pictures, or examples that showed me how this CD-ROM material could be important to some people.

- 1 (or A) = Not true
- 2 (or B) = Slightly true
- 3 (or C) = Moderately true
- 4 (or D) = Mostly true
- 5 (or E) = Very true

- 10. Completing this CD-ROM material lesson successfully was important to me.
- 11. The quality of the text helped to hold my attention.
- 12. This CD-ROM material is so abstract that it was hard to keep my attention on it.
- 13. As I worked on this CD-ROM material, I was confident that I could learn the content.
- 14. I enjoyed this CD-ROM material so much that I would like to know more about it.
- 15. The material on the screen looks dry and uninteresting.
- 16. The content of this CD-ROM material is relevant to my interests.
- 17. The way the information is arranged on the screens helped keep my attention.
- 18. There are explanations or examples of how people use the knowledge in this lesson.
- 19. The exercises in this CD-ROM material were too difficult.
- 20. This CD-ROM material has things that stimulated my curiosity.

- 1 (or A) = Not true
- 2 (or B) = Slightly true
- 3 (or C) = Moderately true
- 4 (or D) = Mostly true
- 5 (or E) = Very true

- 21. I really enjoyed studying this CD-ROM material.
- 22. The amount of repetition in this CD-ROM material caused me to get bored sometimes.
- 23. The content and style of writing in this CD-ROM material convey the impression that its content is worth knowing.
- 24. I learned some things that were surprising or unexpected.
- 25. After working on this CD-ROM material for a while, I was confident that I would like to be able to pass a test on it.
- 26. This CD-ROM material was not relevant to my needs because I already knew most of it.
- 27. The wording of feedback after the exercises, or of other comments in this CD-ROM material, helped me feel rewarded for my effort.
- 28. The variety of exercises, illustrations, etc., helped keep my attention on the CD-ROM material.
- 29. The style of writing is boring.
- 30. I could relate the content of this CD-ROM material to things I have seen, done, or thought about in my own life.

- 1 (or A) = Not true
- 2 (or B) = Slightly true
- 3 (or C) = Moderately true
- 4 (or D) = Mostly true
- 5 (or E) = Very true

- 31. There are so many words on each screen that it is irritating.
- 32. It felt good to successfully complete this CD-ROM material.
- 33. The content of this CD-ROM material will be useful for me.
- 34. I could not really understand quite a bit of the material in this CD-ROM material.
- 35. The good organisation of the content helped me be confident that I would learn this CD-ROM material.
- 36. It was a pleasure to work on such a well-designed CD-ROM material.

Appendix 6:
(Malay Version)

IMMS
(Instructional Materials Motivation Survey)

ARAHAN

1. Terdapat 36 pernyataan di dalam soalan kaji selidik ini. Tolong fikirkan setiap pernyataan dengan kaitannya terhadap bahan mengajar menggunakan program CD-ROM yang baru dipelajari, dan nyatakan sejauh mana ia benar. Berikan jawapan yang benar-benar berkait dengan anda, dan bukannya apa yang anda mahukan ia berlaku, ataupun apa yang anda fikir orang lain mahukan.
2. Fikirkan setiap satu pernyataan dengan sendirinya (by itself) dan nyatakan sejauh mana ia benar. Jangan terpengaruh dengan jawapan untuk pernyataan lain.
3. Tandakan jawapan anda di kertas jawapan yang disediakan. Terima kasih.

- 1 (atau A) = Tidak benar (Not true)
- 2 (atau B) = Agak benar (Slightly true)
- 3 (atau C) = Sederhana benar (Moderately true)
- 4 (atau D) = Kebanyakannya benar (Mostly true)
- 5 (atau E) = Amat benar (Very true)

1. Pertama kali melihat program yang terdapat di CD-ROM, saya mendapat gambaran yang ia senang untuk saya.
2. Ada sesuatu yang menarik di permulaan kelas menggunakan program CD-ROM ini yang menarik perhatian saya.
3. Program CD-ROM adalah lebih sukar untuk difahami daripada apa yang saya andaikan.
14. Selepas membaca dan mendengar maklumat pengenalan mengenai program CD-ROM ini, saya merasa yakin yang saya tahu apa yang sepatutnya saya pelajari daripadanya.
5. Menyiapkan latihan-latihan dalam CD-ROM ini memberikan satu kepuasan dalam menyiapkan tugas.
6. Adalah jelas kepada saya yang isi kandungan program CD-ROM, ini berkaitan dengan perkara-perkara yang telah saya ketahui.
7. Skrin komputer menyiarkan terlalu banyak maklumat sehingga menyukarkan saya memilih dan mengingat isi-isi penting
8. Program CD-ROM ini menarik perhatian saya.
9. Terdapat gambar-gambar dan contoh-contoh yang menunjukkan betapa program CD-ROM ini mungkin penting untuk sesetengah orang.

- 1 (atau A) = Tidak benar (Not true)
- 2 (atau B) = Agak benar (Slightly true)
- 3 (atau C) = Sederhana benar (Moderately true)
- 4 (atau D) = Kebanyakannya benar (Mostly true)
- 5 (atau E) = Amat benar (Very true)

- 10. Menyiapkan latihan di CD-ROM ini dengan jayanya penting kepada saya.
- 11. Kualiti penulisan menolong saya memberikan tumpuan terhadap program CD-ROM ini.
- 12. Program CD-ROM ini begitu abstrak sehingga menyukarkan saya memberikan tumpuan.
- 13. Semasa mengikuti program CD-ROM ini, saya yakin yang saya dapat mempelajari isi kandungannya.
- 14. Saya begitu gembira sekali mempelajari program CD-ROM ini sehingga berhasrat untuk mengetahui lebih lanjut lagi mengenainya.
- 15. Bahan-bahan (latihan-latihan dan maklumat) di skrin komputer untuk program CD-ROM ini kelihatan membosankan dan tidak menarik
- 16. Isi kandungan program CD-ROM ini ada kaitan dengan minat saya.
- 17. Cara maklumat disusun di skrin komputer menolong menarik perhatian saya.
- 18. Terdapat contoh-contoh ataupun penerangan bagaimana seseorang itu dapat menggunakan pengetahuan mereka di dalam pelajaran ini.
- 19. Latihan-latihan dalam CD-ROM ini adalah terlalu sukar.

- 1 (atau A) = Tidak benar (Not true)
- 2 (atau B) = Agak benar (Slightly true)
- 3 (atau C) = Sederhana benar (Moderately true)
- 4 (atau D) = Kebanyakannya benar (Mostly true)
- 5 (atau E) = Amat benar (Very true)

- 20. Program CD-ROM ini mempunyai perkara-perkara yang merangsangkan perasaan ingin tahu saya.
- 21. Saya begitu gembira mempelajari program CD-ROM ini.
- 22. Kekurangan pengulangan dalam program CD-ROM ini menyebabkan saya kadang-kadang merasa bosan.
- 23. Isi kandungan dan gaya penulisan dalam program CD-ROM ini menggambarkan yang ia bernilai untuk diketahui.
- 24. Saya mempelajari sesuatu yang memeranjatkan atau yang tidak disangka-sangka.
- 25. Setelah mengikuti program CD-ROM ini untuk seketika, saya yakin yang saya akan lulus ujiannya.
- 26. Program CD-ROM ini tidak berkaitan dengan kepentingan saya sebab saya sudahpun mengetahui kebanyakan isi kandungannya.
- 27. Kata-kata rangsangan selepas latihan-latihan ataupun komen-komen lain membuatkan saya merasa dihargai untuk usaha saya itu.
- 28. Kepelbagaian latihan, ilustrasi dan sebagainya menolong saya memberikan tumpuan terhadap program CD-ROM ini.
- 29. Gaya penulisan yang terdapat dalam CD-ROM ini membosankan.

- 1 (atau A) = Tidak benar (Not true)
- 2 (atau B) = Agak benar (Slightly true)
- 3 (atau C) = Sederhana benar (Moderately true)
- 4 (atau D) = Kebanyakannya benar (Mostly true)
- 5 (atau E) = Amat benar (Very true)

- 30. Saya boleh mengaitkan isi kandungan program CD-ROM ini dengan perkara-perkara yang telah saya lihat, buat atau fikirkan di dalam kehidupan saya sendiri.
- 31. Terlalu banyak perkataan-perkataan yang tertera di skrin komputer dan ini menyakitkan hati.
- 32. Saya merasa puas dapat menyiapkan program CD-ROM ini dengan jayanya.
- 33. Isi kandungan program CD-ROM ini akan berguna kepada saya.
- 34. Saya tidak dapat memahami sepenuhnya latihan-latihan dalam program CD-ROM ini.
- 35. Penyusunan yang baik dari segi isi kandungan program CD-ROM ini membuatkan saya yakin yang saya akan dapat mempelajarinya.
- 36. Saya berasa amat beruntung dapat mengikuti program CD-ROM yang telah disusun dengan begitu baik sekali.